Midwives' Perspectives on the Provision of Quality Midwifery Care during the COVID-19 Pandemic in Malta

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Dedicated to all midwives who have been on the frontlines of the COVID-19 pandemic

Your compassion and dedication to serve all those who needed you the most have made a difference in the lives of so many.

ABSTRACT

Purpose: The global maternity care landscape has been greatly impacted by the coronavirus disease 2019 (COVID-19) pandemic. Swift and substantial modifications were introduced, causing midwives globally to experience anxiety and moral distress when unable to deliver quality, woman-centred care aligned with professional values. There is a dearth of research with large-scale data collection, hence this local study can inform policy-making and preparedness for a pandemic or similar emergencies.

Aim: To explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

Objectives: To seek midwives' perspectives on altered provision of midwifery care during the COVID-19 pandemic and how this affected women and their families; to identify challenges encountered by midwives in balancing personal safety and well-being while maintaining quality midwifery care; and to identify strategies in addressing the challenges encountered that inform longer-term planning for essential elements of quality midwifery care.

Methodology: A quantitative approach was adopted, non-experimental and cross-sectional in nature, using a self-administered questionnaire, where 117 midwives working at the local general hospital were recruited through purposive sampling. Eighty-one responses (n=81) were returned, yielding a response rate of 69.2%. Analysis of the data collected was performed by descriptive and inferential statistical analysis for quantitative data, and by using thematic analysis for the qualitative data.

Results: The COVID-19 pandemic led to significant changes in local midwifery care, impacting protective measures, delivery protocols, and postnatal practices. Midwives perceived rapid policy changes as mostly unclear and contradictory. Perceived emotional challenges for women and families included anxiety due to policy changes and limited time with their newborns. Positive outcomes revealed enhanced teamwork and increased awareness on infection control as well as an undisturbed postnatal period for parents and more opportunities for honest communication. Challenges encompassed organisational issues such as increased workload, staff shortages, lack of training, poor management and devaluation of the midwifery profession, and challenges in care provision, namely hindered communication with personal protective equipment (PPE), reduced in-person contact time, and lack of holistic care. Personal challenges for midwives included physical and psychological difficulties, job dissatisfaction and lack of recognition. The study emphasises the importance of ongoing education, support strategies, and organisational recognition. Midwives proposed strategies, including increased support, ongoing training, and care for the holistic well-being, contributing to long-term planning for quality midwifery care during the pandemic.

Conclusion: In the context of a pandemic or an analogous emergency placed on the healthcare system, it is imperative to address and enhance the holistic well-being of midwives, as well as women and their partners. Recommendations from this study's findings necessitate the provision of timely and evidence-based guidelines, along with appropriate resources, to support midwives in delivering respectful, family-centred midwifery care and maintaining the physiological nature of childbirth.

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LIST OF ACRONYMS

CASP	Critical Appraisal Skills Programme
CDS	Central Delivery Suite
CEBMa	Center for Evidence-Based Management
COVID-19	Coronavirus Disease 2019
CPD	Continuous Professional Development
DASS-21	Depression, Anxiety, and Stress Scale
FREC	Faculty of Health Sciences Research Ethics Committee
HIV	Human Immunodeficiency Virus
ICM	International Confederation of Midwives
MARPA	Management and Assessment of Respiratory Patient's Areas
MeSH	Medical Subject Heading
MMAT	Mixed Methods Appraisal Tool
NPICU	Neonatal Paediatric Intensive Care Unit
OBS 1	Obstetric Ward 1
OBS 2	Obstetric Ward 2
OBS 3	Obstetric Ward 3
PCR	Polymerase Chain Reaction
PPE	Personal Protective Equipment
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PTSD	Post-Traumatic Stress Disorder
QMNC	Quality Maternal and Newborn Care
RCM	Royal College of Midwives
RCOG	Royal College of Obstetricians and Gynaecologists
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
WHO	World Health Organization

DEFINITIONS OF KEY CONCEPTS

Booking visit	A meeting between a pregnant woman and a midwife in early pregnancy, where comprehensive medical and personal information is collected to establish a baseline for the woman's pregnancy care.
Burnout	The consequence of prolonged workplace stress that has not been effectively handled, which manifests in depleted energy or exhaustion, heightened mental detachment or cynicism towards the job, and diminished professional efficacy.
Global health emergency	A formal declaration by the World Health Organization (WHO) indicating an extraordinary event deemed a global health risk due to the international spread of disease, necessitating a coordinated international response.
Management and Assessment of Respiratory Patient's Areas (MARPA)	Areas in the local general hospital that were repurposed as transition wards, housing patients with pending or positive COVID-19 swab results.
Pandemic	An outbreak of an infectious disease that extends over a significant geographical area, encompassing multiple continents or the entire globe, impacting a substantial population.
Perinatal period	The timeframe from a woman's conception through the first year following childbirth.
Personal protective equipment (PPE)	Clothing and gear designed to offer protection against hazardous substances or environments.
Polymerase chain reaction (PCR)	A laboratory method which swiftly generates numerous copies of a specific DNA segment for in-depth examination.
Postnatal period	The timeframe that commences following childbirth and is commonly regarded as lasting for six weeks.
Skin-to-skin	Placing the undressed or partially dressed baby against the bare skin of a parent.

Chapter 1

INTRODUCTION

1.1 Background to the Study

The onset of the coronavirus disease 2019 (COVID-19) dates back to December 2019 in Wuhan, China (World Health Organization [WHO], 2020a). Following its identification, WHO declared it a global health emergency on January 30, 2020 (WHO, 2020a), and a global pandemic on March 11, 2020 (WHO, 2020b). The impact of COVID-19 has reached nearly every country, including Malta, which reported 120,767 confirmed cases at the time of writing (WHO, n.d.). Malta documented its initial COVID-positive case on March 7, 2020, according to the Times of Malta (2020). While the COVID-19 pandemic is no longer deemed a global health emergency as of May 5, 2023, it retains its pandemic status (WHO, 2023).

Globally, maternity care underwent swift and extensive modifications to contain the virus's spread (Fumagalli et al., 2023). Mostly, these shifts in care practices and policies were reported to be rapid and constant (Bradfield et al., 2022). In this challenging context, midwives play a crucial role in offering support to women and families throughout the childbirth journey. Their role became especially vital as the pandemic amplified families' anxieties, distress, uncertainties, unmet expectations, and concerns (Karavadra et al., 2020; Nespoli et al., 2021). Simultaneously, midwives encountered heightened challenges, stress, and anxiety in delivering maternity care during the pandemic, adapting to evolving guidelines, navigating unfamiliar work methodologies, and grappling with moral distress when unable to provide optimal, woman-centred care aligned with professional values (Bradfield et al., 2022; O'Connell et al., 2020).

Additional concerns included addressing the anxieties of women and families, managing uncertainties with limited information and evidence, and contending with

fears related to personal and families' safety and well-being (Bradfield et al., 2022). Studies conducted during previous global emergencies have shown that healthcare professionals' stress, burnout, and post-traumatic stress disorder (PTSD) contribute to a diminished quality of care (Koh et al., 2005; Koh et al., 2011). Recognising and addressing these challenges is crucial to maintaining the quality of maternity care during these unprecedented times.

1.2 Rationale for the Study

The available literature has offered glimpses into midwives' perspectives on care provision during the COVID-19 pandemic, as indicated by several studies. However, these studies are characterised by a predominant focus on detailed analyses of individual experiences with limited participant numbers (Baloushah et al., 2022; Fumagalli et al., 2023; Hearn et al., 2022; Küçüktürkmen et al., 2022; Memmott et al., 2022; Power et al., 2022). Consequently, a gap emerges in the literature, where a dearth of extensive quantitative data collection and analysis pertaining to the effects of the COVID-19 pandemic on midwives' perspectives exists.

This gap is particularly evident in the lack of examination of diverse care settings, aiming to identify data patterns that could contribute to informed long-term planning for pandemics or similar emergency-related contexts. Moreover, a notable absence of literature assessing midwives' perspectives on care provision during the COVID-19 pandemic in the local context has been observed. Therefore, it becomes imperative to conduct a thorough investigation into the local landscape. While the COVID-19 pandemic might no longer dominate headlines, valuable lessons can still be learnt from a collective resilience in the face of uncertainty and the capacity of research to tackle significant challenges in midwifery care, particularly in the context of similar

catastrophic pandemics. Hence, this study aims to serve a dual purpose of extrapolating valuable insights gained from the COVID-19 pandemic to shape and formulate future policies, aiming for general preparedness of the health system in similar circumstances. Additionally, it provides a platform for local midwives to articulate and share their perspectives.

1.3 Research Question, Aim and Objectives of the Study

After considering the literature available on this research subject, the following research question was developed to guide the study: *What are the perspectives of the local midwives on the provision of quality midwifery care during the COVID-19 pandemic?*

Consequently, the following aim and objectives were formulated.

Aim:

To explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

Objectives:

1. To seek midwives' perspectives on altered provision of midwifery care during the COVID-19 pandemic and how this affected women and their families.
2. To identify challenges encountered by midwives in balancing personal safety and well-being while maintaining quality midwifery care.
3. To identify strategies in addressing the challenges encountered during the COVID-19 pandemic that inform longer-term planning for essential elements of quality midwifery care.

In order to fulfil the stated objectives, this study followed a quantitative methodology, employing a self-administered questionnaire as the means of data collection. The questionnaire was distributed among midwives employed at the local general hospital. The study's theoretical framework was based on the Quality Maternal and Newborn Care (QMNC) Framework (Renfrew et al., 2014) due to its congruence with the emphasis on ensuring quality maternity and newborn care across various contexts. Among 117 participants, 81 individuals responded, yielding a response rate of 69.2%. Quantitative data was analysed using descriptive statistical analysis and inferential statistical analysis, namely the Chi-squared test, Kruskal-Wallis test, Spearman correlation coefficient, and Friedman test. Qualitative data from open-ended questions and comments was subjected to thematic analysis following Braun and Clarke's (2012) methodology.

1.4 Overview of the Chapters

The dissertation is structured into seven chapters, each systematically presenting the progression of the study. The current chapter offers a concise background and rationale for the study as well as an overview of the study's methodology. Chapter 2 presents the screening and selection process of relevant studies, guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart (Moher et al., 2009). These studies undergo quality appraisal which is then followed by a systematic presentation of the literature review's findings. Chapter 3 explains the theoretical framework underpinning the study, with a particular emphasis on its relevance to the research topic.

Chapter 4 provides a comprehensive account of the study's methodology, starting with the rationale for the chosen research design. It further explains the sampling technique,

details the research instrument along with reliability and validity testing, and outlines the data collection and analysis methods. Ethical considerations are emphasised and strictly adhered to throughout the study. In the fifth chapter, results are presented in a systematic manner according to the study's objectives, with the presentation of descriptive and inferential statistical analysis for quantitative data, and thematic analysis for qualitative data.

Chapter 6 engages in a critical discussion of the main results in relation to relevant literature, aligning them with the study's objectives and the QMNC Framework (Renfrew et al., 2014), the theoretical framework of this study. Methodological strengths and limitations are also described. The seventh and final chapter presents a summary of research findings and offers recommendations for practice and management, education, and further research.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

This chapter aims to critically analyse the findings of a literature review. The rationale for this review and the methodology of the review process will be described, including a description of the included studies, followed by a discussion and analysis of the findings sought from the literature search, grouped in themes and sub-themes. Finally, conclusions elicited from the review will be highlighted, including a description of possible limitations of the review.

2.2 Rationale for the Review

The outbreak of the coronavirus disease 2019 (COVID-19) pandemic brought unprecedented challenges to healthcare systems worldwide, impacting various aspects of care delivery. Midwives, as essential healthcare providers within the realm of maternity care services, faced unique circumstances in their efforts to provide care to women and their families during the pandemic (Goberna-Tricas et al., 2021). Evaluating their perspectives and experiences of providing care during this critical time is vital in improving health outcomes, identifying any possible gaps in the care provided and inform future pandemic preparedness.

This literature review aims to explore the diverse perspectives – including experiences, attitudes, and perceptions of midwives working in the frontlines of the pandemic – shedding light on the multifaceted challenges they encountered and the implications for themselves, the healthcare system and the well-being of women and their families. This literature review aims to assess these perspectives with the intention of eliciting key principles and components of quality midwifery care in a pandemic context.

2.3 The Literature Search

2.3.1 Information sources

The literature search was conducted between January 2023 and March 2023. The literature was retrieved from the following research databases: CINAHL Complete, MEDLINE Complete, Cochrane Database of Systematic Reviews, APA PsychInfo, Scopus, Web of Science, and ProQuest One Academic. Full-text articles were mostly acquired through the databases with access granted by the University of Malta. In cases when full-text articles were not accessible using this approach, the articles were searched with the use of the professional network Research Gate and the online search engine Google Scholar. To finalise the search, the reference lists of the articles retrieved were examined.

2.3.2 Search strategy

As part of the literature search, a search string was employed to refine the search towards the most relevant studies. A search strategy consultation was conducted with an expert librarian. Collaboratively, the following search string was devised, taking into account diverse keywords associated with the sample, phenomenon of interest, and evaluation methods, a process guided by the utilisation of the Medical Subject Heading (MeSH) database: "*(Midwi* OR attendant* OR accoucheur* OR accoucheuse OR "Birth Attendant") AND (COVID-19 OR pandemic OR coronavirus OR 2019-nCoV OR SARS-CoV-2) AND (Perspectiv* OR perception* OR opinion* OR attitude* OR view* OR thought* OR mean* OR understand* OR belie* OR feel* OR "lived experiences" OR challeng*) AND ("matern* care" OR care OR quality OR work* OR procedure* OR "provision of maternity care" OR provision)*". The Boolean operators 'AND' and 'OR', along with wildcard character '*' were used to obtain meaningful results and prevent overlooking valuable literature.

2.3.3 Eligibility criteria

In order to fulfil the requirements of the literature review based on the objectives of this study, a set of inclusion and exclusion criteria were set to guide the search (depicted in ***Table 2.1***).

Each criterion presented is chosen based on a rationale. As part of the search, only empirical studies were included. Hence, non-empirical research such as opinion papers were excluded from the search. This was done to eliminate any potential bias in results obtained and increase potential generalisability. In view of the fact that the COVID-19 disease was declared to be a cause of a pandemic by the World Health Organization (WHO, 2020b) in early 2020, studies included in the literature review were those published between January 2020 and March 2023. For the purpose of this literature review, the perspectives of qualified clinical midwives working during the COVID-19 pandemic were being sought. Hence, studies investigating perspectives of other healthcare professionals, such as doctors or nurses, as well as student midwives and mothers' perspectives, were excluded. Studies were also omitted if their sample encompassed various professionals, including midwives, but failed to explicitly present outcomes solely specific to midwives.

To decrease the risk of eliminating valuable evidence found in the literature, the search was not limited to studies with any particular research design. While there were no specific language restrictions in place, it is important to note that the researcher's fluency is limited to English and Maltese. Given that this study lacked funding, professional translators were not available to translate studies in languages other than English and Maltese. For the same resource-related reason, only articles that were easily accessible in their entirety were incorporated, while those available solely in abstract format were excluded from consideration.

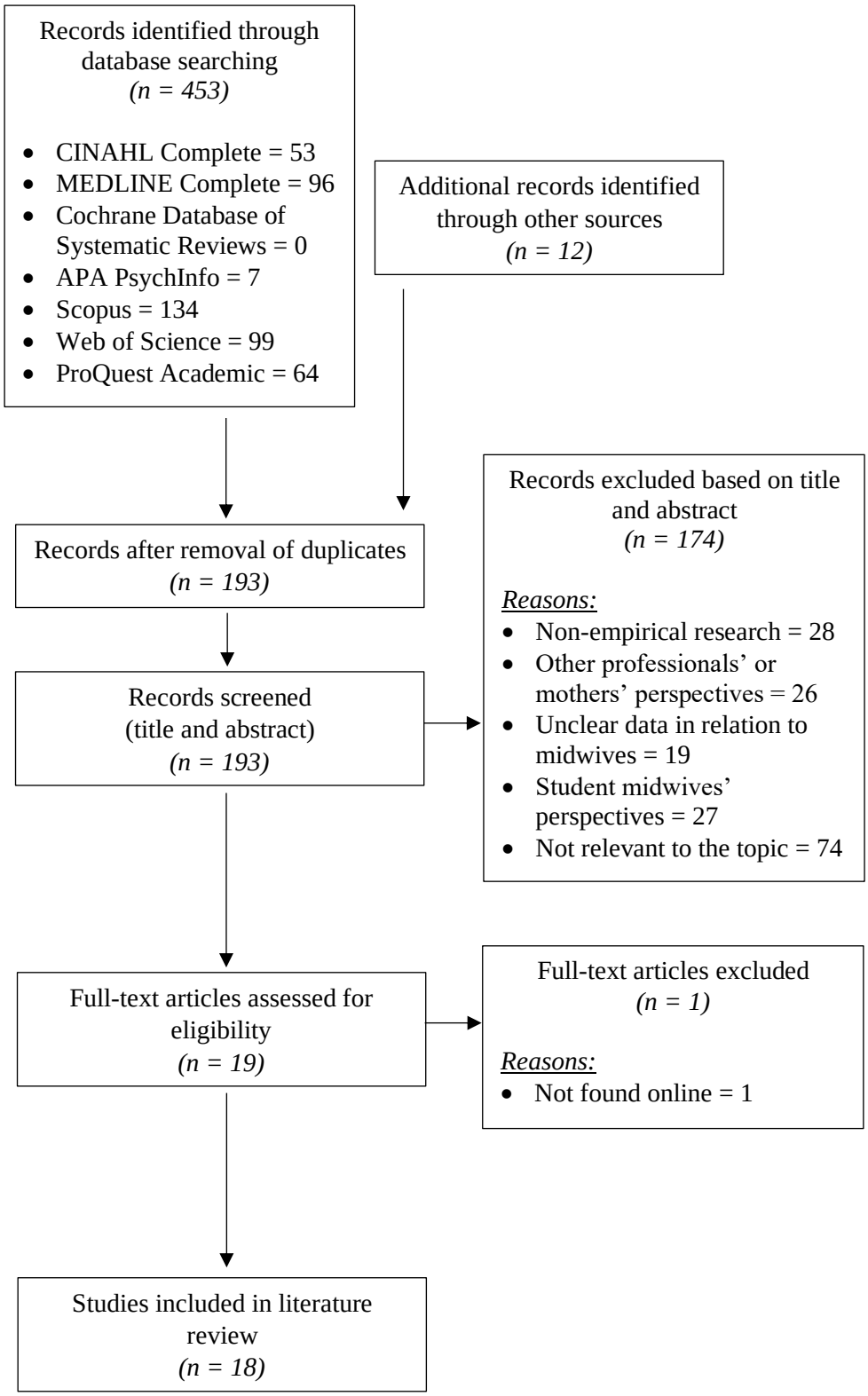
Table 2.1: *Inclusion/exclusion criteria of studies*

Inclusion Criteria	Exclusion Criteria
Empirical research	Non-empirical research
Studies published between January 2020 and March 2023	Studies published before January 2020
Perspectives (attitudes, experiences, thoughts and feelings) of qualified clinical midwives	Perspectives of other healthcare professionals (e.g. doctors, nurses, etc.) or mothers, or studies with findings in relation to midwives not solely stated
Any type of research design	Perspectives of student midwives
Studies written in English or Maltese language	Studies written in languages other than English or Maltese language
Studies available in full-text	Studies not available in full-text (abstract only)

2.3.4 Screening and selection of studies

Studies retrieved from the literature search were screened by applying the above-mentioned inclusion and exclusion criteria. In order to maintain transparency and comprehensiveness, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart was followed, as outlined by Moher et al. (2009), to record the search process and the studies that were retrieved. Initially, all the records that were retrieved were stored within a database known as Rayyan, for the purpose of screening. After removing duplicates from the retrieved studies, the preliminary screening involved evaluating the title and abstract. Full-texts of the included records following this step were then sought. ***Figure 2.1*** illustrates the search procedure, rationales behind exclusion, and the final count of studies incorporated in this literature review.

Figure 2.1: *The PRISMA Flowchart*



2.3.5 Critical appraisal

The comprehensive critical appraisal of all the studies involved a meticulous examination aimed at assessing their susceptibility to bias and the overall quality of the evidence they presented (Polit & Beck, 2018). It is worth noting that bias can introduce a significant level of distortion into the interpretation of a study's results, consequently undermining the study's integrity (Polit & Beck, 2018). Consequently, the critical appraisal of these studies is of significant importance when conducting a literature review, as it allows for the identification and exclusion of studies with pronounced biases that could potentially compromise the review's accuracy and reliability.

The Critical Appraisal Skills Programme (CASP) tool was used to critically appraise qualitative studies in the literature review. CASP offers a variety of checklists tailored for evaluating diverse study types. In the case of qualitative studies, the 'CASP Qualitative Studies Checklist' (CASP, 2018) was utilised. In the case of quantitative studies with a cross-sectional nature, the 'Critical Appraisal of a Cross-Sectional Study (Survey) Tool by the Center for Evidence-Based Management' (CEBMa, 2014) was used. For studies utilising a mixed-methods approach, the 'Mixed Methods Appraisal Tool (MMAT)' (Hong et al., 2018) was used. The questions for each of the critical appraisal tools mentioned above, as well as the results of the critical appraisal for each study are listed in *Appendix A.*

All 18 studies incorporated in the analysis were generally deemed as being of good quality. The study conducted by Hartz et al. (2022) has note-worthy limitations, considering the fact that statistical significance and confidence intervals were not calculated. Nonetheless, considering the study's significance of global input and strengths of the study, it was included in the review. Hence, no studies were excluded

on the basis of this appraisal. Nevertheless, this exercise served as a method of underpinning studies' limitations.

2.4 Results of the Literature Review

2.4.1 Study characteristics

A summary of the characteristics of the included studies is depicted in ***Table B1*** in *Appendix B*. The 18 studies included in this review were published between 2021 and 2023, mostly in 2022, and were conducted in countries across the globe. One study was conducted in the United States (Memmott et al., 2022), seven studies were conducted in European countries (Fumagalli et al., 2023; Goberna-Tricas et al., 2021; González-Timoneda et al., 2021; Hijdra et al., 2022; Huysmans et al., 2021; McGrory et al., 2022; Power et al., 2022), one study was conducted in an African country (Kassahun et al., 2022), three were conducted in countries of the Middle East (Alnuaimi, 2021; Küçüktürkmen et al., 2022; Shoorab et al., 2022), two studies were conducted in Asian countries (Baloushah et al., 2022; Hazfiarini et al., 2022), three studies were conducted in Australia (Bradfield et al., 2022; Hearn et al., 2022; Stulz et al., 2022) and one study had participants from across the world (Hartz et al., 2022). Local research was not identified in the search.

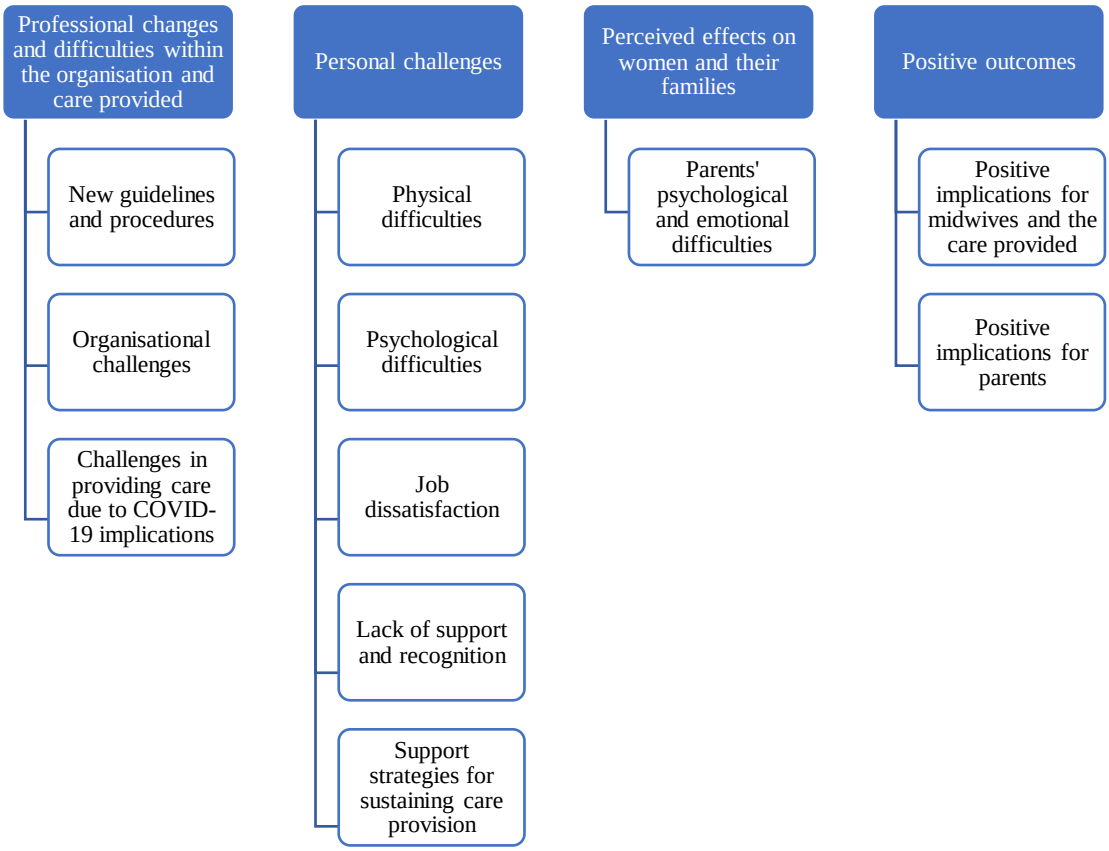
The majority of the studies included in this literature review are of a qualitative research design, with 15 of the 18 studies employing a qualitative research approach. The remaining studies include two quantitative cross-sectional studies and one mixed-methods study. The sample sizes ranged from 8 participants to 1,498 participants. The majority of the studies utilised interviews as their research instrument. In the remaining studies, other research tools such as surveys and focus groups were employed. The mixed-methods study combined the use of a survey and interviews. The participants in the studies included in this literature review were mostly recruited through a

purposive sampling technique. Other sampling techniques utilised included convenience sampling and simple random sampling.

2.4.2 Synthesis of the study findings

After critically appraising the chosen studies, an evidence summary was compiled using a thematic analysis method, as outlined by Polit and Beck (2018). This thematic analysis involved organising the extracted study findings into categories and sub-categories, as presented in ***Tables B2-B19*** in *Appendix B*. The categories and sub-categories identified in the studies serve as the emergent themes and sub-themes within the scope of this literature review. ***Figure 2.2*** below illustrates the themes and sub-themes of this review.

Figure 2.2: *Themes and sub-themes emerging from thematic analysis of the literature*



2.4.3 Professional changes and difficulties within the organisation and care provided

The COVID-19 pandemic brought about profound professional changes and challenges within healthcare organisations, significantly impacting the care provided by midwives. Midwives have found themselves at the forefront of maternal and newborn health, navigating uncharted territory characterised by evolving protocols, stringent infection control measures, and shifting dynamics within healthcare institutions (Bradfield et al., 2022). This theme aims to explore these factors across three further sub-themes; *New guidelines and procedures*, *Organisational challenges*, and *Challenges in providing care due to COVID-19 implications*.

2.4.3.1 New guidelines and procedures

The unprecedented nature of the COVID-19 pandemic brought about rapid changes in midwifery care. Midwives in various studies acknowledged the dynamic and rapidly-evolving nature of the circumstances that arose with the emergence of the disease, and hence, acknowledging the necessity for subsequent adjustments and adaptations (Fumagalli et al., 2023; Hearn et al., 2022; Stulz et al., 2022). During this time, midwifery care underwent significant shifts in response to the nature of the situation, where guidelines and protocols were changing on a frequent basis with midwives constantly having to adapt to new recommendations which, at times, did not consider all holistic needs (Bradfield et al., 2022; Goberna-Tricas et al., 2021; Hearn et al., 2022; Hijdra et al., 2022). The prompt implementation and modification of changes are evident in the frequent revisions of guidelines by international organisations, exemplified by the Royal College of Obstetricians and Gynaecologists (RCOG) and the Royal College of Midwives (RCM). As of the current writing, 16 versions of these guidelines for managing care during the COVID-19 pandemic have been issued, with

the majority released in the first month of the pandemic, specifically in March 2020 (RCOG & RCM, 2022).

Midwives in a qualitative study conducted by Küçüktürkmen et al. (2022) in Turkey reported that there was the establishment of specialised services and delivery rooms for potential or confirmed COVID-19 patients. A global quantitative study by Hartz et al. (2022) also reported closure of some maternity facilities to serve as COVID-19 facilities. Midwives adopted rigorous safety protocols, such as the use of personal protective equipment (PPE), a change which was reported in every study reviewed in the literature. A further change noted in the study by Küçüktürkmen et al. (2022) was the use of polymerase chain reaction (PCR) testing for all women who were admitted. Support people or birth companions were restricted, particularly during the initial stages of the pandemic when the characteristics of the disease remained highly unpredictable (Fumagalli et al., 2023; Goberna-Tricas et al., 2021; Hartz et al., 2022; Huysmans et al., 2021). Visitors other than the primary birth companion were also heavily restricted, commonly taken as a precautionary measure to minimise contact with both the mother and baby, as well as the healthcare staff (Bradfield et al., 2022; Hearn et al., 2022; Hijdra et al., 2022).

Some healthcare institutions made the difficult decision to separate newborns from infected mothers immediately after birth, and breastfeeding was sometimes discouraged to reduce transmission risks (Küçüktürkmen et al., 2022). Similarly, midwives from the study conducted by Huysmans et al. (2021) reported that skin-to-skin contact was restricted for COVID-19 positive mothers. Another measure noted in the literature involved the practice of washing newborns immediately after birth for mothers diagnosed with COVID-19 (Küçüktürkmen et al., 2022), which is a significant

deviation from the usual recommendation of waiting until the infant is at least 24 hours old to perform a baby bath (WHO, 2022).

Safety measures, such as social distancing and a reduction in the use of physical touch, became integral to midwifery care, as evidenced across multiple studies, including the qualitative studies by Fumagalli et al. (2023), Hearn et al. (2022) and Huysmans et al. (2021), conducted in Italy, Australia and Belgium, respectively. Alongside these were other notable adjustments: the restriction of waterbirths and other supportive interventions such as the use of analgesia, (Bradfield et al., 2022; Hearn et al., 2022), parents wearing masks during labour (Huysmans et al., 2021), and earlier post-childbirth discharges (Hartz et al., 2022; Huysmans et al., 2021). Interestingly, midwives from the Australian mixed-methods study by Bradfield et al. (2022) noted that there was a reduction in interventions during labour and birth during the pandemic, which could be considered as contrasting to the general idea that interventions increased in response to stresses and uncertainties brought about by the pandemic on the part of both healthcare professionals as well as expectant parents, which is supported by a study conducted by Rice and Williams (2022), which investigated the impact of COVID-19-related policies on individuals in Canada who experienced childbirth during the pandemic.

Hearn et al. (2022) and McGrory et al. (2022) both highlighted the pivot towards telehealth in an effort to reduce face-to-face contact, a strategy echoed in various studies, such as Bradfield et al. (2022) and Hartz et al. (2022). Midwives in the Australian qualitative study by Stulz et al. (2022) also reported a shift from face-to-face to online antenatal classes. These five studies also pointed to increased requests for home births. Similarly, a Spanish qualitative study by Goberna-Tricas et al. (2021) further highlighted a rise in homebirth rates and a reduction in admissions to the

obstetric emergency. Apart from the introduction of telehealth, participants from a Dutch qualitative study by Hijdra et al. (2022) remarked that fewer women were seeking primary midwifery care. This is corroborated by research conducted by Townsend et al. (2021), which observed a worldwide decline in maternity healthcare-seeking and healthcare provision during the COVID-19 pandemic. All these noticeable changes could possibly indicate a broader trend in seeking less institutionalised birthing environments during a time of uncertainty, echoing parents' desire to minimise contact within hospital institutions out of fear of transmission of the COVID-19 virus.

Surprisingly, Alnuaimi (2021), a qualitative study conducted in Jordan, presented a contrasting perspective to the majority of the findings presented above, with most of the participants in this study stating that the fundamental nature of their care remained unchanged during the pandemic, with only slight modifications in physical interactions. In a parallel manner, the quantitative aspect of the mixed-methods study by Bradfield et al. (2022), hence the survey results, reported that almost half of the participants believed that their care approach remained unaltered during the pandemic. This outcome diverged from the conclusions drawn from the interviews, which formed the qualitative aspect of the same study. Possible explanations for these discrepancies might be associated with variations in the timing of data collection, possibly reflecting different stages or waves of the COVID-19 pandemic, which could imply varying alterations of care and/or easing of certain restrictions.

2.4.3.2 Organisational challenges

The COVID-19 pandemic imposed a multitude of organisational challenges within midwifery care, as evidenced by several studies. Alnuaimi (2021) reported a surge in workload and staff shortages, exacerbated by a country policy in Jordan that halved

the healthcare provider workforce to mitigate the spread of the virus. An increase in workload emerged as a recurrent organisational hurdle in numerous studies, with 10 studies, including those by Huysmans et al. (2021), Küçüktürkmen et al. (2022), and Memmott et al. (2022), highlighting this challenge. A qualitative study by McGrory et al. (2022) conducted in the United Kingdom delved further into this challenge, attributing it to additional administrative burdens associated with COVID-19. The surge in workload within midwifery care during the COVID-19 pandemic could also be closely linked to the persistent issue of staff shortages, which was indicated by several studies (Hartz et al., 2022; Hearn et al., 2022; McGrory et al., 2022). This shortage of personnel placed an added burden on the existing midwives, forcing them to juggle increased responsibilities and care for a higher volume of women and their respective families.

Midwives from the studies conducted by González-Timoneda et al. (2021) and Stulz et al. (2022) noted that there was significant misinformation or lack of information provided during the pandemic. In instances when information was provided, it was frequently characterised as unclear, inconsistent or confusing (Hartz et al., 2022; Hijdra et al., 2022). This is echoed in other studies, with some adding that this was often accompanied with lack of knowledge that resulted from the lack of information (Alnuaimi, 2021; Goberna-Tricas et al., 2021; Hazfiarini et al., 2022). Contrastingly, only one study by Bradfield et al. (2022) reported that more than half of the participants (n=366, 61%) felt they had the adequate knowledge needed to care for women infected with COVID-19.

The lack of knowledge and information provided can be associated with the lack of training that midwives received during the COVID-19 pandemic, which was reported in qualitative studies by Baloushah et al. (2022), González-Timoneda et al. (2021) and

Hazfiarini et al. (2022), conducted in Palestine, Spain and Indonesia, respectively. This training gap hindered their ability to cope with the evolving situation, leaving them with unanswered questions and uncertainties about the required protocols. Consequently, midwives commonly faced pandemic challenges without the necessary knowledge and skills to offer effective care and adapt to the rapidly changing circumstances.

The shortage of PPE emerged as a pervasive and concerning organisational challenge within midwifery care during the COVID-19 pandemic, as highlighted across most studies in this literature review. Bradfield et al. (2022) noted the lack of PPE among their reported challenges, underscoring the essential role these protective measures play in safeguarding both midwives and patients. Goberna-Tricas et al. (2021) and González-Timoneda et al. (2021) echoed this concern, emphasising that a scarcity of PPE hindered the ability to provide safe care and protect midwives effectively. Two-thirds of the respondents in the study by Hartz et al. (2022) reported a scarcity of PPE, a finding which was not confined to low- and middle-income countries.

In some instances, midwives were compelled to make their own PPE such as masks, a resourceful but concerning response to the scarcity of essential protective gear during the COVID-19 pandemic (Hartz et al., 2022). Hazfiarini et al. (2022), Hearn et al. (2022), Hijdra et al. (2022), Huysmans et al. (2021) and McGrory et al. (2022) also identified the inadequate provision of PPE as a pressing issue, adding to the complex organisational challenges faced by midwives. A Canadian qualitative study by Memmott et al. (2022) found that midwives struggled with not only heightened workloads but also the lack of access to PPE, a disparity in resources which was found to be less when compared to other healthcare providers.

Aspects related to different elements of management, leadership and coordination were also highlighted within the literature reviewed. The challenges in management, leadership, and coordination during the COVID-19 pandemic emerged as significant organisational obstacles in midwifery care, as revealed by multiple studies. Bradfield et al. (2022) uncovered conflicting findings in relation to healthcare system responses, with some participants reporting clear and regular communication of changes from their leaders while others cited confusion and a lack of evidence-based changes.

Further discrepancies were noted in the reviewed literature in relation to management and leadership. Whilst midwives from the study by McGrory et al. (2022) reported that they had effective leaders who listened and kept everyone up to date with clear guidelines, González-Timoneda et al. (2021) and Stulz et al. (2022) concluded that poor communication and decisions from management, which were similarly not evidence-based, compounded the challenges faced, such as mismanagement of PPE and staffing levels (Huysmans et al., 2021). These disparities can be attributed to differences in the capabilities of leaders and managers in handling emergency scenarios, such as the challenges posed by the COVID-19 pandemic. This underscores the essential role that proficient management, leadership, and coordination play in effectively guiding midwifery care through crises like the COVID-19 pandemic.

A recurring theme in the reviewed studies is the marginalisation of midwives in the formulation of policies and guidelines during the COVID-19 pandemic. Despite their pivotal role in maternity care, many midwives reported feeling excluded from decision-making processes regarding care guidelines and pandemic-related policies. This omission from critical discussions and the development of protocols left them struggling with the challenges of the pandemic without the opportunity to contribute their expertise and experiences. Hearn et al. (2022) noted that midwives' exclusion

made them feel invisible within the healthcare system, while Huysmans et al. (2021) highlighted their sense of undervaluation.

This perception of midwives' profession being undervalued was further emphasised in the study by Hartz et al. (2022). In addition to their exclusion from critical discussions, midwives in this study were also reassigned to nursing roles, which conveyed the message that maintaining an appropriate staffing level of midwives was not deemed essential during that critical period. Memmott et al. (2022) found that midwives believed their professional expertise was underutilised, particularly in the development of policies and protocols aimed at addressing the unique challenges posed by the COVID-19 pandemic within maternity services.

The COVID-19 pandemic also brought to light some unfortunate changes in healthcare as reported in multiple studies, including Goberna-Tricas et al. (2021) and González-Timoneda et al. (2021). Midwives in these studies, which interestingly were both conducted in Spain, faced significant challenges related to the dehumanisation of care and obstetric abuse during this crisis. These challenges were multifaceted, encompassing issues such as unclear information, lack of knowledge, and inadequate resources. The dehumanisation of care often involved instances where the human touch and empathetic communication were compromised due to the overwhelming workload and, in some cases, the absence of support persons during labour and birth. Obstetric abuse, a deeply concerning issue, included situations where mistreatment and disrespect of pregnant women during childbirth, such as performing non-consensual interventions or procedures, were reported. These findings underscore the importance of maintaining a humane and respectful approach to midwifery care, even in the face of unprecedented challenges.

2.4.3.3 Challenges in providing care due to COVID-19 implications

During the COVID-19 pandemic, the provision of midwifery care faced a multitude of challenges as revealed by several studies. As previously described, the numerous alterations to conventional care practices and the organisational hurdles encountered during the pandemic presented a multitude of difficulties when it came to delivering midwifery care in this period. A significant portion of the difficulties revolved around the mandatory measures like the use of PPE, which while crucial for health and safety, created barriers to the cherished midwife-woman relationship (Fumagalli et al., 2023; Hazfiarini et al., 2022). Midwives in Bradfield et al. (2022) and Power et al. (2022) noted that PPE and the related lack of physical touch disrupted the essential human connection, particularly poignant during critical moments like grieving with bereaved parents. Telehealth, introduced as a safer alternative to in-person consultations, posed its own set of challenges, often feeling impersonal and inadequate (Hearn et al., 2022; Stulz et al., 2022).

Another consistent theme was the concern regarding the reduced in-person contact, perceived by many midwives as lowering the quality of care (Goberna-Tricas et al., 2021; Hijdra et al., 2022). This was particularly concerning for midwives when considering the increased possibility of missing important information, such as indicators of domestic violence, due to decreased in-person contact. Furthermore, frequent changes in protocols, often without the involvement or consultation of midwives, added to the complexity. Huysmans et al. (2021) highlighted the adverse effects of these measures, which sometimes seemed to contradict the core values of midwifery, such as the restricted skin-to-skin contact for COVID-19 positive mothers.

Workload escalated across the board, with Baloushah et al. (2022) pointing to increased responsibilities amidst lacking resources and training. Simultaneously,

traditional supportive interventions, such as the use of analgesia options and waterbirths as well as birth companions, were restricted, further challenging the midwives' ability to offer women-centred care (Bradfield et al., 2022; Memmott et al., 2022). Continuity of care, however, emerged as a "protective shield" against the upheavals of the pandemic (Hearn et al., 2022) and served as an enhancement of the provision of woman-centred care (Bradfield et al., 2022), despite the difficulties faced.

2.4.4 Personal challenges

The COVID-19 pandemic has not only posed professional challenges for midwives but also personal ones. With the ever-evolving nature of the pandemic and its associated protocols, many midwives found themselves grappling with all sorts of difficulties, including physical and psychological strains, as well as the profound impact of their profession on their personal lives. This theme aims to explore five sub-themes related to midwives' personal challenges, which are as follows: *Physical difficulties*, *Psychological difficulties*, *Job dissatisfaction*, *Lack of support and recognition*, and *Support strategies for sustaining care provision*.

2.4.4.1 Physical difficulties

During the COVID-19 pandemic, midwives encountered a multitude of physical challenges in the course of their duties. One significant issue was the constant use of PPE, such as masks, gowns, and face shields, which was reported to be uncomfortable and physically demanding, especially when worn for extended periods (Bradfield et al., 2022; Hazfiarini et al., 2022). These safety measures, while essential, often led to issues like skin irritation, difficulty in breathing, and heightened discomfort during long shifts (Alnuaimi, 2021). Apart from the use of PPE, Fumagalli et al. (2023) also reported that midwives were experiencing substantial physical challenges stemming from prolonged shifts, frequently without any breaks throughout their working hours.

The physically demanding nature of their work, coupled with these pandemic-specific challenges, made it an arduous task for midwives to provide care while safeguarding their own well-being.

2.4.4.2 Psychological difficulties

During the tumultuous times of the COVID-19 pandemic, midwives across all studies consistently reported profound psychological difficulties while providing midwifery care. Alnuaimi (2021), Baloushah et al. (2022), and González-Timoneda et al. (2021) all resonated with the pervasive feeling of fear, whether stemming from concerns of contracting the virus themselves, transmitting it to family, clients, or colleagues, or the overarching fear of the unknown. This sentiment was echoed in Hartz et al. (2022), where the emotion was not confined to specific regions but was widespread across countries of varying income levels. Midwives from the study by González-Timoneda et al. (2021) were actually more fearful of the contagion of the virus for their families, colleagues and clients rather than themselves.

Additionally, Bradfield et al. (2022), Hazfiarini et al. (2022) and McGrory et al. (2022), amongst others, outlined the burgeoning feelings of stress, burnout, and exhaustion among midwives, commonly linked to poor staffing and PPE management, workload, restrictions and feelings of unpreparedness (Huysmans et al., 2021). Hence, the consequences of certain changes and shortages extended beyond the physical risks, as they also had profound implications for the psychological well-being and professional confidence of midwives during a time of unprecedented challenges. It is worth noting that an Ethiopian quantitative study by Kassahun et al. (2022) found that levels of depression, anxiety and stress were higher amongst midwives who had poor knowledge of COVID-19, poor preventative practices, and poor attitudes towards

COVID-19. This stress often culminated in feelings of frustration, confusion, uncertainty and sadness as described by Hijdra et al. (2022).

For some, the psychological burden was so intense that it led to taking time off or to considerations of leaving the profession altogether, as mentioned in qualitative studies by Küçüktürkmen et al. (2022), Memmott et al. (2022) and Shoorab et al. (2022), conducted in Turkey, Canada, and Iran, respectively. Maintaining a healthy work-life balance also became a significant challenge for midwives during the COVID-19 pandemic (Goberna-Tricas et al. 2021; McGrory et al., 2022). The demands of their profession, coupled with the unprecedented nature of the crisis, disrupted their personal lives and well-being extensively. Compounding these emotional strains, Goberna-Tricas et al. (2021), Hearn et al. (2022) and Power et al. (2022) highlighted ethical dilemmas and feelings of guilt, as midwives grappled with the sense that the constrained care they could provide during the pandemic was insufficient.

Midwives from the study by Goberna-Tricas et al. (2021) also reported feelings of loneliness, which could be attributed to strained relationships with colleagues and family members, caused by the pandemic (Fumagalli et al., 2023). Social rejection was a distressing experience also reported by midwives during the COVID-19 pandemic (Baloushah et al. 2022). This phenomenon likely emerged as a result of various factors, including the fear and stigma associated with the virus, misconceptions about transmission risks, and the demanding nature of their profession during the crisis.

Midwives often found themselves facing social isolation and encountering unfounded fears or biases from friends, relatives, and even neighbours. It is noteworthy that a limitation of the studies carried out by Baloushah et al. (2022), Fumagalli et al. (2023), and Goberna-Tricas et al. (2021), amongst others, is that they were conducted within

regions or hospitals characterised by elevated numbers of reported COVID-19 cases. This circumstance may have influenced the heightened fears experienced by those with close relationships with the participants, potentially contributing to the midwives' sense of loneliness. Nonetheless, these studies collectively underscore a profound psychological strain on midwives during the pandemic, a period characterised by increased workload, evolving health protocols, and emotional challenges.

2.4.4.3 Job dissatisfaction

Job dissatisfaction among midwives became increasingly prevalent during the COVID-19 pandemic, reflecting the countless challenges they faced which not only disrupted their work routines but also eroded their job satisfaction (Küçüktürkmen et al., 2022). Midwives in the study by Hearn et al. (2022) suggested that the emotional toll due to the pandemic had robbed them of the joy traditionally associated with their profession. This was commonly compounded by the lack of support and burnout, as described by Memmott et al. (2022). Another probable contributing factor to job dissatisfaction could be due to the fact that midwives often felt undervalued and excluded from critical discussions about their profession, as previously mentioned, leaving them disheartened and disconnected from their work (Hartz et al., 2022).

2.4.4.4 Lack of support and recognition

The collective findings from multiple studies shed light on a disheartening theme of midwives experiencing a profound lack of support and recognition throughout the pandemic. This dearth of acknowledgment extended across various dimensions. Midwives expressed their sentiments about the lack of appreciation for their tireless efforts during these challenging times and noted that the absence of financial rewards compounded their sense of undervaluation (Alnuaimi, 2021). Moreover, a concerning issue that emerged was the deficiency of dedicated and structured well-being support

for midwives (Fumagalli et al., 2023). The pandemic took a significant toll on their mental and emotional health, and the absence of adequate support mechanisms further strained their overall well-being.

Feelings of loneliness and limited support from their colleagues and team members (González-Timoneda et al., 2021) also left midwives emotionally isolated, intensifying the stress and emotional burden they carried. In addition to emotional support, midwives also yearned for more tangible forms of recognition and appreciation. Simple acts of gratitude, such as managers thanking their staff, were identified as powerful ways to make midwives feel valued and appreciated (McGrory et al., 2022), which further highlights the importance of recognition.

2.4.4.5 Support strategies for sustaining care provision

The demanding circumstances brought about by the COVID-19 pandemic compelled midwives to seek and employ various supportive and coping mechanisms to sustain their care provision. Colleague support emerged as a crucial pillar of support for midwives across several studies (Alnuaimi, 2021; Power et al., 2022). The solidarity and understanding of their fellow professionals provided a lifeline during times of extreme stress and uncertainty. Midwives recognised the significance of sharing their experiences, feelings, and challenges with their teams, fostering a sense of mutual support (Fumagalli et al., 2023; Hazfiarini et al., 2022). Beyond their professional circles, family and friends played a pivotal role in upholding midwives' emotional well-being (Fumagalli et al., 2023; Hazfiarini et al., 2022). These personal relationships served as sources of comfort and solace, reminding midwives of the broader support network available to them.

Mindfulness and spiritual practices also emerged as an effective coping strategy (Power et al., 2022; Shoorab et al., 2022). By staying present in the moment and maintaining a sense of purpose in their work, midwives were able to navigate the challenging nature of the pandemic with greater resilience. Continuous learning and seeking the latest information about COVID-19 were essential coping mechanisms (Alnuaimi, 2021; Shoorab et al., 2022). Armed with up-to-date knowledge, midwives felt more equipped to provide safe and effective care, reducing feelings of helplessness and uncertainty. Maintaining pride and a sense of moral obligation in the care they provided were means by which midwives restored their sense of purpose and hope for their careers (Hazfiarini et al., 2022; Memmott et al., 2022). These strategies allowed midwives to stay committed to their profession and the welfare of those that they cared for.

2.4.5 Perceived effects on women and their families

Undoubtedly, the COVID-19 pandemic had profound effects on women and their families in relation to perinatal care and beyond. Midwives were uniquely positioned to notice these effects due to their close and continuous interactions with expectant mothers and their families. They could also recognise the challenges posed by restrictions on birthing practices and access to support networks. In this section, the sub-theme titled *Parents' psychological and emotional difficulties* will be discussed.

2.4.5.1 Parents' psychological and emotional difficulties

During the tumultuous period of the COVID-19 pandemic, midwives stood witness to a spectrum of psychological and emotional challenges that women and their families had to face. Midwives from the study by Bradfield et al. (2022) described parents' feelings of stress, uncertainty, isolation, and vulnerability. Echoing these sentiments, midwives from the studies by Fumagalli et al. (2023) and Goberna-Tricas et al. (2021)

observed prevalent feelings of loneliness and fear, the latter emphasising diminished shared decision-making that heightened the vulnerability. This sentiment of diminished shared decision-making was also mentioned in the study by Hijdra et al. (2022). Midwives from the study by González-Timoneda et al. (2021) portrayed further emotional effects, describing parents' experiences of grappling with surprise, frustration, anxiety, and loneliness.

Hartz et al. (2022) delved deeper, where midwives signified the daunting fear that deterred many from accessing maternity facilities, compounded by a rise in violence against women, illustrating a darker side to the pandemic. Hearn et al. (2022) highlighted the long-term concerns midwives had, noting feelings of worry about future implications of the pandemic for these women and their families. Furthermore, midwives from the studies by Huysmans et al. (2021) and Stulz et al. (2022) emphasised women's profound sensations of psychological distress, despair, unpreparedness, and heightened anxiety. Midwives from a qualitative study conducted by Power et al. (2022) in the Republic of Ireland also shed light on a particularly vulnerable group, bereaved parents, suggesting they might be navigating an even deeper sense of loneliness and isolation. Collectively, these studies paint a realistic picture of the profound emotional and psychological upheaval women and their families faced, with midwives uniquely positioned to recognise such concerns.

2.4.6 Positive outcomes

Despite its numerous challenges and disruptions to maternity care, the COVID-19 pandemic also yielded some positive outcomes for midwives, the care they provided, and the parents they cared for. This theme will be discussed in two separate sub-themes: *Positive implications for midwives and the care provided*, and *Positive implications for parents*.

2.4.6.1 Positive implications for midwives and the care provided

In the face of significant hurdles presented by the COVID-19 pandemic, notable positive outcomes in the realm of midwifery care were still present in some studies, particularly concerning midwives and the care provided. Baloushah et al. (2022) observed the blossoming of new professional relationships and enhanced teamwork among midwives, further enriching the midwife-women relationship. This sentiment of fortified collaboration was echoed by Goberna-Tricas et al. (2021), who emphasised the emergence of strengthened professional ties and a newfound resilience in confronting similar future challenges. Bradfield et al. (2022) highlighted the increased sense of pride midwives experienced, with many acquiring new skill sets and feeling more supported by their teams. Adding to this sentiment, Küçüktürkmen et al. (2022) found midwives gaining more confidence in managing future pandemic-related situations.

Midwives in the study by Hartz et al. (2022) identified a silver lining in providing care to COVID-19 infected women, in which the specialised one-to-one care provided allowed for more personalised attention. Power et al. (2022) noted that many midwives found solace in their work during these turbulent times, with it offering a semblance of structure and normalcy. Likewise, Stulz et al. (2022) reported that some midwives perceived an enhancement in their capacity to provide women-centred care and felt more empowered in their roles. Collectively, these studies showcase the adaptability and growth within the midwifery profession amidst an unprecedented global crisis.

2.4.6.2 Positive implications for parents

While numerous challenges arose, there were also some unexpected benefits for parents during the COVID-19 pandemic in the context of maternity care. According to Bradfield et al. (2022), midwives reported that the restrictions on visitors allowed

new families to have fewer distractions, fostering a more intimate and focused bonding environment. This reduction in external intrusions, such as frequent visitors, was similarly highlighted by Fumagalli et al. (2023) and Stulz et al. (2022), suggesting an opportunity for parents to have a more peaceful and personal experience with their newborns, and to recover and bond with their babies in a more serene setting. Furthermore, some of the novel services introduced due to the pandemic, such as the adoption of telehealth and virtual care solutions, seemed to enhance accessibility for women, offering them more tailored and convenient care options during these unique times (Bradfield et al., 2022).

2.5 Strengths and Limitations of the Literature Review

The researcher did not limit the studies retrieved for this literature review to one particular type of research design, thus, the risk of eliminating valuable research was reduced. Having complete access to full-text articles is essential to conduct a thorough and comprehensive search. Nonetheless, restricted accessibility hindered the researcher from obtaining articles that could have been relevant. The inclusion of studies with small sample sizes could potentially lead to the generation of inaccurate or misleading conclusions from the findings. Additionally, certain exclusion criteria for the selection of studies for this literature review, such as the exclusion of studies with findings in relation to midwives not solely stated, may have influenced the results, possibly causing the omission of pertinent information.

2.6 Conclusion

2.6.1 Summary of the findings

This literature review presented an overview of the existing research findings pertaining to midwives' perspectives on the provision of quality midwifery care during

the COVID-19 pandemic. The following key findings were elicited from the literature review:

New guidelines and procedures

- Rapid changes in midwifery care were noted, with evolving guidelines and protocols.
- Specialised services and delivery rooms for potential or confirmed COVID-19 patients were established in some areas.
- Safety measures like PPE use, PCR testing for admitted women, and restrictions on support people and visitors were imposed.
- Changes in newborn care, like immediate bathing and separation from infected mothers, were also noted.
- Social distancing, reduced physical touch, and other adjustments became integral to midwifery care.

Organisational challenges

- The pandemic exacerbated workload and staff shortages, with increased responsibilities.
- A lack of clear, consistent information and training created challenges.
- Shortages of PPE were widespread.
- Issues related to management, leadership, and coordination within healthcare institutions, as well as midwives' marginalisation in policy development, added to organisational challenges.

Challenges in providing care due to COVID-19 implications

- Midwives faced difficulties in providing care due to mandatory measures like PPE use, which disrupted the midwife-woman relationship.
- Telehealth, while introduced for safety, often felt impersonal.

- Traditional supportive interventions were restricted, and changes in protocols sometimes contradicted core midwifery values.
- Workload increased, and in-person contact decreased, potentially resulting in missing vital information.
- Shifts in birthing practices and reduced access to support networks were additional challenges.

Personal challenges

- Midwives faced various personal challenges during the pandemic, including physical difficulties due to the use of PPE, psychological difficulties such as stress and burnout, job dissatisfaction, and a lack of support and recognition.
- Coping strategies included seeking support from colleagues, family, and friends, mindfulness practices, continuous learning, and maintaining pride in their work.

Perceived effects on women and their families

- The pandemic had profound effects on women and their families, including stress, uncertainty, isolation, vulnerability, fear, anxiety, loneliness, and increased violence against women.
- The pandemic disrupted shared decision-making and has possibly introduced long-term implications.

Positive outcomes for midwives and care provided

- Despite challenges, midwives reported strengthened professional relationships, enhanced teamwork, and newfound resilience.
- They gained new skills and felt more empowered and confident. Some midwives found pride and solace in their work during turbulent times.

- One-to-one care for COVID-19-infected women allowed for more personalised attention.

Positive outcomes for parents

- Restrictions on visitors during the pandemic allowed new families to have fewer distractions, fostering a more intimate bonding environment.
- The adoption of new services enhanced accessibility for women, offering more tailored and convenient care options.

2.6.2 Conclusion

This literature review has shed light on the various facets of implications in relation to the COVID-19 pandemic, with particular focus on midwives' perspectives. Nonetheless, there is a lack of large-scale quantitative data collection and analysis of the effects of the COVID-19 pandemic from the midwives' perspectives, particularly analysing different care settings, where patterns in the data can be identified and longer-term planning for a pandemic or emergency context can be informed. Additionally, no local literature to date has been found to evaluate midwives' perspectives on providing care during the COVID-19 pandemic in the local setting. Hence, it is imperative to thoroughly investigate the local context to inform and plan future policies, while also providing a platform for local midwives to share their perspectives. The next chapter will present an explanation of the theoretical framework chosen as the basis for this study.

Chapter 3

THEORETICAL FRAMEWORK

3.1 Introduction

A theoretical framework serves as the underpinning of a research study, offering the rationale for its execution or for the examination of hypotheses (Polit & Beck, 2018). When employed in research, it directs the researcher using fundamental ideas from a theory to determine the variables and their interrelationships within the study (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). In quantitative research, the selection of a theory comes after a thorough review of the existing literature (Creswell & Creswell, 2023). Subsequently, this chosen theory becomes the fundamental basis on which the study is built.

After a thorough examination of the existing literature concerning the delivery of quality midwifery care within the context of the coronavirus disease 2019 (COVID-19) pandemic, the researcher has ascertained that this area of study is significantly influenced by a range of interdisciplinary factors that impact various facets of care. In the search for an appropriate theoretical framework for this study, several theories were evaluated to identify the one most relevant to this study's focus, ultimately serving as the foundation for the research framework.

The most suitable theoretical framework identified for this study is the Quality Maternal and Newborn Care (QMNC) Framework. This framework was developed by Renfrew et al. (2014), drawing upon evidence from the 2014 Lancet Series on Midwifery. The QMNC Framework portrays the comprehensive scope of care to which all women and newborns should have uninhibited access, with the ultimate goal of enhancing health outcomes. Midwifery care cannot be cancelled or postponed. Just as it was the case in the past, and even more crucially during a global pandemic, the imperative for ensuring that childbearing women and their newborn infants receive

high-quality care persists. This care is vital not only to maintain their safety and well-being but also to ensure unrestricted access to help, especially in the case of complications. It is imperative that services remain accessible and suitable for all individuals, with a continued commitment to fairness, respect, and empathy. This approach is crucial for preventing discrimination and mitigating any exacerbation of existing inequalities stemming from the ongoing crisis (O'Connell et al., 2020).

The QMNC Framework underscores the fundamental principles of quality care within the field of maternity and newborn care, which inherently extends to midwifery care. Similarly, one of the pertinent objectives of this study is to pinpoint the core principles of quality midwifery care specifically within the context of a pandemic or similar emergencies. Consequently, the QMNC Framework has been selected as the foundation for the theoretical framework of this study, primarily due to its alignment with prioritising quality maternity and newborn (or midwifery) care under any given circumstances or scenarios.

3.2 Application of the QMNC Framework

The QMNC Framework encompasses several dimensions of maternal and newborn care, including *Practice Categories*, *Organisation of Care*, *Values*, *Philosophy*, and *Care Providers*. Each of these aspects within the framework can be instrumental in crafting elements of a health system tailored for the needs of childbearing women and newborn infants. This ensures that midwives, who have received proper education, and are licensed and regulated, are effectively incorporated into the health system. The QMNC Framework is depicted in ***Figure 3.1*** below.

Figure 3.1: *The QMNC Framework*

	For all childbearing women and infants			*For childbearing women and infants with complications*	
Practice Categories	Education Information Health promotion	Assessment Screening Care planning	Promotion of normal processes, prevention of complications	First-line management of complications	Medical obstetric neonatal services
Organisation of Care	Available, accessible, acceptable, good-quality services – adequate resources, competent workforce Continuity, services integrated across community and facilities				
Values	Respect, communication, community knowledge, and understanding Care tailored to women's circumstances and needs				
Philosophy	Optimising biological, psychological, social, and cultural processes; strengthening woman's capabilities Expectant management, using interventions only when indicated				
Care Providers	Practitioners who combine clinical knowledge and skills with interpersonal and cultural competence Division of roles and responsibilities based on need, competencies, and resources				

(Renfrew et al. 2014)

For the purpose of this study, the components of care mentioned above in the framework will be applied in the context of care provided during the COVID-19 pandemic, hence, a pandemic context.

3.2.1 Practice Categories

3.2.1.1 Education, Information and Health Promotion

Ensuring sufficient education and the provision of trustworthy information, along with a concentrated emphasis on promoting health, is of paramount significance in any given scenario. This holds true both in routine circumstances and is accentuated in a pandemic, marked by the prevalence of misinformation and an increased need for health promotion (Rocha et al., 2021). The COVID-19 pandemic has brought about substantial changes in the way education, information dissemination, and health promotion are conveyed to the general population, and this undoubtedly also extends to pregnant women as well (Durowaye et al., 2022; Stulz et al., 2022).

Traditional face-to-face antenatal education transitioned to an online format (Stulz et al., 2022), and health information was predominantly disseminated through social media channels (Rocha et al., 2021). Furthermore, health promotion prominently centred around COVID-19 related topics, such as promotion for the vaccine against the spread of the virus (Durowaye et al., 2022). In spite of various efforts to uphold a sense of normality, several parents reported feelings of uncertainty and confusion (Bradfield et al., 2022), possibly alluding that some approaches cannot entirely substitute conventional ones.

3.2.1.2 Assessment, Screening and Care Planning

The COVID-19 pandemic had a notable impact on assessment and screening processes during the perinatal period, subsequently also influencing care planning. Research outcomes indicate that numerous healthcare organisations transitioned to offering specific elements of care, such as assessment and screening, via telehealth, resulting in a substantial reduction in in-person visits (Hearn et al., 2022; Stulz et al., 2022). The need for additional screening and assessment related to COVID-19 risk also added complexity to care planning. Women needed to be evaluated for their COVID-19 status in addition to routine assessments (Küçüktürkmen et al., 2022).

Midwives voiced their apprehensions regarding alterations in assessment and screening approaches. Research demonstrates that midwives expressed concerns about the possibility of overlooking critical information due to decreased interactions with women, especially concerning assessment and screening for issues like mental health challenges or instances of domestic violence (Goberna-Tricas et al., 2021; Hijdra et al., 2022). Decision-making for care planning also faced substantial disruptions during the COVID-19 pandemic. Often, these decisions were described as lacking a

foundation in evidence (González-Timoneda et al., 2021) and not taking into account women's contributions to the decision-making process (Goberna-Tricas et al., 2021; Hijdra et al., 2022). Consequently, it becomes evident that even in the face of the pandemic's emergency circumstances, decision-making should still be guided by established evidence on quality care, while also considering emerging evidence related to the new disease (Renfrew et al., 2020).

3.2.1.3 Promotion of Normal Processes and Prevention of Complications

The COVID-19 pandemic created significant challenges for midwifery care in promoting normal processes and preventing complications. It disrupted established routines, limited access to resources, increased stress levels, and required adaptations to mitigate potential risks (Stulz et al., 2022). The above-mentioned change in in-person visits and hence, the reduced frequency of contact between midwives and pregnant women potentially limited opportunities to provide hands-on care, monitor normal processes and detect complications early. Some hospitals restricted the presence of support persons, including partners, during labour and, at times, also during birth (Hartz et al., 2022; Huysmans et al., 2021). Lavender et al. (2020) note that denying women the presence of companions during labour will lead to more interventions, longer hospital stays, and a higher risk of cross-infection for both women and healthcare staff.

Certain healthcare facilities also made the decision of immediately separating newborns from mothers who tested positive for COVID-19 after giving birth, and in some cases, discouraging breastfeeding as a precautionary measure to lower the risk of transmission (Küçüktürkmen et al., 2022). Similarly, in a study by Huysmans et al. (2021), midwives reported that skin-to-skin contact was restricted for mothers who

had tested positive for COVID-19. Limited birthing options were also noted, such as restricted options related to analgesia use and water immersion, potentially hindering the promotion of normal processes during childbirth (Bradfield et al., 2022; Memmott et al., 2022). Despite the negative impacts, some remarked that visitor restrictions allowed parents the liberty of reduced distractions and more time for the promotion of normal processes, such as breastfeeding (Fumagalli et al., 2023).

3.2.1.4 First-line Management of Complications and Medical Obstetric Neonatal Services

Similar to other aspects of care, management of complications became more intricate during the COVID-19 pandemic. For instance, midwives in the research by Hazfiarini et al. (2022) reported challenges in locating referral hospitals for women requiring additional medical assistance, often attributed to logistical difficulties stemming from COVID-19. Townsend et al. (2021) also observed a worldwide decline in maternity healthcare-seeking and healthcare provision during the COVID-19 pandemic, raising the concern that the provision of essential care, particularly in situations of potential threat, could have been omitted.

Instances arising from the pandemic and findings from research show that, particularly in a pandemic context, first-line management of complications and medical obstetric neonatal services, such as "elective and emergency caesarean section, blood transfusion, care for women with multiple births and medical complications such as human immunodeficiency virus (HIV) and diabetes, and services for preterm, small for gestational age, and sick neonates" (Renfrew et al., 2020), remain crucial to prevent worsening of complications and long-term consequences, as well as to ensure safe childbirth and reduce maternal and neonatal mortality (Renfrew et al., 2020).

3.2.2 Organisation of Care

The organisation of care for women and their families during the perinatal period was significantly impacted by the COVID-19 pandemic. In some instances, maternity services were disrupted as healthcare facilities were repurposed to provide care for COVID-19 patients, leading to substantial disruptions in the organisation of care for women in those areas (Hartz et al., 2022).

Adequate resources were also notably scarce. Several studies in the literature highlighted a significant shortage of personal protective equipment (PPE) for midwives (Bradfield et al., 2022; Goberna-Tricas et al., 2021; Hartz et al., 2022). Additionally, there were reports of overall resource inadequacies concerning midwifery services (Baloushah et al., 2022; Hearn et al., 2022). In the context of providing care during a pandemic, the level of workforce competency faced significant challenges, especially in relation to the organisation of care. Midwives often lacked the necessary knowledge and training to handle pandemic-related scenarios and mostly felt unprepared (Alnuaimi, 2021; González-Timoneda et al., 2021; Hazfiarini et al., 2022).

Continuity of care, a typically attractive model in midwifery services, faced challenges during the COVID-19 pandemic. Some continuity of care models experienced disruptions and a significant reduction in availability (Stulz et al., 2022). However, in cases where care models managed to maintain continuity, it was reported to act as a "protective shield" against the adverse effects of the pandemic (Hearn et al., 2022).

3.2.3 Values

In the field of midwifery care, a core set of values serve as the foundation for the practice. Among these values are respect, communication, and understanding

(Renfrew et al., 2014). While these values are expected to be upheld in all circumstances, the emergence of the COVID-19 pandemic revealed instances where they, regrettably, were not honoured. Reports of a lack of respect occasionally manifested in the form of dehumanisation of care and instances of obstetric abuse, as indicated by studies conducted by Goberna-Tricas et al. (2021) and González-Timoneda et al. (2021). Additionally, Goberna-Tricas et al. (2021) underscored the vulnerability of women, as healthcare organisations disregarded their right to participate in shared decision-making processes.

The use of PPE and the necessity for physical distancing measures also created barriers to effective communication (Fumagalli et al., 2023). Although the pandemic has been associated with adverse impacts, a positive shift resulting from the pandemic, as reported in the literature, was the introduction of novel services, including the adoption of telehealth and virtual care, which appeared to improve accessibility for women, providing them with more tailored and convenient care choices (Bradfield et al., 2022).

3.2.4 Philosophy

The COVID-19 pandemic, as mentioned earlier, had unfortunate adverse effects on the promotion and optimisation of various normal and biological processes. In relation to psychological processes, the pandemic introduced heightened levels of stress, anxiety, and fear among pregnant individuals due to uncertainties and infection risks (Bradfield et al., 2022; Fumagalli et al., 2023). Midwives faced challenges in providing the psychological support needed to address these concerns, as in-person visits were limited (Hijdra et al., 2022), and non-verbal cues were obscured by PPE (Hazfiarini et al., 2022).

COVID-19 restrictions also disrupted traditional social and cultural practices that often play a crucial role in the childbirth experience as women had to adapt to new norms, including limited access to family support during labour and childbirth (Bradfield et al., 2022). A fundamental philosophy of midwifery, which revolves around providing holistic care, was also noted to be neglected at times, as midwives in the study conducted by Goberna-Tricas et al. (2021) indicated that certain new guidelines failed to address all aspects of holistic care. The need to minimise contact and potential exposure to the virus also led to a reduction in expectant management practices, where hospitals sometimes resorted to interventions to expedite labour and reduce hospital stays, deviating from the philosophy of using interventions only when indicated (Rice & Williams, 2022).

3.2.5 Care Providers

Midwives, often considered as the central care providers for maternal and newborn care, have encountered various challenges that have hindered their capacity to deliver high-quality midwifery care. These challenges include increased workloads, staff shortages, inadequate training and knowledge (leading to skill deficits), PPE, shortage of resources, and poor management practices (Alnuaimi, 2021; Bradfield et al., 2022; Hazfiarini et al., 2022; Stulz et al., 2022). These challenges not only posed difficulties in delivering quality midwifery care but were also detrimental to the physical and mental well-being of midwives, leading to burnout and deteriorating workplace behaviours (Huysmans et al., 2021; McGrory et al., 2022).

3.3 Conclusion

In this chapter, the theoretical framework for this study was discussed by integrating the QMNC Framework with the study's primary focus which revolves around the

provision of quality midwifery care during the COVID-19 pandemic. Utilising this theoretical framework provided the researcher with enhanced insight into the multifaceted factors at play, their interactions, and how they impact the delivery of quality midwifery care in the context of a pandemic. This theoretical framework further provided a systematic overview, guiding the research in fulfilling the study's aim and objectives. The next chapter will provide a comprehensive description of the selected research methodology for this study.

Chapter 4

METHODOLOGY

4.1 Introduction

This chapter provides a detailed explanation of the research methodology employed in this study. It presents the study's aim, objectives and research question, as well as a comprehensive overview of the research design, the method of data collection and data analysis. The chapter also delves into the evaluation of research validity and reliability, alongside a discussion of the ethical considerations followed throughout the study.

4.2 Aim, Objectives and Research Question

This research study aims to explore the local midwives' perspectives on the provision of quality midwifery care during the coronavirus disease 2019 (COVID-19) pandemic in different maternity care settings. To address this aim, the following objectives were set:

1. To seek midwives' perspectives on altered provision of midwifery care during the COVID-19 pandemic and how this affected women and their families.
2. To identify challenges encountered by midwives in balancing personal safety and well-being while maintaining quality midwifery care.
3. To identify strategies in addressing the challenges encountered during the COVID-19 pandemic that inform longer-term planning for essential elements of quality midwifery care.

The aim and objectives served as the basis for the formulation of the research question for this study, which reads: *What are the perspectives of the local midwives on the provision of quality midwifery care during the COVID-19 pandemic?*

4.3 Operational Definitions

According to Creswell and Creswell (2023), operational definitions play a crucial role in clarifying the research question and establishing clear meanings for the terms connected to the study, directly aligning with the study's objectives. Hence, for the purpose of this study, the subsequent operational definitions were established.

- ***Midwife*** – According to the International Confederation of Midwives (ICM, 2023, para. 2), "the midwife is recognised as a responsible and accountable professional, who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant". For the purpose of this study, the midwife is the professional caring for women and their families across different maternity care settings in the local state hospital during the time of data collection.

- ***Perspective*** – A perspective represents an individual's stance or viewpoint regarding a specific phenomenon, reflecting their outlook on a particular subject (Oxford, n.d.-a). For this study's purpose, perspectives refer to the local midwives' views and experiences of providing quality midwifery care during the COVID-19 pandemic.

- ***Provision*** – Provision refers to the action of supplying someone with something they require or desire (Oxford, n.d.-b). In this study, provision refers to the supplying of care from local midwives to women and their families during the COVID-19 pandemic.

- ***Quality midwifery care*** – According to the Royal College of Midwives (RCM, 2014), high quality midwifery care refers to care which is "safe, effective, woman-centred, timely and equitable. It should also be evidence-based and delivered as close as possible to the communities where women live or work. It should continue to be free and accessible to everyone at the point of need". The Quality Maternal and Newborn Care (QMNC) Framework (Renfrew et al., 2014), which is this study's theoretical framework, defines quality midwifery care as the provision of care that values elements of care based on several practice categories (e.g. education, assessment, promotion of normal processes), the organisation of care, values, philosophy, and care providers of midwifery care. For the purpose of this study, quality midwifery care refers to the safe, effective and woman-centred care based on the elements of care highlighted by the QMNC Framework, provided by local midwives during the COVID-19 pandemic.

- ***COVID-19 pandemic*** – The COVID-19 pandemic is a "global outbreak of coronavirus, an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus" (World Health Organization [WHO], n.d.). In this study, the COVID-19 pandemic refers to the period when COVID-19 was officially declared a global pandemic, encompassing Malta, starting in March 2020.

4.4 Research Design

Polit and Beck (2017) characterise the research design as the foundation upon which all research is organised and constructed, hence, it defines the fundamental approaches researchers use to produce reliable and understandable evidence. Consequently, the

selection of the research design plays a crucial role in addressing the research question and ensuring the validity of the outcomes (Polit & Beck, 2017). To select an appropriate research design for the specific topic, the researcher carefully considered the advantages and disadvantages of all three design approaches: quantitative, qualitative, and mixed-methods. In the existing literature on midwives' perspectives on providing care during the COVID-19 pandemic, it was observed that, in varying degrees, all these research design approaches had been employed, indicating diverse approaches to exploring midwives' perspectives and experiences in this regard.

4.4.1 Types of research designs

The quantitative research approach involves the exploration of relationships between variables using research tools that generate numerical data, which is subsequently analysed using statistical methods (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). In quantitative research, a large sample of participants is typically recruited, and data collection is commonly accomplished through the use of questionnaires (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018).

Questionnaires offer ease of administration, protect participant anonymity, and reduce response bias, ultimately enhancing the reliability of findings and permitting potential generalisability to the broader population (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Nevertheless, questionnaires have limitations, as they may yield less detailed responses from participants (Polit & Beck, 2018). Additionally, the quantitative design often experiences lower response rates when compared to other research designs, particularly when questions are not easily

comprehensible to participants, potentially leading to increased bias when response rates are low (Polit & Beck, 2018).

A qualitative research approach places a greater emphasis on comprehending a phenomenon by interpreting individuals' experiences from their unique perspectives (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021). In qualitative research, the emphasis lies in the quality of the data rather than its quantity (Creswell & Creswell, 2023; LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). This approach typically involves recruiting a smaller sample size, however, it yields more in-depth data through interviews compared to what can be typically achieved through questionnaires (LoBiondo-Wood & Haber, 2021).

The data obtained is richer because respondents can seek clarification for any questions they do not understand, and participants are more likely to answer all questions when they are interviewed face-to-face (Parahoo, 2014). However, a drawback of having a small sample size is that the findings cannot be generalised to a broader population (Polit & Beck, 2018). Data analysis in qualitative research involves thematic content analysis, which entails identifying patterns and common categories to formulate themes (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). The process of data analysis in qualitative research can be time-consuming due to the complexity of transcribing the data and identifying emergent themes (Parahoo, 2014).

A mixed-methods research approach represents the amalgamation of both quantitative and qualitative research designs (Parahoo, 2014). This approach is often chosen when neither the quantitative nor the qualitative paradigm individually or effectively address the research problem at hand (Polit & Beck, 2018). Consequently, by adopting a mixed-methods approach, the two research methodologies complement each other,

harnessing the strengths of both quantitative and qualitative designs (Creswell & Creswell, 2023). This complementary nature enhances the capacity to address the research problem comprehensively and, furthermore, increases the validity of the findings (Creswell & Creswell, 2023; Polit & Beck, 2018).

In practical terms, a researcher may initially collect data through the distribution of questionnaires to a large sample and subsequently conduct interviews with a smaller group to gain more in-depth insights into the study's phenomenon (Creswell & Creswell, 2023; Polit & Beck, 2018). Conversely, the research process might begin with the formulation of a hypothesis using a qualitative approach and then proceed to test that hypothesis quantitatively with a larger sample (Polit & Beck, 2018).

4.4.2 Rationale for the chosen research design

Following an evaluation of the different research design approaches, the quantitative research approach was deemed to be the most appropriate to fulfil the study's aim and objectives. This quantitative study is grounded in the QMNC Framework (Renfrew et al., 2014), serving as the theoretical framework for this study. The QMNC Framework primarily focuses on the fundamental principles that underpin quality care. In this study, the primary aim is to assess the perspectives of midwives regarding these core principles of quality midwifery care during the COVID-19 pandemic. With this said, the quantitative approach was deemed necessary for this research as it is oriented towards identifying and analysing broader patterns rather than delving into individual experiences, eliminating the need for detailed narrative data (Polit & Beck, 2018).

The study aims to investigate matters related to midwives' perspectives in delivering quality care during the COVID-19 pandemic, including the challenges they observed and encountered during this period. The quantitative approach lends itself well to the

comprehensive study and quantification of midwives' perspectives in this regard (Parahoo, 2014). Moreover, the research seeks to analyse the broader implications of the COVID-19 pandemic on a larger scale to inform long-term planning effectively, addressing a gap in the existing literature. Additionally, this research does not involve interventions, as the researcher's focus is not on testing a specific hypothesis. Consequently, it was determined that a non-experimental and cross-sectional quantitative research design is the most suitable approach for this study.

4.5 Research Site and Access

The research site, as defined by Polit and Beck (2018, p. 569), is "the physical location and conditions in which data collection takes place in a study". In the context of this research, the research site encompasses various maternity care settings and teams within the local general hospital. These settings include the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2, and Obstetric Ward 3, the Breastfeeding Clinic, Discharge Liaison Midwives, Antenatal Clinic, Perinatal Mental Health Clinic, Neonatal Paediatric Intensive Care Unit, Parentcraft, and the Midwifery Relieving Pool. Due to the sensitive nature of these environments and the need to adhere to hospital and university protocols regarding data protection and ethics, the researcher obtained permission to access these research sites from the local hospital's management team and the Midwifery/Nursing Officers of each maternity care setting (Appendix C). Additionally, permission was sought from the Faculty of Health Sciences Research Ethics Committee (FREC) to access the research site (Appendix D).

4.6 Target Population and Sampling Technique

The target population, as defined by Rees (2011), refers the group of individuals who meet the eligibility criteria to take part in a research study. In the context of this study, the target population specifically pertains to the midwives employed in the previously mentioned maternity care settings in the local general hospital. The study's target population was restricted to midwives employed by the local general hospital. This limitation primarily stems from time constraints and the potential challenges associated with obtaining permissions to access other maternity care settings. It also accounts for the reduced ease of communication with intermediaries involved in the study. The population is characterised by specific inclusion and exclusion criteria that clearly outline the attributes that individuals must have or must not possess (Rees, 2011). Criteria for eligibility were established, and these criteria were drawn from the characteristics of the target population, as detailed in ***Table 4.1***.

Table 4.1: *Inclusion / exclusion criteria of target population*

Inclusion Criteria	Exclusion Criteria
Midwives actively working during March 2020	Midwives not actively working during March 2020
Midwives working in the local general hospital	Midwives not working in the local general hospital
Midwives working during the time of data collection	Midwives not working during the time of data collection
Midwives willing to participate	Midwives not willing to participate

The selection of March 2020 as the cut-off time frame was influenced by multiple factors. Firstly, it aligns with the date of the first locally reported positive case of the COVID-19 pandemic in Malta, which occurred on the 7th of March 2020, as documented by the Times of Malta (2020). Additionally, the World Health Organization (WHO) officially declared the COVID-19 outbreak a global pandemic

on the 11th of March 2020 (WHO, n.d.). Considering the research study's objective to seek participants who have worked as midwives since the beginning of the pandemic, this time frame was deemed appropriate.

"The process of selecting a portion of the population to represent the entire population" is defined as sampling (Polit & Beck, 2018, p. 568). There are two primary categories of sampling techniques: probability and non-probability. In a probability sample, individuals are selected at random, ensuring that each person within the population has an equal opportunity to be chosen (Polit & Beck, 2017). On the other hand, a non-probability sample entails a non-random selection of individuals, with the researcher exercising control over the selection process of participants (Polit & Beck, 2017).

The research sample was chosen using a non-probability sampling method known as purposive sampling, in order to satisfy the study's aim and objectives. One limitation associated with this type of sampling is that the resulting samples are often considered less representative of the overall target population (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). However, when the sample is carefully selected in accordance with predetermined eligibility criteria, as is the case in purposive sampling, it tends to exhibit greater homogeneity (LoBiondo-Wood & Haber, 2021). This homogeneity of the sample helps reduce the risk of sampling bias, where the sample inadequately reflects the target population (Polit & Beck, 2018). Consequently, this enhances the confidence in the generalisability of the findings (LoBiondo-Wood & Haber, 2021).

4.7 Sample Size

In quantitative research, the size of the sample is paramount. This is because as the sample size increases, it tends to be more indicative of the population it represents and reduces the potential for sampling error (Polit & Beck, 2018). The sample size must

be sufficiently substantial to ensure the credibility of the research outcomes, and researchers frequently estimate it through power analysis (Polit & Beck, 2018). Typically, researchers adhere to a standard, selecting a confidence interval of 95% with a margin of error of 5% (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Hence, to ensure a reasonably representative sample, the researcher determined the sample size using the following formula, as recommended by a statistician.

$$n = \frac{N \times Z^2 \times p(1-p)}{(N-1)e^2 + Z^2 \times p(1-p)}$$

Where:

n = sample size to be calculated

N = total estimated population

Z = confidence interval (95%; Z = 1.96)

e = margin of error (5%, 0.05)

p = population proportion (set to 0.5)

Based on the estimated number of 166 midwives (provided by the Senior Midwifery Manager of the local hospital) and based on the confidence level and confidence interval, the sample was calculated to consist of 117 participants (n = 117).

4.8 Research Instrument

A thorough search for a validated instrument to assess the perspectives and experiences of midwives regarding the provision of quality midwifery care during the COVID-19 pandemic was conducted. The researcher aimed to find a tool that could capture data on various aspects of care during the pandemic, including its impact on care delivery, its effects on women and their families, and the personal challenges faced by midwives

due to the pandemic. However, none of the tools identified in the existing literature were found to be entirely suitable for addressing the aim and objectives of this study.

The literature contained limited quantitative studies related to this topic. Two studies (Bradfield et al., 2022; Hartz et al., 2022) that employed a quantitative approach used quantitative questions primarily focused only on specific aspects of care during the pandemic, such as the availability of personal protective equipment (PPE), and were conducted in relation to particular settings (such as community clinics and private-led clinics) that did not align with the local context and the specific research site of this study (i.e., the local general hospital). Other studies in the literature used instruments designed to only measure the psychological effects of the pandemic on midwives. For instance, Kassahun et al. (2022) utilised the Depression, Anxiety, and Stress Scale (DASS-21). This scale primarily assesses mental health issues contemporaneously during challenging situations (Osman et al., 2012). Given that this study was mostly interested in factors that occurred at the onset of the pandemic, this measurement tool would not have been appropriate for this study.

The researcher concluded that a self-designed questionnaire would be ideal to fulfil the aim of the study that could assess multiple factors and perspectives in relation to the provision of midwifery care during the COVID-19 pandemic. A questionnaire is a tool comprising a series of questions designed to gather essential data from participants (Parahoo, 2014). One of the primary advantages of using questionnaires is the assurance of anonymity, allowing participants to respond more openly and preventing interviewer bias (Rees, 2011). Additionally, questionnaires streamline data collection and analysis due to their highly structured and predetermined nature (Parahoo, 2014). The use of closed-ended questions is particularly beneficial for efficient data analysis,

as responses can be easily compared across participants, given their uniform format (Parahoo, 2014).

With this said, self-administered questionnaires have some drawbacks. The self-administered nature of questionnaires can lead to varied interpretations of questions, and participants lack the opportunity for clarification if the questions are not interpreted as intended by the researcher (Parahoo, 2014). Although the structured format is advantageous for data analysis, it might limit respondents from providing detailed insights. To counteract this, providing space for participants to expand on their answers can be helpful, however, it might lead to more challenging data analysis and increases the likelihood of incomplete answers (Parahoo, 2014).

For this study, a self-designed questionnaire (Appendix E) was developed by the researcher under the guidance of the research supervisor. This questionnaire drew from insights obtained from existing literature on the topic. The questionnaire comprised of 12 questions, which included various types of closed-ended questions, such as nominal scale questions (allowing single or multiple responses), linear scale questions (requiring participants to choose a number from 1 [minimum] to 10 [maximum]), and 5-point Likert scale questions, as well as two open-ended questions. Some questions were followed by a space to allow the opportunity for participants to provide additional remarks to further express their views. The questionnaire was prepared in the English language, assuming fluency among the target population, which consists of midwives employed by the local general hospital.

The questionnaire is divided into four sections, which all aimed to investigate the aspects associated with the provision of quality midwifery care during the pandemic,

primarily aligning with the study's three objectives and incorporating elements from the QMNC Framework.

- *Section A*: This section consists of two nominal-scale questions requesting the participant's demographic information, particularly the total number of years as a midwife and their place of work during March 2020.

- *Section B*: This section seeks to explore midwives' views related to the altered provision of care during the COVID-19 pandemic, hence addressing the first objective of this study. The five questions in this section consist of a combination of Likert- and nominal-scale questions, along with two open-ended questions.

- *Section C*: This section aims to address the second objective of this study, therefore exploring the challenges encountered by midwives in providing quality midwifery care during the COVID-19 pandemic. It comprises a combination of nominal- and linear-scale questions, all aimed at examining midwives' perspectives regarding the challenges brought about by the COVID-19 pandemic on their practice and general well-being.

- *Section D*: This section seeks to investigate strategies that could potentially address the challenges faced during the COVID-19 pandemic, hence, addressing the third objective of this study. The questions in this section are nominal-scale questions, aimed at gathering insights into the approaches that may help both women and their families, as well as midwives, in coping with these challenges.

Finally, a space was provided at the end of the questionnaire to allow participants to add any further comments on the topic of providing quality midwifery care during the COVID-19 pandemic.

4.8.1 Reliability and validity

Research instruments undergo testing for reliability and validity to ensure high-quality results (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). According to Neuman (2012), reliability is established when the questionnaire consistently generates the same results when administered a second time under identical conditions. This form of reliability testing, often referred to as 'stability testing', is assessed through a process known as test-retest (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Since the tool being used in this study has not been previously validated, it is essential to conduct a stability assessment for the instrument. In this study, the test-retest method was employed to evaluate the reliability of the self-designed questionnaire.

4.8.1.1 Testing the stability of the research instrument

According to Hill (1998), a minimum sample of 10 participants for a pilot study is sufficient. The time span between the pre-test and the post-test depends on the subject being studied, however, it should not be too long so as to avoid changes from occurring in the measures being investigated (Ruel et al., 2016). The optimal time interval between tests will depend on the specific construct being assessed, the stability of that construct over time, and the characteristics of the target population (Marx et al., 2003).

Typically, a two-week time interval is regarded as the most suitable duration for test-retest reliability assessments, however, if circumstances are anticipated to undergo rapid changes, the period between the initial measurement and the test-retest should be short, ideally within three to seven days (Marx et al., 2003). The sample size and

the time interval between the pre- and post-test for the pilot study were also discussed with a statistician, who advised that a sample of 10 participants may be used to complete the same questionnaire twice over a period of two weeks.

Hence, 10 participants who met the inclusion criteria were invited to pilot the questionnaire, allowing a two-week interval between the pre-test and the post-test. When distributing the pre-test questionnaire, a distinctive code was to be devised by each participant and this code was to be remembered and written down on the post-test questionnaire by the participant. This coding system allowed the researcher to recognise the two questionnaires that belong to the same participant, while ensuring anonymity.

Upon analysing the responses from the pilot study, it was observed that for question number 7, initially designed as an open-ended question, participants predominantly responded with succinct ‘yes’, ‘no’ or ‘not sure’ answers. Consequently, the question was modified to a closed-ended format, allowing for ‘yes’, ‘no’, or ‘not sure’ responses, with an allocated space for participants to elaborate.

Along with the pre-test, all 10 participants were provided an evaluation form (Appendix F). A 100% response rate was received. The feedback questions were centred around factors such as the time taken to complete the questionnaire, its format, and the clarity and relevance of the questions (Parahoo, 2014). The feedback responses obtained were positive. Participants took around 15 minutes to fill out the questionnaire, finding the instructions straightforward. No one faced any issues understanding the questions, and feedback also highlighted the questionnaire’s neat and user-friendly layout. Based on this positive feedback, no further modifications were made to the questionnaire.

Two tests were employed to assess the test-retest reliability by comparing the results of the pre- and post-test conducted in the pilot study, as recommended by a statistician. The Kappa test was employed for variables with a nominal scale, whereas the Kendall's tau-c test was utilised for those with an ordinal scale. The null hypothesis assumed poor test-retest reliability and would be accepted if the p-value exceeded the significance level of 0.05. Conversely, the alternative hypothesis posited satisfactory test-retest reliability and would be accepted if the p-value was less than 0.05.

Demographic questions were excluded from the reliability testing since it was assumed that responses to these questions would naturally remain the same in both tests. A total of 23 closed-ended questions, including sub-questions, underwent reliability testing. Examples of data generated from the Kappa test and the Kendall's tau-c test are represented in ***Table 4.2*** and ***Table 4.3***, respectively. ***Table 4.4*** and ***Table 4.5*** showcase the outcomes from the SPSS®-based test-retest reliability evaluation, confirming that all questions exhibit satisfactory reliability with p-values less than 0.05. There was no variation in the responses of question 8(b) provided in the pre- and post-tests, hence, the responses from the pre- and post-tests were constant. Given that the modification introduced to the questionnaire was deemed negligible and had no impact on the outcome of the results obtained in the pilot study, these findings were integrated into the main study.

Table 4.2: *Example of a crosstab using Kappa test for question number 4 (Effects of the pandemic on women and their partners' well-being)*

		Q.4 – Effects of the pandemic on women and their partners' well-being (Post-test)					
		Anxiety or fear	**Sadness**	**Loneliness**	**Irritability or anger**	**Worry about safety of self or others**	**Feeling overwhelmed**
Q.4 – Effects of the pandemic on women and their partners' well-being (Pre-test)	**Anxiety or fear**	10	0	0	0	0	0
	Sadness	0	8	0	0	0	0
	Loneliness	0	0	8	0	0	0
	Irritability or anger	0	0	0	7	0	0
	Worry about safety of self or others	0	0	0	0	8	0
	Feeling overwhelmed	0	0	0	0	0	7

Table 4.3: *Example of a crosstab using Kendall's-tau c test for question number 5(a) (Changes in the provision of quality midwifery care)*

		Q.5(a) – "Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic" (Post-test)				
		Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Q.5(a) – " Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic" (Pre-test)	**Strongly disagree**	0	0	0	0	0
	Disagree	1	2	0	0	0
	Neither agree nor disagree	1	0	0	1	0
	Agree	0	0	0	4	0
	Strongly agree	0	0	0	0	1

Table 4.4: *Test-retest results for nominal questions using Kappa test*

Kappa Test				
Question Number	**Kappa Value**	**Standard Error**	**Approximate T**	**P-value**
4	1.000	0.000	15.401	<0.001
8(a)	1.000	0.000	4.135	<0.001
8(b)	/	/	/	/
8(c)	0.737	0.241	2.415	0.016
8(d)	0.804	0.186	3.324	0.001
8(e)	0.474	0.026	3.162	0.002
8(f)	0.615	0.337	2.108	0.035
8(g)	0.474	0.194	2.228	0.026
10	1.000	0.000	9.622	<0.001
11	1.000	0.000	5.993	<0.001
12	1.000	0.000	9.263	<0.001

Table 4.5: *Test-retest results for ordinal questions using Kendall's tau-c test*

Kendall's tau-c Test				
Question Number	**Kendall's tau-c Value**	**Standard Error**	**Approximate T**	**P-value**
5(a)	0.693	0.124	5.594	<0.001
5(b)	0.560	0.188	2.982	0.003
5(c)	0.780	0.189	4.132	<0.001
5(d)	0.693	0.188	3.692	<0.001
5(e)	0.693	0.188	3.692	<0.001
5(f)	0.420	0.207	2.029	0.042
5(g)	0.773	0.213	3.636	<0.001
9(a)	0.800	0.133	6.005	<0.001
9(b)	0.700	0.191	3.664	<0.001
9(c)	0.510	0.154	3.309	0.001
9(d)	0.600	0.229	2.625	0.009
9(e)	0.750	0.199	3.769	<0.001

4.8.1.2 Testing internal validity

Validity refers to the accuracy of a research instrument in measuring what it is designed to measure, as described by LoBiondo-Wood and Haber (2021) and Polit and Beck (2018). There are four main types of validity: face validity, content validity, construct validity, and criterion-related validity. Face validity ensures that the research instrument appears to address the study's main concept, while content validity assesses the instrument's ability to collect relevant data in an organised manner for the research topic (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Construct validity examines whether the instrument effectively measures the intended aspects related to the research topic, using both statistical tests and adherence to theoretical predictions (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Criterion-related validity involves comparing the instrument to a standard test, with higher correlation scores indicating greater instrument validity (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018).

In the context of this study, the most suitable types of validity were identified as face and content validity due to various considerations. As Polit and Beck (2018) indicate, achieving construct validity for a newly designed questionnaire typically requires testing it in different settings and with diverse populations, which was not feasible for this study. Additionally, to the researcher's knowledge, there is no known standard test that specifically applies to the study's topic, making criterion-related validity unsuitable (Polit & Beck, 2018). To ensure face validity, the researcher consistently consulted with the research supervisor, an experienced midwife and researcher, during the questionnaire's design phase. Furthermore, the instrument's content validity was examined by a panel of experts in the field, including the Midwifery Dissertation Panel, and received approval from FREC.

4.9 Data Collection

After conducting the pilot study, the data collection process commenced in the first week of September 2023 and extended through the first week of October 2023. The Midwifery or Nursing Officers of each maternity care setting acted as the intermediaries in the distribution of questionnaires to eligible participants who met the inclusion criteria, following the acquisition of all necessary approvals. The intermediaries sent an email to eligible participants containing a web link to the questionnaire, along with an information letter (Appendix G) as an attachment, outlining the study's objectives and participation details. In mid-September 2023, a reminder email was sent by the intermediaries to eligible participants who were willing to participate. Upon accessing the link, participants were directed to a Google Form-based questionnaire. They were required to complete the questionnaire online and submit it upon finishing.

4.10 Data Analysis

Through the use of Google Forms, a spreadsheet with the data obtained was generated. The data collected from all the questions was subsequently analysed using IBM SPSS® statistics programme version 29, under the guidance and supervision of a statistician.

4.10.1 Descriptive statistical analysis

Descriptive statistical analysis involves summarising and describing data using methods such as frequency distribution, measures of central tendency (mean, mode, median), and measures of variability (range, standard deviation) (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Categorical variables with single or multiple responses were analysed through frequency distribution, presented visually in tables,

pie charts, or bar graphs based on the total number of participants. Numerical responses, such as levels of fear or job satisfaction obtained from a linear-scale of 1 to 10, and Likert-scale questions were statistically analysed by computing mean and standard deviation to determine average values and the deviation of each value from the mean.

4.10.2 Inferential statistical analysis

In inferential statistical analysis, the data generated from a sample is used to make assumptions about its generalisability to the population (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). Inferential statistics aim to estimate the probability of the sample data accurately representing the population and test hypotheses addressing research questions (LoBiondo-Wood & Haber, 2021; Polit & Beck, 2018). The researcher aimed to explore relationships between variables to achieve the study's objectives. Following consultation with a statistician, various statistical tests were recommended on the basis of the nature of the variables and the relationships being investigated.

The Chi-squared test was used to investigate the association between two categorical variables. The null hypothesis specifies that there is no association between two categorical variables and is accepted if the p-value exceeds the 0.05 level of significance (Polit & Beck, 2018). The alternative hypothesis specifies that there is a significant association between the two categorical variables and is accepted if the p-value is less than the 0.05 criterion (Polit & Beck, 2018).

The Kruskal-Wallis test was used to compare mean rating scores provided to a statement related to midwives' perspectives of providing care during COVID-19 pandemic, or the level of support, fear, job satisfaction and burnout between groups of

participants. The mean rating scores were obtained from two different scales: the one related to the statements ranges from 1 to 5, where 1 corresponds to 'strongly disagree' and 5 corresponds to 'strongly agree' (Likert-scale); the one related to the levels ranges from 1 to 10, where 1 corresponds to 'minimum' and 10 corresponds to 'maximum' (linear-scale). The null hypothesis specifies that the mean rating scores provided to the statement or level vary marginally between the groups and is accepted if the p-value exceeds the 0.05 level of significance (Polit & Beck, 2018). The alternative hypothesis specifies that the mean rating scores provided to the statement or level vary significantly between the groups, and is accepted if the p-value is less than the 0.05 criterion (Polit & Beck, 2018).

The Spearman correlation coefficient was used to measure the strength of the relationship between two variables having an ordinal scale and it ranges from -1 to 1 (Polit & Beck, 2018). A correlation coefficient close to 1 indicates a strong positive relationship between the two variables; a correlation coefficient close to -1 indicates a strong negative relationship; while a 0 correlation coefficient indicates no relationship between the two variables (Polit & Beck, 2018). The Spearman correlation test is used to investigate whether a relationship between two variables is significant or not. The null hypothesis specifies that there is no relationship between the two variables and is accepted if the p-value exceeds the 0.05 level of significance (Polit & Beck, 2018). The alternative hypothesis specifies that there is a significant relationship between the two variables and is accepted if the p-value is less than the 0.05 criterion (Polit & Beck, 2018).

The Friedman test was used to compare mean rating scores between a number of related statements. The mean rating scores range from 1 to 10, where larger mean rating scores indicate a higher level of fear (in the case of the questions analysed with

the Friedman test). The null hypothesis specifies that the mean rating scores provided to the statements are similar and is accepted if the p-value is larger than the 0.05 level of significance (Polit & Beck, 2018). The alternative hypothesis specifies that the mean rating scores provided to the statements differ significantly and is accepted if the p-value is less than the 0.05 criterion (Polit & Beck, 2018).

4.10.3 Thematic analysis

Participants in the study were presented with two open-ended questions in the questionnaire. For some responses, they were also given the opportunity to provide additional comments, which were accommodated in a designated comments section accompanying eight questions. Finally, a space at the end of the questionnaire was included to allow the participants the opportunity to add any additional comments on the topic of the study. All these sections generated qualitative data that underwent analysis through thematic analysis following the framework proposed by Braun and Clarke (2012).

In this thematic analysis process, the initial step involved the researcher reading the responses multiple times to gain familiarity and comprehension of the data. Subsequently, the researcher systematically assigned features of interest from the responses into respective codes, organising the data accordingly. In the third step, these codes were grouped into potential themes, organising the data further. The fourth step involved assessing the validity of the themes by comparing them to the initially assigned codes and the entire dataset, enabling the development of a thematic map. Ongoing analysis aimed to refine the specificity of each theme and ascertain if they accurately represented the corresponding data, ultimately leading to the naming of the themes. Finally, in the sixth step, a comprehensive report was created, which included detailed excerpts illustrating an understanding of the identified themes and

demonstrated how the analysis addressed the research question in the study (Braun & Clarke, 2012).

4.11 Ethical Considerations

Prior to the commencement of the study, the researcher obtained ethical clearance and authorisation from various university and institutional bodies, including the Midwifery Dissertation Panel Board of Studies at the Faculty of Health Sciences and FREC. Additionally, institutional ethical approval was obtained from key personnel holding managerial positions at the local general hospital. These authorities included the Chief Executive Officer, the Data Protection Officer, the Director of Obstetrics and Gynaecology, the Director of Paediatrics, the Director of Nursing and Midwifery, the Senior Midwifery Manager, and the Midwifery / Nursing Officers representing various maternity care units, namely the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2 and Obstetric Ward 3, Breastfeeding Clinic, Discharge Liaison Midwives, Antenatal Clinic, Perinatal Mental Health Clinic, Neonatal Paediatric Intensive Care Unit, Parentcraft, and Midwifery Relieving Pool.

The research adhered to fundamental ethical principles derived from the Belmont Report, which encompass beneficence, respect for human dignity, and justice (Polit & Beck, 2018). It is within the researcher's ethical duty to uphold participant autonomy, minimise potential research risks, and ensure that the benefits of the study outweighed any potential harm (Polit & Beck, 2018). These core ethical principles were respected throughout the conduct of the study and were explicitly articulated in the participant's information letter.

The first ethical principle of beneficence emphasises the requirement that research should be advantageous to participants and inflict no harm (Polit & Beck, 2018). In

this study, the benefit was the aim to gain insights into midwives' perspectives regarding the impact of the COVID-19 pandemic on the quality of midwifery care, thus contributing to a better understanding within the local context, and potentially informing future pandemic or emergency preparedness. With regards to causing no harm, the researcher had no intentions of inflicting direct harm to the participants. However, given the possible distressing nature of the subject of the COVID-19 pandemic, there was a possibility that participants might experience psychological distress whilst recalling events related to the pandemic and answering the questionnaire, especially if the questions elicited an emotional connection with a sensitive time period in their lives. To minimise this risk and alleviate the possible effects of such an occurrence, the support of the Psychology Department at the local general hospital was sought to provide assistance to participants experiencing distress, without incurring any financial cost (Appendix H).

The principle of respect for human dignity underscores self-determination and informed consent. Midwives had the option to participate voluntarily after the researcher presented comprehensive information about the study through the information letter. Participants were also informed that completing and submitting the questionnaire constituted consent to participate. At any point during the study, participants retained the right to withdraw without providing reasons or fearing any consequences. No incentives or rewards were offered to participants to prevent coercion (Polit & Beck, 2018).

The last ethical principle of justice is realised through the protection of privacy, ensuring anonymity and confidentiality. To maintain anonymity, participants were not required to provide any information in the questionnaire that could lead to their

identification, and only necessary data was collected. The use of intermediaries further safeguarded the anonymity of participants since direct contact between the researcher and respondents was avoided. Lastly, data was stored on a password-protected computer in an encrypted format, with access restricted to the researcher and the research supervisor to prevent unauthorised personnel from accessing it (Rees, 2011).

4.12 Conclusion

This chapter has detailed the methodology employed in this study, discussing the chosen research design to effectively address the study's aim and objectives and bridge the existing research gap. The next chapter will offer a comprehensive description of the findings derived from the self-administered questionnaires.

Chapter 5

RESULTS

5.1 Introduction

The following chapter will detail the outcomes derived from the questionnaire following a thorough examination of the collected data. The findings from the closed-ended questions, which generated numerical data, were analysed using both descriptive and inferential statistical methods, utilising IBM SPSS® statistics software version 29. Simultaneously, any additional comments and open-ended questions that provided qualitative insights were subjected to analysis through Braun and Clarke's (2012) thematic approach. Certain questions permitted respondents to select or list more than one option. Consequently, the total count of responses for these questions may not align with the number of participants who answered the question.

In the period between the first week of September 2023 till the first week of October 2023, the questionnaire was disseminated to 117 (100%) midwives working at the local general hospital. A total of 81 completed responses (n=81) were submitted, yielding a response rate of 69.2%.

5.2 Demographic Data

The demographic information is presented in ***Table 5.1***. Frequency distributions were employed to systematically structure the numerical data, and the percentage representing the occurrence of each value was incorporated.

The majority of the respondents (n=46, 56.8%) had 1-10 years of experience working as a midwife, whilst the smallest percentage (n=7, 8.6%) had more than 30 years of midwifery experience. The highest percentage of participants (n=24, 29.6%) were working at the Central Delivery Suite (CDS) in the local general hospital during March 2020 whilst the smallest percentages belonged to the groups of midwives working as

Discharge Liaison Midwives (n=2, 2.5%) and working at the Parentcraft Unit (n=2, 2.5%).

Table 5.1: *Frequency distribution of demographic data*

Total number of years working as a midwife	**Frequency (n)**	**Percentage (%)**
1-10 years	46	56.8
11-20 years	16	19.8
21-30 years	12	14.8
More than 30 years	7	8.6
Total number of respondents	81	100.0
Place of work during March 2020	**Frequency (n)**	**Percentage (%)**
Central Delivery Suite	24	29.6
Obstetric Ward 1	12	14.8
Obstetric Ward 2	4	4.9
Obstetric Ward 3	10	12.3
Breastfeeding Clinic	3	3.7
Antenatal Clinic	4	4.9
Discharge Liaison Midwives	2	2.5
Neonatal Paediatric Intensive Care Unit	10	12.3
Parentcraft Unit	2	2.5
Midwifery Relieving Pool	10	12.3
Total number of respondents	81	100.0

Given that some counts within the *Place of work during March 2020* groups were notably low, the groups of midwives employed at the Breastfeeding Clinic, Antenatal Clinic, Discharge Liaison Midwives, and Parentcraft Unit were consolidated into a single category referred to as *Outpatient Care Settings*, for inferential statistical analysis, which will be presented in this chapter. This grouping was based on the commonality that midwives in these settings provide care to women who do not require overnight hospital admission (Definitive Healthcare, n.d.). This decision was made following the recommendation of the consulted statistician, aiming to prevent small counts within each category during inferential statistics, which can typically diminish the strength and significance of the tests done and calculated p-values. The participants' place of work was mainly utilised to explore associations between question responses as the researcher was interested in exploring the effects of the

pandemic on the provision of quality midwifery care across different maternity care settings, as indicated by the aim of this study. The researcher aimed to achieve the three objectives of the research study by utilising the data gathered from all four sections of the questionnaire.

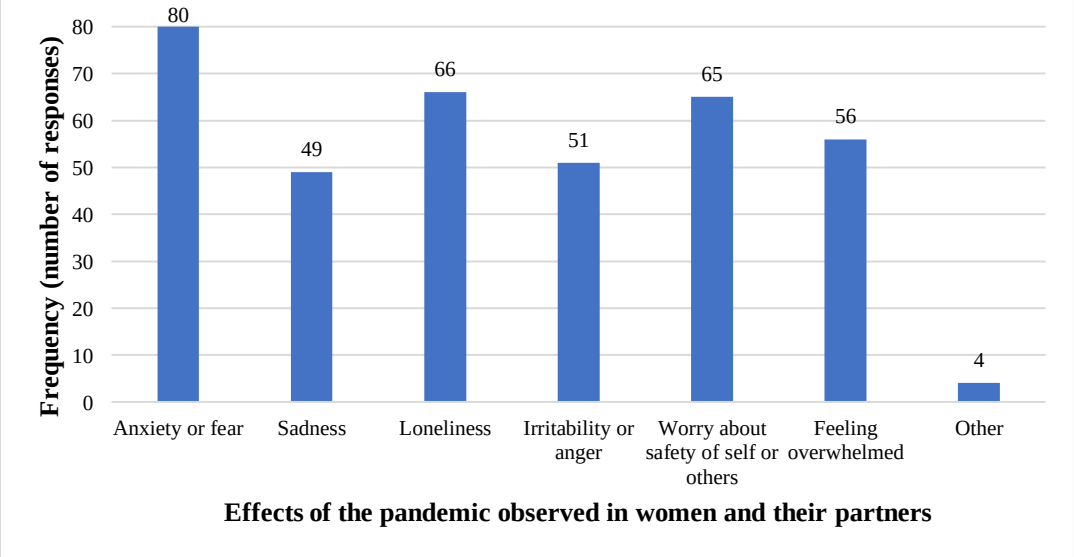
5.3 Altered Provision of Midwifery Care during the COVID-19 Pandemic

To address the first objective of this study, the changes in standard delivery of care and their effects as perceived by the study participants were investigated. The following data was analysed using frequency distributions, the Chi-squared test and the Kruskal-Wallis test.

5.3.1 Effects of the pandemic observed in women and their partners

When asked about the effects of the pandemic seen in women and their partners (***Figure 5.1***), the most common effect observed was that of anxiety or fear (n=80/371, 21.6%). The least commonly observed effect was that of sadness (n=49/371, 13.2%). Other effects mentioned by the participants were loss of control and negative effects on maternal-infant bonding and breastfeeding (n=4/371, 1.1%).

Figure 5.1: *Effects of the pandemic observed in women and their partners*



No significant association was found between the effects witnessed and the midwives' place work, calculated by the Chi-squared test that gave a p-value of 0.999, hence more than 0.05 level of significance.

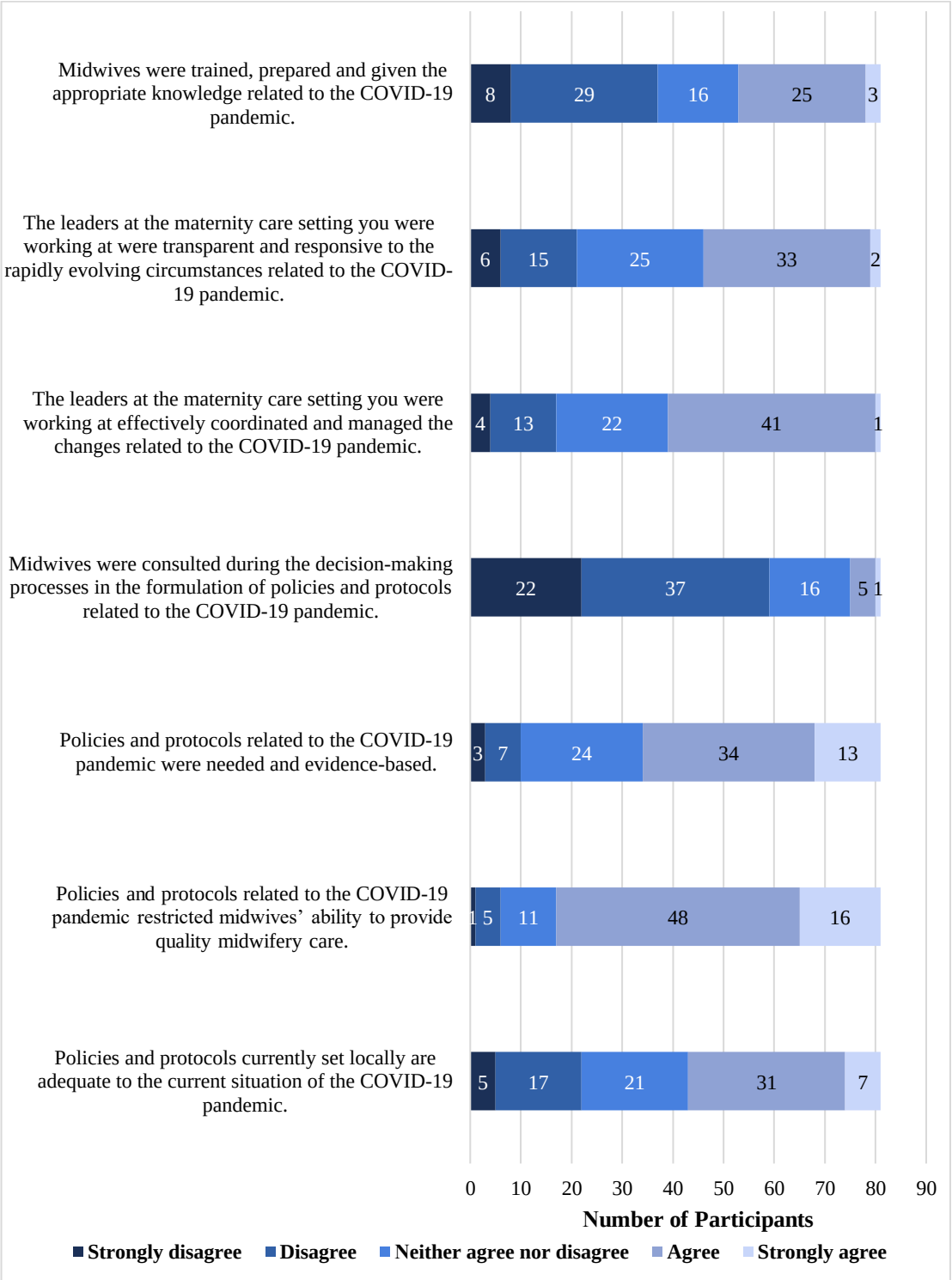
5.3.2 Changes in the provision of midwifery care during the pandemic

The participants were asked to rank their level of agreement to a set of statements regarding the changes in the provision of care during the pandemic, namely on how the organisation they work at handled the onset and subsequent management of the changes brought about by the pandemic (***Figure 5.2***).

When asked about whether they received the appropriate training education in preparation for the changes imposed by the coronavirus disease 2019 (COVID-19) pandemic, the highest percentage obtained (n=29, 35.8%) was that of 'disagree'. The largest number of the participants 'agree' that the leaders at the maternity care setting were transparent and responsive to the evolving circumstances emerging from the pandemic (n=33, 40.7%), and effectively coordinated and managed the changes related to the pandemic (n=41, 50.6%).

There was a strong disagreement when the participants were asked whether they were consulted during the decision-making processes in the formulation of pandemic policies and protocols ([disagree] n=37, 45.7%; [strongly disagree] n=22, 27.2%). The majority of the participants (n=34, 42.0%) 'agree' that policies and protocols related to the COVID-19 pandemic were needed and evidence-based. Most midwives (n=48, 59.3%) 'agree' that the policies and protocols restricted midwives' ability to provide quality midwifery care. Finally, the majority of the participants (n=31, 38.3%) 'agree' that the policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic.

Figure 5.2: *Changes in the provision of midwifery care during the COVID-19 pandemic*



The Kruskal-Wallis test was then applied to compare the participants' place of work during March 2020 and the mean scores obtained from the participants' answers to the above statements. It was found that the mean rating scores provided to the statement

regarding the policies and protocols being needed and evidence-based, varied significantly between the groups, with a p-value of 0.047 (***Table 5.2***). Midwives working at CDS had a more neutral attitude towards this statement, with a mean score of 3.17 (from a score between 1 [strongly disagree] and 5 [strongly agree]). Conversely, midwives working at Obstetric Ward 1 (OBS 1) had the highest level of agreement towards this statement, with a mean score of 4.17. The other statements had a p-value larger than 0.05, meaning that the comparison between the groups was not statistically significant.

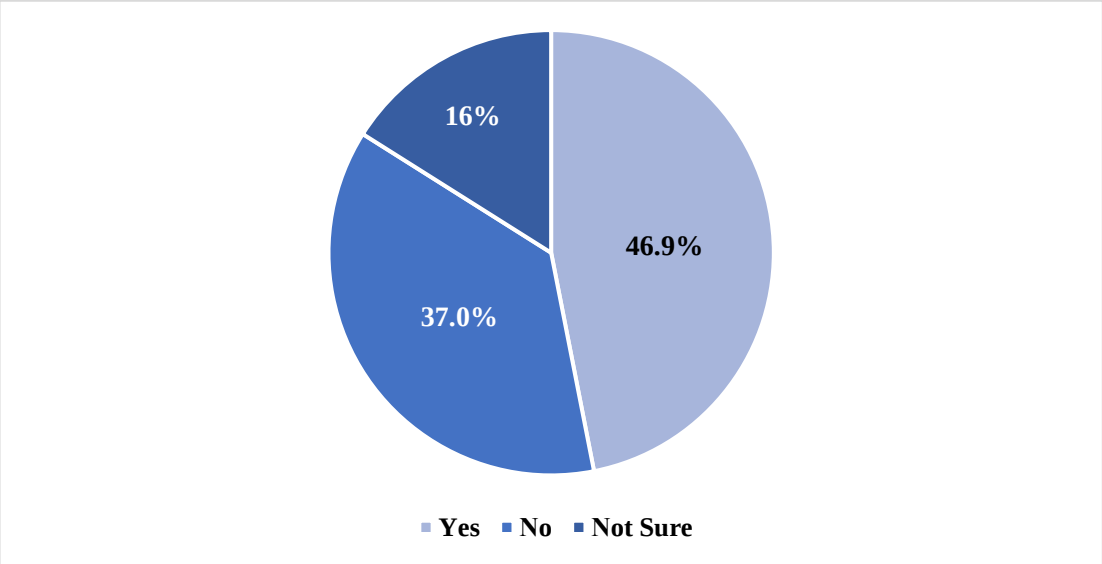
Table 5.2: *Kruskal-Wallis test – 'Place of work during March 2020' and 'Necessity and evidence basis of COVID-19 pandemic policies and protocols'*

		N	Mean	Std. Deviation	P-value
Policies and protocols related to the COVID-19 pandemic were needed and evidence-based.	CDS	24	3.17	0.917	0.047
	OBS 1	12	4.17	1.193	
	OBS 2	4	4.00	0.000	
	OBS 3	10	3.70	0.483	
	Midwifery Relieving Pool	10	3.50	1.269	
	NPICU	10	3.80	0.919	
	Outpatient Care Settings	11	3.45	0.934	

5.3.3 Positive effects resulting from the pandemic

The highest percentage of participants indicated that there were positive effects resulting from the pandemic (n=38, 46.9%). Meanwhile, 37% of the participants (n=30, 37.0%) feel that there were no positive effects as a result from the pandemic, whilst 16% (n=13) were not sure (***Figure 5.3***). There was no statistically significant association between the participants' place of work and their perception of the positive effects resulting from the pandemic, indicated with a p-value of 0.102 obtained through the Chi-squared test.

Figure 5.3: *Positive effects resulting from the pandemic*



5.4 Challenges Encountered in the Provision of Quality Midwifery Care during the COVID-19 Pandemic

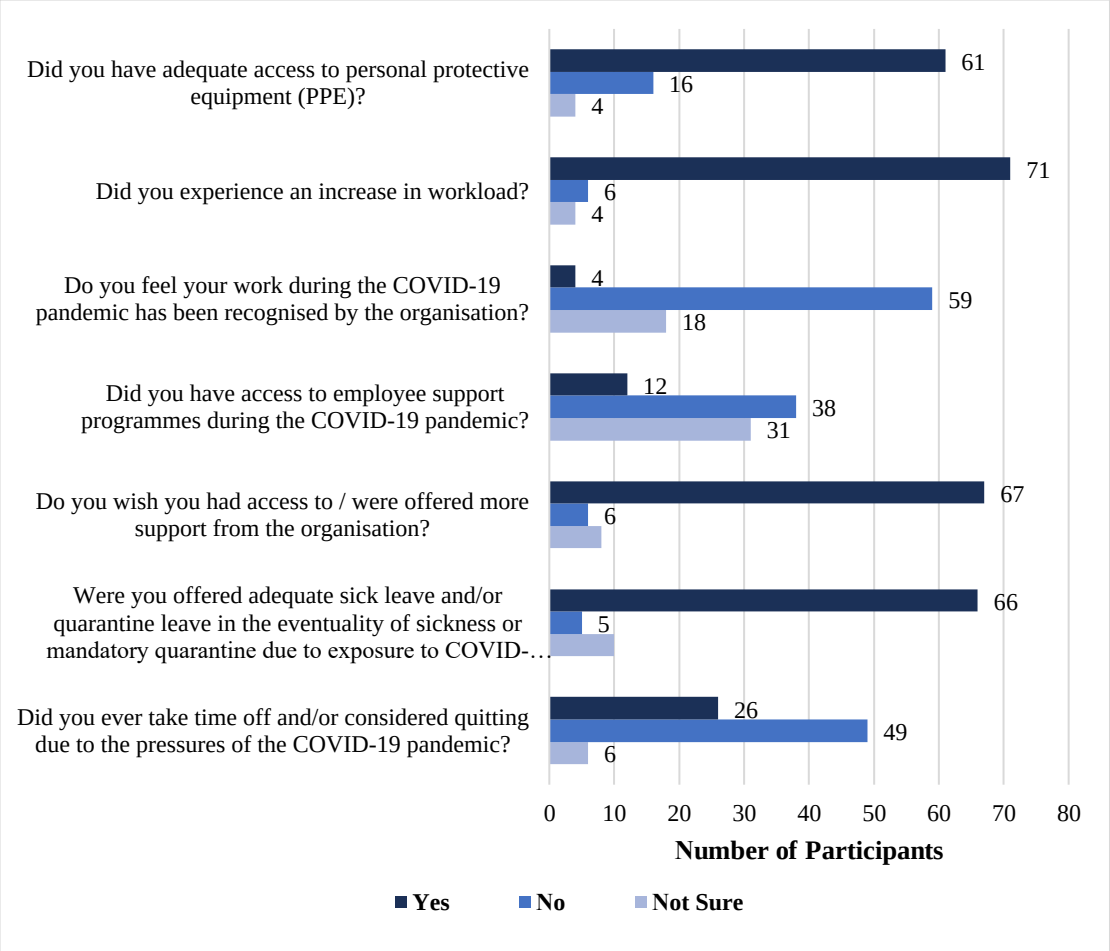
Work-related and personal challenges encountered by midwives amid the COVID-19 pandemic, as well as the support strategies for sustaining care provision were investigated to meet the second objective of this study. The following data underwent analysis through frequency distributions, the Chi-squared test, the Kruskal-Wallis test, the Spearman correlation coefficient, and the Friedman test.

5.4.1 Work-related challenges

The respondents were given a series of questions regarding challenges that pertained to their work. The frequency distributions of the results obtained are depicted in ***Figure 5.4***. Regarding the accessibility of personal protective equipment (PPE), a significant majority of participants (n=61, 75.3%) stated that they had sufficient access and availability of PPE. Most of the participants (n=71, 87.7%) reported an increase in workload as a result of the pandemic. Additionally, 72.8% of the participants (n=59) believed that their work during the COVID-19 pandemic was not recognised by their

organisation. The majority of participants (n=38, 46.9%) reported no access to support programmes or were uncertain about accessibility to these programmes (n=31, 38.3%). The majority of the participants (n=67, 82.7%) wish they had access to or were offered more support from their organisation. Adequate sick leave and/or quarantine leave in the eventuality of sickness or mandatory quarantine due to exposure to COVID-19 was reported by the majority of participants (n=66, 81.5%). Most participants (n=49, 60.5%) did not take leave and/or considered quitting as a result of the pressures of the pandemic.

Figure 5.4: *Work-related challenges encountered during the COVID-19 pandemic*



The relationship between the participants' place of work and work-related challenges was analysed through the use of the Chi-squared test. Results showed that there is a

statistically significant relationship between the increase in workload and midwives' place of work, represented by a p-value of 0.015 (***Table 5.3***). Percentages indicate that settings necessitating in-patient care, specifically CDS, OBS 1, Obstetric Ward 2 (OBS 2), Obstetric Ward 3 (OBS 3), Midwifery Relieving Pool, and Neonatal Paediatric Intensive Care Unit (NPICU), exhibited higher percentages, signifying increased workloads, when compared to Outpatient Care Settings, as depicted in ***Table 5.3***. For the remaining questions, the p-values exceeded 0.05, indicating that the comparison between the groups did not have statistical significance.

Table 5.3: *Chi-squared test – 'Place of work during March 2020' and 'Increase in workload'*

			Increase in workload			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	21	3	0	24
		Percentage	87.5%	12.5%	0.0%	100.0%
	OBS 1	Count	12	0	0	12
		Percentage	100.0%	0.0%	0.0%	100.0%
	OBS 2	Count	3	0	1	4
		Percentage	75.0%	0.0%	25.0%	100.0%
	OBS 3	Count	10	0	0	10
		Percentage	100.0%	0.0%	0.0%	100.0%
	Midwifery Relieving Pool	Count	9	1	0	10
		Percentage	90.0%	10.0%	0.0%	100.0%
	NPICU	Count	10	0	0	10
		Percentage	100.0%	0.0%	0.0%	100.0%
	Outpatient Care Settings	Count	6	2	3	11
		Percentage	54.5%	18.2%	27.3%	100.0%
Total		Count	71	6	4	81
		Percentage	87.7%	7.4%	4.9%	100.0%

$X^2(12) = 24.964$, p = 0.015

When comparing the above-mentioned work-related challenges with the participants' consideration of taking time off and/or quitting due to the pressures of the COVID-19

pandemic, no statistically significant relationships were found between the variables, with all p-values being larger than 0.05, calculated with the Chi-squared test.

The relationship between the participants' consideration of taking time off and/or quitting and the changes in the provision of midwifery care during the COVID-19 pandemic was also investigated through the use of the Kruskal-Wallis test (***Table 5.4***). Results showed that there is a statistically significant correlation between the participants' consideration of taking time off and/or quitting and the training they received (p=0.001), their leaders' level of transparency and responsiveness to the evolving changes of the pandemic (p=0.009), their leaders' ability to effectively coordinate and manage the changes related to the pandemic (p=0.009), and whether they were consulted during the decision making-processes of policies and protocols of the pandemic (p=0.015).

Midwives who took time off and/or considered quitting due to the pressures of the COVID-19 pandemic were more likely to score low (from a score between 1 [strongly disagree] and 5 [strongly agree]) in their level of agreement with statements related to the training received (mean = 2.19), their leaders' transparency and responsiveness to the evolving changes of the pandemic (mean = 2.65), their leaders' coordination and management of the changes related to the pandemic (mean = 2.77) and their involvement in the decision making-processes of policies and protocols (mean = 1.69), as opposed to those who did not take time off and/or considered quitting, with mean scores of 3.12, 3.39, 3.49, 2.33, respectively.

No further statistically significant correlations were found between the participants' consideration of taking time off and/or quitting and the other changes in the provision

of midwifery care during the COVID-19 pandemic mentioned above, with the calculated p-values being above 0.05.

Table 5.4: *Kruskal-Wallis test – 'Impact of COVID-19 pressures on leave consideration and job continuation' and 'Changes in the provision of midwifery care during the COVID-19 pandemic'*

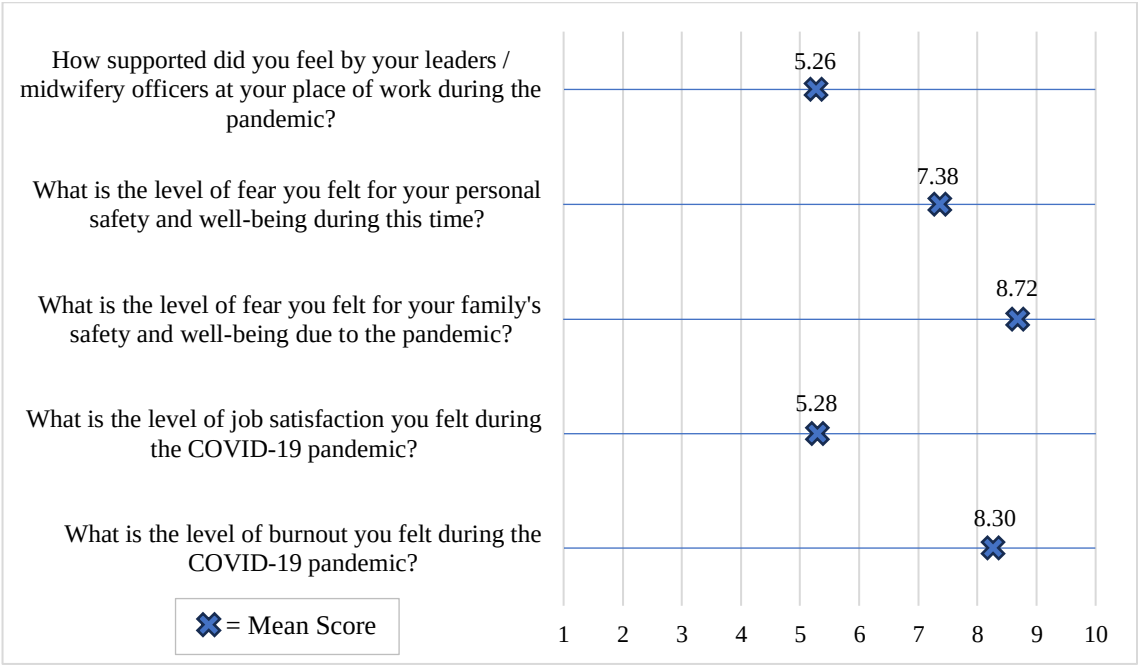
		N	Mean	Std. Deviation	P-value
Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic.	Yes	26	2.19	0.939	0.001
	No	49	3.12	1.053	
	Not Sure	6	3.17	0.983	
The leaders at the maternity care setting you were working at were transparent and responsive to the rapidly evolving circumstances related to the COVID-19 pandemic.	Yes	26	2.65	1.018	0.009
	No	49	3.39	0.909	
	Not Sure	6	3.00	0.894	
The leaders at the maternity care setting you were working at effectively coordinated and managed the changes related to the COVID-19 pandemic.	Yes	26	2.77	1.070	0.009
	No	49	3.49	0.767	
	Not Sure	6	3.67	0.516	
Midwives were consulted during the decision-making processes in the formulation of policies and protocols related to the COVID-19 pandemic.	Yes	26	1.69	0.736	0.015
	No	49	2.33	0.966	
	Not Sure	6	1.83	0.408	

5.4.2 Personal challenges

Midwives in this study were presented with a series of questions concerning personal challenges encountered during the COVID-19 pandemic and were requested to assign rankings in relation to their answers on a scale from 1 (minimum) to 10 (maximum). The mean scores obtained for each question are presented in ***Figure 5.5***.

The mean score for the level of support from their workplace leaders among the participants was that of 5.26. The mean score in relation to the participants' level of fear they felt for their personal safety and well-being during the pandemic was that of 7.38, while the mean score for the level of fear they felt for their families' safety and well-being during this time was that of 8.72. The mean score obtained for the participants' level of job satisfaction during the pandemic was that of 5.28, and the mean score for their level of burnout during the said period was that of 8.30.

Figure 5.5: *Personal challenges encountered during the COVID-19 pandemic*



The relationship between the participants' place of work during March 2020 and their rankings to the personal challenges mentioned was analysed using the Kruskal-Wallis

test. A statistically significant correlation was identified between the participants' perceived burnout levels and their workplace, as evidenced by a p-value of 0.013 (***Table 5.5***). The care settings that reported the highest burnout levels were OBS 3 (mean = 9.50), OBS 2 (mean = 9.00) and CDS (mean = 8.71). Lower levels of burnout were reported by midwives working in Outpatient Care Settings (mean = 7.18) and the Relieving Pool (mean = 7.10). No statistically significant correlation was found between the participants' place of work and the other personal challenges mentioned above, with the calculated p-values being above 0.05.

Table 5.5: *Kruskal-Wallis test – 'Place of work during March 2020' and 'Level of burnout during the COVID-19 pandemic'*

		N	Mean	Std. Deviation	P-value
What is the level of burnout you felt during the COVID-19 pandemic?	CDS	24	8.71	1.517	0.013
	OBS 1	12	8.58	2.193	
	OBS 2	4	9.00	0.816	
	OBS 3	10	9.50	0.850	
	Midwifery Relieving Pool	10	7.10	2.025	
	NPICU	10	7.90	1.969	
	Outpatient Care Settings	11	7.18	2.272	

The relationship between the personal challenges encountered by the participants during the COVID-19 pandemic was tested with the Spearman correlation coefficient (***Table 5.6***). Results showed that a positive correlation (meaning that variables have a direct relationship where they increase or decrease together), was present and statistically significant between the level of support received by their leaders and their level of job satisfaction (p=<0.001), between the level of fear for their personal safety and well-being and the level of fear for their families' safety and well-being

(p=<0.001), between the level of fear for their personal safety and well-being and their level of burnout (p=<0.001), and between the level of fear for their families' safety and well-being and their level of burnout (p=<0.001). The other correlations were not statistically significant, with p-values higher than 0.05 (***Table 5.6***).

Table 5.6: *Spearman correlation coefficient – 'Personal challenges'*

		How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	What is the level of fear you felt for your personal safety and well-being during this time?	What is the level of fear you felt for your family's safety and well-being due to the pandemic?	What is the level of job satisfaction you felt during the COVID-19 pandemic?	What is the level of burnout you felt during the COVID-19 pandemic?
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Correlation Coefficient	1.000	-0.106	-0.164	0.394	-0.154
	P-value	.	0.346	0.144	<0.001	0.169
What is the level of fear you felt for your personal safety and well-being during this time?	Correlation Coefficient	-0.106	1.000	0.719	-0.141	0.520
	P-value	0.346	.	<0.001	0.210	<0.001
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Correlation Coefficient	-0.164	0.719	1.000	-0.193	0.482
	P-value	0.144	<0.001	.	0.084	<0.001
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Correlation Coefficient	0.394	-0.141	-0.193	1.000	-0.111
	P-value	<0.001	0.210	0.084	.	0.323
What is the level of burnout you felt during the COVID-19 pandemic?	Correlation Coefficient	-0.154	0.520	0.482	-0.111	1.000
	P-value	0.169	<0.001	<0.001	0.323	.

The Friedman test was also used to statistically compare the mean rating scores between the participants' level of fear for their personal safety and well-being and the level of fear for their families' safety and well-being. Results showed that the participants' level of fear for their families' safety and well-being is significantly higher than the level of fear for their own safety and well-being, with a p-value of <0.001 (***Table 5.7***).

Table 5.7: *Friedman test – 'Level of fear for personal safety and well-being' and 'Level of fear for family's safety and well-being'*

	N	Mean	Std. Deviation	Minimum	Maximum
What is the level of fear you felt for your personal safety and well-being during this time?	81	7.38	2.188	1	10
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	81	8.72	1.599	3	10

$X^2(1) = 40.333$, p = <0.001

The relationship between the data obtained in relation to the participants' personal challenges encountered during the pandemic and their work-related challenges was also explored through the Kruskal-Wallis test. Findings indicated that there is a statistically significant relationship between the reported access to PPE and the level of support received by their leaders (p=0.006), where participants who reported inadequate access scored lower levels of support from their leaders (mean = 3.39) as opposed to those who reported adequate access (mean = 5.62) (***Table 5.8***). A statistically significant relationship was also found between the access to PPE and the

participants' level of burnout (p=0.021), with those without adequate access to PPE having general higher levels of burnout (mean = 9.25) than those with adequate access (mean = 8.08) (***Table 5.8***).

Table 5.8: *Kruskal-Wallis test – 'Adequate access to PPE' and 'Personal challenges'*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	61	5.62	2.001	0.006
	No	16	3.69	2.056	
	Not Sure	4	6.00	1.826	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	61	8.08	1.969	0.021
	No	16	9.25	1.390	
	Not Sure	4	7.75	1.708	

A statistically significant relationship was also found between increase in workload and the participants' level of fear for their own safety and well-being (p=0.027), with those who have experienced an increase in workload having higher levels of fear (mean = 7.61) than those who did not (mean = 7.00) (***Table 5.9***).

Table 5.9: *Kruskal-Wallis test – 'Increase in workload' and 'Level of fear for personal safety and well-being'*

		N	Mean	Std. Deviation	P-value
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	71	7.61	2.053	0.027
	No	6	7.00	2.191	
	Not Sure	4	4.00	2.160	

Results also showed that there is a statistically significant relationship between the participants' wish to have received more support from their organisation and the level of fear for their own safety and well-being (p=0.016), the level of fear for their families' safety and well-being (p=0.010), and their level of burnout (p=0.002). Participants who wished they received more support from their organisation scored higher in their level of fear for their own safety and well-being (mean = 7.70), the level of fear for their families' safety and well-being (mean = 8.97), and their level of burnout (mean = 8.61), than those who did not wish for more support (mean = 7.00, 8.50, 6.50, respectively) (***Table 5.10***).

Table 5.10: *Kruskal-Wallis test – 'Desire for increased organisational support' and 'Personal challenges'*

		N	Mean	Std. Deviation	P-value
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	67	7.70	1.993	0.016
	No	6	7.00	1.673	
	Not Sure	8	5.00	2.777	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	67	8.97	1.348	0.010
	No	6	8.50	1.517	
	Not Sure	8	6.75	2.315	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	67	8.61	1.749	0.002
	No	6	6.50	1.643	
	Not Sure	8	7.00	2.204	

A relationship which was statistically significant was also found between the participants' consideration of taking time off or quitting due to the pressures of COVID-19 pandemic and the level of support received by their leaders (p=0.016), the level of fear for their own safety and well-being (p=<0.001), the level of fear for their

families' safety and well-being (p=<0.001), and their level of burnout (p=<0.001). The participants who took time off or considered quitting reported a lower level of support from their leaders (mean = 4.27) than those who did not (mean = 5.63). Higher scores for the level of fear for their own safety and well-being (mean = 8.58), the level of fear for their families' safety and well-being (mean = 9.65), and their level of burnout (mean = 9.27) were also seen in those who took time off or considered quitting than those who did not (mean = 6.65, 8.14, 7.63, respectively) (***Table 5.11***).

Table 5.11: *Kruskal-Wallis test – 'Impact of COVID-19 pressures on leave consideration and job continuation' and 'Personal challenges'*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	26	4.27	2.255	0.016
	No	49	5.63	1.965	
	Not Sure	6	6.50	1.378	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	26	8.58	1.528	<0.001
	No	49	6.65	2.269	
	Not Sure	6	8.17	1.472	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	26	9.65	0.745	<0.001
	No	49	8.14	1.732	
	Not Sure	6	9.33	1.033	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	26	9.27	0.874	<0.001
	No	49	7.63	2.099	
	Not Sure	6	9.50	0.837	

No statistically significant relationships were found between the participants' personal challenges and their perception of the recognition of their work during the pandemic,

their access to employee support programmes and the availability of sick or quarantine leave, with p-values higher than 0.05.

Similarly, no statistically significant relationship was observed between the personal challenges faced by the participants during the pandemic and their perception of any positive outcomes stemming from the pandemic, as evidenced by p-values, calculated by the Chi-squared test, exceeding 0.05.

The relationship between the personal challenges encountered by the participants during the COVID-19 pandemic and the changes in the provision of midwifery care during the pandemic was tested with the Spearman correlation coefficient (***Table 5.12***).

Results showed that a positive correlation (meaning that variables have a direct relationship where they increase or decrease together), was present and statistically significant between the level of support received by their leaders and the training they received (p=<0.001), their leaders' transparency and responsiveness to the evolving changes of the pandemic (p=<0.001), their leaders' coordination and management of the changes related to the pandemic (p=<0.001), and their involvement in the decision-making processes of policies and protocols (p=0.003) (***Table 5.12***). A negative correlation (meaning that variables have an inverse relationship where one variable increases, the other decreases) was statistically significant between the level of support received by their leaders and the impact of the pandemic on midwives' ability to provide quality midwifery care (p=0.013) (***Table 5.12***).

A negative correlation was also found to be statistically significant between the participants' level of fear for their own safety and well-being and their involvement in the decision-making processes of policies and protocols (p=0.003) (***Table 5.12***).

Further statistically significant negative correlations were seen between the level of fear for the participants' families' safety and well-being and the training the participants received (p=0.042), their leaders' transparency and responsiveness to the changes of the pandemic (p=0.030), and their involvement in the decision-making processes of policies and protocols (p=0.003) (***Table 5.12***).

A positive correlation was statistically significant between the participants' level of job satisfaction and the training they received (p=0.010), their leaders' transparency and responsiveness to the changes of the pandemic (p=0.004), and their involvement in the decision-making processes of policies and protocols (p=0.011) (***Table 5.12***). Finally, a statistically significant negative correlation was present between the participants' level of burnout and the training they received (p=0.004), their leaders' transparency and responsiveness to the changes of the pandemic (p=0.007), their leaders' coordination and management of the changes related to the pandemic (p=0.038), and their involvement in the decision-making processes of policies and protocols (p=0.037) (***Table 5.12***).

Table 5.12: *Spearman correlation coefficient – 'Changes in the provision of midwifery care during the COVID-19 pandemic' and 'Personal challenges'*

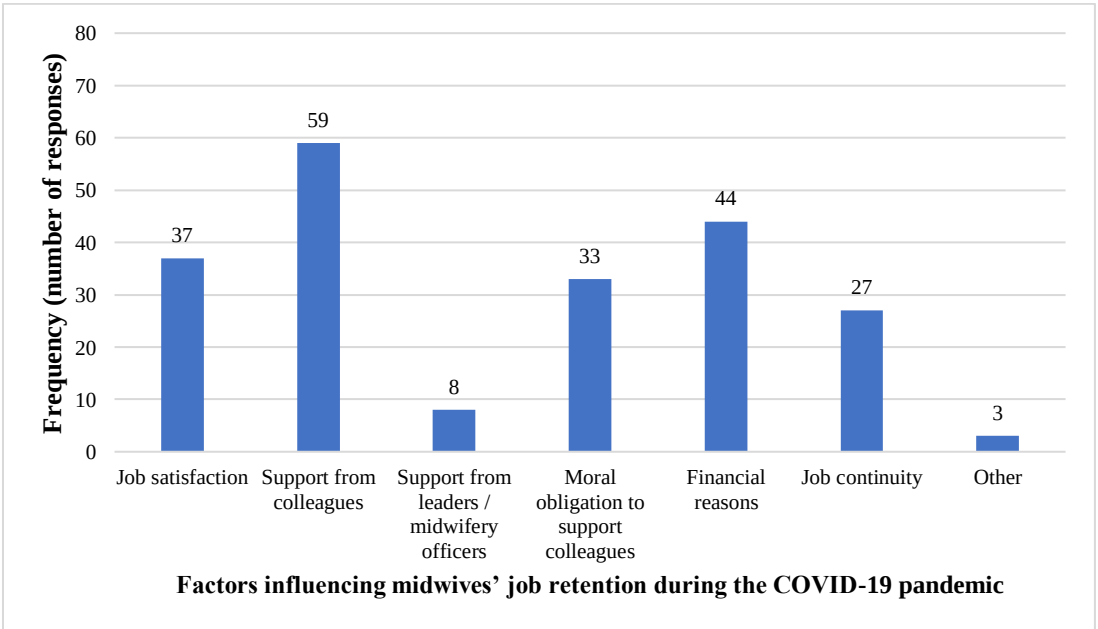
		How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	What is the level of fear you felt for your personal safety and well-being during this time?	What is the level of fear you felt for your family's safety and well-being due to the pandemic?	What is the level of job satisfaction you felt during the COVID-19 pandemic?	What is the level of burnout you felt during the COVID-19 pandemic?
Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic.	Correlation Coefficient	0.422	-0.066	-0.226	0.283	-0.317
	P-value	<0.001	0.560	0.042	0.010	0.004
The leaders at the maternity care setting you were working at were transparent and responsive to the rapidly evolving circumstances related to the COVID-19 pandemic.	Correlation Coefficient	0.631	-0.103	-0.242	0.314	-0.300
	P-value	<0.001	0.358	0.030	0.004	0.007
The leaders at the maternity care setting you were working at effectively coordinated and managed the changes related to the COVID-19 pandemic.	Correlation Coefficient	0.543	0.000	-0.136	0.128	-0.231
	P-value	<0.001	0.999	0.225	0.256	0.038
Midwives were consulted during the decision-making processes in the formulation of policies and protocols related to the COVID-19 pandemic.	Correlation Coefficient	0.324	-0.322	-0.323	0.280	-0.232
	P-value	0.003	0.003	0.003	0.011	0.037

		How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	What is the level of fear you felt for your personal safety and well-being during this time?	What is the level of fear you felt for your family's safety and well-being due to the pandemic?	What is the level of job satisfaction you felt during the COVID-19 pandemic?	What is the level of burnout you felt during the COVID-19 pandemic?
Policies and protocols related to the COVID-19 pandemic were needed and evidence-based.	Correlation Coefficient	0.214	0.134	0.101	0.015	0.013
	P-value	0.055	0.234	0.368	0.893	0.911
Policies and protocols related to the COVID-19 pandemic restricted midwives' ability to provide quality midwifery care.	Correlation Coefficient	-0.276	0.144	0.057	-0.142	0.018
	P-value	0.013	0.201	0.612	0.207	0.875
Policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic.	Correlation Coefficient	0.129	0.084	-0.054	-0.012	-0.128
	P-value	0.249	0.454	0.632	0.917	0.256

5.4.3 Factors influencing midwives' job retention during the COVID-19 pandemic

The factors that helped the participants in sustaining their roles as midwives amidst the challenges posed by the COVID-19 pandemic were also explored (***Figure 5.6***). Results indicate that the most prevalent reasons for midwives to continue in their jobs during this period were support from colleagues (n=59/211, 28.0%) and financial reasons (n=44/211, 20.9%). Conversely, the least selected factor influencing midwives to stay in their positions was support from leaders / midwifery officers (n=8/211, 3.8%). Other factors mentioned included support from partners and families, as well as a moral obligation to provide care to women and their families during this particular time (n=3/211, 1.4%).

Figure 5.6: *Factors influencing midwives' job retention during the COVID-19 pandemic*



There was no statistically significant association between the participants' place of work and the factors influencing their job retention during the pandemic, indicated with a p-value of 0.986 obtained through the Chi-squared test. Additionally, no statistical significance was found between the participants' personal challenges and

the factors influencing midwives' job retention during the COVID-19 pandemic, as indicated by p-values higher than 0.05 calculated by the Kruskal-Wallis test.

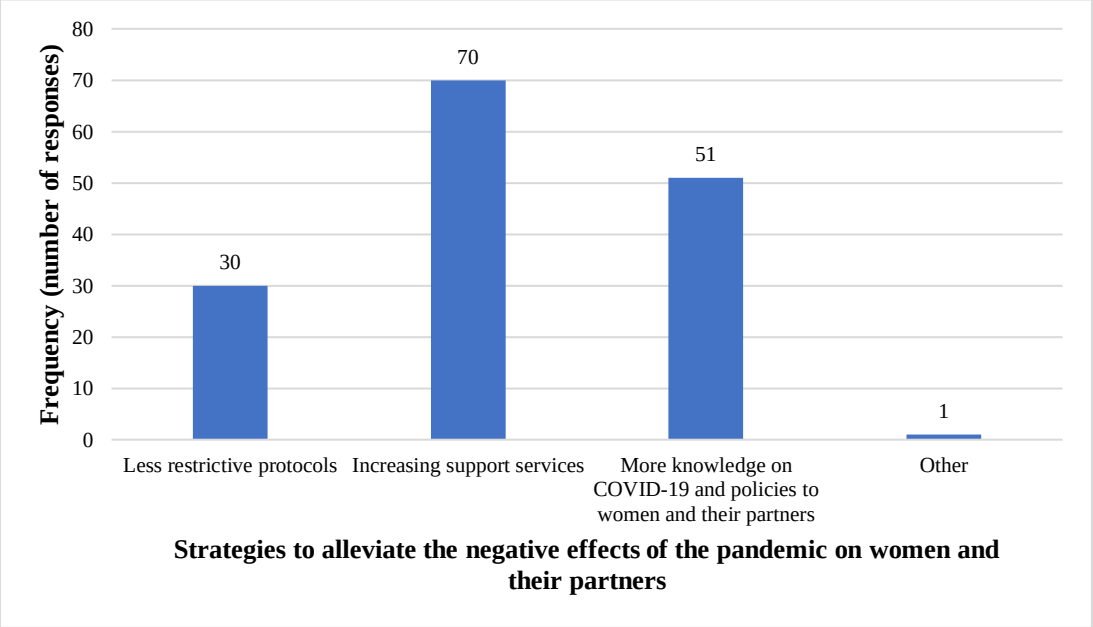
5.5 Strategies to Address the Challenges Encountered during the COVID-19 Pandemic

Possible strategies that may help alleviate the negative effects of the COVID-19 pandemic on both women and their partners' perinatal experience as well as midwives' ability to provide quality midwifery care were investigated to address the third objective of this study. The following data was examined through the use of frequency distributions, the Chi-squared test and the Kruskal-Wallis test.

5.5.1 Strategies to alleviate the negative effects of the pandemic on women and their partners

Participants were asked about the strategies they believe could alleviate the adverse impacts of the COVID-19 pandemic on the perinatal experience of women and their partners (***Figure 5.7***). The two most common strategies chosen by the participants were increasing support services (n=70/152, 46.1%) and increasing knowledge on COVID-19 and policies to women and their partners (n=51/152, 33.6%). 19.7% of the participants (n=30/152) also believe that having less restrictive protocols during the pandemic may help alleviate the negative effects on women and their families. Other strategies highlighted by participants included implementing sensible protocols and enhancing staff knowledge to mitigate the detrimental effects of the pandemic on women and their families (n=1/152, 0.7%).

Figure 5.7: *Strategies to alleviate the negative effects of the pandemic on women and their partners*



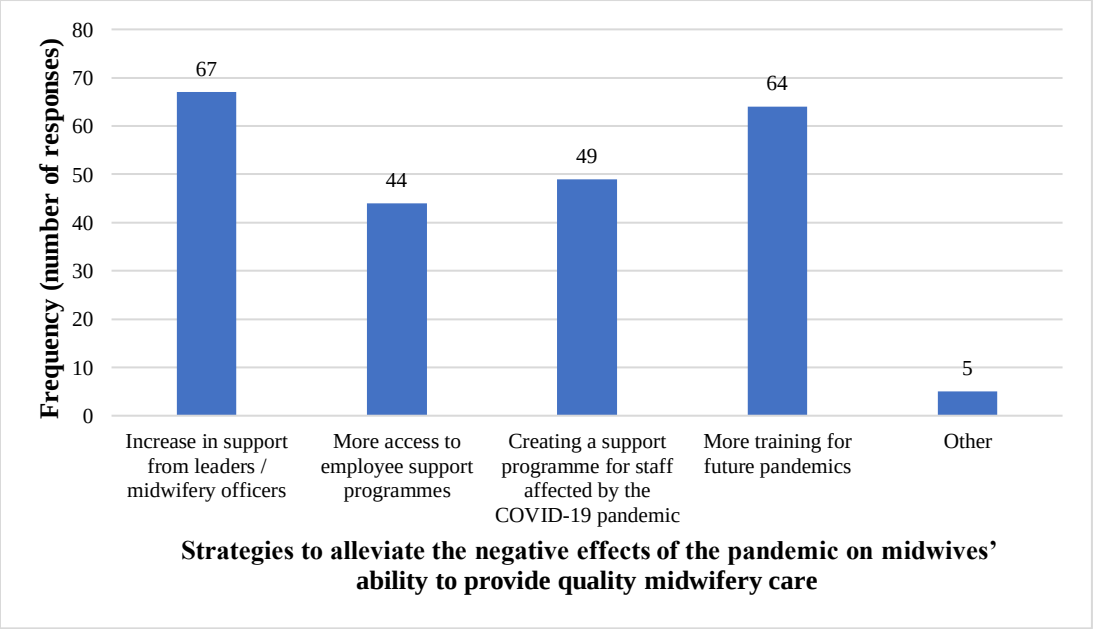
When investigating the relationship between the participants' place of work and the strategies they feel may help alleviate the negative effects of the pandemic on women and their families, no statistically significant correlation was found, indicated with a p-value of 0.227, calculated through the use of the Chi-squared test. Similarly, there was no statistically significant correlation between the strategies perceived by participants to mitigate the adverse effects of the pandemic on women and their families and the observed effects of the pandemic in women and their families. This is demonstrated by a p-value of 1.000 computed through the Chi-squared test, which exceeds 0.05.

5.5.2 Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care

Participants were also asked about the strategies they feel may help alleviate the negative effects of the COVID-19 pandemic on midwives and their ability to provide quality midwifery care (***Figure 5.8***). The most common strategies selected were

increase in support from the organisation's leaders and/or midwifery officers (n=67/229, 29.3%) and having more training related to dealing with future pandemics affecting the healthcare system (n=64/229, 27.9%). Further strategies chosen were the creation of a support programme specifically addressing the needs of staff affected by the pandemic (n=49/229, 21.4%) and having more access to employee support programmes (n=44/229, 19.2%). Other strategies mentioned by the participants were ensuring better staffing levels, more recognition for the work done during the pandemic, less restrictive and better planned policies and protocols, and a financial bonus (n=5/229, 2.2%).

Figure 5.8: *Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care*



In examining the association between the participants' workplace and the strategies they believe could alleviate the adverse impacts of the pandemic on midwives and their ability to deliver quality care, no statistically significant relationship was identified. This is indicated by a p-value of 0.992, calculated using the Chi-squared test. There was also no statistically significant relationship between the selected strategies for

alleviating the negative effects on midwives and the participants' personal challenges, with all p-values being higher than 0.05, which were calculated through the Kruskal-Wallis test.

A statistically significant relationship was found between increase in workload and the selected strategies for alleviating the negative effects on midwives, with a p-value of 0.025, calculated with the Chi-squared test (***Table 5.13***). The participants that experienced an increase in workload tended to select strategies of having more access to employee support programmes (n=42, 59.2%), having a support programme specifically addressing the needs of staff affected by the COVID-19 pandemic (n=44, 62.0%) and having more training related to dealing with future pandemics (n=57, 80.3%), when compared to those who did not experience an increase in workload (n=1, 16.7%; n=3, 50.0%; n=4, 66.7%, respectively). The relationship between the selected strategies for alleviating adverse effects of the pandemic on midwives and the remaining work-related challenges was not statistically significant, indicated by p-values higher than 0.05.

Lastly, an exploration of the relationship between the changes in the provision of midwifery care during the pandemic and the chosen strategies for mitigating the pandemic's adverse effects on midwives was conducted using the Kruskal-Wallis test, which revealed no statistical significance between these variables, as evidenced by p-values exceeding 0.05.

Table 5.13: *Chi-squared test – 'Increase in workload' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care'*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Increase in workload	Yes	Count	60	42	44	57	3	71
		Percentage	84.5%	59.2%	62.0%	80.3%	4.2%	
	No	Count	5	1	3	4	0	6
		Percentage	83.3%	16.7%	50.0%	66.7%	0.0%	
	Not Sure	Count	2	1	2	3	2	4
		Percentage	50.0%	25.0%	50.0%	75.0%	50.0%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 17.564$, $p = 0.025$

5.6 Thematic Analysis of Qualitative Data

The questionnaire included two questions that allowed for open-ended responses. Moreover, eight questions in the questionnaire featured a comment section, providing participants with the opportunity to provide further details on their answers. Lastly, a space was provided at the end of the questionnaire for participants to add any final comments on the topic. Qualitative data from these sections underwent analysis through Braun and Clarke's (2012) thematic analysis. The process is shown in ***Table 5.14***, culminating in the identification of five themes. Throughout this section, sample excerpts from participants' responses will be incorporated to substantiate each theme. Each participant's questionnaire response was assigned a number, ranging from Participant (P.) 1 to P.81, in accordance with the order of submission.

Table 5.14: *Thematic analysis*

CODES	CATEGORIES	THEMES
Structural hospital changes	Changes in procedures	**PROFESSIONAL CHANGES AND DIFFICULTIES WITHIN THE ORGANISATION AND CARE PROVIDED**
Masks; PPE; social distancing; limited contact time; swabbing		
Separation of COVID-positive mothers and babies		
Prohibition of birthing partners during 1st stage of labour; restricted visiting hours		
Changes in care practices		
Rapidly evolving, unclear guidelines	Characteristics of new guidelines and policies	
Hurried decisions on guidelines		
Impact of new evidence on guidelines		
Lack of communication, information and training	Organisational challenges	
Shortage of staff		
Increase in workload		
Management issues		
Midwives' role in decision-making processes		
PPE hindering communication	Challenges in providing care due to COVID-19 implications	
Fulfilling the role of the birthing partner		
Dealing with parents' frustrations		
Inability to provide compassion and form bonds with parents		
Fears of missing important information		
Stigma surrounding the virus		
Wearing PPE for long hours	Physical difficulties	**PERSONAL CHALLENGES**
Difficulty breathing due to PPE		
Fear of contracting and spreading virus	Psychological difficulties	
Constant changes causing stress and anxiety		
Psychologically ill-prepared		
Lack of recognition of work	Lack of recognition	
Midwives from some units relocated		
Fear and anxiety due to policies and the absence of their partners	Parents' psychological and emotional difficulties	**PERCEIVED EFFECTS ON WOMEN AND THEIR FAMILIES**
Psychological stress of parents at NPICU		
Less disruptions from visitors	Positive implications for parents	**POSITIVE OUTCOMES**
More opportunities for women to be open and honest		
Adoption of altered / new services		
More awareness on infection control	Positive implications for midwives and the care provided	
More awareness on the role of the midwife		
More teamwork		
More presence and one-to-one care		
Need for more guidelines and proper training	Strategies to alleviate negative effects of the pandemic on midwives	**STRATEGIES FOR LONGER-TERM PLANNING**
Need for more support		

5.6.1 Professional changes and difficulties within the organisation and care provided

Participants discussed several issues in relation to the changes and difficulties encountered within the organisation and the care provided.

5.6.1.1 Changes in procedures

Several changes were imposed in the organisation due to the emergence of the COVID-19 pandemic. Participants spoke about the introduction of mask-wearing across all settings, and wearing PPE with COVID-positive mothers and babies. A COVID-19 polymerase chain reaction (PCR) test was also done to all women and their partners prior to admission. Midwives were also encouraged to limit their contact time whilst providing care as well as maintaining social distancing as much as possible, even during breaks among colleagues.

> *"Masks had to be worn at all times (midwives and mothers)."* (P.3)

> *"We were using full PPE when having to care for COVID positive patients…"* (P.33)

> *"COVID testing of mothers and partners before every admission.."* (P.52)

> *"We were advised to keep the booking visit as concise as possible to safeguard the mother's and midwives' health."* (P.11)

> *"We were constantly advised to maintain distance, even amongst ourselves during break times and in our personal life."* (P.2)

There were also several reported physical structural changes done to the hospital's layout and rooms to accommodate the changes imposed by the pandemic. For instance, participants noted that several delivery rooms at CDS were equipped with microphones and cameras in order to have communication with the staff donned in PPE, delivering care to COVID-positive mothers and babies. Additionally, OBS 2, a ward previously catering for antenatal admissions was turned into a Management and

Assessment of Respiratory Patient's Areas (MARPA) ward, meaning that the ward started catering for all women (antenatally and postnatally) who had a pending COVID swab or a positive result. Several participants also reported that, in the beginning of the pandemic, they had to be relocated to other wards to take care of mothers with a positive COVID-19 result, as these mothers were being transferred to wards which were not maternity-based. Additionally, a clinic at the outpatients changed its walk-in nature to an appointment-based clinic to cope with numbers and avoid over-crowding.

> *"We had equipped three delivery rooms for COVID positive mothers with cameras and microphones to be able to communicate with staff outside the delivery room to avoid contamination."* (P.10)

> *"OBS 2 became a MARPA ward, taking care of pending COVID swab mothers and COVID positive mothers, antenatally and postnatally."* (P.47)

> *"We had to be moved to other wards to take care of COVID patients outside of our ward."* (P.74)

> *"Had to change the set up of clinic to appointment based and to cope with numbers open all day."* (P.31)

Participants working at CDS noted that, at the beginning of the pandemic, birthing partners were only allowed during the second stage of labour, even with a negative COVID-19 result. If either the mother or the father had a positive COVID-19 result, the birthing partner was not allowed to come in contact with the mother at any stage in hospital, including childbirth. Ward visitors were restricted to the birthing partner exclusively, and NPICU imposed heavy restrictions on visiting hours for parents. Additionally, partners were not allowed to attend the booking visit, with only the woman being permitted to participate in the visit.

> *"The birthing partner was only allowed to stay with the pregnant woman during the second stage even if he tested negative for COVID. Later on in the pandemic, birthing partners were allowed to stay during labour and delivery even if tested positive."* (P.10)

> *"Prevention of partners from attending the birth of their child when they or the mother was COVID-19 positive or in quarantine."* (P.78)
>
> *"Only partners could visit the mother and baby."* (P.1)
>
> *"Visiting hours at NPICU were restricted to 2 hours and only parents can visit."* (P.2)
>
> *"Only the mother was allowed for the booking visit."* (P.11)

Finally, several changes in care practices were reported by the participants. The administration of nitrous oxide (Entonox®), a pain relief method during labour, was prohibited in the early phases of the pandemic until a filter attachment was introduced. Furthermore, babies born to mothers with a positive COVID-19 result were separated from their mothers and cared for in different wards. In cases where either the parents or the baby tested positive for COVID-19, parents were not permitted to physically visit their babies in NPICU, and communication was restricted to video calls.

> *"The use of Entonox was prohibited for quite a long time until the HME filters were stocked."* (P.9)
>
> *"Babies born to a COVID positive mother were taken away from their mother and were taken care of in another ward."* (P.3)
>
> *"COVID-positive babies were also separated from their parents and were not allowed to visit NPICU however video calls were being performed."* (P.2)

5.6.1.2 Characteristics of new guidelines and policies

Participants outlined numerous aspects concerning the updated guidelines and policies, elucidating the consequences of these modifications. According to their accounts, COVID-19 policies underwent frequent changes over time, and some were perceived as unclear and contradictory. Participants also noted that certain policies, like the separation of babies from COVID-positive mothers, went against international guidelines. They characterised decisions regarding the new policies and guidelines as hasty and not sufficiently responsive to emerging evidence.

> *"Protocols were changing too often and were many times causing more confusion rather than helping."* (P.64)

> *"I was particularly uncomfortable with the policy that mandated the separation of COVID-19 positive mothers and their newborns. This went against the advice of major international health institution guidelines."* (P.78)

> *"Some decisions were too hurried and not reviewed as the situation unfolded to reflect the new evidence."* (P.36)

5.6.1.3 Organisational challenges

Participants detailed the challenges they faced within their organisation amid the pandemic. Midwives shared instances of inadequate training and a notable lack of communication and information. It was acknowledged that given the unprecedented nature of the pandemic, obtaining information and training could have been inherently difficult. Many participants highlighted staff shortages, often leading to increased workloads.

> *"Two training sessions were provided and the rest was guesswork."* (P.30)

> *"I think that since this was something new, there was limited knowledge available for us to be taught as there were a lot of uncertainties."* (P.21)

> *"We were so understaffed that I was regretting waking up for work to do it all over again. I was exhausted mentally and physically."* (P.48)

Management issues were also raised, with some participants expressing a sense of neglect and reporting insufficient leadership presence, as well as unfair management. Many felt they had to navigate challenges independently, as providing feedback to leaders seemed unproductive. Disagreements between leaders and managers were also cited, contributing to confusion. Most midwives expressed exclusion from decision-making processes, with decisions primarily emanating from higher management individuals who were perceived as not optimally positioned for such determinations.

> *"Communication was lacking, their presence was lacking…"* (P.79)

> *"Unfair management, always giving COVID positive patients to the newly graduated."* (P.71)

> *"I felt like we still acted as leaders ourselves… As leaders, they were meant to be there with us,… and not lock themselves in the office, not knowing how things are working out."* (P.38)

> *"When we asked certain questions or challenged directives that did not make sense, we were shut down and told not to argue as it was orders from above."* (P.29)

> *"No, such decisions were taken from people high up - people who didn't truly understand the situation on the wards; people who work in offices and not with patients; people who didn't wear the PPEs themselves; people who didn't understand the consequences of the policies and protocols that they were putting forward."* (P.38)

5.6.1.4 Challenges in providing care due to COVID-19 implications

Participants recounted various challenges they faced while delivering care during the COVID-19 pandemic. Several midwives pointed out the impact of PPE on their ability to communicate, especially non-verbally, with women. This communication barrier was notably pronounced when interacting with foreigners. Participants also highlighted the challenges of filling the void left by birthing partners when they were not allowed in the room. Additionally, participants shared the difficulties of informing partners that they could not stay in the room upon receiving a positive COVID swab result, leading to daily frustrations from parents.

> *"I perceive the mask as a barrier of non-verbal communication - I believe that a simple smile can reassure the mothers so much."* (P.9)

> *"Language barrier when wearing PPEs with foreign mothers. They could not understand what we were trying to say."* (P.68)

> *"Birth partners were not present and thus I felt I have to take over that role…"* (P.75)

> *"One of the biggest challenges was telling the partners that they can't stay in the room especially when they are COVID positive."* (P.3)

> *"Needless to say, these couples would sometimes vent on us their disappointment and anger and I used to feel so helpless as it wasn't in our power to change the policies."* (P.9)

Several changes in care practices also posed challenges for midwives. The separation of babies from their mothers and the witnessing of parents connecting with their babies solely through video calls were particularly challenging for participants. Limited contact time was also challenging, raising concerns about potentially missing crucial signs, such as indicators of domestic violence and mental health issues.

> *"The separation of COVID-19 positive mothers and their newborns restricted midwives' ability to teach the mothers' important infant care skills."* (P.78)

> *"Providing emotional care and support to COVID positive parents whilst their baby was on NPICU (at the time they had to do 2 weeks in quarantine - hence only seeing their baby on a video call with the NPICU tablet)."* (P.56)

> *"The duration of the booking visit was minimised… There could have been instances where we missed out on certain important issues such as domestic violence." (P.11)*

Navigating the stigma associated with the virus also proved difficult, especially when dealing with negative perceptions surrounding women infected with COVID-19. Lastly, midwives found it challenging to form bonds and connections with parents, and offering comfort, reassurance, and compassion, particularly due to the inhibition of physical touch, especially in cases involving grief.

> *"Making women feel like they had 'the plague' as everyone feared entering their environment."* (P.30)

> *"Inability to feel like you could form a quality connection with the patients due to having to maintain physical distancing etc."* (P.42)

> *"Inability to use physical touch to comfort COVID positive mothers who were miscarrying their baby."* (P.47)

5.6.2 Personal challenges

Participants recounted a variety of personal challenges, encompassing both physical and psychological difficulties, along with feelings of unrecognised and undervalued efforts.

5.6.2.1 Physical difficulties

Participants recounted their difficult experiences of having to wear PPE for extended periods while attending to women or babies with COVID-19. These encounters were frequently characterised as exhausting. Furthermore, participants reported experiencing difficulty breathing, especially when wearing N95 masks.

> *"Wearing full PPEs was not easy due to heat of the neonatal unit and difficulty to breathe with N95 masks throughout a 12 hour shift."* (P.7)

5.6.2.2 Psychological difficulties

Several participants detailed the psychological challenges they encountered while delivering care during the COVID-19 pandemic. Midwives expressed the difficulty of grappling with the fear of contracting the virus and, more significantly, putting their families and others at risk. The fear of the unknown was also a prevalent sentiment. Many participants conveyed ongoing anxiety stemming from the frequent changes in policies and protocols related to the pandemic, leading to a sense of unpredictability. Additionally, midwives emphasised that they did not feel adequately prepared psychologically for the challenges posed by the pandemic.

> *"In addition to working in fear that we will contract the virus and endanger our families at home."* (P.7)

> *"I was actually coming to work feeling on the edge in the beginning and everyday discovering something new.*" (P.2)

> *"I feel we were neither prepared psychologically."* (P.52)

5.6.2.3 Lack of recognition

Midwives expressed their sentiments about the insufficient acknowledgment they received, expressing a desire for greater appreciation for their work and efforts during the COVID-19 pandemic. Changes in the organisation's care structure also indicated a significant undervaluation of certain aspects of midwifery care. A notable example was observed in the suspension of operations at the Parentcraft Unit, where a majority of the midwives from this unit were reassigned to perform contact tracing for COVID-19.

> *"Although we did our job with love we should have been recognized and appreciated more."* (P.26)

> *"Parentcraft Services provides education and support. This was greatly undervalued. The unit was once again closed and midwives sent to contact tracing."* (P.25)

5.6.3 Perceived effects on women and their partners

Midwives detailed various impacts they observed in women and their partners whilst providing care during the COVID-19 pandemic.

5.6.3.1 Parents' psychological and emotional difficulties

In this study, midwives observed a range of psychological and emotional difficulties faced by women and their partners. The predominant emotions noted were fear and anxiety, attributed to factors such as the continuous alterations in pandemic-related policies and protocols, along with the birthing partner's absence during a significant portion of their labour and delivery. Parents with babies admitted to NPICU encountered additional challenges, particularly in having very limited time to see their babies.

> *"Restrictions were changing daily and it was very overwhelming for mothers…"* (P.63)

> *"It was literally heart-breaking seeing women go through labour, experiencing pain, immense fear and anxiety on their own and trying to fit in a video call with their husband, while he was waiting outside in the car - rain or shine."* (P.9)

> *"New parents were very tremendously affected by all the protocols in place mainly the restricted visiting hours at NPICU. It is already stressful for a parent to be separated from their child and only seeing them for 2 hours in a day impacted them negatively mentally and emotionally."* (P.57)

5.6.4 Positive outcomes

Despite the adverse impacts of the pandemic, participants underscored several positive outcomes arising from it, benefiting both parents and midwives, as well as the care they delivered.

5.6.4.1 Positive implications for parents

Midwives observed that, although the limitation on visitors posed challenges for some, it inadvertently provided parents with a quieter time together in the initial days following their baby's birth, with fewer disruptions from visitors. Participants also highlighted unique instances which resulted from the pandemic where women could be more open and honest with midwives, such as during the booking visit, when partners were not permitted in the room due to pandemic restrictions. Additionally, various services were modified or introduced due to the pandemic, some of which proved to be more convenient for parents.

> *"[The restriction of visitors provided] an opportunity for the mothers to rest and not have to deal with visitors as well as neighbouring patients do not have to risk getting ill or being disturbed from visitors of the near patient."* (P.33)

> *"Since only the mother was allowed to attend the visits (without her partner), certain sensitive issues such that of domestic violence were easier to enquire on as mothers found that they can open up and reach out for help more."* (P.11)

> *"An appointment system was created at the breastfeeding clinic which made it easier to provide quality care to mothers. This has since then remained as the mothers preferred this system."* (P.35)

> *"Parentcraft Services adapted to providing Online services and a chat services. These are still active."* (P.25)

5.6.4.2 Positive implications for midwives and the care provided

Participants emphasised several positive results related to the care they provided and their own experiences. The most frequently cited positive effect was an increased awareness of infection control stemming from the pandemic. Midwives also noted that the role of the midwife gained greater significance. Participants also reported a heightened sense of teamwork. Lastly, midwives mentioned that the specialised one-to-one care delivered during the pandemic facilitated more personalised attention.

> *"…infection control measures improved as staff became more aware."* (P.57)

> *"I feel that the COVID-19 has led us to understand that the role of the midwife is key and significant to provide support and reassurance to all the family. It also reminds us of the importance of working as a team to provide the best antenatal, intrapartum and postnatal care to our mothers and their families, irrespective of how circumstances are."* (P.22)

> *"Midwives were more present even for casual talk to try and reduce the mother's loneliness without partner."* (P.32)

5.6.5 Strategies for longer-term planning

Having undergone diverse experiences in delivering care during the COVID-19 pandemic, midwives have offered their perspectives on potential measures to mitigate negative effects in similar pandemic-related situations.

5.6.5.1 Strategies to alleviate negative effects of the pandemic on midwives

Midwives emphasised the necessity for additional training in the context of pandemic-related care, along with the importance of clear guidelines supporting midwifery care. Furthermore, there was a particular emphasis on the need for increased support, which is believed to be effectively provided through more opportunities for midwives to openly share their experiences.

> *"…for proper provision of midwifery care we need to be supported through guidelines, policies and real face to face practices of such policies such as wearing proper PPE's, but also mentally through proper support and spaces to talk freely."* (P.48)

5.7 Conclusion

This chapter has presented the results obtained from the questionnaire. Quantitative data underwent descriptive and inferential statistical analysis, while qualitative data was subjected to thematic analysis using Braun and Clarke's (2012) approach. The following chapter will present an in-depth discussion of the study's findings, drawing connections to the findings obtained from the studies found within the existing literature and this study's theoretical framework, the Quality Maternal and Newborn Care (QMNC) Framework (Renfrew et al., 2014).

Chapter 6

DISCUSSION

6.1 Introduction

In the upcoming chapter, a comprehensive and evaluative analysis of this study's findings is presented, drawing connections to the reviewed literature and the selected theoretical framework for this study, the Quality Maternal and Newborn Care (QMNC) Framework (Renfrew et al., 2014). Subsequent to the examination of these findings, the strengths and limitations inherent in this study will be identified.

One hundred and seventeen midwife participants (N=117) were recruited to the study. Eighty-one midwives responded (n=81), resulting in a response rate of 69.2%.

6.2 Demographic Data

The findings derived from this study reveal that a majority of participants possessed 1-10 years of experience working as a midwife (n=46, 56.8%) and were employed at the Central Delivery Suite (CDS) (n=24, 29.6%). It is noteworthy that few studies in the existing literature employed a similar categorisation for demographic data concerning working experience. The proportion of participants in this study categorised into groups based on working experience (in years) generally aligns with the proportional distribution of working experience among participants in studies conducted by Bradfield et al. (2022) and McGrory et al. (2022). However, a direct comparison of the participants' workplace demographics with existing literature is challenging, as most studies grouped workplace settings broadly into hospital or community settings, a classification incongruent with the categorisation system employed in this study.

6.3 Provision of Midwifery Care during the COVID-19 Pandemic

The coronavirus disease 2019 (COVID-19) pandemic has brought about profound disruptions across healthcare systems, compelling a re-evaluation and transformation of established practices in various medical disciplines. Among these, midwifery care has witnessed substantial modifications, driven by the imperative to safeguard both maternal well-being and newborn health amidst the challenges posed by the global health crisis. This section aims to discuss the alterations observed in midwifery care consequent to the pandemic, thereby fulfilling the first objective of this study, which was to seek midwives' perspectives on altered provision of midwifery care during the COVID-19 pandemic and how this affected women and their families.

6.3.1 Changes in midwifery care procedures

The COVID-19 pandemic has necessitated swift and profound transformations across all spheres of healthcare, with several procedures and protocols undergoing significant alterations within the context of midwifery care. A prominent modification observed amid the COVID-19 pandemic entailed the universal adoption of mask-wearing amongst midwives and parents, coupled with the utilisation of personal protective equipment (PPE) by midwives during interactions with mothers and babies diagnosed with COVID-19. This notable alteration emerged consistently across all of the studies examined in the existing literature, such as studies by Bradfield et al. (2022), Fumagalli et al. (2023), Hazfiarini et al. (2022), Hearn et al. (2022), Hijdra et al. (2022), Huysmans et al. (2021), and Küçüktürkmen et al. (2022), as well as in the current study. The implementation of polymerase chain reaction (PCR) testing for women and their partners before admission reflects a proactive approach in this study, aligning with the literature's emphasis on diagnostic measures (Küçüktürkmen et al., 2022).

The creation of specialised services and delivery rooms is also highlighted in the literature (Küçüktürkmen et al., 2022). The present study provides a contextualised view, detailing specific adaptations made in response to the pandemic. Participants in this study reported that delivery rooms were equipped with microphones and cameras for communication with staff donned in PPE, emphasising the measures taken to ensure effective care for COVID-positive mothers and babies. Furthermore, the changes mentioned in this study of re-purposing a ward into a Management and Assessment of Respiratory Patient's Areas (MARPA) ward (perinatal COVID-19 ward) and transitioning an outpatient clinic to an appointment-based system underscore the adaptability of healthcare settings to cater to the unique challenges posed by the pandemic.

A relocation of midwives, motivated by various factors, was observed both in the reviewed literature and within the context of this study. Specifically, the study conducted by Hartz et al. (2022) presents instances where midwives were relocated due to the closure of maternity facilities to cater to COVID-19-related needs. Similarly, the present study documents instances where midwives were transferred from their regular duties to COVID-19 contact tracing. Additionally, some midwives in this study reported being relocated to non-maternity wards at the onset of the pandemic to attend to mothers who tested positive for COVID-19. This undoubtedly highlights the practical implications and challenges faced in ensuring continuous care amid structural adaptations.

Literature and the present study converge on the restrictions placed on birth companions and visitors during the pandemic (Fumagalli et al., 2023; Goberna-Tricas et al., 2021; Hartz et al., 2022). This study provides a detailed view of these

restrictions, particularly noting the emotional toll on families, as witnessed by midwives, due to limited physical presence and communication channels restricted to video calls. One of the recurring themes across the literature and this study is also the separation of newborns from mothers who tested positive for COVID-19. Küçüktürkmen et al. (2022) documented this practice alongside the restriction of breastfeeding, emphasising the deviation from established guidelines.

In alignment with the QMNC Framework (Renfrew et al., 2014), which underscores the importance of *Promoting normal processes while preventing complications*, the separation of newborns from COVID-positive mothers emerges as a significant deviation from the promotion of normalcy in midwifery care. The inherent value of maintaining maternal-newborn bonding through practices like skin-to-skin and breastfeeding is well-established, contributing to both physiological and psychological well-being. However, the observed restrictions in the literature (Huysmans et al., 2021; Küçüktürkmen et al., 2022) and the current study, such as skin-to-skin being restricted for COVID-positive mothers, illustrate a departure from these fundamental principles.

Furthermore, the literature highlights the immediate baby bath during the pandemic, a practice that deviates from established guidelines (Küçüktürkmen et al., 2022). This finding is dissimilar to this study, marked by the absence of reported immediate baby baths in Malta, as indicated by the participants. The Guidance Development Group in the World Health Organization (WHO, 2022) guidelines caution against this practice, as they state that there is no substantiated evidence to advocate for an immediate first bath after birth for any specific reasons, such as meconium staining or as a preventive measure against potential infection transmission from the mother. Such deviations

from evidence-based guidelines underscore the challenges posed by the pandemic in adhering to established norms, raising questions about the adaptability and responsiveness of midwifery care in the face of rapid changes.

Within the theoretical framework of the QMNC (Renfrew et al., 2014), it becomes evident that the restrictive measures imposed during the pandemic, such as limitations on birth partners, separation of newborns, and restrictions on breastfeeding, compromise the very essence of promoting normal processes. These changes, while seemingly implemented to mitigate potential risks, introduce a delicate balance between risk reduction and the preservation of fundamental elements of midwifery care. The present study reflects the broader challenges faced by midwives in Malta and resonates with the literature's global perspectives, emphasising the need for a delicate approach in pandemic-related care adaptations. As midwives navigate these challenges, there is a critical imperative to reassess and refine protocols to ensure that the foundational principles of midwifery care are not compromised.

Another recurrent theme across both the literature and the present study is the imperative to implement social distancing measures and reduce physical touch. The literature, as articulated by Fumagalli et al. (2023), Hearn et al. (2022), and Huysmans et al. (2021), underscores the global trend of modifying interpersonal interactions within healthcare settings. In alignment with this, this study reveals that midwives were not exempt from these changes, being encouraged to limit contact time during care provision and maintain social distancing, even during breaks among colleagues. This shift in interpersonal dynamics reflects the broader global efforts to curb the spread of the virus while underscoring the adaptability of midwives in adhering to evolving health guidelines.

Another pivotal facet of the evolving care provision during the pandemic pertains to the restriction of certain supportive interventions. Literature by Bradfield et al. (2022) and Hearn et al. (2022) documents the limitation of waterbirths and the use of analgesia during labour. Parallelly, the present study illuminates the prohibition of nitrous oxide (Entonox®), a pain relief method, in the early phases of the pandemic. Subsequently, this was permitted during the later phases of the pandemic following the introduction of a filter attachment integrated into the Entonox® tubing system. The restrictions mentioned not only align with global trends but also exemplify the extent as to which certain common practices had to adjust to conform to emerging health protocols.

In the sphere of post-delivery care and interventions during labour, the literature portrays a diverse range of changes, from earlier post-childbirth discharges to a reduction in interventions and a shift towards telehealth and online antenatal classes (Bradfield et al., 2022; Hearn et al., 2022; Huysmans et al., 2021; Stulz et al., 2022). Similarly, the present study affirms these changes, with the conversion of parentcraft sessions into online formats. These alterations underscore the adaptability of midwifery care in response to the unique challenges posed by the pandemic, marking a departure from traditional, in-person care modalities.

An increase in requests for homebirths and a reduction in admissions to the obstetric emergency were also reported in the literature (Bradfield et al., 2022; Goberna-Tricas et al., 2021; Hartz et al., 2022; Hearn et al., 2022; McGrory et al., 2022; Stulz et al., 2022). The emphasis on the *First-line Management of Complications and Medical Obstetric Neonatal Services* placed within the QMNC Framework (Renfrew et al., 2014) is of particular importance in this regard. The pandemic-induced desire of

parents to minimise contact within hospital institutions, as noted in the literature, underscores the importance of first-line management in mitigating complications. The core services, including elective and emergency procedures, care for complex medical conditions, and services for high-risk neonates, remain pivotal to prevent the exacerbation of complications and ensure safe childbirth. The application of the QMNC Framework (Renfrew et al., 2014) accentuates the critical nature of preserving essential services amid the rapid changes within midwifery care during the pandemic.

Interestingly, a noteworthy outlier emerges from the literature by Alnuaimi (2021) and Bradfield et al. (2022), indicating that care mainly remained unchanged. This divergence from the majority of studies in the literature and the present study suggests potential variations across different phases of the pandemic or diverse regional responses. However, it prompts a deeper exploration into the contextual factors that might contribute to this discrepancy and the implications for the overall progression of midwifery care during a global health crisis.

6.3.2 Characteristics of COVID-19 guidelines and policies

The COVID-19 pandemic has presented several unprecedented challenges for healthcare, particularly in midwifery care. The literature consistently emphasises the dynamic and rapid evolution of the situation, leading to swift changes in guidelines (Fumagalli et al., 2023; Hearn et al., 2022; Stulz et al., 2022). Aligning with these observations, the participants in this study highlighted the frequent modifications in COVID-19 policies, describing them as a contributing factor to the ever-changing situation that evolved over time. Some participants perceived these changes as unclear and contradictory, reflecting the complexity of responding to an ever-shifting crisis.

Literature also suggests that changes during the pandemic might not have adequately considered holistic needs (Bradfield et al., 2022; Goberna-Tricas et al., 2021; Hearn et al., 2022; Hijdra et al., 2022). This study adds depth to this perspective, with participants expressing varying attitudes toward the evidence-based nature of policies. A significant proportion of midwives (n=34, 42.0%) acknowledged the necessity of policies but raised concerns about their hasty implementation, which they felt was not sufficiently responsive to emerging evidence. Furthermore, a substantial majority of midwives (n=48, 59.3%) recognised that the established policies and protocols imposed limitations on their capacity to deliver quality midwifery care.

This discrepancy underscores the complex relationship between policy implementation and the nuanced needs of providing quality midwifery care during a pandemic, particularly in different settings. In fact, the statistical significance (p=0.047) observed between participants' workplace and their agreement on the necessity and evidence-based nature of COVID-19-related policies and protocols is noteworthy. Specifically, midwives at CDS demonstrated a more neutral stance compared to midwives in Obstetric Ward 1 (OBS 1). This discrepancy in attitude could be attributed to the likelihood that midwives at CDS encountered guidelines during the pandemic that lacked evidence-based support, notably practices such as the separation of infants from COVID-positive mothers. Importantly, such practices were perceived as incongruent with the foundational principles of midwifery care.

6.3.3 Perceived challenges of the pandemic on women and their partners

The literature illuminates the multifaceted challenges encountered by parents, as reported by midwives, with stress, uncertainty, isolation, and vulnerability emerging as recurrent themes (Bradfield et al., 2022). Loneliness and fear, as emphasised by

midwives in the studies by Fumagalli et al. (2023), Goberna-Tricas et al. (2021), and Hijdra et al. (2022), underscore the heightened sense of vulnerability, exacerbated by diminished shared decision-making. The emotional toll extends to surprise, frustration, and anxiety, as highlighted by González-Timoneda et al. (2021). Midwives in the study by Hartz et al. (2022) shed light on the darker side of the pandemic, with fear being reported as a deterrent to individuals from accessing maternity facilities, compounded by an alarming rise in violence against women. Moreover, midwives in the literature acknowledge the unique challenges faced by bereaved parents, navigating an even deeper sense of loneliness and isolation (Power et al., 2022).

The findings from the present study resonate with and extend the narrative painted by the literature. The most prevalent psychological impact observed by midwives among parents was that of anxiety or fear (n=80/371, 21.6%). This resonates with the literature's emphasis on fear as a pervasive emotion during the pandemic. However, the evidence from this study delves further, uncovering observed effects such as loss of control and negative repercussions on maternal-infant bonding and breastfeeding.

Delving into the specifics, the predominant emotions of fear and anxiety were commonly attributed to the continuous alterations in pandemic-related policies and protocols. The absence of birthing partners during significant portions of labour and delivery compounded these challenges. Notably, parents with babies admitted to the Neonatal Paediatric Intensive Care Unit (NPICU) faced additional hurdles, particularly in having very limited time to spend with their newborns. This illumination of the unique struggles faced by parents in various contexts enriches the understanding of the multifaceted emotional difficulties imposed by the pandemic.

The analysis of the relationship between the effects observed and midwives' place of work revealed that the place of work did not significantly influence the psychological impact on parents. The lack of statistical significance (p=0.999) suggests that these challenges were evident across all different settings, debunking the assumption that certain work environments might alleviate the psychological toll on parents more than others. This finding underscores the universality of the emotional challenges faced by parents, irrespective of the specific healthcare setting.

6.3.4 Positive outcomes of the pandemic

In the face of unprecedented challenges posed by the COVID-19 pandemic, a noteworthy revelation emerges – the resilience, adaptability, and even positive outcomes experienced by midwives, the care they provide, and the parents they support. The evidence from this study reveals an interesting narrative of positive outcomes experienced by midwives during the pandemic. A substantial percentage of participants (n=38, 46.9%) expressed positive effects resulting from their experiences, underlining the adaptability and strength within the midwifery community.

6.3.4.1 Positive implications for midwives and care delivery

Aligning with findings from the literature (Baloushah et al., 2022; Goberna-Tricas et al., 2021), participants in this study reported a heightened sense of teamwork, fostering new professional relationships during these challenging times. The pandemic acted as a catalyst for increased resilience, pride, and skill acquisition among midwives, further supported by their teams (Goberna-Tricas et al., 2021; Bradfield et al., 2022). Specialised one-to-one care, a practice highlighted in the literature, emerged as a positive outcome, allowing for more personalised attention to mothers (Hartz et al., 2022). This resonates with the accounts of midwives in this study who acknowledged

the facilitation of more personalised attention through the provision of specialised one-to-one care.

A novel finding from this study is the increased awareness of infection control stemming from the pandemic. The variation in findings regarding increased awareness of infection control among midwives in Malta, as opposed to other studies in the literature, could be attributed to several factors. Midwives in Malta might have had specific guidelines or protocols related to infection control that were highlighted and emphasised during the pandemic. The health authorities may have actively communicated these measures to healthcare professionals, including midwives, leading to a heightened awareness of infection control practices. Additionally, the organisation may have implemented specific organisational practices or policies that emphasised infection control. The culture within healthcare settings as well as the general public in Malta, including the importance placed on infection control, could have also influenced midwives' awareness and practices.

Midwives in this study also noted that their role gained greater significance within the healthcare setting, showcasing an unexpected positive consequence of heightened acknowledgment for the role of the midwife. Midwives in the literature also found solace in their work during turbulent times, offering a semblance of structure and normalcy, aligning with the empowerment felt by midwives in providing women-centered care (Power et al., 2022; Stulz et al., 2022). This attests to the adaptability and dedication of midwives who found renewed purpose and fulfillment in their roles despite the challenges posed by the pandemic.

6.3.4.2 Positive implications for parents

Midwives in the literature emphasise that restrictions on visitors during the pandemic created an unintended positive outcome for new families – fewer distractions, fostering a more intimate and focused bonding environment, and providing quiet time for recovery (Bradfield et al., 2022; Fumagalli et al., 2023; Stulz et al., 2022). In line with this, the limitation on visitors reported by midwives in this study inadvertently provided parents with a quieter time together in the initial days following their baby's birth, with fewer disruptions from visitors. This positive consequence aligns with the QMNC Framework (Renfrew et al., 2014), particularly the promotion of normal processes, emphasising the importance of safeguarding normal processes, such as breastfeeding, without disruptions. Organisations should recognise and prioritise these positive outcomes in future planning for healthcare emergencies. They should identify factors that allow new parents ample opportunities to preserve normal processes to the greatest extent possible.

Furthermore, the literature emphasises the positive impact of novel services introduced due to the pandemic, such as the adoption of telehealth and virtual care solutions. These services enhanced accessibility for women, offering more tailored and convenient care options during these unique times (Bradfield et al., 2022). This resonates with the findings from this study where various services were modified or introduced due to the pandemic, proving to be more convenient for parents. The QMNC Framework (Renfrew et al., 2014) underscores the importance of adapting services to provide tailored and convenient care, especially in the context of a pandemic.

Participants in this study highlighted unique instances resulting from the pandemic where women could be more open and honest with midwives, particularly during the booking visit when partners were not permitted in the room due to pandemic restrictions. This unanticipated positive consequence reflects a shift in dynamics that allowed for more candid and open communication, especially on certain topics such as domestic violence, emphasising the importance of recognising core advantages in adaptations to safeguard effective communication on such delicate conversations.

6.4 Challenges in the Provision of Quality Care during the COVID-19 Pandemic

The COVID-19 pandemic posed unprecedented challenges to healthcare systems worldwide, significantly impacting the provision of midwifery care. Midwives, as essential frontline healthcare professionals, found themselves navigating uncharted territory, adapting to rapidly evolving circumstances whilst facing professional and personal challenges. This following section seeks to explore these challenges, hence, addressing the second objective of this study, which was to identify challenges encountered by midwives in balancing personal safety and well-being while maintaining quality midwifery care.

6.4.1 Professional challenges

Amidst the turbulent nature of the COVID-19 pandemic, midwives found themselves navigating a spectrum of professional challenges that transcended the clinical sphere. These challenges manifested on two interconnected aspects, namely organisational challenges and the challenges in providing care due to COVID-19 implications.

6.4.1.1 Organisational challenges

The increase in workload emerged as a recurring theme in both the literature and this study. Alnuaimi (2021), Huysmans et al. (2021), Küçüktürkmen et al. (2022), and McGrory et al. (2022) in the literature highlighted the strain on midwives due to increased COVID-19 administrative burdens and workforce reductions. The present study reinforces this, with a substantial majority of participants (n=71, 87.7%) reporting a surge in workload, indicating severe pressures on the local health system. Moreover, the statistically significant relationship between increased workload and the midwives' place of work (p=0.015) underscores the varying impacts across different settings, with inpatient hospital settings experiencing more significant challenges. This highlights the need to seek alternative channels for the provision of care, such as decentralisation of care from the local general hospital to primary health care clinics, where service provision can be led by midwives.

Staff shortages, a consequence outlined by Alnuaimi (2021) and supported by Hartz et al. (2022), Hearn et al. (2022), and McGrory et al. (2022), added another layer to the workload challenges. This study aligns with these findings, as many participants underscored the impact of staff shortages on their workloads, emphasising a need for a holistic approach to address these systemic issues. The literature highlighted challenges arising from unclear, inconsistent, or confusing information, as well as a lack of knowledge due to insufficient information (Alnuaimi, 2021; Goberna-Tricas et al., 2021; Hazfiarini et al., 2022). Misinformation and a lack of information, a persistent issue reported by González-Timoneda et al. (2021) and Stulz et al. (2022), resonated in this study. Midwives in the present study reported a notable lack of communication and information, attributing it to the unprecedented nature of the pandemic. Contrastingly, more than half of the participants (n=366, 61%) in the study

by Bradfield et al. (2022) expressed confidence in possessing the knowledge to attend to women with COVID-19, suggesting a potential emphasis on training initiatives in the Australian context.

Insufficient training for midwives during the COVID-19 pandemic emerged as a critical concern, aligning with existing literature (Baloushah et al., 2022; González-Timoneda et al., 2021; Hazfiarini et al., 2022). This sentiment was echoed by a significant proportion of participants in the present study, with 35.8% (n=29) disagreeing and 9.9% (n=8) strongly disagreeing that they were adequately trained or prepared for the challenges posed by the pandemic. The impact of this inadequacy was evident in the statistically significant correlation between midwives' assessment of their training and their contemplation of taking time off or quitting (p=0.001). Those who disagreed with the adequacy of their training were more inclined to consider such decisions.

Furthermore, this study revealed a positive and statistically significant correlation between the level of support midwives received from their leaders and the training they received (p=<0.001), their leaders' transparency and responsiveness to evolving pandemic circumstances (p=<0.001), their leaders' coordination and management of related changes (p=<0.001), as well as their involvement in decision-making processes of policies and protocols (p=0.003). This underlines the crucial role of effective leadership and training in mitigating challenges faced by midwives during the pandemic, emphasising the need for comprehensive support structures and respect towards the midwifery profession to enhance the resilience of midwifery care in times of crisis.

The evidence with regards to the impact of lack of information and training aligns with the *Education, Information and Health Promotion* aspect of the theoretical framework, the QMNC Framework (Renfrew et al., 2014), emphasising the paramount importance of adequate information and education. Trustworthy information, along with a concentrated emphasis on promoting health, becomes crucial, especially in the context of a pandemic, which is typically marked by misinformation and an increased need for health promotion (Rocha et al., 2021).

Shortages of PPE, a critical concern across various studies (Goberna-Tricas et al., 2021; González-Timoneda et al., 2021), manifested differently in this study, where a significant majority (n=61, 75.3%) reported sufficient access to PPE. The reported access correlated with the level of support received from leaders, where participants who reported adequate access scored higher levels of support from their leaders as opposed to those who reported inadequate access. This aligns with the theoretical framework's emphasis on the *Organisation of Care*, highlighting the severe impacts of the pandemic on resource availability and workforce competency.

The examination of leadership and management dynamics in the context of midwifery care during the COVID-19 pandemic reveals an interplay, echoing both conflicting findings in the literature and distinct perspectives from this study. The literature presents a divergence in leadership capabilities, emphasising the pivotal role effective management plays in navigating crises like the pandemic. McGrory et al. (2022) highlight the positive impact of leaders who listen and provide clear guidelines, while other studies (González-Timoneda et al., 2021; Huysmans et al., 2021; Stulz et al., 2022) underscore the challenges arising from poor communication and evidence-

lacking decisions, particularly in the management of crucial resources like PPE and staffing levels.

In this study, a significant portion of the participants expressed agreement regarding the transparency and responsiveness of leaders in maternity care settings during the pandemic, with 40.7% (n=33) agreeing and 50.6% (n=41) stating effective coordination and management of pandemic-related changes. However, the mean score for the overall level of support from workplace leaders was 5.26 out of 10, suggesting a room for improvement. Management issues surfaced, with participants reporting feelings of neglect, insufficient leadership presence, and instances of unfair management. Many midwives felt compelled to navigate challenges independently, highlighting a potential gap in effective leadership.

Crucially, statistical analyses revealed significant correlations and relationships. Midwives who perceived their leaders as lacking transparency and responsiveness, as well as effective coordination and management during the pandemic, were more likely to contemplate taking time off or quitting ($p=0.009$). Moreover, those who took time off or considered quitting reported a lower level of support from their leaders ($p=0.016$). These findings accentuate the direct impact of leadership dynamics on the well-being and job satisfaction of midwives during the challenging circumstances imposed by the COVID-19 pandemic. Addressing these issues is essential for safeguarding the midwifery workforce, especially in times of emergency.

The exclusion of midwives in decision-making processes, as illuminated by both the literature and this study, brings to the forefront a shared concern regarding their perceived exclusion and undervaluation. The literature underscores this theme, indicating that midwives often found themselves not included in policy decisions,

leading to a sense of invisibility (Hearn et al., 2022) and undervaluation (Huysmans et al., 2021). This lack of involvement in critical decision-making processes is a prevalent issue discussed in various studies, suggesting systemic challenges in recognising the expertise and perspectives of midwives.

The present study echoes and substantiates these concerns. A substantial majority of participants (45.7% (n=37) disagreeing and 27.2% (n=22) strongly disagreeing) expressed dissatisfaction with their level of inclusion in decision-making processes related to pandemic policies and protocols. This sentiment aligns with the literature, portraying a consistent narrative of midwives feeling overlooked in crucial policy discussions. The perception of exclusion was further emphasised, as decisions were perceived to primarily emanate from higher management individuals, potentially disconnected from the frontlines of midwifery care.

Statistical analysis revealed a significant correlation between midwives' consideration of taking time off or quitting and their involvement in decision-making processes ($p=0.015$). Those who felt they were not adequately consulted during the formulation of policies and protocols were more likely to have considered leaving their positions. This correlation underlines the tangible impact of involving midwives in decision-making, not just on their job satisfaction but also on their commitment to navigating the challenges posed by the COVID-19 pandemic within the healthcare system. Recognising and rectifying this disparity is imperative for fostering a collaborative and resilient healthcare environment during crises and beyond.

It is noteworthy that, aside from the statistically significant correlation observed in this study between the participants' workplace and an increase in workload, no other statistically significant relationships were identified between the participants' place of

work and various other professional challenges, as indicated by all p-values exceeding 0.05. This implies that the majority of professional challenges encountered by midwives were uniformly prevalent across the different maternity care settings. This uniformity in challenges may point towards systemic or organisation-wide issues rather than being specific to certain workplace environments.

The literature highlights a concerning trend of dehumanised care during the pandemic, linked to restrictions on birthing partners and exclusion from decision-making (Goberna-Tricas et al., 2021; González-Timoneda et al., 2021). These aspects align with the QMNC Framework (Renfrew et al., 2014). The framework emphasises the inclusion of women and partners in decision-making through its rooting in midwifery values, which stresses the need for respect, communication, and understanding. In light of the QMNC Framework, this study underscores the importance of ongoing education and preparedness. Pandemic readiness should not only focus on clinical aspects but also prioritise ethical and humanistic dimensions, ensuring core values in midwifery remain inviolable in any given circumstances.

6.4.1.2 Challenges in providing care due to COVID-19 implications

Literature reveals the impact of full PPE on care provision, hindering physical touch and, consequently, making communication, particularly non-verbal, more challenging, especially in cases involving grief (Bradfield et al., 2022; Fumagalli et al., 2023; Hazfiarini et al., 2022; Power et al., 2022). This study affirms these challenges, with midwives expressing difficulties in forming connections with parents due to inhibited physical touch, emphasising the strain on effective communication, notably with foreigners. Telehealth, although adopted for safety, is also critiqued in

the literature for its impersonality and inadequacy (Hearn et al., 2022; Stulz et al., 2022).

Reduced in-person contact is associated with lower care quality, with concerns raised about potentially missing crucial information, such as signs of domestic violence (Goberna-Tricas et al., 2021; Hijdra et al., 2022). The present study aligns with these concerns, emphasising the challenges of limited contact time and the potential implications for overlooking essential indicators. The theoretical framework based on the QMNC Framework (Renfrew et al., 2014) sheds light on these challenges. In the *Assessment, Screening, and Care Planning* domain, it underscores the importance of maintaining assessment and screening procedures, even during a pandemic, to establish critical elements in a woman's history. The *Philosophy* domain also emphasises the core philosophy of being "with woman", which was disrupted during the pandemic, affecting psychological support and holistic care. Challenges in upholding core philosophies, as indicated by Goberna-Tricas et al. (2021), highlight the need for safeguarding these principles in future pandemics or emergency scenarios.

Another challenge in providing quality midwifery care involves the reduced use of analgesia and the absence of birthing partners, impacting midwives' ability to offer women-centred care (Bradfield et al., 2022; Memmott et al., 2022). This study echoes these concerns, emphasising the challenges of addressing the void left by birthing partners and navigating difficult conversations about their restricted presence. The separation of babies from mothers, virtual connections with parents, and stigma surrounding COVID-19-infected women were additional challenges identified in this study. The continuity of care emerged as a protective shield against the negative effects of the pandemic in the literature (Bradfield et al., 2022; Hearn et al., 2022),

aligned with the theoretical framework's emphasis on the *Organisation of Care* domain, emphasising continuity as a safeguard against pandemic-induced detriments to healthcare organisations.

6.4.2 Personal challenges

Beyond the professional challenges encountered during the pandemic, midwives faced personal challenges that significantly impacted their well-being. These included a range of factors such as physical and psychological challenges, coupled with job dissatisfaction and a notable lack of support and recognition. With this said, support strategies that helped midwives sustain care provision were particularly highlighted.

6.4.2.1 Physical difficulties

The physical difficulty of wearing PPE emerged as a recurrent theme in both the literature and this study. The literature, as exemplified by Bradfield et al. (2022) and Hazfiarini et al. (2022), underscores the exhausting nature of donning PPE for extended periods. Similarly, the current study resonates with these findings, with participants recounting the demanding experiences of prolonged PPE use, particularly when attending to women or babies with COVID-19. Skin irritation, difficulty in breathing, and heightened discomfort during long shifts are additional challenges highlighted in the literature, notably by Alnuaimi (2021). This study aligns with these concerns, as participants reported experiencing difficulty breathing, especially when wearing N95 masks. This convergence of findings emphasises the tangible physical toll that protective measures can take on midwives. The literature further emphasises substantial physical challenges arising from prolonged shifts, often without breaks, as documented by Fumagalli et al. (2023). This study reinforces these challenges,

depicting a scenario where midwives face demanding working hours without adequate breaks, compounding the physical strain they experienced.

6.4.2.2 Psychological difficulties

The literature underscores pervasive fears, shared by midwives globally, including concerns about contracting and spreading the virus to family and clients, amplified by the overarching fear of the unknown (Alnuaimi, 2021; Baloushah et al., 2022; González-Timoneda et al., 2021; Hartz et al., 2022). In alignment with these concerns, this study highlights midwives' expressions of fear, particularly emphasising the struggle of balancing personal safety with the demands of their profession. Notably, midwives, as indicated in the literature, exhibited a greater fear for the safety and well-being of their families than for themselves (González-Timoneda et al., 2021). Similarly, this fear disparity was statistically significant in the present study ($p=<0.001$), emphasising the emotional toll and heightened sense of responsibility midwives felt towards their loved ones.

Additionally, factors such as increased workload, inadequate support from their organisations and desire to quit their profession showed statistically significant relationships with elevated fear levels, shedding light on the intricate connections between professional circumstances and personal anxieties. Furthermore, negative correlations were identified between fear levels and certain organisational factors. Midwives who reported lower involvement in decision-making processes regarding policies and protocols had higher levels of fear for personal safety ($p=0.003$). Additionally, negative correlations were observed between fear for family safety and training received ($p=0.042$), transparency from leaders ($p=0.030$), and involvement in

decision-making processes (p=0.003). These correlations emphasise the importance of organisational factors in influencing midwives' fear levels.

Psychological challenges extended to stress, burnout, and exhaustion, often linked to poor staffing, PPE management, workload, and feelings of unpreparedness (Bradfield et al., 2022; Hazfiarini et al., 2022; Huysmans et al., 2021; McGrory et al., 2022). The pervasive nature of burnout, as highlighted in the current study, manifested in varying degrees across different care settings, marked by a statistically significant association between perceived burnout levels and the care settings in which midwives worked (p=0.013). Notably, midwives in inpatient care settings reported higher burnout levels than outpatient settings, emphasising the need for tailored interventions based on the nature of care provision.

Moreover, a positive correlation was identified between midwives' fear for the safety and well-being of their families and their levels of burnout (p=<0.001). This correlation suggests that heightened concerns for the well-being of loved ones contribute to increased burnout among midwives. In exploring the relationship between burnout and access to PPE, a statistically significant association was found in this study (p=0.021). Midwives lacking adequate access to PPE reported higher burnout levels compared to those with sufficient access, which highlights the crucial role of resource availability in mitigating burnout. The desire for more support from organisations emerged as another significant factor influencing burnout levels. Participants wishing for additional organisational support scored higher in burnout (p=0.002) compared to those who did not express such wishes. This underscores the pivotal role of organisational support in alleviating burnout.

Furthermore, midwives considering taking time off or quitting due to pandemic pressures exhibited higher burnout levels (p=<0.001) than those who did not consider such actions. This correlation accentuates the link between burnout and midwives' considerations regarding their professional commitments. Negative correlations were also observed between burnout levels and several organisational factors, including training received (p=0.004), leaders' transparency and responsiveness to pandemic changes (p=0.007), leaders' coordination and management of pandemic-related changes (p=0.038), and involvement in decision-making processes of policies and protocols (p=0.037). These correlations underscore the potential impact of organisational factors, such as leader support and professional involvement, on mitigating burnout among midwives.

Moreover, the literature (Kassahun et al., 2022) and the present study converge on the theme of mental health, with anxiety levels among midwives escalating due to policy uncertainties and the unpredictable nature of the pandemic. The persistent changes in policies and protocols, coupled with a perceived lack of psychological preparedness, contributed to sustained anxiety among participants in this study. Addressing the broader impact, midwives considered taking time off or leaving the profession entirely (Küçüktürkmen et al., 2022; Memmott et al., 2022; Shoorab et al., 2022). Contrarily, this study revealed that a majority (n=49, 60.5%) did not take leave or considered quitting as a result of the pandemic, highlighting the local midwives' resilience and commitment amidst unprecedented challenges. This could potentially be attributed to several factors. The overall resilience and capacity of Malta's healthcare system in managing the pandemic could be a factor. This is supported by research conducted by Cuschieri (2022), which determined that Malta effectively controlled the initial wave of COVID-19 through a comprehensive approach involving both society and

government. The study also highlighted that the healthcare system in Malta was adequately supplied with resources. Cultural factors and a strong sense of community support in Malta could also have influenced midwives' resilience and commitment to their profession during challenging times.

The theoretical framework, rooted in the QMNC Framework (Renfrew et al., 2014), offers a lens to understand and address these challenges. Midwives, considered as central care providers, faced hindrances not only in delivering quality care but also in maintaining their own well-being. The framework emphasises the pivotal role of care providers in the functioning of healthcare organisations, necessitating special attention to their needs, particularly during emergencies like a pandemic. The interconnection between the theoretical framework and this study's findings underscores the critical importance of prioritising the welfare of midwives to ensure sustained, high-quality midwifery care and creating solutions to relieve pressures off care providers providing care within the local general hospital.

6.4.2.3 Job dissatisfaction

The literature, as presented by Küçüktürkmen et al. (2022), emphasises job dissatisfaction among midwives during the COVID-19 pandemic. In alignment with this, the present study reveals a mean job satisfaction score of 5.28 during the pandemic, suggesting notable dissatisfaction among participants. Significant positive correlations in this study were also identified between job satisfaction and key factors. Notably, the level of support from leaders was strongly associated with job satisfaction ($p=<0.001$). Furthermore, participants who reported higher job satisfaction were those who received adequate training ($p=0.010$), experienced transparent and responsive

leadership during the pandemic (p=0.004), and were involved in decision-making processes (p=0.011).

In the broader context, the emotional toll of the pandemic, as discussed by Hearn et al. (2022), has affected midwives' professional satisfaction. This emotional strain is exacerbated by the lack of support and burnout, as highlighted by Memmott et al. (2022). Additionally, feelings of undervaluation and exclusion from decision-making, as explored by Hartz et al. (2022) and as highlighted in the present study, contribute to midwives' job dissatisfaction. Hence, these findings highlight the critical role of leadership support, transparent communication, and involvement in decision-making processes in fostering midwives' job satisfaction during challenging times.

6.4.2.4 Lack of support and recognition for midwives

Alnuaimi (2021) emphasises the lack of support and recognition for midwives, with a particular focus on the absence of appreciation and financial rewards. In alignment with this, the current study reveals that a substantial 72.8% of participants (n=59) felt that their efforts during the COVID-19 pandemic were not recognised by their organisation. The absence of financial compensation for their efforts was also identified in the present study. The undervaluation of midwifery care in this study is further underscored by changes in the organisation's care structure, as witnessed in the suspension of operations at the Parentcraft Unit, leading to a significant reassignment of midwives. This restructuring exemplifies a broader issue in recognising the critical aspects of midwifery care.

Moreover, the deficiency of dedicated well-being support for midwives, as highlighted by Fumagalli et al. (2023), is also evident in this study. A significant proportion of participants (n=38, 46.9%) reported no access to support programmes or were

uncertain about their accessibility (n=31, 38.3%). Furthermore, an overwhelming majority (n=67, 82.7%) expressed a desire for more support from their organisation. The literature suggests that simple acts of gratitude, such as managers thanking their staff, can be powerful ways to make midwives feel valued and appreciated (McGrory et al., 2022). This emphasises the need for more organisational strategies to acknowledge midwives' contributions, provide dedicated support programmes, and foster a culture of appreciation.

With the exception of the previously identified statistically significant correlation between the participants' workplace and levels of burnout, the analysis revealed no other statistically significant relationships between the participants' workplace and the majority of the personal challenges examined in this study, as denoted by p-values exceeding 0.05. Analogous to the patterns observed in professional challenges, these results suggest a uniformity in personal challenges across various maternity care settings, which implies that several organisational factors may contribute to the adverse effects affecting midwives' well-being, transcending individual factors associated with specific maternity care settings.

6.4.2.5 Support strategies for sustaining care provision

Support strategies for sustaining care provision during the COVID-19 pandemic have played a crucial role in mitigating challenges faced and the retention of midwives, as highlighted both in the literature and the findings from this study. Colleague support emerges as a pivotal factor, resonating in studies by Alnuaimi (2021) and Power et al. (2022). Similarly, it is evident that the most prevalent reason for midwives in this study to continue in their profession was support from colleagues, with 28.0% of respondents (n=59/211) acknowledging its significance. Financial reasons were also

prominently featured (n=44/211, 20.9%), emphasising the practical considerations influencing midwives' decisions. Conversely, support from leaders or midwifery officers was the least selected factor as a support strategy affecting the retention of midwives in this study, emphasising potential gaps in leadership support according to the perceptions of midwives.

Sharing experiences, feelings, and challenges within teams, and fostering a sense of mutual support, were other critical dimensions highlighted in the literature (Fumagalli et al., 2023; Hazfiarini et al., 2022). In this study, additional factors contributing to midwives' decision to stay in their positions included support from partners and families, underscoring the significance of broader social networks and personal connections. This aligns with the notion that family and friends' support is vital, as similarly emphasised in the literature (Fumagalli et al., 2023; Hazfiarini et al., 2022).

Mindfulness and spiritual practices, continuous learning about COVID-19, and maintaining pride and a sense of moral obligation in the care provided emerge as essential support strategies in the literature (Alnuaimi, 2021; Hazfiarini et al., 2022; Memmott et al., 2022; Power et al., 2022; Shoorab et al., 2022). While these aspects are not explicitly highlighted in the responses from this study, the broader themes of moral obligation and personal resilience are indirectly reflected in participants' considerations to continue providing care during this challenging time. Together, these findings underscore the multifaceted nature of support strategies, involving not only professional networks but also personal and intrinsic motivations.

6.5 Strategies Addressing Challenges Encountered during the COVID-19 Pandemic

Addressing the challenges encountered during the COVID-19 pandemic has been a critical focus in the present study. Surprisingly, from the literature, there was a notable absence of insights directly drawn from midwives' perspectives regarding strategies to address the challenges posed by the pandemic. In response to this gap, this study has identified valuable insights into the strategies that midwives themselves identify to alleviate the negative effects of the pandemic on their ability to provide quality midwifery care and on women and their partners, hence, fulfilling the third objective of this study, which was to identify strategies in addressing the challenges encountered during the COVID-19 pandemic that inform longer-term planning for essential elements of quality midwifery care.

6.5.1 Strategies to alleviate the negative effects of the pandemic on midwives and provision of care

The most prominent strategies, as revealed by the participants, include a desire for increased support from the organisation's leaders and midwifery officers, along with a call for more training related to handling future pandemics or emergency scenarios affecting the healthcare system, highlighting the crucial role leadership plays in sustaining midwifery care during crises and the need for continuous professional development to equip midwives for unforeseen challenges. Participants also expressed a need for support programmes tailored to the specific needs of staff affected by the pandemic and increased access to employee support programmes, showcasing a recognition of the importance of holistic well-being, even for staff members.

Additionally, there were mentions of other strategies, such as ensuring better staffing levels, recognising the work done during the pandemic, implementing less restrictive

and better-planned policies and protocols, and providing financial incentives. These strategies emphasise the importance of supportive working environments, continuous education, and the recognition of care providers. Significantly, a statistically significant relationship (p=0.025) was found between an increase in workload and the selected strategies, indicating an interplay between workload and the perceived need for specific support mechanisms.

6.5.2 Strategies to alleviate the negative effects of the pandemic on women and their partners

In extending the focus to strategies aimed at alleviating the negative effects of the pandemic on women and their partners, this study uncovered essential insights. Midwives, in their responses, emphasised the importance of increasing support services and knowledge dissemination on COVID-19 and related policies to women and their partners. A notable portion of participants also highlighted the potential benefits of having less restrictive protocols during the pandemic. These strategies, identified directly from the experiences and perspectives of midwives, shed light on the multifaceted approaches needed to safeguard the well-being of women and their partners during such challenging times.

6.5.3 Integration of strategies with the QMNC Framework

Aligning these findings with the selected theoretical framework for this study, the QMNC Framework by Renfrew et al. (2014), a comprehensive understanding emerges. The emphasis on further education for parents and training for staff directly aligns with the QMNC Framework's focus on education and health promotion as a critical element in quality care. Strategies advocating for less restrictive protocols and respectful, holistic care resonate with the QMNC Framework's domains, emphasising the importance of tailored care provision, respect for values, and the promotion of

normal processes. The call for increased support and recognition for care providers mirrors the QMNC Framework's acknowledgment of the vital role care providers play in ensuring quality maternal and newborn care.

In essence, the strategies identified through this study, when viewed through the lens of the QMNC Framework, highlight the interconnectedness between midwives, the care they provide, and the well-being of women and their partners. This holistic perspective, deeply embedded in the QMNC Framework, serves as a guiding reference for navigating the complexities of providing quality midwifery care during the COVID-19 pandemic.

6.6 Strengths and Limitations of the Study

6.6.1 Strengths

Following an extensive review of the existing literature, it was concluded that this research marks the first local study investigating midwives' perspectives regarding the provision of quality midwifery care during the COVID-19 pandemic. The utilisation of a quantitative design, a method comparatively underrepresented in the available literature, facilitated the recruitment of a substantial sample, resulting in rich data obtained from the participants' responses. This approach not only enhanced insights into the topic but also increased the generalisability of the findings. The consistent involvement and guidance of a statistician throughout the research process also ensured methodological rigour and enhanced the reliability of the analytical approaches employed.

Furthermore, the anonymous nature of the questionnaire mitigated social desirability bias, enabling participants to provide more honest responses, particularly concerning aspects related to the support received from their leaders and the organisation (Rees,

2011). Lastly, measures were taken to ensure the stability and validity of the research instrument. Stability was assessed through the pilot study by the test-retest method, which demonstrated satisfactory reliability. The questionnaire was also assessed for face validity through consultations with the research supervisor, a qualified and experienced midwife. Additionally, content validity was established by obtaining approvals from the Midwifery Dissertation Panel and the Faculty of Health Sciences Research Ethics Committee (FREC).

6.6.2 Limitations

While acknowledging the strengths outlined, it is essential to recognise several limitations inherent in the study. Firstly, the utilisation of purposive sampling, while advantageous for specific research goals, may introduce bias and limit the representativeness of the findings within the broader target population. To mitigate this, eligibility criteria were meticulously devised to cultivate a more homogeneous sample, enhancing the potential for generalisability (LoBiondo-Wood & Haber, 2021). Moreover, relying on a self-administered questionnaire poses constraints on participants' expression, potentially limiting the depth of information gathered (Rees, 2011). Nevertheless, a balance was obtained by incorporating comment sections, affording participants an opportunity to expound on their thoughts and sentiments. The study also acknowledges the potential for recall bias, as participants were required to recollect certain circumstances from three years prior.

Another limitation pertains to the time constraints imposed by the research being conducted as part fulfilment of a Master of Science degree in Midwifery. This constraint impacted the volume of responses attainable within the stipulated timeframe, resulting in a constrained response rate. The deviation from the optimal

sample size and the resulting response rate may also be attributed to other factors. It is plausible that certain midwives, the target demographic, do not routinely monitor their work email, which was the designated mode of participant outreach. Furthermore, the nature of the questionnaire's subject matter may have invoked unfavourable recollections for prospective participants, potentially influencing their reluctance to engage with the questionnaire.

6.7 Conclusion

This chapter presented a comprehensive discussion of the study's primary findings in connection with pertinent literature and study objectives. The perspectives articulated by midwives in this study were compared with those elucidated in previously examined studies, aligning them with the study's theoretical framework, the QMNC Framework (Renfrew et al., 2014). The strengths and limitations inherent in this study were identified. The subsequent and concluding chapter will present the study's conclusions and offer evidence-based recommendations for clinical practice, research, and education, drawing upon the insights identified in the previous chapters.

Chapter 7

CONCLUSION

7.1 Introduction

This chapter commences with an overall summary of this study along with an overview of the key findings and the implications derived. Subsequently, a set of recommendations for practice, education and further research will be set forth, based on the findings of the study.

7.2 Summary of the Study

This research commenced with a systematic literature review employing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart (Moher et al., 2009) to select pertinent studies regarding midwives' perspectives on providing quality midwifery care during the coronavirus disease 2019 (COVID-19) pandemic. The chosen studies underwent critical assessment using CASP (2018), CEBMa (2014), and MMAT (Hong et al., 2018) tools. Following a review of the literature, the study's aim and objectives were formulated, which aimed to investigate the local midwives' perspectives on quality midwifery care during the pandemic. The theoretical framework for this study was based on the Quality Maternal and Newborn Care (QMNC) Framework (Renfrew et al., 2014) due to its alignment with prioritising quality maternity and newborn care in diverse circumstances.

Midwives' views and experiences were gathered through a self-designed questionnaire distributed to 117 participants via their workplace email, facilitated by intermediaries. A total of 81 participants responded anonymously, yielding a response rate of 69.2%. The collected data, comprising predominantly quantitative findings along with some qualitative outcomes, underwent analysis through statistical methods and thematic content analysis (Braun & Clarke, 2012), respectively. The statistical analysis methods utilised consisted of the Chi-squared test, Kruskal-Wallis test,

Spearman correlation coefficient, and Friedman test. Thematic content analysis (Braun & Clarke, 2012) provided a comprehensive understanding of the qualitative data, offering deeper insights into midwives' perspectives.

7.3 Overview of the Key Findings of the Study

The pandemic prompted significant modifications in midwifery care, ranging from the universal adoption of mask-wearing and personal protective equipment (PPE) to the creation of specialised delivery rooms and relocation of midwives. Birth companion restrictions, separation of newborns, and changes in post-delivery care were observed, deviating from established guidelines and challenging the QMNC Framework's emphasis on promoting normal processes. Social distancing measures, reduced physical touch, and restrictions on supportive interventions were also implemented. New guidelines and policies during the pandemic evolved rapidly, with midwives perceiving them as unclear and contradictory. The study revealed a complex relationship between policy implementation and the compound needs of providing quality midwifery care. Participants expressed concerns about the hasty implementation of policies and protocols, with workplace differences influencing attitudes. The need for continuous reassessment and refinement of protocols to align with midwifery care principles was identified.

The perceived effects on women and their families encompassed heightened anxiety and fear due to continuous policy changes, absence of birthing partners, and limited time with newborns in the Neonatal Paediatric Intensive Care Unit (NPICU). Emotional challenges were universal across diverse settings, emphasising the broad impact on parents. Positive outcomes emerged, showcasing midwives' resilience and adaptability. Increased teamwork, pride, and skill acquisition were reported, along

with novel finding of this study of heightened awareness of infection control. Midwives' roles gained significance, offering structure and normalcy. Parents benefited from fewer distractions, fostering intimate bonding, and the adoption of altered and new services. The limitations on visitors inadvertently provided quiet recovery time for families. Unique instances of open communication between midwives and women during the pandemic reflected a positive shift in dynamics.

The study also explored the challenges faced by midwives in providing quality care during the COVID-19 pandemic. It identified professional challenges related to increased workload, staff shortages, lack of information and training, and issues with leadership transparency. Organisational challenges, such as the impact of unclear information, insufficient training and lack of involvement in decision-making processes were identified. The study emphasises the importance of effective leadership and training, as well as decentralisation of care in mitigating challenges. Challenges in providing care due to COVID-19 implications include the impact of full PPE on communication, reduced in-person contact leading to lower care quality, and challenges in maintaining women-centred care. The study also discusses personal challenges, including physical difficulties, psychological challenges such as fear for personal safety and burnout, job dissatisfaction, and a lack of support and recognition.

The QMNC Framework (Renfrew et al., 2014) is referenced as the theoretical framework to highlight the importance of maintaining midwifery values during a pandemic. The study underscores the need for ongoing education, preparedness, and prioritising midwives' well-being. It discusses the interplay between professional and personal challenges and the impact on midwives' commitment to their profession. Support strategies for sustaining care provision were identified, with colleague support

and financial reasons being significant factors. The study also mentions the importance of sharing experiences within teams, support from partners and families, and personal resilience. The need for organisational strategies to acknowledge midwives' contributions, provide support programmes, and foster a culture of appreciation is emphasised.

Finally, this study explored strategies derived directly from midwives' perspectives to address challenges faced during the COVID-19 pandemic, informing long-term planning for crucial elements of quality midwifery care. Midwives advocated for increased support from organisational leaders and midwifery officers, emphasising leadership's vital role in navigating challenges. Ongoing training is highlighted as essential for preparing midwives for unforeseen crises, showcasing the importance of continuous professional development. Recognition of holistic well-being is evident in midwives' requests for tailored support programmes addressing staff needs during the pandemic. Strategies ranged from ensuring better staffing levels to advocating for acknowledgment of midwives' efforts and providing financial incentives. A significant finding is the identified relationship between increased workload and the perceived need for specific support mechanisms, emphasising the interplay between workload and the demand for targeted support.

Regarding strategies for women and their partners, midwives stressed the importance of enhanced support services, knowledge dissemination, and less restrictive protocols, promoting a supportive and respectful approach to care. Aligned with the QMNC Framework by Renfrew et al. (2014), these strategies resonate with the framework's emphasis on education, health promotion and holistic care. This holistic perspective

serves as a guiding reference for navigating complexities in providing quality midwifery care during the COVID-19 pandemic.

7.4 Recommendations

The recommendations arising from the study's findings will be presented to enhance local clinical practices and foster additional knowledge through further research and advancements in midwifery education.

7.4.1 Recommendations for clinical practice and management

- This study has identified the significant burdens placed on the local general hospital. To address this, it is recommended to decentralise specific care components. In view of the recognised benefits of continuity of care, there is a need to prioritise midwifery-led continuity of care, offering increased support for community-based midwifery services. Hence, midwives can lead these services, offering alternatives for parents concerned about healthcare setting exposure during such emergencies, thereby alleviating pressure on the sole general hospital in Malta.
- Policy makers must ensure the active participation and leadership of midwives in shaping health policies and crafting effective responses to pandemics and similar emergencies, acknowledging that midwives possess the most relevant expertise to advise the government on the efficient organisation of midwifery care, as well as their own requirements and the needs of women and newborns under their care.
- It is advised to enhance midwives' access to employee support programmes by strengthening existing services and exploring the feasibility of establishing

new initiatives. This aims to mitigate the adverse impacts of the pandemic on midwives and enhance support channels.

- Enhanced access to sufficient support services for parents who encountered situations such as prohibition of a birthing partner, separation of the mother and newborn post-delivery, prohibition of breastfeeding or contact between the mother and newborn, or similar challenges, is recommended. This is to assist families in adapting to healthcare system modifications and to provide support and counselling for those adversely affected by the associated changes and difficulties.
- The significance of leader and organisational support has been highlighted in this study. Consequently, it is recommended to enhance leader support and contributions within the organisation and explore the potential provision of financial compensation for midwives who have been at the forefront of the COVID-19 pandemic, fostering a culture of appreciation.

7.4.2 Recommendations for education

- Based on the identified managerial discrepancies and their impact on leadership dynamics, it is recommended to provide managerial training for midwives in leadership positions. This training aims to improve leaders' abilities in team management, fostering better understanding and support for colleagues, ensuring fairness, and developing effective crisis and emergency management skills.
- This study has highlighted the deficiency in training and information available to midwives during the pandemic. It is suggested that regular delivery of Continuous Professional Development (CPD) programmes and training

sessions focusing on pandemic preparedness, such as the proper procedures for donning and doffing PPE, be provided to all midwives on a regular basis.

- It is being recommended that education regarding pandemic preparedness, specifically information pertaining PPE and related procedures, should also be comprehensively delivered to undergraduate midwifery students. This approach ensures early exposure to proper management practices, allowing students to develop competence in this area.
- The need for the provision of pandemic knowledge and reliable information to parents has been identified in this study. It is suggested that specific information channels for parents, such as tailored and customised helplines, be established to mitigate the identified negative emotions of fear and confusion resulting from the pandemic.

7.4.3 Recommendations for future research

- A qualitative study utilising interviews to gain data is recommended to achieve a more in-depth analysis of local midwives' views and experiences of providing quality care during the COVID-19 pandemic, which could potentially substantiate the findings obtained from this study.
- Conducting a study to investigate the experiences of local parents receiving care during the COVID-19 pandemic would be advantageous. This research could contribute to the development of comprehensive policies and protocols for pandemics and emergencies, fostering a holistic approach in their formulation.

7.5 Conclusion

This study has examined the diverse implications of the COVID-19 pandemic on the delivery of quality midwifery care. It has identified the significant transformations in midwifery practices and highlighted the numerous challenges and barriers encountered by midwives in upholding a consistent standard of care while prioritising their personal safety and well-being. The findings have led to the identification of strategies and recommendations aimed at enhancing the quality of midwifery care during pandemics or analogous emergency scenarios. These insights aim to address the considerable challenges faced by both midwives and the individuals they serve, ultimately fostering a change in preparedness for future emergencies and a commitment to co-ordinated, interconnected and accountable healthcare systems.

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APPENDIX A

CRITICAL APPRAISAL OF THE INCLUDED STUDIES

Table A1: *Questions and Answers of CASP Tool for Qualitative Studies*

Section	Question Number	Appraisal Question
Section A: Are the results valid?	1	Was there a clear statement of the aims of the research?
	2	Is a qualitative methodology appropriate?
	3	Was the research design appropriate to address the aims of the research?
	4	Was the recruitment strategy appropriate to the aims of the research?
	5	Was the data collected in a way that addresses the research issue?
	6	Has the relationship between researcher and participants been adequately considered?
Section B: What are the results?	7	Have the ethical issues been taken into consideration?
	8	Was the data analysis sufficiently rigorous?
	9	Is there a clear statement of findings?
Section C: Will the results help locally?	10	How valuable is the research?

Table A1 (continued)

Research Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Alnuaimi (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It highlights the importance of addressing midwives' challenges to target the negative effect on a larger scale.
Baloushah et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It shows the impacts of lack of resources and preparedness in a pandemic context.
Fumagalli et al. (2023)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It identifies essential components of quality maternity care that should be adopted to support midwives in providing care within a pandemic context.
Goberna-Tricas et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It sheds light on the resilience of midwives and possible positive repercussions of pandemic scenarios.
González-Timoneda et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It shows the extent of the multifaceted concerns midwives have faced in relation to personal and professional challenges during the COVID-19 pandemic.
Hazfiarini et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It highlights the experiences of midwives working in low-to middle-income countries like Indonesia.
Hearn et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It provides a deeper understanding of the effects of COVID-19 restrictions, especially in places with severe lockdowns.
Hijdra et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It highlights the possible implications and effects of reducing face-to-face contact and introducing telehealth on maternity care.
Huysmans et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It highlights the importance midwives give to the core values of midwifery care.
Küçüktürkmen et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It presents experiences of midwives who took care of women with a specific diagnosis of suspected or confirmed COVID-19 infection.
McGrory et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It sheds light on the longer-term effects of the COVID-19 pandemic.

Table A1 (continued)

Research Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Memmott et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It adds a layer of understanding to the effects of the COVID-19 pandemic on healthcare workers, particularly the midwifery cohort and its significance in being a predominantly female group.
Power et al. (2022)	Yes	Yes	Yes	Yes	Yes	Possibly not	Yes	Yes	Yes	It sheds light on the effects of the COVID-19 pandemic on bereavement care.
Shoorab et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It highlights the coping strategies used by midwives to deal with the pandemic crisis.
Stulz et al. (2022)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	It shows midwives' resilience and positive outlook in providing women-centered care during the pandemic, despite challenges faced.

Table A2: *Questions and Answers of CEBMa Tool for Quantitative Cross-Sectional Studies*

Question Number	Appraisal Question	Research Study	
		Hartz et al. (2022)	Kassahun et al. (2022)
1	Did the study address a clearly focused question / issue?	Yes	Yes
2	Is the research method (study design) appropriate for answering the research question?	Yes	Yes
3	Is the method of selection of the subjects (employees, teams, divisions, organizations) clearly described?	Yes	Yes
4	Could the way the sample was obtained introduce (selection) bias?	No	No
5	Was the sample of subjects representative with regard to the population to which the findings will be referred?	Yes	Yes
6	Was the sample size based on pre-study considerations of statistical power?	Yes	Yes
7	Was a satisfactory response rate achieved?	Yes	Yes
8	Are the measurements (questionnaires) likely to be valid and reliable?	Yes	Yes
9	Was the statistical significance assessed?	No	Yes
10	Are confidence intervals given for the main results?	No	Yes
11	Could there be confounding factors that haven’t been accounted for?	Yes	Yes
12	Can the results be applied to your organization?	Yes	Sometimes

Table A3: *Questions and Answers of MMAT Tool for Mixed-Methods Study*

Question Number	Appraisal Question	Research Study
		Bradfield et al. (2022)
1	Is there an adequate rationale for using a mixed methods design to address the research question?	Yes
2	Are the different components of the study effectively integrated to answer the research question?	Yes
3	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	Yes
4	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	Yes
5	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	Yes

APPENDIX B

SUMMARY OF THE INCLUDED STUDIES' RESULTS

Table B1: *Summary of the characteristics of the included studies*

Authors	Year of Publication	Country / Region	Research Design	Sample Size	Sampling Technique	Research Instrument
Alnuaimi	2021	Jordan	Qualitative	20	Purposive	Interviews
Baloushah et al.	2022	Gaza, Palestine	Qualitative	8	Purposive	Interviews
Bradfield et al.	2022	Australia	Mixed-Methods	620 (Quantitative) + 16 (Qualitative)	Convenience	Survey & Interviews
Fumagalli et al.	2023	Italy	Qualitative	15	Purposive	Interviews
Goberna-Tricas et al.	2021	Spain	Qualitative	10	Snowball (Purposive)	Interviews
González-Timoneda et al.	2021	Spain	Qualitative	14	Purposive	Interviews
Hartz et al.	2022	Global	Quantitative	101	Purposive	Survey
Hazfiarini et al.	2022	Indonesia	Qualitative	15	Purposive	Interviews
Hearn et al.	2022	Melbourne, Australia	Qualitative	8	Snowball (Purposive)	Interviews
Hijdra et al.	2022	The Netherlands	Qualitative	15	Purposive	Interviews
Huysmans et al.	2021	Belgium	Qualitative	15	Purposive	Interviews
Kassahun et al.	2022	Ethiopia	Quantitative	1,498	Simple Random	Interview-based Survey
Küçüktürkmen et al.	2022	Turkey	Qualitative	15	Snowball (Purposive)	Interviews
McGrory et al.	2022	United Kingdom	Qualitative (part of cross-sectional study)	381	Convenience	Survey
Memmott et al.	2022	Canada	Qualitative	13	Purposive	Focus groups & Interviews
Power et al.	2022	Republic of Ireland	Qualitative	11	Purposive	Interviews
Shoorab et al.	2022	Iran	Qualitative	30	Purposive	Interviews
Stulz et al.	2022	Australia	Qualitative	26	Maximum Variation (Purposive)	Interviews

Table B2: *Summary of study results by Alnuaimi (2021)*

Author	Alnuaimi (2021)
Aim of study	To explore Jordanian midwives' experiences of providing maternity care during the COVID-19 pandemic.
Main findings	1) Most of the participants reported that the care provided did not change during the pandemic, with only some mentioning alterations in the physical interaction with women. 2) Organisational challenges reported include increase in workload and staff shortages, due to a country policy that restricted the healthcare professionals' workforce by half during the pandemic (to decrease the spread). Other challenges included lack of knowledge and information. 3) Midwives reported physical discomfort of wearing PPE and significant skin problems due to constant hand hygiene. Midwives also expressed feelings of fear (of becoming infected or spreading it to families or clients, and of the unknown), and stress. Midwives also felt that their efforts were unrecognised due to lack of appreciation and financial rewards. 4) Professional relationships with colleagues were strained, however some noted colleague support as a supportive measure. Gaining information about the COVID-19 pandemic was also considered as a measure to decrease stress.
Strengths	1) Significant sample size for qualitative study. 2) Member checking was used to assure credibility.
Limitations	1) Body language of participants was missed due to interviews being held by telephone calls. 2) Views of newly qualified midwives were not included.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Organisational challenges • Personal challenges o Physical difficulties o Psychological difficulties o Lack of support and recognition o Support strategies for sustaining care provision

Table B3: *Summary of study results by Baloushah et al. (2022)*

Authors	Baloushah et al. (2022)
Aim of study	To understand the Palestinian midwives' experiences of providing maternity care in Gaza during the COVID-19 pandemic.
Main findings	1) Organisational challenges reported included lack of resources and preparedness, increase in workload and responsibilities, and lack of staff training and expertise (which was found as a challenge to provide adequate care). 2) Midwives reported feelings of worry, stress and fear (of the unknown and becoming infected and potentially losing their

	lives). Midwives also struggled with social rejection from relatives and neighbours. 3) Positive outcomes reported from the pandemic were the development of new professional relationships and improved teamwork, and development of the midwife-mother relationship.
Strengths	Participants were given the opportunity to view the research findings and provide feedback.
Limitations	1) Participants were from a hospital specifically chosen to care for people diagnosed with COVID-19, hence, limiting the generalisability of the findings. 2) Small sample size limits generalisability.
Categories	• Professional changes and difficulties within the organisation and care provided o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties • Positive outcomes o Positive implications for midwives and the care provided

Table B4: *Summary of study results by Bradfield et al. (2022)*

Authors	Bradfield et al. (2022)
Aim of study	To explore and describe midwives' experiences of providing care during the COVID-19 pandemic in Australia.
Main findings	1) Almost half of the survey participants noted that the way provided care did not change due to the pandemic. More than half of the participants felt they had the knowledge to care for COVID-19 infected women. 2) Rapidly changing information and guidelines was reported, however conflicting responses were reported for the healthcare systems responses, with some reporting clear and regular communication of changes, and some reporting confusion and lack of evidence-based changes. Other organisational challenges included lack of PPE. 3) Main changes due to the pandemic were use of PPE, telehealth appointments, restricted visitors, restricted use of supportive interventions (such as use of analgesia options and waterbirths). These changes were mostly reported as a negative impact to midwives' ability to provide women-centred care (with some sharing concerns of missing important information). Other changes included reduced interventions and increase in demand for homebirths. Continuity of care was reported as an enhancement of the provision of woman-centred care, amidst the pandemic. 4) Midwives reported physical difficulties with the discomfort of PPE, and feelings of stress, fear (especially of contracting virus or exposing others to it), and burnout.

	5) Midwives reported women's feelings of stress, uncertainty, isolation and loneliness, fear, and vulnerability. 6) Despite challenges, midwives reported restricted visitors allowed less distractions for new families. Additionally, some of the new services created due to the pandemic seemed to increase accessibility for women. Midwives also felt a sense of pride in providing care during the pandemic and reported increase in development of new skills and team support.
Strengths	Sample widely representative, with participants from multiple clinical settings, various years of experience, and every Australian state/territory.
Limitations	Convenience sampling limits generalisability of results.

Categories	• Professional changes and difficulties within the organisation and care provided
	  ○ New guidelines and procedures
	  ○ Challenges in providing care due to COVID-19 implications
	  ○ Organisational challenges
	• Personal challenges
	  ○ Physical difficulties
	  ○ Psychological difficulties
	• Perceived effects on women and their families
	  ○ Parents' psychological and emotional difficulties
	• Positive outcomes
	  ○ Positive implications for midwives and the care provided
	  ○ Positive implications for parents

Table B5: *Summary of study results by Fumagalli et al. (2023)*

Authors	Fumagalli et al. (2023)
Aim of study	To explore midwives' experiences of providing care to women and families during the first wave of the COVID-19 pandemic in Italy.
Main findings	1) Midwives recognised the rapidly-evolving nature of the situation, and reported several changes to care including absence of the birth companion, social distancing and use of PPE, which were barriers to the midwife-woman relationship. 2) Midwives reported difficulties which were physical (long shifts with no break and wearing PPE for long hours), psychological (stress from continuous changes and uncertainty leading to them feeling unprepared, difficulties in implementing non-evidence-based guidelines, and not receiving dedicated and structured well-being support), and relational (stress causing relationship struggles with colleagues and family members). 3) Midwives reported women's feelings of loneliness and fear, however noted that there were some positives in that women had fewer external intrusions such as visitors. 4) Midwives considered their team as their primary source of support, along with family and friends, and acknowledged the importance of sharing experiences, feelings and challenges.

	Being mindful of the importance of their presence was one of the main driving forces for midwives in continuing to provide care.
Strengths	Data analysis processes were extensive and thoroughly explained.
Limitations	1) Participants were recruited from only one hospital (research site). 2) Participants were recruited from a hospital which was a designated referral centre COVID-19 positive women, hence limiting generalisability of findings.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Challenges in providing care due to COVID-19 implications • Personal challenges o Physical difficulties o Psychological difficulties o Lack of support and recognition o Support strategies for sustaining care provision • Perceived effects on women and their families o Parents' psychological and emotional difficulties • Positive outcomes o Positive implications for parents

Table B6: *Summary of study results by Goberna-Tricas et al. (2021)*

Authors	Goberna-Tricas et al. (2021)
Aim of study	To investigate midwives' experiences of providing care in Spain during the first wave of the COVID-19 pandemic.
Main findings	1) Constant changes in procedures, guidelines and protocols were reported, which did not take a holistic view. Demand for homebirths increased, admissions to the obstetric emergency decreased, and companions and partners were momentarily not allowed to be present at births. Midwives perceived the decrease in in-person contact as a lack of care and lower quality of care. 2) Several organisational challenges were reported including unclear information, lack of knowledge, lack of PPE, dehumanisation of care and obstetric abuse, which all proved as challenges to provide care. 3) Midwives reported feelings of fear (of the infection and the unknown), uncertainty, insecurity, distress (especially for midwives who were redeployed to COVID wards), distrust (due to contradicting information and incoherencies), loneliness, helplessness, and anger. Midwives also struggled with ethical dilemmas and maintaining a work-life balance. 4) Midwives reported women's feelings of loneliness, fear and vulnerability (mainly due to decreased shared decision-making). 5) Positive aspects emerging from the pandemic have been reported, which include increased teamwork and strengthened

	professional relationships, and a new-found strength in managing scenarios of a similar nature.
Strengths	Sample of participants was diverse ranging in years of experiences and different midwifery practices.
Limitations	Participants were recruited from a region with the highest number of COVID-19 cases in Spain, limiting the generalisability of the findings.

Categories	• Professional changes and difficulties within the organisation and care provided
	  ○ New guidelines and procedures
	  ○ Challenges in providing care due to COVID-19 implications
	  ○ Organisational challenges
	• Personal challenges
	  ○ Psychological difficulties
	• Perceived effects on women and their families
	  ○ Parents' psychological and emotional difficulties
	• Positive outcomes
	  ○ Positive implications for midwives and the care provided

Table B7: *Summary of study results by González-Timoneda et al. (2021)*

Authors	González-Timoneda et al. (2021)
Aim of study	To investigate the experiences, attitudes, and perceptions of midwives who have provided childbirth care to women with a confirmed or suspected COVID-19 infection.
Main findings	1) Midwives' main challenges of working in a pandemic were misinformation, lack of coordination and management, dehumanisation of care, increase in workload, lack of PPE. 2) Midwives were mainly more fearful of the contagion for their families, colleagues and clients rather than themselves. However, clear feelings of fear, anxiety and uncertainty are still depicted in the findings. Feelings of discomfort, exhaustion and dissatisfaction with the care provided are also evident. 3) Midwives reported having lack of knowledge and inadequate or non-existent training, making it difficult to provide the best quality care. Lack of support was also reported, citing feelings of loneliness and limited support from team members. 4) Women's emotional impact as perceived by midwives included surprise, frustration, fear, anxiety and loneliness.
Strengths	Data analysis processes were extensive and thoroughly explained.
Limitations	1) Participants were recruited from two tertiary hospitals where participants could have been more likely to be burnt-out. 2) Potential elements of social desirability and recall bias.

Categories	• Professional changes and difficulties within the organisation and care provided
	  ○ Organisational challenges
	• Personal challenges
	  ○ Psychological difficulties

	○ Job dissatisfaction ○ Lack of support and recognition • Perceived effects on women and their families ○ Parents' psychological and emotional difficulties

Table B8: *Summary of study results by Hartz et al. (2022)*

Authors	Hartz et al. (2022)
Aim of study	To explore the challenges and concerns of midwives working during the COVID-19 pandemic across the world.
Main findings	1) Changes due to the pandemic reported include the introduction of telehealth, increase in demand for homebirth (and home-based care), closure of some maternity facilities (to become COVID-19 facilities), restrictions of support persons at birth, and earlier discharge from hospital. 2) Several organisational challenges were reported including lack of PPE, inconsistent information, lack of training, staff shortages, and increase in workload. Midwives were also redirected into nursing roles and mostly not consulted or invited to contribute to discussions relating to guidelines and policies. 3) The most common emotions felt by midwives were fear, burnout and exhaustion which were widespread and not limited to low- or high-income countries. 4) Perceived women's feelings reported include fear (which reduced attendance to maternity facilities), isolation. Diminished women's rights and increase in violence in relation to women due to the pandemic was also reported. 5) A positive outcome reported was the one-to-one nature of care that came with caring for COVID-19 infected women.
Strengths	Responses were collected from settings across the world.
Limitations	Statistical significance and confidence intervals were not calculated.
Categories	• Professional changes and difficulties within the organisation and care provided ○ New guidelines and procedures ○ Organisational challenges • Personal challenges ○ Psychological difficulties • Perceived effects on women and their families ○ Parents' psychological and emotional difficulties • Positive outcomes ○ Positive implications for midwives and the care provided

Table B9: *Summary of study results by Hazfiarini et al. (2022)*

Authors	Hazfiarini et al. (2022)
Aim of study	To explore Indonesian midwives' experiences of providing maternity care during the COVID-19 pandemic.

Main findings	1) The main changes due to the pandemic were the use of PPE and phone consultations, which were seen as barriers to providing care. Midwives also found difficulty in finding referral hospitals for women who needed further medical support. 2) Organisational challenges reported include lack of (or unclear) information and knowledge, inadequate training and well-being support for staff, increase in workload, and lack of PPE. 3) Midwives reported physical discomfort of wearing PPE, and feelings of fear (mainly of becoming infected and for the safety of their families), and burnout. Despite these difficulties, midwives still felt an obligation to continue to provide care and support their colleagues. Peer support and support from family members were reported as some of the support strategies to maintain care provision.
Strengths	Sample of participants included midwives from different maternity care settings.
Limitations	Participants were recruited from regions with the highest number of COVID-19 cases in Indonesia, limiting the generalisability of the findings.

Categories	• Professional changes and difficulties within the organisation and care provided
	  ○ New guidelines and procedures
	  ○ Challenges in providing care due to COVID-19 implications
	  ○ Organisational challenges
	• Personal challenges
	  ○ Physical difficulties
	  ○ Psychological difficulties
	  ○ Support strategies for sustaining care provision

Table B10: *Summary of study results by Hearn et al. (2022)*

Authors	Hearn et al. (2022)
Aim of study	To understand the lived experiences of midwives providing care in Melbourne during the COVID-19 pandemic.
Main findings	1) Midwives described the rapid and unprecedented changes due to the pandemic and the ever-changing policies and procedures. The main changes were use of PPE, reduced physical touch, visitor restrictions, ban of waterbirths, use of telehealth. These measures were reports as challenges in providing quality care. Homebirth rates also significantly increased. Continuity of care was seen as a "protective shield" against the negative effects of the pandemic. 2) Organisational challenges included inadequate resources and staffing, and increase in workload (some referencing the lack of support people as the reason). Midwives also reported not being involved in decision-making of care guidelines and COVID-19 related issues making them feel invisible. 3) Midwives reported feelings of frustration, confusion, uncertainty and sadness. They felt that joy was stripped away from their job

	and constantly felt ethically distressed and complicit in complying and enforcing restrictions. 4) Midwives reported women's feelings of loneliness, uncertainty, sadness and overall increased psychological distress, and reported worry with regards to the long-term effects for women.
Strengths	Participants were recruited from different maternity care settings.
Limitations	Eligibility criteria for the selection of participants was restrictive.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties o Job dissatisfaction • Perceived effects on women and their families o Parents' psychological and emotional difficulties

Table B11: *Summary of study results by Hijdra et al. (2022)*

Authors	Hijdra et al. (2022)
Aim of study	To examine the experiences of Dutch midwives regarding the quality of care during the first wave of the COVID-19 pandemic.
Main findings	1) Midwives reported difficulty keeping up with constant new guidelines and measures and felt they could not provide the highest quality of care (mostly due to less face-to-face contact). The main changes in care were the use of PPE, visitor restrictions, use of telehealth, and fewer women seeking midwifery primary care. 2) Organisational challenges were unclear information, shortage of PPE, longer working hours and increase in workload. 3) Midwives reported feelings of frustration, fear (especially of contracting virus, and spreading it to pregnant women or family) and confusion. 4) Midwives reported women's feelings of fear, and frustration (sometimes in view of less shared decision-making).
Strengths	Sample of participants was diverse ranging in years of experiences and different midwifery practices.
Limitations	Participants were recruited from a region with the highest number of COVID-19 cases in the Netherlands, limiting the generalisability of the findings.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Challenges in providing care due to COVID-19 implications o Organisational challenges

	• Personal challenges
	  ○ Psychological difficulties
	• Perceived effects on women and their families
	  ○ Parents' psychological and emotional difficulties

Table B12: *Summary of study results by Huysmans et al. (2021)*

Authors	Huysmans et al. (2021)
Aim of study	To investigate the impact of the first COVID-19 wave on midwives' work experience, the woman-midwife relationship, and midwife-perceived changes in quality of care.
Main findings	1) Several changes to care were noted, namely the use of PPE and social distancing for midwives, restrictions for birth partners, parents' mask use during labour, earlier discharge after childbirth, and no skin-to-skin for COVID-19 positive mothers. Midwives felt that these measures negatively affected the quality of care provided and went against their values. 2) The main organisational challenges reported were increase in workload, constant changes in guidelines and protocols (leading to confusion), and access to PPE and mismanagement of PPE. Midwives also reported not being involved in any decision-making processes for the formulation of guidelines, making them feel undervalued. 3) Midwives' main challenges were psychological stress due to increased workload (especially due to procedures related to COVID-19), confusion, feelings of unpreparedness and fear. 4) Midwives reported women's feelings of psychological distress, loneliness, stress and despair.
Strengths	Participants were recruited from different maternity care settings.
Limitations	Being an inductive research study, the roles of the researchers could have introduced an element of bias.

Categories	• Professional changes and difficulties within the organisation and care provided
	  ○ New guidelines and procedures
	  ○ Challenges in providing care due to COVID-19 implications
	  ○ Organisational challenges
	• Personal challenges
	  ○ Psychological difficulties
	• Perceived effects on women and their families
	  ○ Parents' psychological and emotional difficulties

Table B13: *Summary of study results by Kassahun et al. (2022)*

Authors	Kassahun et al. (2022)
Aim of study	To assess the prevalence of depression, anxiety and stress during the COVID-19 pandemic among midwives in Ethiopia.

Main findings	Levels of depression, anxiety and stress amongst midwives was higher in female midwives when compared to males, midwives working in government health institutions when compared to private ones, midwives who had poor knowledge of COVID-19, midwives with poor preventative practice of COVID-19, and midwives with a poor attitude towards COVID-19.
Strengths	1) Large sample size. 2) Random sampling utilised to recruit participants.
Limitations	1) Possible elements of reporting bias. 2) Study did not include midwives who had no mobile network access.
Categories	• Personal challenges o Psychological difficulties

Table B14: *Summary of study results by Küçüktürkmen et al. (2022)*

Authors	Küçüktürkmen et al. (2022)
Aim of study	To determine the experiences of midwives caring for pregnant women with COVID-19 infection.
Main findings	1) Specialised services and delivery rooms were created for cases of suspected or confirmed cases of COVID-19. Midwives started using PPE and limited the number of people in contact with these cases. On admission to the labour ward, all women were tested for COVID-19 with a PCR test. 2) Some institutions practiced separation of babies from COVID-19 positive mothers, washing of babies immediately postpartum and inhibiting breastfeeding to avoid transmission. 3) Midwives had difficulty in providing effective midwifery care and working with PPE, and experienced an increase in workload. Midwives expressed an increase in burnout and desire to leave the profession. 4) Despite the challenges, midwives stated that they feel more confident in themselves and in managing the processes and interventions related to future pandemic scenarios.
Strengths	All participants were recruited from different care settings / hospitals.
Limitations	Participants were from provinces with very high rates of COVID-19 cases, limiting the generalisability of the results.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties o Job dissatisfaction • Positive outcomes o Positive implications for midwives and the care provided

Table B15: *Summary of study results by McGrory et al. (2022)*

Authors	McGrory et al. (2022)
Aim of study	To examine the experiences of a group of UK midwives during the COVID-19 pandemic.
Main findings	1) Midwives reported a reduction in home visits and an increase in the use of telecare, as well as an increase in requests for home births. 2) The main challenges faced by midwives were an increase in workload (especially due to additional administration procedures related to COVID-19), inadequate provision of PPE and PPE's impact on communication with women, inadequate staffing and poor management and leadership. 3) There were some participants who noted they had effective leaders who listened and kept everyone up to date with clear guidelines. The need for managers to thank their staff to make them feel valued was frequently mentioned. 4) Midwives reported having increased stress, exhaustion and burnout due to the effects of the pandemic such as staffing, workload and restrictions. Midwives also reported having difficulties maintaining a good work/life balance.
Strengths	Data obtained from multiple phases and waves of the COVID-19 pandemic.
Limitations	1) Possible lack of depth in obtaining qualitative data from an online self-administered survey. 2) Convenience sampling limits generalisability of results.
Categories	• Professional changes and difficulties within the organisation and care provided o New guidelines and procedures o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties

Table B16: *Summary of study results by Memmott et al. (2022)*

Authors	Memmott et al. (2022)
Aim of study	To explore midwives' experiences working on the frontlines of the COVID-19 pandemic.
Main findings	1) Midwives reported experiences of lack of support and recognition as first line providers, having lack of access to PPE and financial aids when compared to other healthcare providers. 2) Midwives felt that their professional expertise was undervalued as they were rarely involved in the development of policies and protocols to address the COVID-19 pandemic within the maternity services. 3) Midwives expressed a strong moral obligation to continue providing high-quality care and reported challenges in providing

	midwifery care with certain inhibitions related to the pandemic, such as lack of physical touch, exclusion of family members and PPE. 4) Midwives reported heightened workloads and increased burnout, with multiple participants noting that they took time off, considered quitting or left their jobs due to lack of support, mental health issues, burnout, or due the COVID-19 infection itself.
Strengths	Participants were given the opportunity to view the research findings and provide feedback.
Limitations	Lack of diversity within the sample of participants.
Categories	• Professional changes and difficulties within the organisation and care provided o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties o Job dissatisfaction o Lack of support and recognition o Support strategies for sustaining care provision

Table B17: *Summary of study results by Power et al. (2022)*

Authors	Power et al. (2022)
Aim of study	To explore midwives' experiences and perceptions of providing care to bereaved parents during the COVID-19 pandemic.
Main findings	1) Midwives considered the use of PPE affected care provision to bereaved parents, citing it as a significant barrier to providing compassionate care, together with visitor restrictions and inability to use physical touch. 2) Midwives noted that bereaved parents could potentially be experiencing increased loneliness. 3) Midwives felt a sense of guilt that the care they were providing during the pandemic was not enough. Midwives also feared of contracting the virus themselves or spreading it to women or their partners, or their own loved ones. 4) Participants found that still going to work during the pandemic gave them a sense of structure and normality in their lives. Colleague support and mindfulness were found to be the most effective strategies to mitigate midwives' personal challenges.
Strengths	Transcripts of interviews were viewed by participants to ensure accuracy of data.
Limitations	1) Participants recruited from one care setting, rendering results possibly less transferable to other settings. 2) The interviewer's (researcher's) already existing professional relationship with the participants may have elicited an element of social desirability bias.

Categories	• Professional changes and difficulties within the organisation and care provided
	  o Challenges in providing care due to COVID-19 implications
	• Personal challenges
	  o Psychological difficulties
	  o Support strategies for sustaining care provision
	• Perceived effects on women and their families
	  o Parents' psychological and emotional difficulties

Table B18: *Summary of study results by Shoorab et al. (2022)*

Authors	Shoorab et al. (2022)
Aim of study	To explore the coping process of midwives with their professional roles following COVID-19.
Main findings	1) Midwives' initial reactions to the pandemic include anxiety (related to becoming infected with COVID-19, or spreading it to their families), stress, fear (mainly due to the unknown nature of the pandemic), and worry. Due to these emotions, some midwives made the decision to leave the profession. 2) Some of the coping mechanisms included seeking the latest information about COVID-19, ensuring frequent hand hygiene and use of PPE, and physical distancing. Some other measures that midwives took to restore their hope for their health and career included maintaining pride in the care provided and acquiring additional clinical skills, and applying spiritual approaches. Receiving support from family and the organisation were also considered as effective supportive mechanisms.
Strengths	Significant sample size for qualitative study.
Limitations	Lack of continuity assessment to analyse different observations over time.

Categories	• Personal challenges
	  o Psychological difficulties
	  o Support strategies for sustaining care provision

Table B19: *Summary of study results by Stulz et al. (2022)*

Authors	Stulz et al. (2022)
Aim of study	To investigate the effects of COVID-19 on midwives' ability to deliver women-centred care, and to uncover the insights gained from adhering to government and hospital-imposed restrictions while caring for women and their families.
Main findings	1) Midwives recognised the rapidly-evolving nature of the situation, and reported fear, 2 Several changes to standard care were also reported, including the shift from face-to-face to online antenatal classes. 2) Time restrictions, reduced continuity of care models, increased workloads, introduction of telehealth services, inability to use

	physical touch, and the use of PPE all were reported as challenges in providing women-centred care during the pandemic. 3) Midwives reported that the COVID-19 pandemic had adverse effects on women and their families as it heightened levels of anxiety and made them feel felt isolated, unprepared and worried. 4) Despite challenges faced, midwives tried to maintain a sense of normality and some actually reported that their ability to provide women-centred care and fulfil their role as a midwife increased. Midwives also reported that women were increasingly choosing homebirths and had the liberty of having quiet time without any visitors or distractions.
Strengths	1) Participants were selected across all models of care, states and territories, and years of experience. 2) Significant sample size for qualitative study.
Limitations	Potential elements of selection bias.
Categories	• Professional changes and difficulties within the organisation and care provided o Challenges in providing care due to COVID-19 implications o Organisational challenges • Personal challenges o Psychological difficulties • Perceived effects on women and their families o Parents' psychological and emotional difficulties • Positive outcomes o Positive implications for parents o Positive implications for midwives and the care provided

APPENDIX C

PERMISSION LETTERS

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 25/01/2023

Ms Celia Falzon
Chief Executive Officer
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Falzon,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2, Obstetric Ward 3, Breastfeeding Clinic, Discharge Liaison Midwives,

Antenatal Clinic, Perinatal Mental Health Clinic, Neonatal Paediatric Intensive Care Unit, Parentcraft and Midwifery Relieving Pool, who were actively working in March 2020 onwards.

The Midwifery / Nursing Officers of each ward will act as the intermediary person by distributing the questionnaire in the form of a Google Form though an online link, to midwives who meet the inclusion criteria. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

I would therefore be grateful if you would give me permission to collect the necessary data from the midwives in the above-mentioned areas. Your support will be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Permission for Research Study

Spiteri Yana at Health-MDH [redacted] 31 January 2023 at 09:39
To: Joanne Farrugia Imbroll [redacted]

Dear Ms. Imbroll

Hope this email finds you well.

On behalf of the CEO Ms. Celia Falzon, a research study entitled, ***'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta',*** has been approved. Kindly keep to the guidelines provided.

Kind Regards

[Quoted text hidden]

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 16/01/2023

Mr Simon Caruana
Data Protection Officer
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Mr Caruana,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2, Obstetric Ward 3, Breastfeeding Clinic, Discharge Liaison Midwives,

Antenatal Clinic, Perinatal Mental Health Clinic, Neonatal Paediatric Intensive Care Unit, Parentcraft and Midwifery Relieving Pool, who were actively working in March 2020 onwards.

The Midwifery / Nursing Officers of each ward will act as the intermediary person by distributing the questionnaire in the form of a Google Form though an online link, to midwives who meet the inclusion criteria. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

I would therefore be grateful if you would give me permission to collect the necessary data from the midwives in the above-mentioned areas. Your support will be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Permission for Research Study

Data Protection at Health-MDH [redacted] 25 January 2023 at 16:39
To: Joanne Farrugia Imbroll [redacted]
Cc: Young Sharon at Health-MDH [redacted], Data Protection Approval Form at Health-MDH [redacted]

Dear Ms Farrugia Imbroll

On the basis of the documentation you submitted, from the MDH data protection point of view you have been cleared to proceed with your study titled ***Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*** provided that you obtain approval from MDH CEO ([redacted]- please provide the relevant documents including Ms Carmen D' Amato's, Prof Yves Muscat Baron's and Dr Paul Soler's approval and this email).

-

- Your intermediaries to approach potential participants through the gov email on your behalf are:
    - *Ms Antoinette Formosa (Midwifery Officer at Central Delivery Suite)*
    - *Ms Doris Spagnol Abela (Midwifery Officer at Obstetric Ward 1)*
    - *Ms Astrid Zarb (Midwifery Officer at Obstetric Ward 2)*
    - *Ms Miriam Borg (Midwifery Officer at Obstetric Ward 3)*
    - *Ms Maria Cassar (Midwifery Officer of Discharge Liaison Midwives)*
    - *Ms Helen Borg (Midwifery Officer at Breastfeeding Clinic)*
    - *Ms Carmen Pace (Midwifery Officer at Antenatal Clinic)*
    - *Ms Claire Zerafa (Practice Midwife at Perinatal Mental Health Clinic)*
    - *Ms Louise Bugeja (Charge Midwife at Parentcraft Unit)*
    - *Ms Winifred Buhagiar (Nursing Officer at Neonatal Paediatric Intensive Care Unit)*

- Your potential participants to reply your online questionnaire are *Midwives who work at the Paediatric Department and Obs & Gynae Department, MDH*

-

All data will be provided to you already anonymized since Midwives working at the Paediatric Department and Obs & Gynae Department, MDH will reply to the anonymous online questionnaire through the hyperlink.

-

-

Anonymisation

-

The identity of your potential participants cannot be divulged to anyone by the above listed intermediaries not even to academic staff at the UOM.

Consent Criteria

For this study, consent is implied with affirmative action, meaning that if participants click on the hyperlink and reply, they will be consenting.

At no point you can be handed contact details of potential participants since they will be approached by the above listed intermediaries.

Your intermediary cannot feed Google Forms with a list of email addresses otherwise consent would be bypassed. Only your declared hyperlink through your declared invitation email can be used.

This clearance does not allow you to communicate with participants since they will only be approached by the above listed intermediaries through the gov email.

The above listed intermediaries must approach potential participants only through the gov mail since they will be representing MDH. Personal email accounts must not be used.

This clearance does not cover your intermediary to approach potential participants through social media or any other means. MDH clearance is applicable for MDH grounds and not for public domains or any other spheres that are not under MDH's responsibility.

Potential participants for this questionnaire are Midwives working at MDH; not staff or any other public servant who is not under the responsibility of MDH's Data Controller.

the above listed intermediaries cannot obtain any email addresses lists specifically for your research otherwise personal data would be processed without consent. Instead, your intermediaries must reach potential participants from his / her already contacts.

When your intermediary will send the mail shot to potential participants, the list of receptions should be in **Bcc** not ***To*** or ***Cc***.

Clarifications

This clearance does not cover ethical approval.

This clearance applies only for your online questionnaire to be conducted at MDH and not at any other institution / department / unit.

This clearance is valid for your report to be included with your dissertation only and not in medical journals or elsewhere since you are not obtaining approval from MDH legal office.

This clearance is only valid for your questionnaire to be distributed online and not paper-based.

This clearance doesn't cover any form of interviews.

This clearance doesn't cover access to medical records or Health Information Systems.

This clearance doesn't allow patient contact / communication.

What was declared during this clearance process is what you will abide to.

Your submitted documentation and declarations must remain unchanged.

You must abide with all the articles of the GDPR (EU) 2016 / 679 throughout the data collection process and thereafter.

You are requested to submit a copy of your findings to this office at the end of your study.

Please present this email to the above listed intermediaries.

To sign the data protection form, please contact Ms Graziella Aquilina through [redacted] to provide the following:

1. *This clearance email in PDF - to provide in PDF*
2. *CEO's approval in PDF - pending*
3. *The name of the Director and Chairpersons who approved your research – Ms Carmen D' Amato, Prof Yves Muscat Baron and Dr Paul Soler*
4. *The period of data collection – March 2023 (after you sign the Data Protection form)*
5. *Title of your research - Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*
6. *Your ID number - pending*

NB: you must sign this form before starting

In summary – next step

1. Obtain approval from MDH CEO through [redacted]
2. Sign the Data Protection form at Ms Aquilina through [redacted] (please provide the above six points)

[Quoted text hidden]

SPTAR MATER DEI

Data Protection Clearance Declaration Form

[redacted]

I hereby declare that I will respect the confidentiality and privacy of any personal data or information that I will come across at Mater Dei and will in no circumstance disclose any such information to third parties.

I confirm that information submitted for Data Protection Clearance is correct and that I will abide with conditions issued in same clearance notice.

- This clearance does not cover ethical approval.
- This clearance applies only for your online questionnaire to be conducted at MDH and not at any other institution / department / unit.
- This clearance is valid for your report to be included with your dissertation only and not in medical journals or elsewhere since you are not obtaining approval from MDH legal office.
- This clearance is only valid for your questionnaire to be distributed online and not paper-based.
- This clearance doesn't cover any form of interviews.
- This clearance doesn't cover access to medical records or Health Information Systems.
- This clearance doesn't allow patient contact / communication.
- What was declared during this clearance process is what you will abide to.
- Your submitted documentation and declarations must remain unchanged.
- You must abide with all the articles of the GDPR (EU) 2016 / 679 throughout the data collection process and thereafter.
- You are requested to submit a copy of your findings to this office at the end of your study.
- Please present this email to the above listed intermediaries.

I also declare that I am aware of the provisions of the:

General Data Protection Regulation (2016)
(ref: https://idpc.org.mt/en/Pages/gdpr.aspx),
Computer misuse provisions of the Criminal Code
(ref: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=8574),
and, the Professional Secrecy Act
(ref: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=8844&l=1)

and that I will abide by all Government and Hospital regulations related to data, information and use of IT Systems and services (ref: http://ictpolicies.gov.mt , http://www.kura.gov.mt).

Full Name: Joanne Farrugia Imbroll

ID Number: [redacted]

Approval Date from DPO: 25th January 2023

Approval Date from CEO: 31st January 2023

Data Collection Period (From – To): March 2023 – March 2023

MDH Official Approval Names: Ms C D' Amato, Prof Y Muscat Baron, Dr P Soler

Name of Study / Audit: Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta

Applicant's Signature: [redacted]

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 23/10/2022

Prof. Yves Muscat Baron
Head of Obstetrics and Gynaecology
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Prof. Muscat Baron,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Central Delivery Suite, Obstetrics Ward 1, Obstetrics Ward 2, Obstetrics Ward 3, Breastfeeding Clinic, Discharge Liaison

Midwives, Antenatal Clinic, Parentcraft and Midwifery Relieving Pool, who were actively working in March 2020 onwards.

The Midwifery Officers of each ward will act as the intermediary person by distributing the questionnaire in the form of a Google Form though an online link, to midwives who meet the inclusion criteria. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

I would therefore be grateful if you would give me permission to collect the necessary data from the midwives in the above-mentioned areas. Your support will be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

I would like to request this research to be carried out

[redacted]

Professor Yves Muscat Baron MD
MOG (Lond), FRCP (Irel.) PhD (Warwick)
Director,
Dept. Of Obstetrics and Gynaecology
M

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 16/01/2023

Dr Paul Soler
Director of Paediatrics
[redacted]

No objection
[redacted]
19.1.'23
Dr Paul Soler
Clinical Chairman
Department of Child & Adolescent Health
Mater Dei Hospital

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Dr Soler,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Neonatal Paediatric Intensive Care Unit who were actively working in March 2020 onwards.

The Nursing Officer of the ward will act as the intermediary person by distributing the questionnaire in the form of a Google Form though an online link, to midwives who meet the inclusion criteria. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

I would therefore be grateful if you would give me permission to collect the necessary data from the midwives in the Neonatal Paediatric Intensive Care Unit. Your support will be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 22/12/2022

Ms Carmen D'Amato
Director of Nursing and Midwifery
[redacted]

Approved
[redacted]

Ms. Carmen D'amato
Director Nursing & Midwifery Services
Mater Dei Hospital
Tel. [redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms D'Amato,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2, Obstetric Ward 3, Breastfeeding Clinic, Discharge Liaison Midwives,

Antenatal Clinic, Perinatal Mental Health Clinic, Neonatal Paediatric Intensive Care Unit, Parentcraft and Midwifery Relieving Pool, who were actively working in March 2020 onwards.

The Midwifery / Nursing Officers of each ward will act as the intermediary person by distributing the questionnaire in the form of a Google Form though an online link, to midwives who meet the inclusion criteria. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

I would therefore be grateful if you would give me permission to collect the necessary data from the midwives in the above-mentioned areas. Your support will be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 14/01/2023

Ms Charmaine Psaila
Senior Midwifery Manager
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Psaila,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023. Participants include midwives from the Central Delivery Suite, Obstetric Ward 1, Obstetric Ward 2, Obstetric Ward 3, Breastfeeding Clinic, Discharge Liaison Midwives,

Antenatal Clinic, Parentcraft and Midwifery Relieving Pool, who were actively working in March 2020 onwards. I would be grateful if you would give me permission to collect the necessary data from the midwives in the above-mentioned areas. Your support will be greatly appreciated.

In order to maintain anonymity and confidentiality, it would also be highly appreciated if you could kindly act as the intermediary person and contact potential participants in the Midwifery Relieving Pool; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted] You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

[redacted] 14.1.2023

Ms Charmaine Psaila
Senior Midwifery Manager
Mater Dei Hospital

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 11/01/2023

Ms Antoinette Formosa
Midwifery Officer at Central Delivery Suite
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Formosa,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Central Delivery Suite who were actively working in March 2020 onwards.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the ward, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted]

Approved
[redacted]
ANT. KORMOSA

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 16/01/2023

Ms Doris Spagnol Abela
Midwifery Officer at Obstetric Ward 1
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Spagnol Abela,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in Obstetric Ward 1 who were actively working in March 2020 onwards. Data will

be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the ward, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll

M.Sc. in Midwifery Student

[redacted]

16.1.2023.

[redacted]

Dr Josephine Attard

Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 11/01/2023

Ms Astrid Zarb
Midwifery Officer at Obstetric Ward 2
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Zarb,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in Obstetric Ward 2 who were actively working in March 2020 onwards. Data will

be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the ward, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Astrid Farrugia
11/1/23.

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 11/01/2023

Ms Miriam Borg
Midwifery Officer at Obstetric Ward 3
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Borg,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in Obstetric Ward 3 who were actively working in March 2020 onwards. Data will

be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the ward, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted] MARIAM BORG

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 22/12/2022

Ms Helen Borg
Midwifery Officer at the Breastfeeding Clinic
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Borg,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Breastfeeding Clinic who were actively working in March 2020 onwards.

Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the clinic, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted] You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Permission for Research Study

Borg Helen A at Health-MDH [redacted] 23 December 2022 at 17:56
To: Joanne Farrugia Imbroll [redacted]

Dear Joanne

You have my permission to carry out this study with the midwives from the Breastfeeding Clinc

Best regards

Helen

Helen Borg
Senior Practice Midwife

SPTAR MATER DEI

T [redacted]

E [redacted]

Mater Dei Hospital, Triq id-Donaturi tad-Demm, l-Imsida, Malta MSD 2090 | Tel +356 [redacted] | https://deputyprimeminister.gov.mt/en/MDH/Pages/Home.aspx | https://www.facebook.com/materdeihospital/

Think before you print.

From: Joanne Farrugia Imbroll [redacted]
Sent: Thursday, 22 December 2022 14:34
To: Borg Helen A at Health-MDH [redacted]
Subject: Permission for Research Study

[Quoted text hidden]

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 23/01/2023

Ms Carmen Pace
Midwifery Officer at the Antenatal Clinic
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Pace,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Antenatal Clinic who were actively working in March 2020 onwards. Data

will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer of the clinic, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

[redacted]

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 23/01/2023

Ms Maria Cassar
Midwifery Officer of the Discharge Liaison Midwives
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Cassar,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives working as Discharge Liasion Midwives who were actively working in March 2020

onwards. Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Midwifery Officer, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Maria Cassar
Charge Midwife
Discharge Liaison Midwives
Mater Dei Hospital

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 22/12/2022

Ms Winifred Buhagiar
Nursing Officer at Neonatal Paediatric Intensive Care Unit
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Buhagiar,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Neonatal Paediatric Intensive Care Unit who were actively working in March

2020 onwards. Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Nursing Officer of the ward, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Permission for Research Study

Buhagiar Winifred at Health-MDH [redacted] 24 December 2022 at 09:26
To: Joanne Farrugia Imbroll [redacted]

Dear Ms J. Farrugia Imbroll,

I have no objections and grant you permission to give the questioner to midwives working on the Unit.

Good luck,

Winifred Buhagiar
Charge Nurse

MDH Logo

T [redacted]
M [redacted]
E [redacted]

Mater Dei Hospital, Triq Id-Donaturi Tad-Demm, Msida, Malta MSD 2090 | Tel +356 [redacted] | https://careandcure.gov.mt/

Think before you print.
This email and any files transmitted with it are confidential, may be legally privileged and intended solely for the use of the individual or entity to whom they are addressed.

From: Joanne Farrugia Imbroll [redacted]
Sent: 22 December 2022 14:30:16
To: Buhagiar Winifred at Health-MDH
Subject: Permission for Research Study

CAUTION: This email originated from OUTSIDE the Government Email Infrastructure. DO NOT CLICK LINKS or OPEN attachments unless you recognise the sender and know the content is safe.

[Quoted text hidden]

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 16/01/2023

Ms Claire Zerafa
Practice Midwife (Perinatal Mental Health)
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Zerafa,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Perinatal Mental Health Clinic who were actively working in March 2020

onwards. Data will be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you could kindly act as the intermediary person and contact potential participants in the clinic; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

[redacted]

Dr Josephine Attard
Academic Supervisor

Clonne Lunale.
Perinatal Mental Health Midwife

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 23/01/2023

Ms Louise Bugeja
Charge Midwife at Parentcraft Services
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Ms Bugeja,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

I would be grateful if you would give me permission to collect the necessary data from the midwives in the Parentcraft Unit who were actively working in March 2020 onwards. Data will

be collected through a one-time, self-administered questionnaire, around the month of March 2023.

In order to maintain anonymity and confidentiality, it would be highly appreciated if you, as the Charge Midwife of the unit, could kindly act as the intermediary person and contact potential participants; midwives who were actively working in March 2020 onwards. Midwives who are interested in participating will need to be sent a link to a Google Form with the questionnaire, which will be provided by the researcher. Participation is entirely voluntary, meaning that one has the right to refuse or withdraw from participating at any time without any consequences. By filling in and submitting the questionnaire, it will imply that participants have consented to participate in this study. Participants will be asked to fill in the questionnaire and submit it online at the end of completion. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes and will only be used for the purpose of the study. It will be stored securely in the researcher's personal computer, that is password protected and in an encrypted format.

Your support in this research study will be greatly appreciated. Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Permission for Research Study

Bugeja Marie Louise at Health-MDH [redacted] 23 January 2023 at 15:07
To: Joanne Farrugia Imbroll [redacted]

Good Afternoon Joanne,

Thank you for your invite.

It would be our pleassure to participate.

Have a good day,

Louise

Sent from Mail for Windows

From: Joanne Farrugia Imbroll
Sent: 23 January 2023 11:44
To: Bugeja Marie Louise at Health-MDH
Subject: Permission for Research Study

CAUTION: This email originated from OUTSIDE the Government Email Infrastructure. DO NOT CLICK LINKS or OPEN attachments unless you recognise the sender and know the content is safe.

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APPENDIX D

FREC ETHICAL APPROVAL

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

FHS-2023-00043 Joanne Farrugia Imbroll

Paulann Grech [redacted] 22 February 2023 at 08:00
To: Joanne Farrugia Imbroll [redacted]
Cc: Research Ethics HEALTHSCI [redacted], Josephine Attard
[redacted]

Dear Joanne,

Thank you for the update. Your recent amendments have been reviewed and approval is granted on behalf of FREC.

Please make sure that the updated documents forwarded to FREC have also been uploaded on the URECA portal, without track changes.

Best wishes,

Paulann

Dr.Paulann Grech
Senior lecturer

Department of Mental Health
Faculty of Health Sciences
Room 51, Block A, Level 1
[redacted]

[Quoted text hidden]

APPENDIX E

QUESTIONNAIRE

L-Università ta' Malta

Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta

Dear participant,

I am a Master of Science in Midwifery student and as part of my course requirements, I am conducting a study titled: *'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'*. Responding to the questionnaire signifies consent to participate in the study. Kindly answer **ALL** questions in this questionnaire and press the **'Submit'** button at the end of completion.

Your participation will be greatly appreciated. Thank you for your cooperation.

Kind regards,

Joanne Farrugia Imbroll

Section A: Demographic Information

(Please select your answers for all questions in this section)

1. Total number of years working as a midwife *

- ◯ Less than a year
- ◯ 1-10 years
- ◯ 11-20 years
- ◯ 21-30 years
- ◯ More than 30 years

2. Place of work during March 2020 *

- ◯ Central Delivery Suite
- ◯ Obstetric Ward 1
- ◯ Obstetric Ward 2
- ◯ Obstetric Ward 3
- ◯ Breastfeeding Clinic
- ◯ Antenatal Clinic
- ◯ Discharge Liaison Midwives
- ◯ Neonatal Paediatric Intensive Care Unit
- ◯ Perinatal Mental Health Clinic
- ◯ Parentcraft Unit
- ◯ Midwifery Relieving Pool
- ◯ Other: _____

Section B: Altered provision of care during the COVID-19 pandemic

3. What were the main changes / restrictions imposed at your place of work at the beginning of the pandemic (around March 2020)? *

Your answer

4. Kindly indicate the behavioural, psychological, or emotional effects caused by the COVID-19 pandemic you have observed in **women and /or their partners**. *

(Please select the option/s which correspond to your answer/s. You may choose more than 1 answer).

- ☐ Anxiety or fear
- ☐ Sadness
- ☐ Loneliness
- ☐ Irritability and anger
- ☐ Worry about safety of self or others
- ☐ Feeling overwhelmed
- ☐ Other: _____

5. What is your level of agreement with the following statements related to changes in the provision of quality midwifery care during the COVID-19 pandemic? *(Please select one response ranging from strongly disagree to strongly agree for **each** statement [(a) - (g)]. Kindly add further comments in the space provided for each response.)*

(a) Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(a)*:

Your answer

(b) The leaders at the maternity care setting you were working at were transparent and responsive to the rapidly evolving circumstances related to the COVID-19 pandemic. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(b)*:

Your answer

(c) The leaders at the maternity care setting you were working at effectively coordinated and managed the changes related to the COVID-19 pandemic. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(c)*:

Your answer

(d) Midwives were consulted during the decision-making processes in the formulation of policies and protocols related to the COVID-19 pandemic. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(d)*:

Your answer

(e) Policies and protocols related to the COVID-19 pandemic were needed and evidence-based. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(e)*:

Your answer

(f) Policies and protocols related to the COVID-19 pandemic restricted midwives' ability to provide quality midwifery care. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(f)*:

Your answer

(g) Policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic. *

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neither agree nor disagree
- ◯ Agree
- ◯ Strongly agree

Comments for question 5*(g)*:

Your answer

6. In your experience of providing midwifery care during the COVID-19 pandemic, what were the biggest challenges related to providing quality care? (E.g. inability to use physical touch to comfort women). *

Your answer

7. Do you feel there were any positive effects resulting from the COVID-19 pandemic on the provision of quality midwifery care? *

- ◯ Yes
- ◯ No
- ◯ Not Sure

If ***YES***, kindly list the positive effects below.

Your answer

Section C: Challenges encountered by midwives in providing quality midwifery care during the COVID-19 pandemic

8. Kindly select the option which corresponds to your answer for **ALL** the questions below related to the COVID-19 pandemic. *

	YES	NO	NOT SURE
(a) Did you have adequate access to personal protective equipment (PPE)?	○	○	○
(b) Did you experience an increase in workload?	○	○	○
(c) Do you feel your work during the COVID-19 pandemic has been recognized by the organization?	○	○	○
(d) Did you have access to employee support programmes during the COVID-19 pandemic?	○	○	○
(e) Do you wish you had access to / were offered more support from the organization?	○	○	○
(f) Were you offered adequate sick leave and/or quarantine leave in the eventuality of sickness or mandatory quarantine due to exposure to COVID-19?	○	○	○

(g) Did you ever take time off and/or considered quitting due to the pressures of the COVID-19 pandemic?	○	○	○

9. Kindly answer the following questions by choosing ONE number from 1 to 10 *(1 being the minimum and 10 being the maximum)* which most applies to your answers.

(a) How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic? *

	1	2	3	4	5	6	7	8	9	10	
Min.	○	○	○	○	○	○	○	○	○	○	Max.

(b) What is the level of fear you felt for your personal safety and well-being during this time? *

	1	2	3	4	5	6	7	8	9	10	
Min.	○	○	○	○	○	○	○	○	○	○	Max.

(c) What is the level of fear you felt for your family's safety and well-being due to the pandemic? *

	1	2	3	4	5	6	7	8	9	10	
Min.	○	○	○	○	○	○	○	○	○	○	Max.

(d) What is the level of job satisfaction you felt during the COVID-19 pandemic? *

	1	2	3	4	5	6	7	8	9	10	
Min.	○	○	○	○	○	○	○	○	○	○	Max.

(e) What is the level of burnout you felt during the COVID-19 pandemic? *

"Burn-out is conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy." (WHO, 2019)

	1	2	3	4	5	6	7	8	9	10	
Min.	○	○	○	○	○	○	○	○	○	○	Max.

10. What factors do you think were instrumental in helping you maintain your job as a midwife despite the pressures of the COVID-19 pandemic? *

(Please select the option/s which correspond to your answer/s. You may choose more than 1 answer).

- ☐ Job satisfaction
- ☐ Support from colleagues
- ☐ Support from leaders / midwifery officers
- ☐ Moral obligation to support colleagues
- ☐ Financial reasons
- ☐ Job continuity
- ☐ Other: _____

Section D: Strategies to address the challenges encountered during the COVID-19 pandemic

11. Kindly select the strategies you feel may help alleviate the negative effects on providing quality midwifery care due to the COVID-19 pandemic on women and their partners' perinatal experience. *

(You may choose more than 1 answer).

- ☐ Less restrictive protocols
- ☐ Increasing support services, particularly for women who are more susceptible to the negative effects of the COVID-19 pandemic (e.g. those who test positive for COVID-19)
- ☐ More knowledge on COVID-19 and policies to women and their partners
- ☐ Other: _____

12. Kindly select the strategies you feel may help alleviate the negative effects of the COVID-19 pandemic on midwives' ability to provide quality midwifery care. * *(You may choose more than 1 answer).*

- [ ] Increase in support from leaders / midwifery officers
- [ ] More access to employee support programmes
- [ ] Creating a support program specifically addressing the needs for staff affected by the COVID-19 pandemic
- [ ] More training related to dealing with future pandemics affecting the healthcare system
- [ ] Other: _____

Please include any further comments related to the provision of quality midwifery care during the COVID-19 pandemic in the space provided below:

Your answer

Thank you for your time and cooperation in answering this questionnaire.

Back Submit Clear form

APPENDIX F

PILOT STUDY EVALUATION FORM

L-Università ta' Malta

Pilot Study Evaluation Form: Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta

Thank you for taking the time to participate in the pilot study and complete the questionnaire. It would be greatly appreciated if you could provide your feedback on the questionnaire by filling in this form and submit it at the end of completion. Your input will contribute towards decreasing the measurement error of the questionnaire and improve the outcome of this study.

Thank you for your cooperation.

1. How long (in minutes) did it take for you to complete this questionnaire? *

Your answer

2. Was it easy to follow the instructions provided? *

(Please select the option which corresponds to your answer).

- ◯ Yes
- ◯ No

If 'no', which instructions were not clear and why?

Your answer

3. What is your opinion about the layout of this questionnaire? *

Your answer

4. Are there any question/s which you found difficulty in understanding, and which require further clarification? *

(Please select the option which corresponds to your answer).

- ◯ Yes
- ◯ No

If 'yes', please specify which and why.

Your answer

5. Did you find any objection to answering any particular question/s? *

(Please select the option which corresponds to your answer).

- ◯ Yes
- ◯ No

If 'yes', please specify which and why.

Your answer

6. Other comments or suggestions (e.g., adding or removing a certain question/s):

Your answer

Thank you for your feedback.

Submit Clear form

APPENDIX G

PARTICIPANTS' INFORMATION LETTER

L-Università ta' Malta

Information Letter

Dear Participant,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, *'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The aim of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings**.** Participation in this study may not necessarily benefit you as the participant, however the results will help gain the midwives' perspectives on the effects of the COVID-19 pandemic on quality midwifery care with the purpose of providing more insight in the local setting.

Your participation includes filling in a one-time, self-administered questionnaire which is anticipated to take around 15 to 20 minutes to complete. Confidentiality and anonymity are ensured as your name is not requested in any part of the questionnaire. Therefore, it is important to not include your identity and personal details to ensure anonymity. All data collected from this research shall be used solely for the purpose of this study. Furthermore, you will only be asked to share data that is necessary for the research and your identity and personal information will not be revealed in any publications, reports or presentations arising from this study. If you are willing to participate, you will be asked to access the questionnaire in the form of a Google Form through an online link, fill it in and submit it online at the end of completion.

Filling in and submitting the questionnaire implies your consent to contribute to this study. You are not obliged to participate, and you may withdraw from the study at any time without giving a

reason. Furthermore, withdrawal from the study will not have any negative repercussions on you. Kindly note that since the questionnaire is anonymous and online, your response cannot be withdrawn once it has been submitted since it would not be possible to identify and retrieve a response for a particular participant. Data will be put in a password protected computer in an encrypted format. The data collected will only be accessed by the researcher, the academic supervisor and the examiner for assessment purposes. All data collected will be erased once the study is completed and the results are published.

In the event that you feel distressed due to participation in the questionnaire, the service of the Psychological Department at Mater Dei Hospital will be available, should you need, at no financial cost on your part. The contact number of this department is [redacted].

This study has been approved by the Research Ethics Committee of the Faculty of Health Sciences at the University of Malta.

Your participation will be greatly appreciated. Thank you for your time and consideration. Should you have any questions or concerns, do not hesitate to contact me on [redacted] or by e-mail: [redacted] or my supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Yours Sincerely,

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

Dr Josephine Attard
Academic Supervisor

APPENDIX H

PSYCHOLOGY DEPARTMENT SUPPORT LETTER

L-Università ta' Malta

Ms Joanne Farrugia Imbroll
[redacted]

Date: 23/12/2022

Mr Paul Sciberras
Managing Psychologist
[redacted]

Request for permission regarding study titled: 'Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta'

Dear Mr Sciberras,

I am a midwife reading for a Master of Science in Midwifery at the University of Malta. As part of my course requirements, I am conducting a research study entitled, '*Midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in Malta*'. The purpose of this study is to explore the local midwives' perspectives on the provision of quality midwifery care during the COVID-19 pandemic in different maternity care settings. To be able to fulfil the aim of this research study, I intend to collect data through a self-administered questionnaire sent to midwives who were actively working in March 2020 onwards.

The Midwifery Dissertation Panel finds no objection to the nature of this study as it is not seen to be disruptive or unethical. I am aware that ethical considerations associated with collection of data need to be strictly adhered to, especially issues relating to informed consent and confidentiality and that my academic supervisor, Dr Josephine Attard, needs to be consulted all throughout the research process. Nevertheless, I am currently applying for approval from the Faculty of Health Sciences Research Ethics Committee and the University Research Ethics Committee.

With this letter, I am kindly seeking the service of the Psychology Department to provide psychological support to any of the participants at no financial cost, should participation elicit any form of psychological distress. Your support and assistance would be greatly appreciated.

Should you have any queries or require further information, you may contact me on [redacted] or by e-mail: [redacted]. You may also contact my academic supervisor, Dr Josephine Attard, at the Faculty of Health Sciences, University of Malta on [redacted] or by e-mail: [redacted].

Thank you in advance for your cooperation and assistance.

Yours Sincerely,

[redacted]

Ms Joanne Farrugia Imbroll
M.Sc. in Midwifery Student

[redacted]

Dr Josephine Attard
Academic Supervisor

L-Università ta' Malta

Joanne Farrugia Imbroll [redacted]

Request for the Service of the Psychology Department for Research Study

Sciberras Paul at Health-MDH [redacted] 16 January 2023 at 08:26
To: Joanne Farrugia Imbroll [redacted]
Cc: Barbara Jennifer at Health-MDH [redacted]

Dear Ms.Farrugia Imbroll,

Apologies for the late reply.

Please take this reply as confirmation that Psychological support will be provided should the need arise.

Any referrals to MDH Psychology Dept. need to follow the establish procedure.

Best regards,

Paul

Paul Sciberras

Managing Psychologist

MDH Psychology Dept.

[redacted]

From: Joanne Farrugia Imbroll [redacted]
Sent: 03 January 2023 17:14:37
To: Sciberras Paul at Health-MDH
Subject: Re: Request for the Service of the Psychology Department for Research Study

CAUTION: This email originated from OUTSIDE the Government Email Infrastructure. DO NOT CLICK LINKS or OPEN attachments unless you recognise the sender and know the content is safe.

[Quoted text hidden]

APPENDIX I

QUANTITATIVE RESULTS (INFERENTIAL STATISTICS)

'Place of work during March 2020' and 'Effects of the pandemic observed in women and their partners' *(Chi-squared test)*

			Effects of the pandemic observed in women and their partners							
			Anxiety or fear	Sadness	Loneliness	Irritability or anger	Worry about safety of self or other	Feeling overwhelmed	Other	**Total**
Place of work during March 2020	CDS	Count	24	19	23	19	18	17	1	24
		Percentage	100.0%	79.2%	95.8%	79.2%	75.0%	70.8%	4.2%	
	OBS 1	Count	12	5	8	9	10	8	1	12
		Percentage	100.0%	41.7%	66.7%	75.0%	83.3%	66.7%	8.3%	
	OBS 2	Count	4	3	4	3	3	4	0	4
		Percentage	100.0%	75.0%	100.0%	75.0%	75.0%	100.0%	0.0%	
	OBS 3	Count	10	7	9	5	7	8	0	10
		Percentage	100.0%	70.0%	90.0%	50.0%	70.0%	80.0%	0.0%	
	Midwifery Relieving Pool	Count	10	4	9	4	8	5	0	10
		Percentage	100.0%	40.0%	90.0%	40.0%	80.0%	50.0%	0.0%	
	NPICU	Count	10	7	6	6	8	7	2	10
		Percentage	100.0%	70.0%	60.0%	60.0%	80.0%	70.0%	20.0%	
	Outpatient Care Settings	Count	10	4	7	5	11	7	0	11
		Percentage	90.9%	36.4%	63.6%	45.5%	100.0%	63.6%	0.0%	
Total		Count	80	49	66	51	65	56	4	81

$X^2(36) = 15.632$, $p = 0.999$

'Place of work' and 'Changes in the provision of midwifery care during the pandemic' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic.	CDS	24	3.08	1.213	0.541
	OBS 1	12	2.42	1.084	
	OBS 2	4	3.25	0.957	
	OBS 3	10	2.50	1.269	
	Midwifery Relieving Pool	10	3.10	0.876	
	NPICU	10	2.60	1.075	
	Outpatient Care Settings	11	2.82	0.874	
The leaders at the maternity care setting you were working at were transparent and responsive to the rapidly evolving circumstances related to the COVID-19 pandemic.	CDS	24	2.75	1.260	0.082
	OBS 1	12	2.83	0.937	
	OBS 2	4	3.75	0.500	
	OBS 3	10	3.00	0.816	
	Midwifery Relieving Pool	10	3.30	0.823	
	NPICU	10	3.50	0.707	
	Outpatient Care Settings	11	3.64	0.674	
The leaders at the maternity care setting you were working at effectively coordinated and managed the changes related to the COVID-19 pandemic.	CDS	24	2.92	1.018	0.171
	OBS 1	12	3.08	1.165	
	OBS 2	4	4.00	0.000	
	OBS 3	10	3.30	0.483	
	Midwifery Relieving Pool	10	3.60	0.699	
	NPICU	10	3.50	0.850	
	Outpatient Care Settings	11	3.45	0.934	
Midwives were consulted during the decision-making processes in the formulation of policies and protocols related to the COVID-19 pandemic.	CDS	24	1.88	1.116	0.246
	OBS 1	12	2.08	0.669	
	OBS 2	4	2.25	0.500	
	OBS 3	10	1.90	0.738	
	Pool	10	2.30	0.823	
	NPICU	10	2.00	1.054	
	Outpatient Care Settings	11	2.55	0.820	

		N	Mean	Std. Deviation	P-value
Policies and protocols related to the COVID-19 pandemic restricted midwives' ability to provide quality midwifery care.	CDS	24	4.13	0.850	0.262
	OBS 1	12	3.50	1.243	
	OBS 2	4	3.50	0.577	
	OBS 3	10	3.70	0.483	
	Midwifery Relieving Pool	10	3.90	0.738	
	NPICU	10	4.20	0.422	
	Outpatient Care Settings	11	3.91	0.831	
Policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic.	CDS	24	2.92	1.283	0.119
	OBS 1	12	3.83	0.577	
	OBS 2	4	3.75	0.500	
	OBS 3	10	3.00	0.816	
	Midwifery Relieving Pool	10	3.60	1.075	
	NPICU	10	2.80	1.033	
	Outpatient Care Settings	11	3.27	1.104	

'Place of work during March 2020' and 'Positive effects resulting from the pandemic' *(Chi-squared test)*

			Positive effects resulting from the pandemic			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	6	13	5	24
		Percentage	25.0%	54.2%	20.8%	100.0%
	OBS 1	Count	3	5	4	12
		Percentage	25.0%	41.7%	33.3%	100.0%
	OBS 2	Count	3	1	0	4
		Percentage	75.0%	25.0%	0.0%	100.0%
	OBS 3	Count	4	4	2	10
		Percentage	40.0%	40.0%	20.0%	100.0%
	Midwifery Relieving Pool	Count	7	2	1	10
		Percentage	70.0%	20.0%	10.0%	100.0%
	NPICU	Count	6	3	1	10
		Percentage	60.0%	30.0%	10.0%	100.0%

			Positive effects resulting from the pandemic			
			Yes	No	Not Sure	**Total**
	Outpatient Care Settings	Count	9	2	0	11
		Percentage	81.8%	18.2%	0.0%	100.0%
Total		Count	38	30	13	81
		Percentage	46.9%	37.0%	16.0%	100.0%

$X^2(12) = 18.478$, p = 0.102

'Place of work during March 2020' and 'Adequate access to personal protective equipment (PPE)' *(Chi-squared test)*

			Adequate access to personal protective equipment (PPE)			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	17	4	3	24
		Percentage	70.8%	16.7%	12.5%	100.0%
	OBS 1	Count	7	5	0	12
		Percentage	58.3%	41.7%	0.0%	100.0%
	OBS 2	Count	4	0	0	4
		Percentage	100.0%	0.0%	0.0%	100.0%
	OBS 3	Count	6	4	0	10
		Percentage	60.0%	40.0%	0.0%	100.0%
	Midwifery Relieving Pool	Count	9	1	0	10
		Percentage	90.0%	10.0%	0.0%	100.0%
	NPICU	Count	10	0	0	10
		Percentage	100.0%	0.0%	0.0%	100.0%
	Outpatient Care Settings	Count	8	2	1	11
		Percentage	72.7%	18.2%	9.1%	100.0%
Total		Count	61	16	4	81
		Percentage	75.3%	19.8%	4.9%	100.0%

$X^2(12) = 16.068$, p = 0.188

'Place of work during March 2020' and 'Perceived recognition of work during the COVID-19 pandemic by the organisation' *(Chi-squared test)*

			Perceived recognition of work during the COVID-19 pandemic by the organisation			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	1	18	5	24
		Percentage	4.2%	75.0%	20.8%	100.0%
	OBS 1	Count	0	10	2	12
		Percentage	0.0%	83.3%	16.7%	100.0%
	OBS 2	Count	0	3	1	4
		Percentage	0.0%	75.0%	25.0%	100.0%
	OBS 3	Count	2	4	4	10
		Percentage	20.0%	40.0%	40.0%	100.0%
	Midwifery Relieving Pool	Count	1	7	2	10
		Percentage	10.0%	70.0%	20.0%	100.0%
	NPICU	Count	0	10	0	10
		Percentage	0.0%	100.0%	0.0%	100.0%
	Outpatient Care Settings	Count	0	7	4	11
		Percentage	0.0%	63.6%	36.4%	100.0%
Total		Count	4	59	18	81
		Percentage	4.9%	72.8%	22.2%	100.0%

$X^2(12) = 14.658$, $p = 0.261$

'Place of work during March 2020' and 'Access to employee support programmes during the COVID-19 pandemic' *(Chi-squared test)*

			Access to employee support programmes during the COVID-19 pandemic			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	3	12	9	24
		Percentage	12.5%	50.0%	37.5%	100.0%
	OBS 1	Count	1	8	3	12
		Percentage	8.3%	66.7%	25.0%	100.0%
	OBS 2	Count	2	1	1	4
		Percentage	50.0%	25.0%	25.0%	100.0%
	OBS 3	Count	0	4	6	10
		Percentage	0.0%	40.0%	60.0%	100.0%

			Access to employee support programmes during the COVID-19 pandemic			
			Yes	No	Not Sure	**Total**
	Midwifery Relieving Pool	Count	3	4	3	10
		Percentage	30.0%	40.0%	30.0%	100.0%
	NPICU	Count	0	7	3	10
		Percentage	0.0%	70.0%	30.0%	100.0%
	Outpatient Care Settings	Count	3	2	6	11
		Percentage	27.3%	18.2%	54.5%	100.0%
Total		Count	12	38	31	81
		Percentage	14.8%	46.9%	38.3%	100.0%

$X^2(12) = 17.266$, $p = 0.140$

'Place of work during March 2020' and 'Desire for increased organisational support' *(Chi-squared test)*

			Desire for increased organisational support			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	19	3	2	24
		Percentage	79.2%	12.5%	8.3%	100.0%
	OBS 1	Count	11	0	1	12
		Percentage	91.7%	0.0%	8.3%	100.0%
	OBS 2	Count	3	0	1	4
		Percentage	75.0%	0.0%	25.0%	100.0%
	OBS 3	Count	10	0	0	10
		Percentage	100.0%	0.0%	0.0%	100.0%
	Midwifery Relieving Pool	Count	6	3	1	10
		Percentage	60.0%	30.0%	10.0%	100.0%
	NPICU	Count	9	0	1	10
		Percentage	90.0%	0.0%	10.0%	100.0%
	Outpatient Care Settings	Count	9	0	2	11
		Percentage	81.8%	0.0%	18.2%	100.0%
Total		Count	67	6	8	81
		Percentage	82.7%	7.4%	9.9%	100.0%

$X^2(12) = 15.214$, $p = 0.230$

'Place of work during March 2020' and 'Availability of sick and quarantine leave' *(Chi-squared test)*

			Availability of sick and quarantine leave			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	21	1	2	24
		Percentage	87.5%	4.2%	8.3%	100.0%
	OBS 1	Count	11	1	0	12
		Percentage	91.7%	8.3%	0.0%	100.0%
	OBS 2	Count	4	0	0	4
		Percentage	100.0%	0.0%	0.0%	100.0%
	OBS 3	Count	8	0	2	10
		Percentage	80.0%	0.0%	20.0%	100.0%
	Midwifery Relieving Pool	Count	8	1	1	10
		Percentage	80.0%	10.0%	10.0%	100.0%
	NPICU	Count	8	0	2	10
		Percentage	80.0%	0.0%	20.0%	100.0%
	Outpatient Care Settings	Count	6	2	3	11
		Percentage	54.5%	18.2%	27.3%	100.0%
Total		Count	66	5	10	81
		Percentage	81.5%	6.2%	12.3%	100.0%

$X^2(12) = 11.219$, $p = 0.510$

'Place of work during March 2020' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Place of work during March 2020	CDS	Count	8	13	3	24
		Percentage	33.3%	54.2%	12.5%	100.0%
	OBS 1	Count	5	7	0	12
		Percentage	41.7%	58.3%	0.0%	100.0%
	OBS 2	Count	3	0	1	4
		Percentage	75.0%	0.0%	25.0%	100.0%

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
	OBS 3	Count	3	6	1	10
		Percentage	30.0%	60.0%	10.0%	100.0%
	Midwifery Relieving Pool	Count	2	7	1	10
		Percentage	20.0%	70.0%	10.0%	100.0%
	NPICU	Count	5	5	0	10
		Percentage	50.0%	50.0%	0.0%	100.0%
	Outpatient Care Settings	Count	0	11	0	11
		Percentage	0.0%	100.0%	0.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(12) = 18.541$, p = 0.100

'Adequate access to PPE' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Adequate access to PPE	Yes	Count	16	40	5	61
		Percentage	26.2%	65.6%	8.2%	100.0%
	No	Count	8	8	0	16
		Percentage	50.0%	50.0%	0.0%	100.0%
	Not Sure	Count	2	1	1	4
		Percentage	50.0%	25.0%	25.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 6.944$, p = 0.139

'Increase in workload' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Increase in workload	Yes	Count	23	42	6	71
		Percentage	32.4%	59.2%	8.5%	100.0%
	No	Count	2	4	0	6
		Percentage	33.3%	66.7%	0.0%	100.0%
	Not Sure	Count	1	3	0	4
		Percentage	25.0%	75.0%	0.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 1.111$, $p = 0.893$

'Perceived recognition of work during the COVID-19 pandemic by the organisation' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Perceived recognition of work during the COVID-19 pandemic by the organisation	Yes	Count	1	2	1	4
		Percentage	25.0%	50.0%	25.0%	100.0%
	No	Count	22	32	5	59
		Percentage	37.3%	54.2%	8.5%	100.0%
	Not Sure	Count	3	15	0	18
		Percentage	16.7%	83.3%	0.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 6.995$, $p = 0.136$

'Access to employee support programmes during the COVID-19 pandemic' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Access to employee support programmes during the COVID-19 pandemic	Yes	Count	3	8	1	12
		Percentage	25.0%	66.7%	8.3%	100.0%
	No	Count	13	23	2	38
		Percentage	34.2%	60.5%	5.3%	100.0%
	Not Sure	Count	10	18	3	31
		Percentage	32.3%	58.1%	9.7%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 0.813$, $p = 0.937$

'Desire for increased organisational support' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Desire for increased organisational support	Yes	Count	24	37	6	67
		Percentage	35.8%	55.2%	9.0%	100.0%
	No	Count	1	5	0	6
		Percentage	16.7%	83.3%	0.0%	100.0%
	Not Sure	Count	1	7	0	8
		Percentage	12.5%	87.5%	0.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 4.735$, $p = 0.316$

'Availability of sick and quarantine leave' and 'Impact of COVID-19 pressures on leave consideration and job continuation' *(Chi-squared test)*

			Impact of COVID-19 pressures on leave consideration and job continuation			
			Yes	No	Not Sure	**Total**
Availability of sick and quarantine leave	Yes	Count	25	37	4	66
		Percentage	37.9%	56.1%	6.1%	100.0%
	No	Count	1	4	0	5
		Percentage	20.0%	80.0%	0.0%	100.0%
	Not Sure	Count	0	8	2	10
		Percentage	0.0%	80.0%	20.0%	100.0%
Total		Count	26	49	6	81
		Percentage	32.1%	60.5%	7.4%	100.0%

$X^2(4) = 7.955$, $p = 0.093$

'Impact of COVID-19 pressures on leave consideration and job continuation' and 'Changes in the provision of midwifery care during the COVID-19 pandemic' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
Policies and protocols related to the COVID-19 pandemic were needed and evidence-based.	Yes	26	3.62	1.023	0.731
	No	49	3.59	0.998	
	Not Sure	6	3.33	0.816	
Policies and protocols related to the COVID-19 pandemic restricted midwives' ability to provide quality midwifery care.	Yes	26	4.04	0.999	0.310
	No	49	3.84	0.773	
	Not Sure	6	3.83	0.408	
Policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic.	Yes	26	3.00	1.296	0.579
	No	49	3.33	0.966	
	Not Sure	6	3.33	0.816	

'Place of work' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	CDS	24	4.79	2.322	0.339
	OBS 1	12	4.58	2.109	
	OBS 2	4	6.25	0.957	
	OBS 3	10	4.90	2.283	
	Midwifery Relieving Pool	10	6.50	2.550	
	NPICU	10	5.50	1.179	
	Outpatient Care Settings	11	5.64	1.912	
What is the level of fear you felt for your personal safety and well-being during this time?	CDS	24	7.75	1.871	0.106
	OBS 1	12	7.67	2.605	
	OBS 2	4	8.25	1.258	
	OBS 3	10	8.20	1.989	
	Midwifery Relieving Pool	10	7.40	2.171	
	NPICU	10	7.20	1.814	
	Outpatient Care Settings	11	5.36	2.378	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	CDS	24	8.71	1.546	0.095
	OBS 1	12	9.50	1.000	
	OBS 2	4	9.25	0.957	
	OBS 3	10	9.20	1.317	
	Midwifery Relieving Pool	10	8.70	1.252	
	NPICU	10	8.60	1.713	
	Outpatient Care Settings	11	7.36	2.203	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	CDS	24	5.42	2.430	0.354
	OBS 1	12	4.50	1.977	
	OBS 2	4	4.00	1.414	
	OBS 3	10	6.60	2.319	
	Midwifery Relieving Pool	10	5.60	1.838	
	NPICU	10	4.90	2.025	
	Outpatient Care Settings	11	5.18	1.328	

'Adequate access to PPE' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	61	5.62	2.001	0.006
	No	16	3.69	2.056	
	Not Sure	4	6.00	1.826	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	61	7.36	2.122	0.926
	No	16	7.44	2.632	
	Not Sure	4	7.50	1.732	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	61	8.64	1.517	0.292
	No	16	9.00	1.966	
	Not Sure	4	8.75	1.500	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	61	5.15	1.842	0.393
	No	16	5.44	2.898	
	Not Sure	4	6.75	2.062	

'Increase in workload' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	71	5.20	2.208	0.736
	No	6	5.50	1.761	
	Not Sure	4	6.00	1.155	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	71	8.75	1.679	0.237
	No	6	8.83	0.753	
	Not Sure	4	8.00	0.816	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	71	5.38	2.114	0.415
	No	6	4.67	2.503	
	Not Sure	4	4.50	1.000	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	71	8.41	1.729	0.820
	No	6	8.00	2.098	
	Not Sure	4	6.75	3.948	

'Perceived recognition of work during the COVID-19 pandemic by the organisation' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	4	4.50	3.000	0.301
	No	59	5.07	2.042	
	Not Sure	18	6.06	2.155	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	4	8.00	2.309	0.520
	No	59	7.47	2.192	
	Not Sure	18	6.94	2.209	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	4	9.25	.957	0.400
	No	59	8.90	1.335	
	Not Sure	18	8.00	2.249	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	4	5.25	2.062	0.908
	No	59	5.24	2.322	
	Not Sure	18	5.44	1.247	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	4	7.75	2.630	0.418
	No	59	8.41	1.957	
	Not Sure	18	8.06	1.589	

'Access to employee support programmes during the COVID-19 pandemic' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	12	6.08	2.539	0.256
	No	38	5.05	2.117	
	Not Sure	31	5.19	1.973	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	12	6.83	2.480	0.705
	No	38	7.55	2.009	
	Not Sure	31	7.39	2.319	

		N	Mean	Std. Deviation	P-value
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	12	8.75	1.215	0.845
	No	38	8.87	1.417	
	Not Sure	31	8.52	1.930	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	12	4.83	1.586	0.777
	No	38	5.42	2.274	
	Not Sure	31	5.29	2.085	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	12	7.75	2.094	0.365
	No	38	8.58	1.703	
	Not Sure	31	8.16	2.051	

'Desire for increased organisational support' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	67	5.12	2.019	0.263
	No	6	6.83	3.125	
	Not Sure	8	5.25	2.053	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	67	5.24	2.223	0.756
	No	6	5.50	1.378	
	Not Sure	8	5.50	1.512	

'Availability of sick and quarantine leave' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	66	5.18	2.176	0.461
	No	5	4.80	2.864	
	Not Sure	10	6.00	1.333	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	66	7.56	2.268	0.106
	No	5	7.20	1.643	
	Not Sure	10	6.30	1.636	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	66	8.85	1.481	0.201
	No	5	8.80	2.168	
	Not Sure	10	7.80	1.932	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	66	5.30	2.177	0.978
	No	5	4.80	2.280	
	Not Sure	10	5.40	1.578	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	66	8.32	1.891	0.977
	No	5	8.20	2.049	
	Not Sure	10	8.20	2.098	

'Impact of COVID-19 pressures on leave consideration and job continuation' and 'Level of job satisfaction during the COVID-19 pandemic' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	26	4.54	2.387	0.061
	No	49	5.59	1.825	
	Not Sure	6	6.00	2.366	

'Positive effects resulting from the pandemic' and 'Personal challenges' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Yes	38	5.39	2.150	0.861
	No	30	5.03	2.297	
	Not Sure	13	5.38	1.758	
What is the level of fear you felt for your personal safety and well-being during this time?	Yes	38	7.32	2.338	0.359
	No	30	7.83	1.599	
	Not Sure	13	6.54	2.757	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Yes	38	8.50	1.656	0.275
	No	30	9.10	1.269	
	Not Sure	13	8.46	2.025	
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Yes	38	5.05	2.053	0.624
	No	30	5.60	2.191	
	Not Sure	13	5.23	2.088	
What is the level of burnout you felt during the COVID-19 pandemic?	Yes	38	8.05	1.931	0.397
	No	30	8.53	1.833	
	Not Sure	13	8.46	2.025	

'Place of work during March 2020' and 'Factors influencing midwives' job retention during the COVID-19 pandemic' *(Chi-squared test)*

			Factors influencing midwives' job retention during the COVID-19 pandemic							
			Job satisfaction	Support from colleagues	Support from leaders / midwifery officers	Moral obligation to support colleagues	Financial reasons	Job continuity	Other	**Total**
Place of work during March 2020	CDS	Count	12	17	2	7	13	9	2	24
		Percentage	50.0%	70.8%	8.3%	29.2%	54.2%	37.5%	8.3%	
	OBS 1	Count	5	7	1	3	8	4	0	12
		Percentage	41.7%	58.3%	8.3%	25.0%	66.7%	33.3%	0.0%	
	OBS 2	Count	0	3	0	3	3	1	0	4
		Percentage	0.0%	75.0%	0.0%	75.0%	75.0%	25.0%	0.0%	
	OBS 3	Count	5	7	1	4	3	2	0	10
		Percentage	50.0%	70.0%	10.0%	40.0%	30.0%	20.0%	0.0%	
	Midwifery Relieving Pool	Count	7	7	2	6	5	3	0	10
		Percentage	70.0%	70.0%	20.0%	60.0%	50.0%	30.0%	0.0%	
	NPICU	Count	5	8	0	5	9	5	1	10
		Percentage	50.0%	80.0%	0.0%	50.0%	90.0%	50.0%	10.0%	
	Outpatient Care Settings	Count	3	10	2	5	3	3	0	11
		Percentage	27.3%	90.9%	18.2%	45.5%	27.3%	27.3%	0.0%	
Total		Count	37	59	8	33	44	27	3	81

$X^2(36) = 19.918$, $p = 0.986$

'Personal challenges' and 'Factors influencing midwives' job retention during the COVID-19 pandemic' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Job satisfaction	37	5.30	2.209	0.226
	Support from colleagues	59	5.49	2.037	
	Support from leaders / midwifery officers	8	7.00	1.512	
	Moral obligation to support colleagues	33	5.55	2.032	
	Financial reasons	44	5.23	2.078	
	Job continuity	27	6.00	1.732	
	Other	3	4.33	3.215	
What is the level of fear you felt for your personal safety and well-being during this time?	Job satisfaction	37	7.32	2.199	0.444
	Support from colleagues	59	7.42	2.053	
	Support from leaders / midwifery officers	8	7.25	2.053	
	Moral obligation to support colleagues	33	7.18	2.068	
	Financial reasons	44	7.86	1.850	
	Job continuity	27	7.07	2.352	
	Other	3	9.33	1.155	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Job satisfaction	37	8.59	1.771	0.218
	Support from colleagues	59	8.71	1.498	
	Support from leaders / midwifery officers	8	8.38	1.598	
	Moral obligation to support colleagues	33	8.76	1.275	
	Financial reasons	44	9.27	.973	
	Job continuity	27	8.33	1.617	
	Other	3	9.33	1.155	

		N	Mean	Std. Deviation	P-value
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Job satisfaction	37	6.19	2.158	0.234
	Support from colleagues	59	5.37	1.947	
	Support from leaders / midwifery officers	8	6.38	1.506	
	Moral obligation to support colleagues	33	5.55	1.804	
	Financial reasons	44	5.09	1.986	
	Job continuity	27	5.44	1.948	
	Other	3	4.00	3.606	
What is the level of burnout you felt during the COVID-19 pandemic?	Job satisfaction	37	8.05	1.971	0.982
	Support from colleagues	59	8.39	1.712	
	Support from leaders / midwifery officers	8	8.13	1.808	
	Moral obligation to support colleagues	33	8.27	1.790	
	Financial reasons	44	8.48	1.677	
	Job continuity	27	8.37	1.757	
	Other	3	8.67	0.577	

'Place of work during March 2020' and 'Strategies to alleviate the negative effects of the pandemic on women and their partners' *(Chi-squared test)*

			Strategies to alleviate the effects of the pandemic on women and their partners				
			Less restrictive protocols	Increasing support services	More knowledge on COVID-19 and policies to women and their partners	Other	**Total**
Place of work during March 2020	CDS	Count	17	20	12	0	24
		Percentage	70.8%	83.3%	50.0%	0.0%	
	OBS 1	Count	1	12	8	0	12
		Percentage	8.3%	100.0%	66.7%	0.0%	
	OBS 2	Count	0	4	1	0	4
		Percentage	0.0%	100.0%	25.0%	0.0%	
	OBS 3	Count	1	10	7	0	10
		Percentage	10.0%	100.0%	70.0%	0.0%	
	Midwifery Relieving Pool	Count	3	8	7	0	10
		Percentage	30.0%	80.0%	70.0%	0.0%	
	NPICU	Count	4	9	8	1	10
		Percentage	40.0%	90.0%	80.0%	10.0%	
	Outpatient Care Settings	Count	4	7	8	0	11
		Percentage	36.4%	63.6%	72.7%	0.0%	
Total		Count	30	70	51	1	81

$X^2(18) = 22.117$, p = 0.227

'Effects of the pandemic observed in women and their partners' and 'Strategies to alleviate the negative effects of the pandemic on women and their partners' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on women and their partners				
			Less restrictive protocols	Increasing support services	More knowledge on COVID-19 and policies to women and their partners	Other	**Total**
Effects of the pandemic observed in women and their partners	Anxiety or fear	Count	30	69	51	1	80
		Percentage	37.5%	86.3%	63.8%	1.3%	
	Sadness	Count	24	44	31	1	49
		Percentage	49.0%	89.8%	63.3%	2.0%	
	Loneliness	Count	27	59	40	1	66
		Percentage	40.9%	89.4%	60.6%	1.5%	
	Irritability or anger	Count	24	46	30	1	51
		Percentage	47.1%	90.2%	58.8%	2.0%	
	Worry about safety of self or other	Count	26	57	42	1	65
		Percentage	40.0%	87.7%	64.6%	1.5%	
	Feeling overwhelmed	Count	23	51	35	1	56
		Percentage	41.1%	91.1%	62.5%	1.8%	
	Other	Count	1	3	4	0	4
		Percentage	25.0%	75.0%	100.0%	0.0%	
Total		Count	30	70	51	1	81

$X^2(18) = 2.709$, $p = 1.000$

'Place of work during March 2020' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Place of work during March 2020	CDS	Count	20	13	16	16	1	24
		Percentage	83.3%	54.2%	66.7%	66.7%	4.2%	
	OBS 1	Count	10	5	8	9	0	12
		Percentage	83.3%	41.7%	66.7%	75.0%	0.0%	
	OBS 2	Count	4	3	3	4	1	4
		Percentage	100.0%	75.0%	75.0%	100.0%	25.0%	
	OBS 3	Count	8	5	7	7	0	10
		Percentage	80.0%	50.0%	70.0%	70.0%	0.0%	
	Midwifery Relieving Pool	Count	10	8	6	9	0	10
		Percentage	100.0%	80.0%	60.0%	90.0%	0.0%	
	NPICU	Count	8	5	4	10	2	10
		Percentage	80.0%	50.0%	40.0%	100.0%	20.0%	
	Outpatient Care Settings	Count	7	5	5	9	1	11
		Percentage	63.6%	45.5%	45.5%	81.8%	9.1%	
Total		Count	67	44	49	64	5	81

$X^2(24) = 10.607$, p = 0.992

'Personal challenges' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
How supported did you feel by your leaders / midwifery officers at your place of work during the pandemic?	Increase in support from leaders / midwifery officers	67	5.10	2.189	0.970
	More access to employee support programmes	44	5.20	1.995	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	5.24	2.036	
	More training for future pandemics	64	5.31	2.203	
	Other	5	5.40	2.608	
What is the level of fear you felt for your personal safety and well-being during this time?	Increase in support from leaders / midwifery officers	67	7.84	1.920	0.853
	More access to employee support programmes	44	7.77	1.903	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	7.63	2.307	
	More training for future pandemics	64	7.63	1.988	
	Other	5	6.80	2.387	
What is the level of fear you felt for your family's safety and well-being due to the pandemic?	Increase in support from leaders / midwifery officers	67	8.97	1.477	0.880
	More access to employee support programmes	44	9.02	1.355	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	8.80	1.633	
	More training for future pandemics	64	8.78	1.578	
	Other	5	8.40	2.074	

		N	Mean	Std. Deviation	P-value
What is the level of job satisfaction you felt during the COVID-19 pandemic?	Increase in support from leaders / midwifery officers	67	5.09	2.094	0.414
	More access to employee support programmes	44	5.48	1.911	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	5.57	2.179	
	More training for future pandemics	64	5.34	2.025	
	Other	5	3.60	2.408	
What is the level of burnout you felt during the COVID-19 pandemic?	Increase in support from leaders / midwifery officers	67	8.55	1.550	0.653
	More access to employee support programmes	44	8.36	1.557	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	8.41	1.925	
	More training for future pandemics	64	8.42	1.762	
	Other	5	9.40	.894	

'Adequate access to PPE' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Adequate access to PPE	Yes	Count	51	32	40	48	4	61
		Percentage	83.6%	52.5%	65.6%	78.7%	6.6%	
	No	Count	14	10	7	12	1	16
		Percentage	87.5%	62.5%	43.8%	75.0%	6.3%	
	Not Sure	Count	2	2	2	4	0	4
		Percentage	50.0%	50.0%	50.0%	100.0%	0.0%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 2.332$, $p = 0.969$

'Perceived recognition of work during the COVID-19 pandemic by the organisation' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Perceived recognition of work during the COVID-19 pandemic by the organisation	Yes	Count	4	3	3	4	0	4
		Percentage	100.0%	75.0%	75.0%	100.0%	0.0%	
	No	Count	48	33	37	49	4	59
		Percentage	81.4%	55.9%	62.7%	83.1%	6.8%	
	Not Sure	Count	15	8	9	11	1	18
		Percentage	83.3%	44.4%	50.0%	61.1%	5.6%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 1.015$, $p = 0.998$

'Access to employee support programmes during the COVID-19 pandemic' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Access to employee support programmes during the COVID-19 pandemic	Yes	Count	10	6	4	8	2	12
		Percentage	83.3%	50.0%	33.3%	66.7%	16.7%	
	No	Count	30	20	26	31	1	38
		Percentage	78.9%	52.6%	68.4%	81.6%	2.6%	
	Not Sure	Count	27	18	19	25	2	31
		Percentage	87.1%	58.1%	61.3%	80.6%	6.5%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 5.184$, $p = 0.738$

'Desire for increased organisational support' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Desire for increased organisational support	Yes	Count	57	40	41	55	4	67
		Percentage	85.1%	59.7%	61.2%	82.1%	6.0%	
	No	Count	5	3	4	4	0	6
		Percentage	83.3%	50.0%	66.7%	66.7%	0.0%	
	Not Sure	Count	5	1	4	5	1	8
		Percentage	62.5%	12.5%	50.0%	62.5%	12.5%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 3.494$, $p = 0.900$

'Availability of sick and quarantine leave' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Availability of sick and quarantine leave	Yes	Count	56	35	42	51	3	66
		Percentage	84.8%	53.0%	63.6%	77.3%	4.5%	
	No	Count	5	4	0	4	0	5
		Percentage	100.0%	80.0%	0.0%	80.0%	0.0%	
	Not Sure	Count	6	5	7	9	2	10
		Percentage	60.0%	50.0%	70.0%	90.0%	20.0%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 8.791$, $p = 0.360$

'Impact of COVID-19 pressures on leave consideration and job continuation' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Chi-squared test)*

			Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care					
			Increase in support from leaders / midwifery officers	More access to employee support programmes	Creating a support programme for staff affected by the COVID-19 pandemic	More training for future pandemics	Other	**Total**
Impact of COVID-19 pressures on leave consideration and job continuation	Yes	Count	26	16	17	24	3	26
		Percentage	100.0%	61.5%	65.4%	92.3%	11.5%	
	No	Count	36	24	28	34	2	49
		Percentage	73.5%	49.0%	57.1%	69.4%	4.1%	
	Not Sure	Count	5	4	4	6	0	6
		Percentage	83.3%	66.7%	66.7%	100.0%	0.0%	
Total		Count	67	44	49	64	5	81

$X^2(8) = 1.699$, $p = 0.989$

'Changes in the provision of midwifery care during the pandemic' and 'Strategies to alleviate the negative effects of the pandemic on midwives' ability to provide quality midwifery care' *(Kruskal-Wallis test)*

		N	Mean	Std. Deviation	P-value
Midwives were trained, prepared and given the appropriate knowledge related to the COVID-19 pandemic.	Increase in support from leaders / midwifery officers	67	2.73	1.067	0.647
	More access to employee support programmes	44	2.61	1.061	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	2.92	1.096	
	More training for future pandemics	64	2.69	1.006	
	Other	5	2.40	0.548	
The leaders at the maternity care setting you were working at were transparent and responsive to the rapidly evolving circumstances related to the COVID-19 pandemic.	Increase in support from leaders / midwifery officers	67	2.99	0.992	0.711
	More access to employee support programmes	44	3.11	0.970	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	3.20	0.866	
	More training for future pandemics	64	3.19	0.941	
	Other	5	3.40	0.894	
The leaders at the maternity care setting you were working at effectively coordinated and managed the changes related to the COVID-19 pandemic.	Increase in support from leaders / midwifery officers	67	3.24	0.971	0.884
	More access to employee support programmes	44	3.32	0.909	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	3.41	0.705	
	More training for future pandemics	64	3.34	0.895	
	Other	5	3.00	1.000	

		N	Mean	Std. Deviation	P-value
Midwives were consulted during the decision-making processes in the formulation of policies and protocols related to the COVID-19 pandemic.	Increase in support from leaders / midwifery officers	67	2.00	0.905	0.957
	More access to employee support programmes	44	1.95	0.888	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	2.02	0.829	
	More training for future pandemics	64	2.05	0.825	
	Other	5	2.20	1.304	
Policies and protocols related to the COVID-19 pandemic were needed and evidence-based.	Increase in support from leaders / midwifery officers	67	3.58	1.002	0.903
	More access to employee support programmes	44	3.55	1.044	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	3.67	0.826	
	More training for future pandemics	64	3.61	0.970	
	Other	5	4.00	0.707	
Policies and protocols related to the COVID-19 pandemic restricted midwives' ability to provide quality midwifery care.	Increase in support from leaders / midwifery officers	67	3.94	0.756	0.956
	More access to employee support programmes	44	3.98	0.698	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	3.88	0.904	
	More training for future pandemics	64	3.95	0.785	
	Other	5	4.20	0.837	

		N	Mean	Std. Deviation	P-value
Policies and protocols currently set locally are adequate to the current situation of the COVID-19 pandemic.	Increase in support from leaders / midwifery officers	67	3.27	1.109	0.720
	More access to employee support programmes	44	3.11	1.185	
	Creating a support programme for staff affected by the COVID-19 pandemic	49	3.33	1.088	
	More training for future pandemics	64	3.28	1.031	
	Other	5	2.80	0.837	

Midwives' Perspectives on the Provision of Quality Midwifery Care during the COVID-19 Pandemic in Malta

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