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The Malta Journal of Health Sciences is a peer-reviewed, open access publication that promotes the sharing and exchange of knowledge in Health Sciences. It provides a platform for novice and established researchers to share their findings, insights and views within an inter-professional context. The Journal originates within the Faculty of Health Sciences, University of Malta.

The Malta Journal of Health Sciences disseminates research on a broad range of allied health disciplines. It publishes original research papers, review articles, short communications, commentaries, letters to the editor and book reviews. The readership of the journal consists of academics, practitioners and trainee health professionals across the disciplines of Applied Biomedical Science, Audiology, Communication Therapy, Community Nursing, Environmental Health, Food Science, Health Services Management, Medical Physics, Mental Health, Midwifery, Nursing, Occupational Therapy, Physiotherapy, Podiatry and Radiography.

Submitted manuscripts undergo independent blind peer review, typically by two reviewers with relevant expertise. All manuscripts are reviewed as rapidly as possible and an editorial decision is generally reached within approximately two months of submission. Authors of manuscripts that require revisions will have two weeks to submit their revised manuscripts. No manuscript that has already been published or is under consideration for publication elsewhere will be considered.

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Guest Editorial

The 'spiritual disruption' caused by the COVID-19 pandemic

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The world is currently in the grip of a pandemic caused by the severe acute respiratory syndrome novel coronavirus 2 (SARS-CoV-2) resulting in COVID-19. The virus was first detected in Wuhan City, China, in December 2019. The virus once reported spread rapidly globally becoming a pandemic, which has had a devastating impact on the normal functioning of everyday life. It has placed tremendous strain on health and social care systems, halted economies, and has had a significant impact on people's lives, relationships, and activities.

The response of governments has been unprecedented, costing billions to save lives, reduce the impact on hospitals services, while preserving employment, and education. The World Health Organisation (WHO) reports that globally, as of 3:46pm CEST, 16 April 2021, there have been 138, 688, 383 confirmed cases of COVID-19, including 2, 978, 935 deaths reported to WHO. The rapid spread of COVID-19 across many countries has led to an international public health emergency and raised awareness of how countries monitor, prevent, and control the spread of the virus.

WHO declared 2020 as the International Year of the Nurse and Midwife. The importance and contribution of nurses and midwives has never been more important. Our societies have been affected by this virus causing a pandemic of unimaginable, almost apocalyptic proportions. In this unprecedented situation, for example, the psychological impact on the population, and especially on pregnant women, is largely unknown. Research at the time of previous similar epidemics

(SARS and MERS) showed that pregnant women were more likely to be psychologically affected.

The virus has disrupted and devastated every sphere of people's lives and existence. The virus has so far resulted in 3 million deaths globally with many countries experiencing very high mortality rates. Furthermore, the effects of the so-called 'long covid' are also yet to be well determined or understood, and the potential future challenges of people requiring on-going care and support (both physiologically, psychologically, and one might imagine spiritually should not be underestimated (Mahase, 2020)).

The virus has also had a massive impact on the economic and financial infrastructures of many nations, with individuals not being able to work, many losing their jobs and livelihoods. Children and young people have been unable to attend school or educational institutions and family members and friends have had to isolate from each other during 'lockdowns.' Civil liberties have had to be curtailed and individuals have had to embrace and endure a wide range of measures that have restricted freedom and everyday living.

The virus has been indiscriminatory, traversing all age and ethnic groups but being particularly devastating to some vulnerable and particularly at-risk groups such as older people, those receiving treatment for conditions such as cancer, and those living with long-term conditions.

The human suffering has been immense, but this has been compounded by all the restrictions that have had to be imposed to control the rate and spread of the virus. Nursing, midwifery, and healthcare have been at the frontline of the pandemic having to care for some very seriously ill individuals who have required considerable critical and living saving care in high dependency and

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critical care units, such as older people, the extremely vulnerable in nature affecting all ages of people.

When one looks at the impact of the COVID-19 pandemic, the importance of the spiritual dimension of people's lives becomes very clear. As the many definitions of spirituality, the concept concerns those important aspects of people's lives which might be taken for granted. For example, what can be deemed the ordinary and mundane activities of everyday life, our relationships, employment, recreation, being able to practice one's religion, and ultimately offering support to loved ones who are experiencing illness and approaching the end of life. It is not until the ordinary and mundane things we take for granted are threatened or removed, that we appreciate the significance and value we place upon them and the important structural role they play in our lives. The fundamental attributes of spirituality: meaning, purpose and fulfilment (existential), transcendence, religiosity, relationships, and connections have all been affected, meaning that many individuals are experiencing what could be termed a 'spiritual disruption' to everyday existence.

The 'spiritual disruption' caused by the COVID-19 pandemic has been unprecedented, because every sphere and aspect of people's lives have been devastated and almost dismantled. There has been a shattering of everything that can be deemed normal. Yet, during what could be considered a very bleak and traumatic time, we have witnessed the best of humanity and communities rallying to support each other and especially the most vulnerable.

There have been heroic accounts of individuals, nurses, midwives, and healthcare professionals going above and beyond, in the face of great adversity to ensure those affected by COVID-19 receive compassionate care. New and innovative ways of maintaining connections between family members across many sectors of health and social care have had to be created especially those receiving care at the beginning of life and end of life.

Nurses and midwives throughout this pandemic have shown considerable courage and resilience, drawing on their own spiritual resources to ensure those in need of care feel respected and valued. Yet, the demands on nurses and midwives have been visible, with many having to spend considerable time working under extreme pressure and conditions, wearing personal protective equipment for long hours, and dealing with situations that are very emotionally and psychologically

distressing. The moral injury and spiritual distress caused by the pandemic on those working in frontline services is still to manifest. The long-term cost, impact, and ramifications of the pandemic upon individuals, our nursing, midwifery, and healthcare professions will be significant. The importance of spirituality will play an important part in the recovery and healing both individually and across societies. So is the importance of striving for excellence in spiritual care education and clinical health-care provision in the light of the unprecedented circumstances posed by the coronavirus infection 2019 (COVID-19.)

Nursing and midwifery education is mandated to promote interpersonal approaches to spiritual care by orientating the student towards compassion. This needs the development of a safe space; an inclusive approach to care underpinned by self-awareness; holding a broad worldview; developing an increased sense of personal spirituality; along with sensitive discerning interactions that are timed, paced, validated, and adapted to fit the patient's situation.

The development of the Spiritual Care Education Standard (EPICC, 2019) for undergraduate nursing/midwifery students indicates the necessary attitudinal attributes for spiritual care competency development. Specifically, being 'open and respectful to persons' diverse expressions of spirituality in intrapersonal spirituality; along with being 'trustworthy, approachable, and respectful of persons' expressions of spirituality...' in interpersonal spirituality; and being 'open, approachable and non-judgmental' when assessing and planning spiritual care. These help to facilitate the behaviours outlined above as necessary.

Connectedness with clients and patients in an open and trustful relationship makes space for compassion, which has been identified as a core element of healthcare and the heart of nursing/midwifery care (compassionate care). Specifically, it is impossible to practice spiritual nursing/midwifery care without compassion. Compassion is an 'active feeling', which means that there is an obligation to act to make a change in a clients'/patient's situation as much as it is possible and within the scope of competence. There are evident positive impacts of practising compassion on patients' health outcomes and recovery, the quality of care provided, as well as satisfaction with their work.

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Research Paper

Adherence to the Mediterranean dietary pattern among University students

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Abstract. The Mediterranean dietary pattern is one of the healthiest dietary patterns. Despite Malta's central location in the Mediterranean Sea, the Maltese dietary habits may have become more Westernised. The aims of this cross-sectional pilot study are to assess adherence to the Mediterranean diet in students at the University of Malta and investigate the feasibility of such a study and pilot the measurement tool. A structured interview was conducted with $n=50$ students who were conveniently recruited outside the University premises. The interview addressed lifestyle information and questions on the participants' consumption of food items typical of a Mediterranean dietary pattern using a literature-based score. A photographic food atlas was used to aid the quantification of food portion sizes. A maximum of 18 points score indicating adherence was generated for each participant. The majority of students were female, Maltese, aged between 18–20 years old and within the normal BMI range. Students were unlikely to consume alcohol or smoke. The majority had a low-moderate intake of fruits, vegetables and legumes, low intake of fish and high intake of meat. The mean (95% CI) adherence score to the Mediterranean dietary pattern was 8.8 (8.1, 9.5) out of 18, classifying 72% of the students as medium adherers. No significant associations were found between overall adherence and all study parameters (p -value = 0.05). This study was the first to investigate the adherence to the Mediterranean dietary pattern in a sample of the Maltese population. A larger sample size is required to

highlight associations between adherence levels and lifestyle factors.

Keywords. Mediterranean dietary pattern, adherence score, University students, Malta.

1. Introduction

The Mediterranean diet is an eating pattern that is predominant in countries surrounding the Mediterranean basin. The term diet is derived from the Greek word *diaeta* which means 'way of life'. Hence, the Mediterranean diet does not only comprise of eating practices but it also represents a lifestyle that involves several traditional habits of the Mediterranean culture (Arnoni & Berry, 2014). It is characterised by daily consumption of fresh foods of plant origin, namely seasonal fruits, vegetables, legumes, nuts and cereals. It also includes moderate to high consumption of fish and dairy products. On the other hand, the consumption of red meat, poultry and their products are limited to weekly meals. Additionally, the Mediterranean dietary pattern is known for its moderate consumption of alcohol, mainly in the form of red wine during meals and special occasions. And lastly, extra virgin olive oil is used on a daily basis as the main source of dietary fat (Gerber & Hoffman, 2015).

The positive effect of the Mediterranean dietary pattern on overall health outcomes, disease risk and life expectancy is frequently addressed in the nutrition literature (Sofi et al., 2014). In addition, several systematic reviews and meta-analyses of observational studies, prospective studies and randomised controlled trials

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(RCTs) provided consistent robust evidence on the inverse correlation between the adherence to the Mediterranean diet and neurodegenerative diseases (Dinu, et al., 2018), reduced type 2 diabetes mellitus risk (Koloverou, Esposito, Giugliano, & Panagiotakos, 2014) and cancer development (Schwingshackl & Hoffmann, 2015; Sofi et al., 2014). Furthermore, recent conclusions from the Evención con DIeta MEDiterránea (PREDIMED) Study stated that the Mediterranean diet can help lower cardiovascular events such as stroke, myocardial infarction or death by 30%.

(hazard ratio: 0.70, 95% confidence interval (CI) 0.55–0.89) when compared to a low-fat diet (Estruch et al., 2018).

Despite the fact that Malta is located in the centre of the Mediterranean Sea, the Maltese population may not follow the traditional Mediterranean dietary pattern, and there is evidence to show that the Maltese diet is becoming more Westernised as it is low in dietary fibre and high in saturated fats, salt and sugar (Rocchiccioli, et al., 2006). Research on University students concluded that the latter follow unhealthy diets since most of them did not meet the benchmarks for a healthy diet which include the daily consumption of five servings of fruits and vegetables, a healthy breakfast and nutritional meals, snacks and drinks (Cefai & Camilleri, 2011; Fenech, 2012).

The main aim of this study is to measure adherence to the Mediterranean dietary pattern in students at the University of Malta. The study also aims at investigating the feasibility of conducting such a study as well as piloting the used measurement tool.

2. Methodology

Participants were recruited in the period between October and December 2018 using convenience sampling in public areas near the University of Malta. A brief summary of the study's aims and objectives was provided to potential participants, along with an information sheet and a consent form. After that, a face-to-face structured interview was then carried out by the researchers. Each interview lasted approximately 10 minutes and was divided into two sections. The first included self-designed questions on demographics (gender, age and nationality) and lifestyle information (smoking status, height, weight and hours of physical activity). The second section involved a validated literature-based adherence score, proposed by Sofi and colleagues (2014), to assess

the participants' adherence to the Mediterranean dietary pattern. The adherence score consisted of nine food groups: fruits, vegetables, legumes, cereals, fish, meat and meat products, dairy products, alcohol and olive oil. The cut-off values were based on portion sizes (grams per day or per week) while the scoring criteria (0, 1, 2) depended on whether a food group is part of the Mediterranean diet and its consumption category (low, medium, high). The score ranged from 0 to 18 points, with 0 being the lowest degree of adherence and 18 being the highest degree of adherence (Sofi et al., 2014). Each participant was classified as a low, medium or high adherer to the Mediterranean dietary pattern, based on the adherence score obtained. The score was divided into three categories – low, medium and high. One was categorised as a low adherer if he scored between 0 and 6, a medium adherer with a score between 7 and 12, whilst those who scored between 13 to 18 were said to be high adherers. Finally, participants were shown different portion sizes depicted pictorially, using a photographic atlas (MAFF, 1997) to allow a more accurate quantification of portion sizes.

The study was ethically approved by the Faculty Research Ethics Committee (FREC) at the Faculty of Health Sciences and the University Research Ethics Committee (UREC) (reference number: FRECFHS_1718_090). This was followed by approval from the Office of the Registrar at the University of Malta.

Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS) version 23. Sociodemographic and lifestyle data were analysed using descriptive statistics. The adherence score was considered the dependent variable of the study and so, a normality test was conducted. The test result indicated that the adherence score variable follows a normal distribution. The normality assumption of the adherence score is also satisfied with each level of the categorical variables – gender, age, smoking status, nationality and faculty type. Therefore, One-way Analysis of Variance (ANOVA) was conducted to study the association between the adherence score and the categorical variables. Associations between the score and the continuous variables – body mass index (BMI) and physical activity were investigated using the Spearman Correlation test. This test was considered relevant as it measures the correlation between the mentioned variables and its nature i.e. positive or negative. In addition, the Chi-Squared test (X^2) was chosen to study any associations between the categorical variables and the individual food groups of the adherence score, whilst

ANOVA test was used to study the correlations between the continuous variables and the individual food groups. An alpha of 0.05 was used as a cut-off for significance.

(82%), aged 18–20 (70%), non-smokers (90%) and reading for degrees that are not related to health care professions (68%). The mean BMI of the participants was 23.1kg/ m² and they reported doing a mean of 5.4 hours of physical activity per week.

3. Results

3.1. Characteristics of the participants

A total of 50 students participated in this study. The baseline characteristics of the students' demographics and lifestyle behaviours are presented in Table 1. The majority of the participants were females (62%), Maltese

Table 1 – Baseline characteristics of study participants according to gender.

Variable N (%) or mean ± SD	Total (50) (100)	Male (19) (38)	Female (31) (62)	p-value
Age (in years) N (%)				0.359*
18–20	35 (70)	13 (37)	22 (63)	
21–23	10 (20)	3 (30)	7 (70)	
24–26	4 (8)	3 (75)	1 (25)	
More than 26	1 (2)	0 (0)	1 (100)	
Nationality				0.282*
Maltese	41 (82)	17 (41)	24 (59)	
Non-Maltese	9 (18)	2 (22)	7 (78)	
Faculty type				0.500*
Health care	16 (32)	5 (31)	11 (69)	
Non-health care	34 (68)	14 (41)	20 (59)	
Smoking Status				0.285*
Yes (Current smoker)	5 (10)	3 (60)	2 (40)	
No (Non-smoker)	45 (90)	16 (36)	29 (64)	
Height (m)	1.68 ± 0.09	1.75 ± 0.08	1.64 ± 0.06	<0.001**
Weight (kg)	65.6 ± 13.5	76.1 ± 12.2	59.2 ± 9.8	<0.001**
BMI (kg/ m²)	23.1 ± 3.6	24.7 ± 3.0	22.2 ± 3.6	0.015**
Physical activity (hours/ week)	5.4 ± 5.4	8.5 ± 7.2	3.6 ± 2.8	0.001**

Data are presented as n (%) or mean ± standard deviation.

* $p < 0.05$ of significant difference (Chi-squared).

** $p < 0.05$ of significant difference (ANOVA).

Consumption of food groups which make up the Mediterranean diet score is reported in Tables 2a and 2b. The majority of students consumed low portions of fruits, medium portions of vegetables and high portions of cereals. Weekly consumption of legumes was relatively low where only 32% of the students consume more than two portions per week. Participants reported consuming more than 1.5 portions of meat and meat products per day and low to medium (<1-2.5) portions of fish per week. Around half of the interviewed students consume less than one portion of dairy products per day. Daily alcohol consumption is low with most participants consuming less than one alcohol unit per day, whilst almost a quarter reported using olive oil in cooking/ dressing on a regular basis.

Tables 2a and 2b also show significant associations between the individual food groups of the adherence score and the study parameters. For example, the consumption of more than two portions of fruits was higher in students who had a high BMI value. In addition, students from health care faculties consume more fruits and vegetables than students from non-health care faculties. On another note, students aged 21-23 years old consume more portions of legumes than other students from the other age groups. Lastly, the consumption of fish, meat and dairy was significantly different between gender where male students consume more portions of fish, meat and dairy than female students.

Table 2a – Food groups consumption and relationship with gender, age group and BMI.

Food Components (consumption category)	Total		Gender		p-value		Age				p-value	BMI (Kg/m ²)	p-value ANOVA <0.05	
	N	%	Male n=19 38%	Female n=31 62%	X ²	<0.05	18–20 n=35 70%	21–23 n=10 20%	24–26 n=4 8%	>26 n=1 2%				X ²
Fruits														
<1 portion / day (lowest)	44		42.1	45.2	0.835		42.9	50.0	50.0	0.0	0.612		22.3 ± 3.5	0.037
1–1.5 portions / day (medium)	32		36.8	29.0			37.1	20.0	25.0	0.0			22.5 ± 3.1	
>2 portions / day (highest)	24		21.1	25.8			20.0	30.0	25.0	100.0			25.4 ± 3.5	
Vegetables														
<1 portion / day (lowest)	26		26.3	25.8	0.993		28.6	30.0	0.0	0.0	0.202		22.4 ± 3.4	0.660
1–2.5 portions / day (medium)	64		63.2	64.5			65.7	40.0	100.0	100.0			23.4 ± 3.6	
>2.5 portions/ day (highest)	10		10.5	9.7			5.7	30.0	0.0	0.0			23.7 ± 4.5	
Legumes														
<1 portion/ week (lowest)	36		42.1	32.3	0.730		48.6	10.0	0.0	0.0	0.007		23.8 ± 3.8	0.501
1–2 portions / week (medium)	32		26.3	35.5			22.9	30.0	100.0	100.0			23.2 ± 3.7	
>2 portions / week (highest)	32		31.6	32.3			28.6	60.0	0.0	0.0			22.3 ± 3.2	
Cereals														
<1 portion / day (lowest)	10		0.0	16.1	0.065		11.4	10.0	0.0	0.0	0.976		21.2 ± 3.8	0.267
1–1.5 portions / day (medium)	24		15.8	29.0			25.7	20.0	25.0	0.0			22.4 ± 4.0	
>1.5 portions / day (highest)	66		84.2	54.8			62.9	70.0	75.0	100.0			23.7 ± 3.3	
Fish														
<1 portion / week (lowest)	40		21.1	51.6	0.006		34.3	50.0	75.0	0.0	0.576		22.1 ± 3.2	0.206
1–2.5 portions / week (medium)	40		36.8	41.9			42.9	30.0	25.0	100.0			23.6 ± 3.4	
>2.5 portions / week (highest)	20		42.1	6.5			22.9	20.0	0.0	0.0			24.3 ± 4.3	

Table 2a – Food groups consumption and relationship with gender, age group and BMI.

Food Components (consumption category)	Total		Gender		p-value		Age				p-value		BMI	p-value
	N	%	Male n=19 38%	Female n=31 62%	X ²	<0.05	18–20 n=35 70%	21–23 n=10 20%	24–26 n=4 8%	>26 n=1 2%	X ²	<0.05	Mean ±SD	ANOVA
Meat and Meat Products														
					0.047						0.593			0.426
<1 portion / day (lowest)	34		26.3	38.7			31.4	40.0	25.0	100.0			22.1 ± 3.5	
1–1.5 portions / day (medium)	24		10.5	32.3			28.6	20.0	0.0	0.0			23.5 ± 4.3	
>1.5 portions / day (highest)	42		63.2	29.0			40.0	40.0	75.0	0.0			23.6 ± 3.2	
Dairy Products														
					<0.001						0.255			0.072
<1 portion / day (lowest)	52		15.8	74.2			54.3	50.0	50.0	0.0			22.0 ± 3.0	
1–1.5 portions / day (medium)	14		21.1	9.7			8.6	20.0	25.0	100.0			24.8 ± 4.3	
>1.5 portions / day (highest)	34		63.2	16.1			37.1	30.0	25.0	0.0			24.1 ± 3.7	
Alcohol														
					0.429						0.932			0.833
<1 AU*/ day (lowest)	98		100.0	96.8			97.1	100.0	100.0	100.0			23.1 ± 3.6	
1–2 AU*/ day (medium)	0		0.0	0.0			0.0	0.0	0.0	0.0				
>2 AU*/ day (highest)	2		0.0	3.2			2.9	0.0	0.0	0.0			23.9 ± 0	
Olive Oil														
					0.531						0.421			0.095
Occasional (lowest)	48		47.4	48.4			54.3	40.0	25.0	0.0			22.4 ± 3.5	
Frequent (medium)	28		21.1	32.3			28.6	30.0	25.0	0.0			22.7 ± 3.8	
Regular (highest)	24		31.6	19.4			17.1	30.0	50.0	100.0			25.0 ± 3.0	

AU= alcohol unit = 12g

Table 2b – Food groups consumption and relationship with nationality, faculty type and physical activity.

Food Components (consumption category)	Total		Nationality		Faculty Type		p-value χ^2	Hours of Physical Activity Mean \pm SD	p-value (ANOVA)
	N	%	Maltese	Non-Maltese	Health care	Non-health care			
			n=41	n=9	n=16	n=34	<0.05		<0.05
			82%	18%	32%	68%			
Fruits							0.055		0.669
<1 portion / day (lowest)	44		36.6	77.8	18.8	55.9		4.71 \pm 4.78	
1–1.5 portions / day (medium)	32		34.1	22.2	37.5	29.4		5.72 \pm 7.17	
>2 portions / day (highest)	24		29.3	0.0	43.8	14.7		6.42 \pm 4.01	
Vegetables							0.265		0.479
<1 portion / day (lowest)	26		22.0	44.4	12.5	32.4		4.39 \pm 3.26	
1–2.5 portions / day (medium)	64		65.9	55.6	62.5	64.7		5.48 \pm 6.21	
>2.5 portions / day (highest)	10		12.2	0.0	25.0	2.9		7.90 \pm 4.56	
Legumes							0.572		0.734
<1 portion / week (lowest)	36		39.0	22.2	25.0	41.2		5.20 \pm 4.54	
1–2 portions / week (medium)	32		29.3	44.4	43.8	26.5		6.31 \pm 7.75	
>2 portions / week (highest)	32		31.7	33.3	31.3	32.4		4.84 \pm 3.49	
Cereals							0.301		0.440
<1 portion / day (lowest)	10		7.3	22.2	6.3	11.8		4.60 \pm 2.70	
1–1.5 portions / day (medium)	24		26.8	11.1	25.0	23.5		7.21 \pm 8.24	
>1.5 portions / day (highest)	66		65.9	66.7	68.8	64.7		4.92 \pm 4.42	
Fish							0.459		0.296
<1 portion / week (lowest)	40		36.6	55.6	43.8	38.2		4.28 \pm 4.84	
1–2.5 portions / week (medium)	40		43.9	22.2	50.0	35.3		6.90 \pm 6.43	
>2.5 portions / week (highest)	20		19.5	22.2	6.3	26.5		4.85 \pm 4.07	

Table 2b – Food groups consumption and relationship with nationality, faculty type and physical activity.

Food Components (consumption category)	Total		Nationality		Faculty Type		p-value χ^2	Hours of Physical Activity Mean \pm SD	p-value (ANOVA)
	N	%	Maltese	Non-Maltese	Health care	Non-health care			
			n=41	n=9	n=16	n=34	<0.05		<0.05
			82%	18%	32%	68%			
Meat and Meat Products									
							0.047		0.071
<1 portion / day (lowest)	34		41.5	0.0	37.5	32.4		4.53 \pm 3.84	
1–1.5 portions / day (medium)	24		19.5	44.4	25.0	23.5		3.25 \pm 1.37	
>1.5 portions / day (highest)	42		39.0	55.6	37.5	44.1		7.43 \pm 7.21	
Dairy Products									
							0.605		0.021
<1 portion / day (lowest)	52		51.2	55.6	37.5	58.8		4.33 \pm 4.19	
1–1.5 portions / day (medium)	14		12.2	22.2	18.8	11.8		2.71 \pm 1.29	
>1.5 portions / day (highest)	34		36.6	22.2	43.8	29.4		8.27 \pm 7.00	
Alcohol									
							0.636		0.529
<1 AU*/ day (lowest)	98		97.6	100.0	93.8	100.0		5.51 \pm 5.48	
1–2 AU*/ day (medium)	0		0.0	0.0	0.0	0.0			
>2 AU*/ day (highest)	2		2.4	0.0	6.3	0.0		2.00 \pm 0	
Olive Oil									
							0.606		0.369
Occasional (lowest)	48		46.3	46.3	50.0	47.1		5.29 \pm 4.42	
Frequent (medium)	28		26.8	26.8	25.0	29.4		4.18 \pm 3.23	
Regular (highest)	24		26.8	26.8	25.0	23.5		7.21 \pm 8.57	

AU= alcohol unit = 12g

3.2. Mediterranean diet adherence score

The majority of students (72%) were classified medium adherers to the Mediterranean dietary pattern (refer to Table 3), with a mean (95% CI) overall adherence score of 8.8 (8.1, 9.5).

Table 3 – Mean (95% CI) and median adherence scores of participants by adherence category.

Mediterranean Diet Adherence Score	N (%)	Mean (95% CI)	Median (interquartile range IQR)
Overall Adherence	50 (100.0)	8.8 (8.1, 9.5)	9 (3)
Low (0–6)	10 (20.0)	5.0 (4.4, 5.6)	5 (2)
Medium (7–12)	36 (72.0)	9.0 (8.8, 9.8)	8 (3)
High (13–18)	4 (8.0)	13.8 (12.2, 15.3)	13.5 (2)

There was no significant association between the adherence score and gender, age, nationality and faculty type (refer to Table 4). Furthermore, correlations between the adherence score and BMI and physical activity were not significantly different from 0.

Table 4 – One-way ANOVA test results for the adherence score and the categorical variables.

Baseline characteristics	N (%)	Mean adherence score (95% CI)	P-value (<0.05)
Gender			0.641
Male	19 (38.0)	8.58 (7.43, 9.73)	
Female	31 (62.0)	8.94 (7.93, 9.94)	
Age (years)			0.386
18–20	35 (70.0)	8.43 (7.53, 9.33)	
21–23	10 (20.0)	9.70 (7.85, 11.55)	
24–26	4 (8.0)	8.75 (6.75, 10.75)	
Nationality			0.060
Maltese	41 (82.0)	9.12 (8.32, 9.93)	
Non-Maltese	9 (18.0)	7.33 (5.53, 9.14)	
Faculty Type			0.342
Health care	16 (32.0)	9.31 (7.78, 10.84)	
Non-health care	34 (68.0)	8.56 (7.70, 9.41)	

4. Discussion

This study evaluated adherence to the Mediterranean dietary pattern in students at the University of Malta. An overall medium adherence was reported, with a mean score of 8.8 (95% CI 8.1, 9.5) from a maximum score of 18. Notwithstanding the fact that the calculation of adherence varies between studies, similar results were reported in studies with a study population from other Mediterranean countries including Cyprus, Turkey and Spain (Baydemir, Ozgur, & Balci, 2018; García-Meseguer, Burriel, et al., 2014; Hadjimbei, Botsaris, Gekas, & Panayiotou, 2016; Navarro-González et al., 2014).

No evidence was found of any associations between the adherence score and the participants' characteristics. This is consistent with findings from other Mediterranean studies (Baydemir et al., 2018; García-Meseguer et al., 2014; Hadjimbei et al., 2016; Navarro-González et al., 2014; Štefan et al., 2017). The students' physical activity and their BMI were not associated with the adherence score. On the contrary, evidence from Croatian and Spanish studies reported significant positive associations between adherence score and physical activity (Štefan et al., 2017; Zurita-Ortega, Román-Mata, Chacón-Cuberos, Castro-Sánchez, & Muros, 2018). As for the association between BMI and the adherence level, the literature has mixed evidence where some studies reported a positive association (Durá Travé & Castroviejo Gandarias, 2011; Navarro-González et al., 2014; Štefan et al., 2017) while others reported non-significant associations (García-Meseguer et al., 2014; Grillone et al., 2018).

The study also aimed at assessing the students' consumption of the individual food groups comprising the Mediterranean dietary pattern. The intake of fruits and vegetables was in the lowest consumption category as it was also lower than the recommended amount of at least 400g daily (WHO, 2004). This is in line with a previous study on the dietary habits of the University of Malta students that reported students to consume only 1–2 servings of fruits and vegetables on a daily basis (Cefai & Camilleri, 2011). Students' weekly intake of legumes was low to medium which is consistent with results reported in international studies (Hadjimbei et al., 2016; Kyrkou et al., 2018; Navarro-González et al., 2014). The consumption of other foods that comprise the Mediterranean diet such as fish and olive oil was also low as only 1 in 5 students met the national recommendations for fish and olive oil consumption (HPDPD, 2016). In fact, the students in this cohort had the lowest consumption

of such food groups among their Mediterranean counterparts in universities in Spain, Cyprus and Greece (Hadjimbei et al., 2016; Kyrkou et al., 2018; Navarro-González et al., 2014). In agreement with previous local studies, the students' consumption of alcohol was very low (Abdel-Massih, 2015; Cefai & Camilleri, 2011; Fenech, 2012). Conversely, the consumption of foods that are not typical of a Mediterranean dietary pattern such as meat and meat products was high exceeding the national guidelines (HPDPD, 2016). Whilst the participants' daily intake of dairy products was less than the recommended amounts, this is inconsistent with results in international studies on consumption patterns in University students (Hadjimbei et al., 2016; Kyrkou et al., 2018; Navarro-González et al., 2014).

While there may be a true difference in eating patterns, this inconsistency in results from different studies may also be due to varied interpretations of what foods constitute the Mediterranean diet and thus a variation in the scores used to assess adherence to it. Furthermore, the association reported may be limited by the relatively small sample used in this study. Such findings point towards the conclusion that the diet of the majority of students in this study is a typical of the Westernized dietary pattern, that is low in fruits and vegetables (Romero-Polvo et al., 2012) and high in red and processed meat (Naja et al., 2015).

This cross-sectional study has a number of strengths. Besides being the first study in Malta that has explored adherence to the Mediterranean dietary pattern in a sample of University of Malta students, it made use of a literature-based adherence score to assess students' adherence which is suitable for assessing adherence at individual, clinical and epidemiological levels (Sofi et al., 2014). In addition, the use of a photographic atlas to facilitate the quantification of food portion sizes aided to reduce estimation errors (MAFF, 1997). The study's design, results and strengths indicate its feasibility and support the use of its measurement tool. Furthermore, some limitations have also been identified. Dietary assessment is notoriously considered one of the main limitations of nutritional epidemiology with daily intake being greatly affected by the day of the week, seasonality and culture (Willett, 2012). Bias and underreporting are typical limitations of studies using convenience sampling and face-to-face interviews (Bryman, 2016). Another limitation inherent to the study design includes the use of an adherence score (Michels & Schulze, 2005).

5. Conclusion

In this population of University of Malta students, a medium adherence to the Mediterranean dietary pattern was reported, consistent with evidence from international studies showing similar adherence among university students from countries in the Mediterranean region. The nutritional intake of students is inadequate for some food groups, indicative of a more predominant Westernized dietary pattern. Public health and policy initiatives should be considered at an international, national and individual levels to increase adherence to healthy dietary patterns and shift current dietary trends back to the traditional, healthier Mediterranean diet. This study design could be used on a larger sample population and in different population groups.

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Conflict of interest

Authors declare no conflict of interests.

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Research Paper

Professionals' experiences of selective mutism in children: An interpretative phenomenological analysis

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Abstract. Selective mutism (SM) in children occurs when children experience verbal difficulties in social situations outside their natural environment. Research in the field of SM tends to focus on specific treatment-related interventions and their efficacy. In contrast, this qualitative study investigated the lived experiences of professionals who worked directly with children who have SM, in order to understand what it was like for them to engage with these children and the meaning(s) they attached to their experiences. The study's aim was to consider the professionals' beliefs regarding this disorder and how it impacted their practice. Six practitioners from various areas of specialisation working in Malta were interviewed, including two speech and language pathologists, one counsellor, one clinical psychologist/psychotherapist and two educational psychologists. Data was analysed using Interpretative Phenomenological Analysis (IPA) and four superordinate themes were identified. Findings indicated that clinical practice in this area was a complex endeavour. Participants referred to the need to be 'self-sufficient' as professionals, by engaging in reflexivity, independent study and supervision related to the disorder. Future research may consider a deeper exploration into the emotional reactions and discomfort experienced by professionals in response to children's

silence. Furthermore, research regarding the aetiology, symptomatology and prevalence rates of SM in Malta is needed, together with related professional development opportunities for professionals who work with children in their practice.

Keywords: Selective Mutism, professionals' experience, children, Interpretative Phenomenological Analysis, qualitative research

1. Introduction

1.1. Selective Mutism

Selective mutism (SM) in children is when children struggle to "speak in specific social situations in which there is an expectation for speaking (e.g., at school) despite speaking in other situations" (American Psychiatric Association [APA], 2013, p.195). SM is more commonly found in children aged between four and six years old (Muris & Ollendick, 2015; Ponzurick, 2012). Children with SM tend to be verbal at home but encounter difficulties when they are required to speak in other contexts (Muris & Ollendick, 2015). Their interaction with peers can include verbal and nonverbal communication, such as nodding and writing (Kovac & Furr, 2019). Disruptions in social interaction are usually characterised by high social anxiety (World Health Organization [WHO], 2004).

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The diagnosis of SM often includes the diagnosis of another anxiety disorder, usually social anxiety disorder (APA, 2013). Diagnosis is made more complex due to the overlap between SM and comorbid disorders (Sluckin & Smith, 2015). For example, Vogel et al., (2019) observed that some children with SM might have “language impairments”, which in turn can produce language-related fears (p.1177). In their retrospective study on children with autism spectrum disorders (ASD) and SM, Steffenburg et al., (2018) argued that practitioners need to be aware that features of SM can be found in ASD, noting “the risk of overlap” (p.1163). In the US, SM in children is a relatively rare disorder, with a point prevalence ranging between 0.03% and 1% (APA, 2013).

A Turkish study found a prevalence rate of 0.033% amongst kindergarten, first, second and third grade students (Karakaya et al., 2008).

SM prevalence rates in West Jerusalem immigrants were reported at 2.2% (Elizur & Perednik, 2003). Maltese prevalence rates for the disorder are currently unrecorded.

1.2. Interventions

According to McInnes et al., (2004), children with SM should ideally be assessed and diagnosed by a multidisciplinary team, where psychiatrists, psychologists and speech-language pathologists can attend to “communicative and psychiatric issues” when structuring interventions (p.313). Clinical assessment of the disorder usually includes collecting information from the child’s parents/carers and school personnel, in order to understand and recognise where and when the child is less likely to speak; furthermore, assessment of the child’s speech, language and cognition by psychologists and/or speech language pathologists is often undertaken (Johnson & Wintgens, 2016; Sluckin, 2011).

Practitioners require parental collaboration, as parents play a critical role in assessment and diagnosis (Bergman et al., 2013; Hung, Spencer & Dronamraju, 2012; Mayworm, et al., 2014; Omdal, 2008). Omdal (2008) recommended that professionals assess the relationship between the child and the adults who they do not speak to. Professionals further need to harmonise treatment and coordinate with school staff in the classroom setting, given that children with SM tend to stop talking at school (Bergman, 2013; Kovac & Furr, 2019). Sluckin (2011) also noted that it is important for children with SM to sense that their parents/carers and teachers share a good relationship with one another.

Professionals frequently work with the child directly in the various environments that are impacted by the SM, such as in the classroom or home (Kearney, 2010; Manassis, 2009; Shaughnessy, 2012; Sluckin & Smith, 2015; Zakszeski & DuPaul, 2017). Imich (1998) warned that interventions held in unfamiliar settings are likely to make the child feel uncomfortable, thus hindering the development of a trusting relationship. Research seems to suggest that school-based interventions generated encouraging results in speech initiation, possibly because the treatment specifically occurs in the environment where the child is silent and involves individuals who are central to the child’s life (Zakszeski & DuPaul, 2017).

Traditionally, psychodynamic therapies were the preferred professional intervention, where the aim here was to ‘unmask’ the event that ‘caused’ the child to stop speaking (Busse & Downey, 2011; Kryszanski, 2003). Subsequently, behavioural interventions and modification began gaining recognition. Muris and Ollendick (2015) noted that Cognitive Behavioural Therapy (CBT) and pharmacological interventions are currently favoured.

For professionals, the ultimate goal is to increase the child’s verbal communication (Camposano, 2011); according to Camposano (2011), in the early stages of therapy, decreasing the child’s anxiety and adopting alternative healthy coping mechanisms are addressed prior to increasing speech. Facilitating the child in enhancing his/her self-confidence is another goal identified by Sluckin and Smith (2015). Here, therapeutic goals and the involvement of other people in the treatment (such as teachers) should be communicated to the child, thus allowing the child to feel involved and supported, rather than pressured to talk (Sluckin & Smith, 2015). Professionals often use a range of techniques that motivate and engage the child, including rewards and play activities (Bergman, 2013).

1.3. Professional Dilemmas

SM presents diverse challenges for practitioners (Bergman et al., 2013; Khan & Renk, 2018). Children with SM often fail to be verbal in the first few sessions with professionals (Bergman et al., 2013). This silence is documented as being one of the most difficult obstacles in this work, leading professionals to experience feelings of frustration (Anagnostaki, 2013; Kearney, 2010; Sluckin & Smith, 2015). Efforts to convince the child to speak may be more damaging to the treatment, as constantly

encouraging a child with SM to talk may result in a reinforced unwillingness to speak (Kearney, 2010; Sluckin & Smith, 2015). Removing the pressure to be verbal can enhance the professional-child relationship (Hung, Spencer & Dronamraju, 2012; Sluckin & Smith, 2015). However, presenting no opportunities to talk can in turn also strengthen the child's lack of speech (Bergman et al., 2013; Cleave, 2009).

1.4. Research Aims and Objectives

This study explored the following research question: "What are the lived experiences of Maltese professionals who have worked with children with SM?" Research in the field has been predominantly treatment-focussed, overlooking what it is *actually like* for professionals who work with this disorder. Therefore, this study sought to understand the experiences of professionals in their clinical practice with this specific client group.

2. Method

2.1. Design

A qualitative approach was selected in order to focus on the participants' detailed and context-based retellings (Langdridge, 2007; Willig, 2008). In contrast to quantitative methodologies, the scope of qualitative inquiry is not to predict but rather explore and describe (Willig, 2008). Thus, a qualitative approach promotes subjectivity and in-depth analysis of each individual account (Langdridge, 2004).

The qualitative methodology adopted for this study was Interpretative Phenomenological Analysis (IPA). IPA is informed by the philosophical branch of phenomenology, which "focuses upon the content of consciousness and the individual's experience of the world (Willig, 2001, p.52). This methodology acknowledges that researchers can never have direct access to the participants' individual accounts (Willig, 2001). Furthermore, researchers cannot completely suspend their own biases and presuppositions, hence the analysis is coloured by the researcher's own world view and interpretation of the participants' accounts (Smith, Flowers, & Larkin, 2009).

Smith and Osborn (2009) noted that IPA involves a "two-stage interpretation process", often referred to as "a double hermeneutic" (p.54). Here, the researcher strives

to gain access into the participants' personal experiences (thus highlighting IPA's interpretative position) as the participants too engage in *their owns* sense-making (Smith & Eatough, 2008; Smith, Flowers & Larkin, 2009). IPA adopts an idiographic approach, where the analysis of individual cases allows the researcher to make specific inferences about the participants (Smith, Harré & Langenhove, 1995). It is only from a detailed and systematic analysis that the researcher can then generalise inferences, therefore, IPA studies generally consist of small participant samples (Smith, Flowers & Larkin, 2009).

A qualitative methodology known as Thematic Analysis (TA) would have been appropriate had the focus of study been the participants' *perspectives of their clients'* experiences (Braun & Clarke, 2006). However, the basis of our study was specifically how professionals *themselves* experienced working with SM in children; IPA thus allowed for a better understanding of the participants' *own* subjective experiences, as well as the individual value they placed on their practice.

2.2. Recruitment and Participants

IPA studies use purposive sampling, where researchers intentionally select participants who fit predefined criteria (Smith, Flowers & Larkin, 2009). Participants were required to share an experience with the central phenomenon: working with SM in children. No exclusion criteria were made for demographic characteristics such as age, gender or years of practice.

Professional organisations and associations related to child therapeutic services were identified, contacted by email and asked for permission to recruit participants. Following ethical clearance, these were asked to forward an information sheet to registered members. Interested participants were invited to contact the first author via email to schedule an interview.

Six professionals were recruited and interviewed, including two speech and language pathologists, one counsellor, one clinical psychologist/ psychotherapist and two educational psychologists. Five of the participants identified as female and one identified as male. Years of practice ranged from one year to thirteen years and most professionals fell within the '25 – 34 years' age bracket.

2.3. Ethical Considerations

Ethical clearance (Reference Number SWB 008/2017) was granted by the Faculty for Social Wellbeing Research Ethics Committee (FREC) and the University of Malta Research Ethics Committee (UREC).

Each participant was provided with a detailed consent form to read and sign. Participants were free to withdraw from the study at any point. Identifying details pertaining to the participants, their clients and work place were omitted or altered. Participants were all given pseudonyms.

2.4. Research Tool and Data Collection

Data was gathered through semi-structured interviews (Langdrige, 2007; Smith, Flowers & Larkin, 2009; Willig, 2008). Such interviews are widely-used in IPA and are described as a "conversation with a purpose" (Smith, Flowers & Larkin, 2009, p. 57). For this study, interviews were held at a mutually convenient and confidential setting. On average, each interview lasted forty-two minutes.

An interview schedule with eleven questions was used as a guide. Questions included probes to delve deeper into the participants' accounts. A small notebook was used by the first researcher during the interviews to aid in the recall of salient points raised by the participants, which could then be probed further. Interviews were recorded and transcribed verbatim. On average, transcripts were fifteen pages long with a word count of 5600 words.

2.5. Data Analysis

The aim of IPA research is to provide an in-depth discovery of meaning from the participants' narrations of their personal and social worlds (Smith, Flowers & Larkin, 2009). Firstly, each participant interview was transcribed verbatim and transcripts were formatted with large margins on either side of the text. Then, the first transcript was read repeatedly and notes were made in the left-hand margin (Willig, 2008). These notes included paraphrasing, associations, initial thoughts on the participant's experiences, particular usages of language, contradictions, repetitions and anything else deemed salient (Smith & Osborn, 2009). At this stage the participant was the focus of analysis (Smith, Flowers & Larkin, 2009).

After comments were made in the left-hand margin of the whole transcript, the right-hand margin was used to note emerging theme titles (Smith, Flowers & Larkin, 2009). These titles attempted to present and provide a balance between "psychological terminology" at a more "abstract" level with the true nature of the participant's recollections (Smith & Osborn, 2009, p. 68). The next stage involved listing the themes from the right-hand margin on a separate paper and making associations between them (Smith, Flowers & Larkin, 2009). This resulted in the clustering of some themes and the emergence of other subordinate concepts.

Once the connection of themes was completed, these were then compared and checked repeatedly with the transcript in order to ensure that the themes reflected the true essence of the participant's experience. This reflects the iterative process of IPA, which is the continuous interaction between reader and text (Smith, Flowers & Larkin, 2009). Names were then assigned to the clusters of themes, characterising their nature.

This process was separately repeated for each transcript (Langdrige, 2007). The final themes from each transcript were amalgamated in a write-up, presenting the gist of respondents' experiences. Here, a distinction needs to be made between repeated themes and new themes that give rise to novel areas. The structure of the write-up is in the form of a narration which includes the participants' direct quotes (Smith, Flowers & Larkin, 2009).

2.6. Validity and Reflexivity

The subjective nature of qualitative research makes it complex to assess through standardised scientific measures generally used in quantitative studies (Yardley, 2017). Yardley (2017) grouped the elements that enrich validity in qualitative research into four concepts: sensitivity to context, commitment and rigour, transparency and coherence, and impact and importance.

Sensitivity to context means that researchers are aware of how participants are influenced by their worldview and environment, which in turn influences the researcher's interpretation (Yardley, 2017). The authors conducted a thorough review of empirical work pertaining to SM. This was important to secure an accurate understanding of the phenomenon (Yardley, 2000).

Yardley (2000) emphasised that the researcher should be engaged with the data and have a sound

understanding of the methodology adopted. The authors closely attended to IPA's philosophical underpinnings and outlined the study's design, data collection and data analysis.

This study recognised that the complete suspension of a researcher's personal beliefs is impossible. Questions in the interview schedule were open-ended and non-leading. A process of self-reflection was adopted throughout. The first author was reading for a Higher Diploma in Psychology and the second author served as research supervisor. Several of the first author's personal beliefs and assumptions were revealed, including the view that children with SM do not effectively communicate with professionals. These assumptions were discussed with the second author during research supervision. This process is referred to as bracketing, whereby researchers challenge their prejudices and explore their assumptions (Langdrige, 2007). The second author also reviewed the participant transcripts and gave feedback throughout the stages of data analysis, providing written and oral guidance on preliminary drafts of the write-up. The findings include direct quotes from the participants and disconfirming cases, in order to ensure that the participants' lived experiences and associated interpretations remained grounded in the data.

Impact and importance entail that the researcher promotes the study's relevance (Yardley, 2000). This study contributed to existing literature in the field of SM by focussing specifically on practitioners with professional experience of this condition. Furthermore, to date no studies have investigated SM within the Maltese context.

3. Results

Data analysis generated four superordinate themes. The first superordinate theme, 'A Child who has SM', features the participants' descriptions of their clients. This is followed by 'It's a Challenging Experience', where reference is made to SM's comorbidity with other disorders and the participants' perceived lack of training in this area. The superordinate theme, 'The Therapeutic Relationship', attends to how the professional-child bond affected the participants, including the social and physical environment. The final superordinate theme 'Self-Sufficiency', depicts the ways in which the participants used reflexivity and supervision. Direct quotes are included within quotation marks.

Table 1. Superordinate and respective subordinate themes, including the frequency of the subordinate theme occurrences across the data set

Superordinate Themes	Subordinate Themes	Subordinate Theme Frequency
"A child who has SM"	"They're very different"	3
	"Slow to warm up"	6
"It's a challenging experience"	Comorbidity	4
	The systems around the child	6
	Lack of training, lack of practice	5
The Therapeutic Relationship	Frustration and insecurity	4
	Comfort and understanding	6
Self-Sufficiency	Silent reflections	5
	Self-care through supervision	4

3.1. "A child who has SM"

3.1.1. "They're very different"

The participants emphasised the individuality of clients with SM. Carol explained that "[she] *wouldn't go about generalising.*" Joanne expressed that, "*the two children I had were very different from each other.*" Pam noted that one of her clients tended to be more of a follower, whereas her other client was determined and directive. Joanne observed that therapeutic work with SM is "*not one size fits all...there isn't a magic potion and you can use it with everyone...you have to take each child in his own individuality,*" suggesting that clients may vary in their personality and manner.

3.1.2. "Slow to warm up"

John reflected on "*the root of the issue,*" noting that "*we do not have direct feedback from the child because the child cannot explain what they experience.*" This makes it complex to identify a specific, clear 'cause' of the disorder.

Most of the participants described their clients as "*extremely shy children*" (Kelly). John maintained: "*when the child is in an unfamiliar setting, for some reason, a considerable amount of anxiety kicks in.*" Kelly illustrated how much of "*a real anxiety-causing situation*" SM can be by explaining how a situation can be "*blown out of proportion*" in the child's mind. Joanne described her client's "*negative thoughts that he's going to fail if he gets something incorrect.*" However, Alice shared "*if I find them talking to their parents and they're not aware...I am surprised by how much they actually shout.*"

Carol reflected that these children are "*very cautious and you need the time to help them warm up to the situation.*" Kelly emphasised that "*you start small.*"

According to Joanne, the relationship builds "*slowly, slowly.*" Alice echoed that "*progress is very slow.*" Professionals need "*to give them space*" (Pam).

3.2. "It's a Challenging Experience"

3.2.1. Comorbidity

Joanne referred to SM's comorbidity with other difficulties or disorders. Joanne's client "*used to go to (her) for other problems*", namely articulation difficulties and language delay. John described that "*there could be a little bit of a speech difficulty as well, the one doesn't exclude*

the other." Alice reflected that "*there are other factors to take into consideration...if there are learning difficulties or mental health conditions.*"

John and Alice noted that the co-occurrence of autism and SM is not uncommon. Kelly explained "*very often, selective mutism is considered part of the Autism spectrum because it co-occurs so often with Autism.*"

3.2.2. The systems around the child

Carol expressed that "*one does not work with the child in a lacuna.*" Alice advised other professionals "*not to work with children in isolation.*" Carol highlighted the importance of communicating effectively with teachers and hearing their concerns. John held that the input of the teachers is important "*because we see it a lot occurring in schools.*" However, Pam described complex experiences of working within a multidisciplinary team. She maintained that "*in multidisciplinary teams there are a lot of dynamics*", reflecting that "*my personal experience is that it doesn't always happen to the benefit of the client*" because the client might become 'lost' in the system.

All of the participants mentioned work with the family. Kelly shared that "*it is always important to involve the family...*" Carol needed to engage in intensive work with the child's parent when she felt that the SM was not being addressed, recounting that "*it was extremely important to explain to the mother that we couldn't ignore this anymore.*"

Kelly explained "*if needs be we move around with the child, where the problem is, because if there's no problem in the clinic then I have to tackle the problem where it's happening in situ.*" Joanne too maintained that clinical interventions need to happen in other environments "*because it is useless bringing her to the clinic when she talks to me in the clinic...there's no point.*"

3.2.3. Lack of training, lack of practice

All of the participants expressed dissatisfaction with the amount of training they received about SM. John observed "*obviously it's not easy considering, in the context as it is, it is not a major...you know, disability.*" Carol explained, "*I do feel that there was a bit of a lack in my training...not on a theoretical level more on a practical level on how to actually work with them.*" John too felt that his training was "*very little.*" Kelly's training "*was very minimal.*"

3.3. The Therapeutic Relationship

3.3.1. Frustration and insecurity

The participants reflected that working with silence took a toll. Pam's first client with SM left her "confronted with a lot of silence." She became increasingly frustrated and "used to dread sessions", mainly because "you feel that you're not good enough." Alice described feeling "frustration and tension," reflecting that the silence could sometimes elicit self-doubt: "you feel a little bit like you don't know what you're going to do." Joanne worked with her client for over a year yet he still was not talking in school. She disclosed "I feel frustrated because I'm used to having results." Kelly paralleled this by saying: "refusal to talk and to participate, it makes it obviously hard."

3.3.2. Comfort and understanding

The participants emphasised maintaining a professional approach that placed no or minimal pressure on the child. However, this presented the conundrum of "how am I going to get this child to speak spontaneously without creating the pressure of having to speak?" (Kelly).

The process of slowly growing comfortable with one another was reflected in the participants' understanding and caring stance.

John maintained, "what I give a lot of importance to is that the child has to make himself understood." Similarly, Pam reflected this understanding and compassion when she described "it's even just being able to be yourself with someone...just to understand what they need and to try to provide that to them." Joanne recounted how she used to "encourage him in a more, sort of, comfortable way" because if she put pressure on the child "he'll sort of shutdown."

Joanne recalled how she used to go to her client's class just so he could know that she was present for him "not only in the clinic." The participants reflected on the importance of being 'relatable.' In their practice, they used play, humour and attended to the client's interests "trying to find something that they like" (Kelly). Alice said: "I am a bit silly during the counselling intervention or for example whilst we walk to the counselling room I go and hide somewhere and she will try and find me."

These interventions appeared to be a common way of helping the child feel more at ease. Joanne maintained that "you have to adapt to the child's level" linking this

with maintaining an equal physical level, such as by working on the floor and sitting down with the child.

3.4. Self-Sufficiency

3.4.1. Silent reflections

The participants spoke about the importance of self-reflection in their work with SM and the insights this elicited in them. Joanne observed: "you have to stop and think."

Pam came to realise that "the aim wasn't to help her speak." She narrated: "Once I said, 'Listen, you don't need to talk, I can be comfortable with silence,' and I realised it was my own issue with the silence. And I relaxed."

Kelly adjusted her demeanour in order to release tension: "I usually calm myself down." Alice considered that "there will be sessions where it's just silence. And I think that, at the same time that is necessary." Referring to her clinical work, Alice shared that one needs to "feel okay with ambiguity, that you don't know where you're headed."

3.4.2. Self-care through supervision

The participants emphasised the importance of supervision, noting that it helped them manage the complexity of their work. Pam maintained that "it was both peer supervision with colleagues and as well supervision of another professional where (she) could explore (her) frustration." Carol also confirmed this:

...I had to find creative ways also through my supervisor because I felt the need to go to supervision (...) I was treading on ground where I wasn't using standardised means of assessing the child (...) I wanted to double check that there weren't alternative ways where I could get a more accurate picture of her abilities.

Joanne too shared that "If you get stuck somewhere there's always a point of reference to help you, to share your experiences." Pam described her clinical work as gradually becoming "less challenging" and other participants noted that their self-confidence increased as they familiarised themselves with SM.

4. Discussion

The study's participants described clinical progress with SM clients as slow. SM is a disorder which develops gradually. This in turn is reflected in improvement and behaviour change that occurs over a lengthy period of time – in some cases, even years (Harwood & Bork, 2011). Therefore, professionals may “become overwhelmed or disheartened” over the course of their work (Khan & Renk, 2018, p.363). Low practitioner motivation can potentially have a negative impact on the professional-child relationship and the efficacy of any interventions adopted.

The participants experienced strong emotional reactions when confronted with their client's silence. The child's lack of speech appeared to make sessions difficult and elicited feelings of doubt and frustration in some of the professionals. Most of the participants in this study encountered moments when they felt at a loss and out of ideas on how to proceed with treatment. Pozzi Monzo, Micotti and Rashid (2015) observed that this work can elicit frustration and a sense of inadequacy in practitioners. Feelings of incompetence and uncertainty generated by the client's silence were also noted in Anagnostaki's (2013) case study. The importance of self-awareness and reflexivity was emphasised in the participants' accounts, as this in turn helped them to accept the silence in a productive manner.

Scott and Beidel (2011) referred to SM as “vexing” (p.251). In our study, the participants described their surprise when they saw their clients communicating with family members; this appeared to be the complete opposite of how they presented themselves to the professionals. This suggests that professionals find it baffling to harmonise the personalities of their clients described at home as chatty, loud and overbearing with the inhibited, stiff personalities that are presented in clinical practice, as noted by Pozzi Monzo, Micotti and Rashid (2015).

SM features differ from child to child, including severity (Kovac & Furr, 2019). While some children may present with temperamental issues, others experience SM as a result of trauma and yet other children feel frozen and genuinely cannot express themselves verbally. Sluckin and Smith (2015) reflected that children with SM are individuals with different hopes and aspirations. The participants in our study emphasised the importance of respecting each and every client's own individuality. The uniqueness of children with SM was recognised by the participants and they thus felt the need to consider

the subjectivity of each child and modify treatment accordingly. In their review on SM, Muris and Ollendick (2015) emphasised that professionals need to be aware of the “multifaceted nature of this disorder” (p.166). Furthermore, Khan and Renk (2018) urged professionals to consider “their own clinical judgement” regarding what they believe would be helpful for each client (p.363).

The participants in this study emphasised the importance of communicating with the child at his/her level and removing any pressure from the child, as this may reinforce the child's unwillingness to speak. Hung, Spencer and Dronamraju (2012) too advised reducing pressure on the child to speak, increasing trust and safety between child and professional by getting to know the child's interests and creatively incorporating the child in any interventions. Participants in our study preferred to engage playfully at first because this seemed to ease the child and balance the power differential between child and professional. Therefore, practitioners need to be creative and make use of play to build a relationship with the client, as this can be a crucial component in gaining insight to the child's inner world (Bergman, 2013; Camposano, 2011).

The participants mentioned their efforts to generalise interventions to other environments, especially in the environment predominantly affected by the SM – the school (Harwood & Bork, 2011; Kovac & Furr, 2019). The participants inferred that both parents and teachers are involved in the children's everyday lives and thus should also be involved therapeutically. In their review of SM interventions, Zakszeski and DuPaul (2017) highlighted that treatment needs to be held in a context that is of relevance to the child and should include other adults who are involved in their care. Ultimately, both the participants and literature emphasise a holistic approach rather than solely child-practitioner based interventions (Kearney, 2010; Manassis, 2009).

The participants shared their belief that SM is a rare disorder. According to Kovac and Furr (2019), low SM prevalence rates means that few professionals have experience in this area. Our participants in fact spoke about their lack of experience and believed that their training did not equip them to work with this disorder. Increased training can have a positive impact on professionals by enhancing knowledge and providing a supportive professional environment (Dean, 2012; Harwood & Bork, 2011). The importance of self-awareness and reflexivity featured in the participants' accounts. Reflexive attunement to practitioner responses can

potentially provide insight regarding how a child might be feeling and what they might be communicating through that silence (Anagnostaki, 2013).

4.1. Limitations

Participants from a range of professional groups were invited to participate in this study. Therefore, their experiences might be shaped by different professional training, theoretical influences and aims.

Nevertheless, this study's findings revealed many similarities in the participants' accounts, despite their diverse practitioner orientations and backgrounds. It is worth noting that no local research was found regarding SM. Although this study's findings strongly complemented international research, the literature presented may still lack cultural relevance regarding how SM is diagnosed and assessed locally; the aetiology and symptomatology of SM and targeted interventions might also differ cross-culturally. Additionally, certain participant quotes were translated from Maltese to English, which might result in some of the meaning being lost in translation.

The participants were asked to articulate what it was like to work with nonverbal clients and hence had to access inner feelings and experiences related to a 'silent' relationship, rather than recounting direct verbal narratives. This might have made it complex for them to actually 'put into words' what they went through.

4.2. Implications for Practice and Research

Any research in the local context with regards to SM would be beneficial. Maltese practice could be informed by locally-based studies that take into consideration this country's culture, child policies (especially with regards to education), SM prevalence rates and current support services/interventions offered.

Considering that SM is uncommon and training specifically on SM is limited, the participants expressed that most of their knowledge was gained through practice. It is recommended that professional entities provide training that addresses clinical work in this field.

The interviews also indicated that both peer and professional supervision prevent the accumulation of distress when working with complex disorders like SM. Strengthening a supervisory plan in which professionals can share their frustrations, explore alternative methods

of assessment and creative interventions could be beneficial.

5. Conclusion

Professionals working with SM need to be patient and comfortable with silence in the first few sessions, being mindful of the non-verbal behaviour that the child may be exhibiting. Accepting feelings of frustration, self-doubt and being able to tolerate feelings of powerlessness can be harnessed into recognising what the child might be experiencing but unable to communicate directly. Finally, practitioners who seek out supervision and value reflexive practice may learn much about themselves professionally, thus strengthening their confidence and further enhancing effective work with these children.

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Conflicts of interest

The authors report no conflicts of interest.

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Research Paper

Work engagement among nurses in Malta: Associations with psychosocial working conditions

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Abstract. Engagement has been associated with several benefits in nursing, including work performance and retention. The Job Demands and Resources (JD-R) model proposes that workplace psychosocial resource availability may be positively associated with work engagement through a motivational process. Conversely, job demands may inhibit work engagement through a health impairment process. This study aimed to determine the strength and direction of relations between a set of job resources (manager support, peer support and workplace relationships), job demands, and work engagement in a sample of nurses in Malta. A cross-sectional survey was distributed to nurses in two medical facilities ($N = 270$). Hierarchical multiple linear regression was used to identify associations between psychosocial workplace factors and engagement. The study provided support for the JD-R, with associations identified between greater engagement and lower levels of work demands as well as greater management support. In view of the many benefits linked with engagement in nurses, fostering better psychosocial work conditions within medical facilities may be beneficial.

Keywords: engagement; nurse; demands; support; nursing management

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1. Introduction

Several positive outcomes have been associated with engagement in nurses. These include better levels of job performance (Keyko et al., 2016; Peng & Tseng, 2019), better quality of care, improved job satisfaction, decreased intent to leave nursing (Keyko et al., 2016), reduced hospital mortality rates and increased financial profitability for healthcare organisations (Bargagliotti, 2012). Despite these evident benefits, disagreement remains regarding the definition of the word engagement and antecedents.

Engagement first became known through the writings of Kahn (1990), as the harnessing of workers to their responsibilities. Kahn distinguished between individuals investing themselves physically, emotionally and cognitively in the performance of their tasks. Since these early writings, two major approaches to engagement have emerged. The first approach views engagement and burnout as opposite poles of the same continuum (Maslach & Leiter, 2008). Engagement is viewed as a positive experience, characterised by three dimensions: energy, involvement, and efficacy, which are the opposites of the three dimensions of burnout; exhaustion, cynicism, and inefficacy, respectively. Consequently, followers of this approach studied engagement by means of tools designed to assess burnout, such as the Maslach Burnout Inventory (MBI) (Maslach, Jackson, & Leiter, 1996), where low levels of burnout indicated high levels of engagement (Maslach & Leiter, 2008). The second approach views engagement as a concept that is independent from burnout, although negatively related to it (Bakker et al., 2008). Rather, engagement is considered a positive affective and motivational

occupational state (Bakker et al., 2008) that involves high levels of vigour, dedication and absorption (Schaufeli, Bakker, & Salanova, 2006). Vigour refers to high levels of energy, effort and mental resilience when working. Dedication involves viewing work enthusiastically, and as challenging and as meaningful. Absorption refers to being engrossed in one's work (Bakker et al., 2008). Researchers who aim to measure engagement in this manner most often make use of a version of the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003). A systematic review of engagement studies that focused on nurses found the vast majority of studies used this second definition of engagement and employed a version of the Utrecht Work Engagement Scale (Keyko et al., 2016).

In view of the evident benefits of engagement, several authors have studied the predictors of this state. Of those studies that focus on nurses, many have studied factors consistent with elements of the Job Demands and Resources Model (JD-R) (Demerouti et al., 2001). The model assumes that the factors that are associated with the experience of stress can be classified into two categories: job demands and resources (Bakker & Demerouti, 2007). Job demands are job facets that require sustained physical and/or psychological effort. Job resources are those aspects that aid in achieving goals, reduce demands or stimulate growth. The model also assumes that two different processes influence the development of job strain and motivation. Excessive job demands reduce workers' mental and physical resources leading to exhaustion and health issues. Conversely, job resources can motivate, resulting in increased work engagement and performance. The model also assumes that resources can buffer the effect of demands on job strain, whilst resources particularly impact upon motivation and engagement when demands are high (Bakker & Demerouti, 2007).

Nurses must contend with various types of job demands. These may include excessive workloads, time demands, such as dealing with many tasks within a limited amount of time, physical demands such as aiding immobile patients, cognitive demands such as complex tasks which require nurses to analyse information and draw conclusions, and emotional demands including coping with death and disease as well as dealing with difficult patients and relatives. In terms of demands in samples of nurses, Kunie et al. (2017) linked higher levels of demands with poorer levels of job engagement. This overall association between demands and engagement was confirmed by van Mol et al. (2018), who also

highlighted that emotional demands, but not cognitive or physical demands were negatively associated with engagement in nurses. Cho, Laschinger and Wong (2006) and Fiabane et al. (2013) found that lower levels of workload were also associated with job engagement (unlike the former two studies, both conceptualised engagement as the opposite of burnout). However, not all studies with nurses have confirmed this association. Lewis and Cunningham (2016), for example, did not identify a link between engagement and workload.

In terms of resources, various types have featured in the nursing literature. Amongst the most frequently researched is social support, which refers to support provided by leaders and co-workers, such as help during difficult episodes or supportive feedback on one's work. Social support has been associated with improved engagement (Brunetto et al., 2013; García-Sierra, Fernández-Castro, & Martínez-Zaragoza, 2016; Kunie et al., 2017; Simpson, 2009), although others have provided contradicting findings (Fiabane et al., 2013; Lewis & Cunningham, 2016). Othman and Nasurdin (2013) reported that whilst supervisor support was positively related to work engagement, co-worker support was not. Warshawsky, Havens, and Knafl (2012) determined that interpersonal relationships were predictive of nurse managers' work engagement. Work control (or autonomy) has also been associated with improved engagement (Cho, Laschinger, & Wong, 2006; Kunie et al., 2017; Lewis & Cunningham, 2016), however others have failed to identify such an association (Simpson, 2009; van Mol et al., 2018).

Potential outcomes of the interplay between demands and resources have also been associated with engagement. Good levels of mental health and job satisfaction have been linked with engagement (Fiabane et al., 2013), whilst role stress has been linked with lower levels of vigour and dedication (Garrosa et al., 2011).

Whilst it is evident that psychosocial working conditions may be associated with nurses' engagement, there remains a lack of clarity regarding the aetiology of this state. Furthermore, a study of the correlates of engagement in nurses in Malta has not been previously conducted. The JD-R model has proved to be a valuable framework to identify psychosocial factors likely to influence engagement and to explain associations. The JD-R thus underpins the current study.

2. Aims

The study aimed to determine the associations between work engagement and psychosocial factors in ward-based nurses working in the care of older adults. In line with the JD-R model, the study had the following hypotheses:

H1: Greater job demands are associated with lower levels of work engagement.

H2: Greater work resources including higher levels of manager support, peer support and workplace relationships are associated with greater levels of work engagement.

3. Methods

A paper-based cross-sectional survey was administered to nurses within two public medical facilities specialised in the care of the elderly in Malta. A total of 321 nurses from a total of 410 were contacted and invited to participate in the study. As the questionnaire was distributed by hand, nurses who were not present on the days attended by the principal researcher could not be contacted. 283 (88% return rate) of the distributed questionnaires were returned.

In order to protect the participant's ethical rights, individuals were provided with a study information sheet and were required to sign a consent form. Questionnaires were returned anonymously. Institutional authorisation was obtained from participating medical facilities. The study received ethical approval from the Research Ethics Committee of the Faculty of Medicine and Health Science, University of Nottingham (ref: OVS19062014 SoM PAPsych).

3.1. Measures

3.1.1. Engagement

The nine-item Utrecht Work Engagement Scale (UWES-9) was used to measure engagement (Schaufeli & Bakker, 2003). The tool uses a seven-point scale ranging from never (0) to always (6) to measure three facets of engagement: vigour ('At my work, I feel bursting with energy'), dedication ('I am enthusiastic about my job') and absorption ('I am immersed in my work'), with demonstrated reliability and validity (Schaufeli & Bakker, 2003). A mean scale score was calculated, with higher scores indicating higher levels of engagement

($\alpha = 0.88$). A mean score was also calculated for each of the sub-scales: vigour ($\alpha = 0.74$), dedication ($\alpha = 0.83$) and absorption ($\alpha = 0.73$).

3.1.2. Psychosocial working conditions

In line with the JD-R (Demerouti et al., 2001), domains of the Management Standards Indicator Tool (MSIT; Health and Safety Executive [HSE], n.d., a), were used to measure job demands (eight items; $\alpha = 0.60$, e.g., 'I have unachievable deadlines'), and several resources including managerial support (five items; $\alpha = 0.80$, e.g., 'I can rely on my superior to help me out with a work problem'), peer support (four items; $\alpha = 0.81$, e.g., 'If work gets difficult, my colleagues will help me'), and workplace relationships (four items; $\alpha = 0.60$, e.g., 'I am subject to personal harassment in the form of unkind words or behaviour'). The MSIT is a reliable and valid tool (Cousins et al., 2004), with items being scored on a 5-point scale which ranged from never (1) to always (5), or strongly disagree (1) to strongly agree (5). Higher scores indicated more positive conditions: more manageable demands, better levels of support and relationships.

3.1.3. Demographics

Demographic information was collected on age, gender (male (1), female (2)) and grade. Ward-based nurses at the studied organisations were either clinical nurses (1) or charge/ deputy-charge nurses with supervisory responsibilities (2).

3.2. Analysis

Thirteen questionnaires were not analysed due to large amounts of missing data (> 50%). Analyses were conducted on the remaining 270 questionnaires (66% of the total population). Small amounts of missing data were tackled via mean substitution. The technique was chosen as less than 10% of data were missing, and were seemingly missing at random (Donner, 1982).

Pearson's correlations were used to determine the strength and direction of associations between work engagement and psychosocial working conditions. Effect sizes of correlation coefficients were interpreted by means of Cohen's (1988) thresholds. Hierarchical multiple linear regression was then used to examine the portion of variance in work engagement explained by the psychosocial working conditions. The technique allows for multiple predictor variables to be used simultaneously,

whilst also demonstrating how the addition of variables improves upon the variance explained by other variables (Leech, Barrett, & Morgan, 2014). Variables were added to the regression in three stages. Demographic control variables were added in Step 1, these were followed by job demands in Step 2 and psychosocial workplace resources in Step 3.

4. Results

Bivariate correlations indicated that all the studied psychosocial variables were significantly associated with overall engagement (Table 1). Weak correlations in the expected direction were observed between engagement and job demands, peer support, and

Table 1: Descriptive statistics and correlations between variables (N=270)

	Mean	SD	Range	1	2	3	4	5	6	7	8	9	10
Individual factors													
1. Gender	-	-	1-2										
2. Age	38.44	12.94	20-67	-.11*									
3. Grade	-	-	1-2	-.21***	.51***								
Psychosocial working conditions													
4. Demands	3.07	0.51	1-5	-.14**	.07	-.05							
5. Manager support	3.53	0.77	1-5	.06	-.02	-.02	.31***						
6. Peer support	3.82	0.65	1-5	.13*	-.11*	-.07	.14*	.66***					
7. Relationships	3.58	0.67	1-5	-.04	.15**	.18**	.41***	.37***	.36***				
Engagement													
8. Vigour	3.53	1.07	0-6	.02	.22***	.21***	.22***	.37***	.24***	.27***			
9. Dedication	4.54	1.10	0-6	.09	.11*	.08	.08	.30***	.25***	.14**	.60***		
10. Absorption	3.93	1.10	0-6	.09	.13*	.04	.00	.21***	.20***	.09	.50***	.67***	
11. Overall engagement	4.00	0.93	0-6	.07	.18**	.13*	.12*	.35***	.27***	.20**	.82***	.89***	.85***

*p < .05; **p < .01; ***p < .001. SD, Standard deviation. Gender, 1 = male, 2 = female; Grade, 1 = nurse, 2 = deputy or charge nurse

relationships. Associations between engagement and managerial support were of moderate strength, with higher engagement associated with higher managerial support. Significant associations between the studied psychosocial variables and the subscales of engagement were also in the expected direction. Weak correlations were identified between vigour and demands, peer support and relationships. Moderate correlations were identified between vigour and management support. In terms of dedication, weak correlations were identified with peer support and relationships, whilst a moderate correlation was identified with management support. In terms of absorption, weak correlations were identified with peer support and management support.

Management support explained a significant portion of the variance in overall work engagement and its subscales after controlling for demographic characteristics and the other studied psychosocial working conditions (Table 2). None of the other studied psychosocial working conditions contributed significantly to the final models of overall engagement and its subscales. Work demands contributed significantly to Model 2 of overall engagement and vigour, however the statistical significance of these associations was lost with the addition of job resources in Model 3.

Demographic control variables also contributed to the final presented models. Older age was associated with greater engagement, vigour and absorption. Higher grade was also associated with vigour.

The final overall engagement model explained 15% of the variance ($F(7, 262) = 7.65, p < .001$). Regressions for vigour ($F(7, 262) = 10.59, p < .001$), dedication ($F(7, 262) = 5.09, p < .001$), and absorption ($F(7, 262) = 3.44, p = .002$), explained 20%, 10% and 6% of the total variance respectively.

5. Discussion

Greater levels of management support were associated with greater engagement and higher scores in each of its subscales.

Compared to norm scores provided by Schaufeli & Bakker (2003), mean engagement levels of the studied population, as well as its subscales were all within the average range, and thus engagement was neither high nor low. On the other hand, compared with the UK's Health and Safety Executive's (HSE) Management Standards for Stress norms (HSE, n.d., b), that rate standards by placing

scores in one of four categories, mean relationship scores fell within the lowest category (less than the 20th percentile). According to the HSE, this indicates that relationship levels are a notable psychosocial risk and require urgent attention. Mean work demands, peer and management support all fell within the second category (20th till 50th percentile), suggesting that mean scores were also low, and therefore all warrant attention. As the study focused on nurses working with older adults, high levels of demands may be related to Malta's ageing population which places increasing pressure on healthcare resources. Maltese nurses have previously been shown to be emotionally exhausted and stressed (Galea, 2014), experience high levels of illness, such as musculoskeletal disorders and common mental health disorders, which affects their workability (Fiorini, Houdmont, & Griffiths, 2020), and have described nursing as difficult and hazardous occupation (Fiorini, Griffiths, & Houdmont, 2018). Taxing demands and poor health conditions may in turn make it difficult for nurses to support each other.

In terms of the study's first hypothesis, demands were not found to play a major role in engagement or its subscales in the current study. In line with the JD-R (Demerouti et al., 2001), associations with overall engagement and vigour were identified in the expected direction during bivariate analysis and during Step 2 of the multivariate model. A significant association however was not identified in the final model. The link with vigour may be because it refers to the effort and resilience needed when tackling work demands. Whilst nursing studies have previously reported associations between demands and engagement (Kunie et al., 2017), others have failed to confirm their relevance (Lewis & Cunningham, 2016).

In line with the study's second hypothesis, job resources, specifically managerial support, was positively associated with engagement and its subscales. The relevance of social support has previously been reported in the nursing literature (Brunetto et al., 2013; García-Sierra, Fernández-Castro, & Martínez-Zaragoza, 2016; Kunie et al., 2017; Simpson, 2009). The finding that management support may be more impactful on engagement than peer support is not unique and has previously been reported by Othman and Nasurdin (2013). It is possible that unlike peers, supervisors and managers are able to make more tangible changes to nurses' tasks and work environments, which could have had a more meaningful impact upon the factors that make a job and workplace a more positive experience. Associations between

Table 2: Hierarchical multiple regression analysis summary predicting overall engagement and its subscales

Variable	Engagement			Vigour			Dedication			Absorption		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Gender												
Male												
Female	.11	.13*	.09	.07	.11	.07	.11	.13*	.09	.10	.10	.07
N	β	β	β	β	β	β	β	β	β	β	β	β
Grade												
Nurse												
Charge nurse	.07	.09	.07	.15*	.18*	.15*	.06	.07	.06	-.02	-.02	-.03
Age	.16*	.14*	.17*	.16*	.13	.15*	.09	.08	.11	.15*	.15*	.17*
Demands		.13*	.02	.23***	.10	.10	.01	.10	.01	.01	.01	-.06
Management support			.27**		.29***		.23**					.16*
Peer support			.10		.04		.11					.12
Relationships			.02		.06		.00					.00
R ²	.05	.06	.17	.07	.12	.22	.02	.03	.12	.03	.03	.08
ΔR ²	.05	.01	.11	.07	.05	.10	.02	.01	.09	.03	.00	.06
Adj. R ²	.03	.05	.15	.06	.11	.20	.01	.02	.10	.02	.01	.06

p* < .05; *p* < .01; ****p* < .001; *N* = 270
 β, standardized beta coefficient; *N*, number; *R*₂, explained variance; Δ*R*₂, change in explained variance; Adj. *R*₂, adjusted explained variance.

engagement and both peer support and relationships were only significant during bivariate analysis. Difficult working conditions may have hindered nurses' ability to provide meaningful support to co-workers and may also have hampered relationships. Discussions held with nurses highlighted that they frequently worked with replacement staff, which also may have influenced the ability to form relationships and obtain support.

The current study therefore only highlighted partial support for the JD-R model in respect to engagement in nurses. Whilst significant bivariate associations were obtained between engagement and the independent variables in the hypothesised directions, multivariate analysis provided limited support to link between engagement and work demands. Further studies may thus be warranted to explore the role of demands on engagement in nurses working in Malta and to identify other novel factors relevant to fostering engagement.

Whilst not the main focus of the study, older nurses were found to be more engaged. Older employees were more likely to hold ward-supervisor responsibilities, however grade was not associated with engagement, and was only significantly associated with the vigour subscale. A limited number of studies have previously reported mixed findings with regards to age. Simpson (2009) highlighted a positive but weak bivariate link between age and engagement in nurses, Aboshaiqah et al. (2016) reported a negative association between age and engagement, whilst Wan et al. (2018) reported a non-linear but significant association, with the youngest and oldest nurses more engaged than those between the ages of 25 and 44. In the current sample, older workers were also found to have better relationships, which may have contributed to the finding. The current study was conducted amongst nurses working with older adults; discussions with nurses revealed that young nurses were often placed in such settings due to human resourcing needs but would regularly leave to work in other settings when the opportunity would arise. This contrasted with older staff who had chosen to stay in such settings, or chose to move to them, and thus might also have contributed to the reported association.

5.1. Limitations

The study was cross-sectional in nature, whilst the method of recruitment may have omitted individuals who were away from work due to vacation and sick leave. Conversely, the study design facilitated participation,

evidenced by the high percentage of returned questionnaires.

Some of the scales used, such as the MSIT demands scale, obtained rather low reliabilities. This may have affected the findings. However, all alpha coefficients were ≥ 0.60 which is considered acceptable (Taber, 2017).

Whilst the study aimed to determine the associations between engagement and several psychosocial working conditions, it is acknowledged that other potentially relevant factors were not studied. These included psychosocial factors such as autonomy (Kunie et al., 2017) as well as other personal factors.

5.2. Practical Implications

Despite its notable benefits, engagement levels were not found to be high. Furthermore, mean scores for all the studied psychosocial working factors were low and require attention. In particular, the study indicated that boosting management support could be beneficial although intervention studies are required to confirm this. Apart from its impact on work engagement, bivariate associations also highlighted links between better levels of management support with greater peer support, fewer work demands and better workplace relationships. Items measured in this regard included the availability of supportive feedback, managers helping with problems, managers' availability to discuss upsetting work events, support during emotionally demanding work, and the provision of encouragement (HSE, nd, a). In view of the low scores obtained in manager support, these factors should be explored and fostered. The current study's findings could be used to improve awareness amongst those with management duties. Training for nurses with supervisory responsibilities may also aid in improving the levels of support that they provide.

In view of the difficult psychosocial working conditions, nurses may benefit from organizational-level interventions such as services that help them cope with both their working and personal situations; for example, fostering awareness of the Employee Assistance Programme for government workers which offers counselling services may be helpful. Equally, setting up occupational health services for nurses that includes counselling services may be advisable.

In addition to organizational-level interventions, the provision of training to help nurses to cope better with stressors, such as mindfulness training, and the

setting up of health promotion programmes may also be beneficial. Both have been associated with improved workplace engagement (Knight, Patterson, & Dawson, 2019). Fostering self-management strategies such as self-observation (e.g., monitoring one's own behaviour) and self-goal setting have also shown promise in nurses (Breevaart, Bakker, & Demerouti, 2014). Studies also suggest that interventions that help individuals to build positive emotions, resilience and improve self-efficacy are also effective in improving engagement (Knight et al., 2019). Examples include interventions which aid individuals to identify and focus on their strengths, thus building self-efficacy, and reminiscing on positive work memories.

Associations between age and engagement highlight the value of older workers. Further studies, however, are warranted to explore why younger nurses were less engaged. The findings may indicate the importance of allowing employees to work in settings that reflect their interests.

6. Conclusion

The study determined that engagement levels in the studied sample were not high. Multivariate models provided support for the JD-R model and indicated that management support in particular was associated with greater levels of work engagement. Descriptive findings highlighted that support levels were low and thus should be fostered. Greater levels of management support were also associated with higher levels of peer support, lower work demands and better work relationships, further highlighting the possible benefits of fostering this psychosocial work factor.

Conflict of interest

The authors report no conflicts of interest.

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Commentary

Simulation-based education: International collaboration and resource sharing in response to COVID-19

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Abstract. Throughout 2020, medical radiation science education and training was impacted by COVID-19 restrictions on clinical placement opportunities. While academic learning and assessment mostly continued using online learning methods, this was not the case for clinical skills training. Technical, professional, and interpersonal skills development is usually refined and practised via placement blocks in clinical departments. When these clinical placement opportunities stopped during the COVID-19 pandemic, training capacity was reduced, and alternative training solutions were sought. A recent international conference was convened to share resources and ideas related to simulation-based education in order to help address clinical training limitations. A range of themes emerged during the conference including use of bespoke online teaching tools, adaptation of existing solutions or use of sophisticated virtual reality software packages. Solutions included use of equine facilities, after-hours clinical equipment, phantoms, and video resources, with several presenters also showcasing virtual Objective Clinical Examinations. Delegate evaluation of the event was overwhelmingly positive included a desire to engage in similar events and engage in future collaboration. Sharing of simulation resources and ideas was adopted enthusiastically and this collaborative approach should continue to provide benefits to educators and learners in the future. Online or virtual simulation activities may well continue to play an important role post-COVID-19; additional work is

needed to develop a pedagogical framework for optimal use of simulation and to identify how it can be used most effectively as partial replacement for clinical training time. The international collaborative approach embraced during this conference is likely to be an important aspect of ongoing pedagogical development in simulation-based education throughout the pandemic and beyond.

Keywords. Simulation; Medical radiation science; Education; Training; COVID-19; Collaboration

1. Introduction

Like other health professions (Glasper, 2020), the impact of COVID-19 on education and training for both medical radiation students continue to be significant. While academic learning and assessment has mostly been able to continue using online learning methods, this is not the case for clinical skills training. Technical, professional, and interpersonal skills development is usually refined and practiced via placement blocks in clinical departments. These clinical placement opportunities stopped during the COVID-19 pandemic due to clinical workplace pressures and the need to reduce risks for students, staff, and patients. Although most placements are now continuing, training capacity is generally reduced and when combined with the need for social distancing, clinical skills training remains at risk.

The reduction in clinical placement opportunities has led to increased adoption of simulation resources to help provide some continuity in skills development. Use of

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simulation-based education was a key recommendation of the American College Health Association (2020) “Considerations for reopening institutions of higher education in the COVID-19 era” guidance. Prior to COVID-19, simulation has long been used (Owen, 2016) to provide core skills training in preparation for placement (Alinier, 2007). Published data from high quality studies in nursing (Curl et al., 2016), occupational therapy (Imms et al., 2018) and physiotherapy (Tuttle et al., 2019) have identified the increased confidence and skills gain arising from learning in a safe unpressured simulated placement. Criticism of simulation commonly relates to low levels of realism and the dangers of eliminating patients from the learning, yet these issues generally depend on flawed assumptions about the need for high fidelity simulation and the role of simulation. Previous work (Ketterer et al., 2020) has shown that key benefits associated with simulation were not directly linked to physical attendance and use of high-fidelity simulation resources, but instead arose from the interpersonal interactions scaffolded by the various scenarios. Findings from an extensive review (Shiner, 2018) also indicated that simulation provided excellent preparation for clinical placement that enabled learners to focus more on their patients and less on use of equipment. It can be seen, then, that delivering simulation-based education remotely is not only feasible but could potentially deliver genuine clinical skills training during temporary reductions in clinical department footfall.

One of the challenges presented by COVID-19 was the need for rapid development and deployment of simulation resources. Published data consistently reports the need for investment in resource development, staff training and debriefing preparation in order to maximise the value of simulation. The limited time frame caused by COVID-19 meant that the usual planning lead-in time and staff development were largely absent, and educators needed to hit the ground running. A potential solution to this was identified as resource sharing.

2. Method

In response to the challenges presented by COVID-19 restrictions, an international team devised an exciting free online conference that aimed to facilitate sharing of experiences of using simulation to augment or partially replace clinical training. The conference adopted a unique split session timing to accommodate delegates from both the Americas and Australasia and was delivered through

Microsoft Teams hosted by The University of Liverpool. Feedback was gathered from delegates via an online anonymous survey tool after the event.

3. Results

The conference featured a range of over 40 speakers including simulation researchers, academics, students, and professional body representatives from around the globe keen to share ideas for how simulation could provide some capacity to teach clinical skills in the absence of clinical placement for the duration of the pandemic restrictions. Over 900 delegates registered for the conference and engaged through live questioning of presenters and panel plenaries.

A range of themes emerged during the conference including use of bespoke online teaching tools, adaptation of existing solutions or use of sophisticated virtual reality software packages. Solutions included use of equine facilities, after-hours clinical equipment, phantoms, and video resources. There was a strong theme relating to use of simulation for assessment of clinical skills with several presenters showcasing virtual “Objective Clinical Examinations” (OSCEs).

Delegate evaluation of the event was overwhelmingly positive and rated over 90% of sessions as “Valuable” or “Extremely Valuable”. Over 95% of respondents expressed a desire to engage in another event and 95% of respondents expressed an interest in future collaboration. Qualitative feedback from the event triangulated well with the emerging themes and quantitative responses; these demonstrated enthusiasm for both simulation-based education and global collaboration and resource-sharing.

4. Discussion

Conference themes and feedback highlighted great enthusiasm for simulation-based education and some key benefits afforded by this. While the wider benefits of simulation have been eloquently summarised in prior publications (Owen, 2016), there were some themes arising from the conference participants that related specifically to the COVID-19 restrictions. One of these related to the issue of using simulated placements in lieu of clinical training time. Much of the existing evidence base in medical radiation science supports use of ad-hoc simulation activities (Shiner, 2018) but there is

little evidence relating to partial replacement of clinical training time with simulated placements.

With the withdrawal of placement opportunities, it was clear that many conference participants were seeking to plan alternatives to placement that would still afford learners the opportunity to gain clinical skills. Use of simulation as partial replacement for clinical time has met with some resistance in previous studies (Thoirs et al., 2011). A recent Delphi consensus study (currently under review), however, has suggested that there is now increased support for the concept of partial replacement of clinical training with simulation, and it will be interesting to see if the use of this technique during COVID-19 restrictions continues in the post-pandemic future.

A COVID-19 specific aspect of simulation discussed at the conference related to preparing students for future placements that would require their extended use of Personal Protective Equipment (PPE). The identified benefits of providing learners with practice at “donning and doffing” link well to previously published benefits of simulation and the provision of a safe environment for this. Being able to simulate realistic scenarios requiring effective use of PPE has been an important aspect of simulation-based education over the last 12 months.

Perhaps one of the most concerning educational consequences of lost clinical placement for many academic and clinical staff was the impact on assessment of clinical skills and achievement of standards of proficiency. Several of the conference presentations and feedback comments specifically addressed this issue and some innovative simulation-based solutions had been utilised. Some virtual reality solutions offer assessors the ability to observe student performance in terms of technical skill and with some products there is an option to gain metrics from this to measure technical accuracy. While these solutions omit the vital interpersonal skills, it is clear that many educators have been combining them with online activities using actors to assess communication skills. These OSCEs have been able to support assessment of some clinical skills but lack the ability for learners to showcase how technical and interpersonal skills can be combined in a realistic clinical scenario. For some tasks, however, such as radiotherapy planning, simulated placements can mimic most of the workflow and allow these competencies to be assessed with a degree of accuracy. There was general agreement that more work is required to identify which aspects of medical radiation science practice can be assessed

through simulation and which demand assessment in a clinical environment with real patients.

With such a wealth of simulation-based education resources now developed, evaluated, and shared, it is hard to imagine placing these back into a box when clinical placements return to normal. It will be interesting to see if the academic and clinical communities continue to reap the benefits of some of these techniques and pedagogical developments post-COVID-19. In particular, it will be useful to identify which of the simulation solutions and scenarios take their place alongside clinical placement as an essential aspect of training and possibly assessment, and the impact that this will make on placement planning.

Alongside the evident enthusiasm for sharing of ideas and resources, the conference feedback also demonstrated a genuine desire for educators to form a community of practice to continue to collaborate and share post COVID-19. These awful circumstances in many cases have led to institutions abandoning their reluctance to share with “rivals” and to embrace a more open approach to resource development and sharing of expertise. Part of this may arise from the isolation imposed by remote working and social distancing, with educators keen to communicate and work together. It will be interesting, however, to see if this international collaborative approach to pedagogical development in simulation-based education continues after the pandemic. Certainly, delegate feedback indicated a strong desire for similar events in the future and hopefully this will lead to ongoing collaboration and a sustainable community of practice in medical radiation science simulation-based education.

5. Conclusions

Simulation-based education helped medical radiation science students continue clinical skills training and achieve standards of proficiency during the COVID-19 pandemic. Sharing of simulation resources and ideas was adopted enthusiastically and this collaborative approach should continue to provide benefits to educators and learners in the future. Online or virtual simulation activities may well continue to play an important role post-COVID-19; additional work is needed to develop a pedagogical framework for optimal use of simulation and to identify how it can be used most effectively as partial replacement for clinical training time. The international collaborative approach embraced during this conference

is likely to be an important aspect of ongoing pedagogical development in simulation-based education throughout the pandemic and beyond.

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Conflicts of interest

The author/s report/s no conflicts of interest.

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