

# COMPLIANCE AND MEDICATION PROBLEMS IN CHRONIC CONDITIONS

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## ABSTRACT

**OBJECTIVES** The project aimed to determine the level of medication compliance in patients having a chronic condition and to determine the types and frequency of medication-related problems identified by a pharmacist working in a community pharmacy.

**METHOD** The study population was identified from the database of patients receiving free medicinals under the 'Pharmacy of your Choice' scheme from a particular community pharmacy. Patients included in the study were older than 60 years of age and taking more than 3 drugs. A Compliance Questionnaire was distributed to these patients. The pharmacist classified medication problems and used a specifically developed data collection tool in order to collate all the relevant patient information.

**KEY FINDINGS** Of the 75 patients included in the study, 33 (44%) said they never missed a dose whilst the remaining 42 (56%) were non-compliant. Out of the 205 medication-related problems identified, the most common medication-related problems observed were non-compliance (56%) and the occurrence of adverse drug reactions (55%).

**CONCLUSION** Compliance is a significant medication-related problem encountered by community pharmacists amongst elderly patients receiving multiple drug therapy for their chronic conditions.

**KEYWORDS** compliance, medication-related problems, chronic conditions, POYC.

## INTRODUCTION

Chronic conditions are diseases of long duration and generally slow progression. They are conditions that can only be controlled and not, at present, cured. Chronic conditions, such as cardiac disease, cancer, chronic respiratory diseases, stroke and diabetes, are by far the leading cause of mortality in the world, representing 60% of all deaths. The major risk factors for chronic disease are an unhealthy diet, lack of physical exercise and tobacco use.<sup>1</sup>

Living with a chronic disease has a significant impact on a person's quality of life. The incidence of such diseases increases with age. In fact, many older people are living with more than one chronic condition meaning that they face different challenges, both medical and social.<sup>2</sup> One of the most prominent medical challenges is compliance to medication. Since older people tend to be consuming a number of medications, they keep forgetting when their next medication is due, or which drug they are supposed to be taking at that time.

Medication compliance refers to the degree or extent of conformity to the recommendations about daily treatment by the health care professional with respect to the timing, dosage, and frequency.<sup>3</sup> It may be defined as "the extent to which a patient acts in accordance with the prescribed interval, and dose of a dosing regimen".<sup>4</sup>

Another medical challenge faced particularly by the elderly is that of medication errors. A medication-related problem is an event or situation whereby drug therapy is negatively interfering with the patient's health. These problems can cause, contribute or aggravate common geriatric problems. Pharmacists can identify and prevent medication-related problems through careful evaluation and monitoring of patients' drug regimens.<sup>5</sup>

The aims of this study were to determine the level of medication compliance in patients having a chronic condition and to determine the types and frequency of medication-related problems identified by a pharmacist working in a community pharmacy.

## METHOD

The study population was identified from the database of patients receiving free medicinals under the 'Pharmacy of your Choice' (POYC) scheme from a particular community pharmacy. Patients included in the study were older than 60 years of age and taking more than 3 different drugs under the scheme. Seventy-five eligible patients participated in this study after signing an informed consent form. Ethics approval for the study was granted by the University of Malta Ethics Committee.

The study was divided into three sections. The first part consisted of proposing a Maltese version of the 'Compliance Questionnaire' which was previously developed by Letizia Zammit in 2005 as part of her undergraduate pharmacy project.<sup>6</sup> The Maltese version of the questionnaire was validated by an expert panel consisting of a general practitioner, a pharmacist, a head of school, a university lecturer specialising in the Maltese language and a lay person.

The second part of the study saw the implementation of the questionnaire to the 75 patients when they called at the pharmacy to collect their medicine. The third part dealt with the pharmacist identifying medication problems. The pharmacist classified the medication problems and developed a data collection tool in order to collate all the relevant patient information. This included demographic data, drug history, past medical history, current diagnosis, any recent clinical parameters and the potential medication problems, which were classified into: sub-optimal dosing, over-dosing, therapeutic duplication, unnecessary medication, clinically significant interactions and non-compliance.

## RESULTS

Out of the 75 patients involved in the study, 46 (61%) were female and 29 (39%), were male. The average age of the patients was 74, whilst the median age was 72. The patients age ranged between 60 and 88 years of age, with 30 (40%) being within the 60-69 age bracket and 45 (60%) being over 70 years of age. Sixty-eight (91%) of the patients were married, 36 (48%) patients were living with other members of their family, 23 (31%) were living alone and 16 (21%) were retired in an institution. Patients' educational level ranged from 28 (37%) having completed 5-9 years of full-time education, 26 (35%) patients completed up to 4 years of education, whilst the remaining 21 (28%) accomplished more than 10 years of education. All patients but six (8%) were born in Malta. The majority (88%) of patients said they visit the same doctor each time. For those living in an institution (21%), this would happen automatically since one doctor would be responsible for that home.

## COMPLIANCE ISSUES

Sixty-six patients (88%) said they usually visit the same doctor. Regarding compliance to medications, 33 patients (44%) said they never missed a dose, 24 (32%) would rarely miss their medication, 15 (20%) missed a dose once a week whilst the remaining 3 (4%) patients always missed a dose. Reasons for non-compliance were various. From the non-compliant group, 19 (25%) claimed to be asymptomatic, 13 (17%) experienced side-effects related to their chronic disease medication, 3 (4%) showed lack of concern whilst 7 (9%) did not comply since they forgot to take their medication.

When asked what action patients take upon realizing they had missed a dose, 24 (32%) admitted to skipping the dose altogether, 15 (20%) said they took the dose when they remembered and 3 (4%) said they took double the dose at the next dose.

Compliance with the prescribed times of medications is also an important factor in determining patient compliance. Patients were asked whether they were compliant with the prescribed times of their medications. The majority of patients (64%) took their medications at the prescribed times.

## MEDICATION-RELATED PROBLEMS

The pharmacist identified 205 medication-related problems in the drug treatment of the 75 patients. The most common were non-compliance (42), the occurrence of adverse drug reactions (41), subtherapeutic dose (26) and risk of drug interactions (25) (Figure 1).

## DISCUSSION

The majority of patients in this study 56% (n=42) were non-compliant and the reasons given correlate well with results reported by Corlett in 1996 where non-compliance was reported to result from patients not knowing how to take the medication, not understanding the importance of drugs in managing the symptoms, polypharmacy, anticipation or experience of side-effects, forgetfulness or impaired physical function.<sup>7</sup> In the scenario of this study a reason for non-compliance was inaccess to free medicines.

When the medicine is out of stock from government stocks the risk of non-compliance is higher since patients are either too old to go to collect their supply from the Government pharmacy, are not eager to wait long hours in the queue at the Government pharmacy or have no relatives to send to pick up their medications. Most patients are unwilling to buy the out-of-stock medications resulting in the patients not taking their medications, increasing the problem of non-compliance.

Pharmacists have a pivotal role in optimizing compliance to pharmacotherapy and therefore improve health outcomes by assessing each patient individually. This will result in assessing each patient's own compliance problem, recommending targeted interventions that are responsive to the patients' risk factors and needs, identifying predisposing factors and providing comprehensive counseling.<sup>8</sup>

The pharmacist spends time educating the patients in order to increase the level of drug compliance and after identifying individual drug related problems the pharmacist can focus the counselling to address this area or contact the prescriber to follow-up patient care. Such interventions by the community pharmacist add value to the level of care provided to patients receiving their medicines through the POYC scheme and contribute to improving patient safety and patient outcomes.

The most prominent medication-related problem as identified by the pharmacist in this study was non-compliance in 56% (n=42) of patients, followed by the incidence of adverse drug reactions or side effects in 55% (n=41) of patients. This finding coincides well with results from other studies.<sup>9,10,11</sup> In the case of older adults, adverse drug reactions may contribute to already existing geriatric problems such as increasing risk of falls, urinary incontinence, constipation and weight loss.

## CONCLUSION

Results indicated the importance of educating patients regarding compliance since only 44% claimed to be compliant at all times. The elderly may tend to be more non-compliant since they would not understand the dosage regimen and would be unaware of the consequences of poor compliance.<sup>6</sup> Elderly qualify as a patient group to undergo regular treatment review sessions by the community pharmacist when collecting the medications for chronic diseases. This review will reinforce information about the drugs, identify medication-related problems and reduce non-compliance due to confusion or misinformation about drug dosages.



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**Figure 1:** Classification and frequency of medication-related problems (n=205).

