

Patient Knowledge About Prescribed Medication in Older Adults

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Abstract

Aim

The aim of this study is to assess patient's knowledge about their prescribed medications.

Methods

A prospective survey of patients over 64-year-old admitted to a general medical ward in a tertiary-care hospital. Patients with mild cognitive impairment, dementia or serious acute medical illness were excluded. Data was collated through medical records and a patient questionnaire. Data included: age group, gender, first language, education level, polypharmacy (>4 medications), medication compliance, and education provided by health care staff about prescribed medications. It also assessed patient's ability to recall name, number, frequency, dose, and side-effect of their prescribed medications.

Results

130 patients accepted to participate in the study. 84 were female. 32 patients were 65 to 75 years, 67 between 76-85 years and 31 were over 85 years. 128 spoke English as their first language. 29 obtained education up to 12 years of age, and 32 up to 16 years or more. Polypharmacy was noted in 84 patients.

56 patients correctly recalled the total number of prescribed medications and 75 knew the frequency of each medicine. 56 could not recall any name, 88 could not recall any doses and 111 were unaware of the major side effects. 34 were aware of the indication of each medication. 100 patients reported full compliance with their medications.

110 reported that they had not received education about their prescribed medications.

Conclusion

Patient's knowledge about their prescribed medication is suboptimal among older adults and needs improvement. Polypharmacy is common in patients above 65 year old.

Introduction

One of the most important aspects of prescribing and dispensing medication is providing adequate information to patients. Inadequate knowledge of prescribed medication can lead to issues such as medication non-adherence and poor health outcomes^{1,2}. Patient's understanding and appropriate use of health/medication information results in a healthier lifestyle². It is the responsibility of health care providers (HCP) to deliver adequate education to patients on their health conditions and prescribed medications³. Poor communication between the HCP and patient is associated with increased rates of hospitalization, improper management of chronic conditions, higher morbidity, and mortality³⁻⁶.

There is limited data published on patient's knowledge about their prescribed medications. However, few studies have shown that patients have poor understanding about the drugs they are taking regularly^{7,8}. Particularly, older adults without known cognitive impairment have shown reduced ability to recall their drugs⁹. Therefore, verbal education alone from HCP may be insufficient. In order to determine how to optimize medication education, our study aimed to review older adults understanding of their prescribed medications. For this purpose, we conducted a prospective survey in a large tertiary-care hospital.

Methods

A prospective survey of 130 patients was conducted over a 6 month period at Beaumont Hospital, Dublin, Ireland from November 2021 to April 2022. Data was collated from patients aged 65 years and above admitted to a general medical ward. Informed written consent was taken prior to data collection. An Information leaflet about the study was provided to the patient before participating in the survey. Patients with known mild cognitive impairment, dementia or serious acute medical illness were excluded from the study. The limitation of this study is that it is performed in the hospitalized cohort. Ethics approval was granted by the Medical Research Ethics Committee at Beaumont Hospital, Dublin.

We used an interviewer-administered questionnaire. Study participants were randomly selected by the interviewer. Data regarding age group, gender, first language, polypharmacy (defined as 5 or more medications) and education level was recorded in the questionnaire. The interview was conducted in English using standard preset questions to assess patient's ability to recall the

number, name, indication, dose, frequency, side-effects, and adherence of their regular medications. Answers were recorded in the questionnaire using percentage scale i.e. 0%, <50%, >50%, and 100%. Patients were also asked dichotomous questions (Yes/No) such as if they have been education by health care provider (HCP) about the medication prescribed, if they feel more education would be useful, and if they believed a medication passport would be useful to them. Patients were explained regarding what medication passport is.

Results

Demographics

A total of 130 patients were included in the study. Among these 130 participants, 84 (64.6%) were females and 46 (38.4%) were males. 24.6% ($n=32$) were 65 to 75-year-old, 51.5% ($n=67$) were 76 to 85-year-old and 23.8% ($n=31$) were above 85-year-old. The Majority (98.46%) ($n=128$) spoke English as their first language. Interpreter was not required for the 2 patients who did not speak English. 22.31% ($n=29$) participants obtained education until 12 years of age, 53.1% ($n=69$) left the education between the age of 12 to 16 years and 24.6% ($n=32$) left the education when they were above 16-year-old.

Polypharmacy

Poly-pharmacy was noted common occurring in 64.6% ($n=84$) of study participants. Poly-pharmacy rates were higher in the 76 to 85-year-old group compared to the other age groups. Poly-pharmacy was higher in female compared to male participants (39.2% versus 25.4% respectively, $p=0.287$). Participants who left the education between 12 to 16-year of age had higher percentage of polypharmacy (38.5%) compared to those who left the education after 16 years of age (14.6%) and before 12 years of age (11.5%) ($p=0.114$).

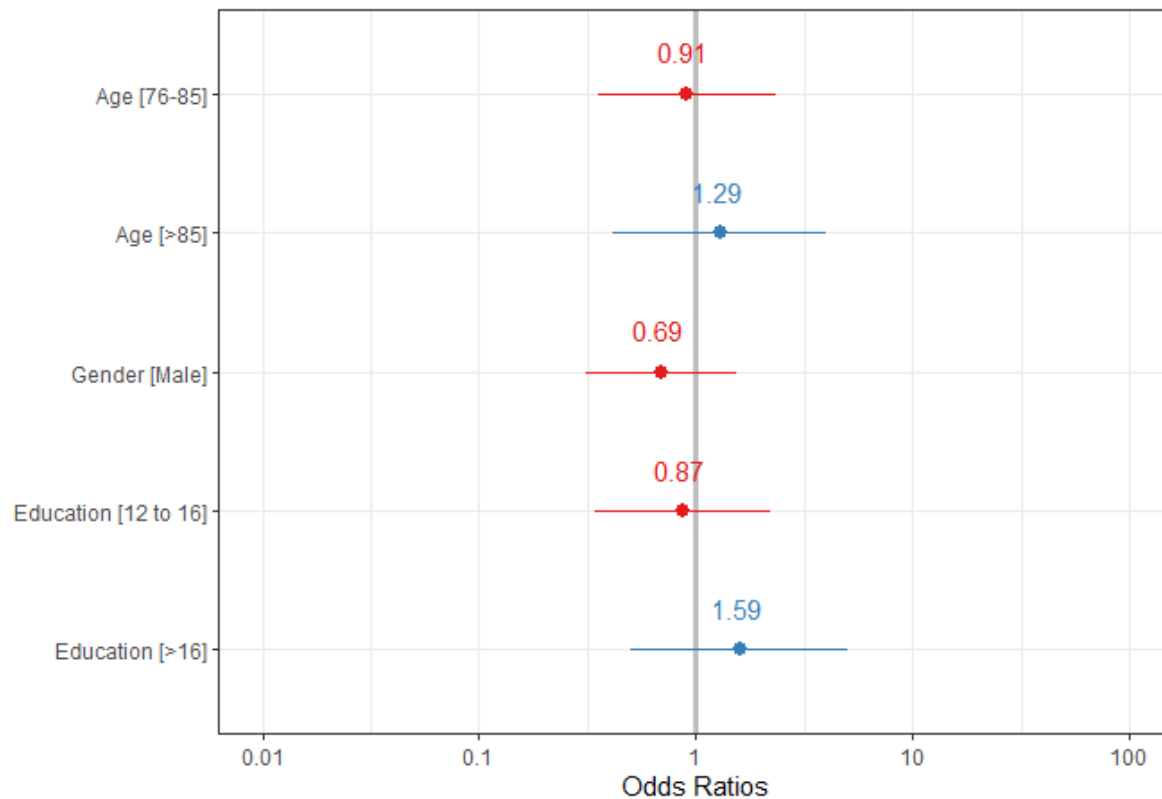
Knowledge of Number of Prescribed Medications

Less than half (43.1%, $n=56$) of study participants could fully recall the number of regular medications they were prescribed. 23.1% ($n=30$) were able to recall more than 50% and 20% ($n=26$) were able to recall less than 50%. 13.84% ($n=18$) were not able to recall the number of their prescribed medications at all. Patients with poly-pharmacy had better recall of the number of prescribed medications compared to those without poly-pharmacy (23.1% versus 20.1% respectively, $p=0.133$). It was also observed that patients who left their education between the age of 12 to 16 years were better able to recall their number of medications versus those who left their education before 12 years or after 16 years of age ($p=0.002$).

Knowledge of Medication Names

Only 15.38% ($n=20$) of patients were fully able to recall the name of their regular medications, 11.53% ($n=15$) were able to recall the name of more than 50% of their medications and 30% ($n=39$) were able to recall the name of less than 50% of their medication. 43.07% ($n=56$), were not able to recall any names of their prescribed medications. Patients who obtained the education above the age of 16 years were better able to remember the name of their medications compare to the other two groups ($p<0.001$). Information regarding the patient medication knowledge who are on blister pack vs loose boxes was not obtained. The factors influencing the odds of remembering medications name is illustrated below [Graph-1].

Graph-1: Recall of Medications Name



Knowledge of Medication Indication

26.1% ($n=34$) of patients knew the indication for every prescribed medication. 22.3% ($n=29$) were able to remember the indication for more than 50% of medications. 29.3% ($n=38$) were able to

remember the indication for less than 50% of their medications. 22.3% couldn't recall the indication for any of their medication.

Knowledge of Medication Dosages

Ability to recall the dosage of the medications was observed to be poor. More than half of the patients, 67.7% ($n=88$), were not able to recall the dose of any of their medication. 16.15% ($n=21$) were able to tell the dose of only less than 50% and 8.46% ($n=11$) recalled the dose of more than 50% of their medications. Only 7.7% ($n=10$) of these patients were fully able to remember the doses of all of their prescribed medications.

Knowledge of Medication Frequency

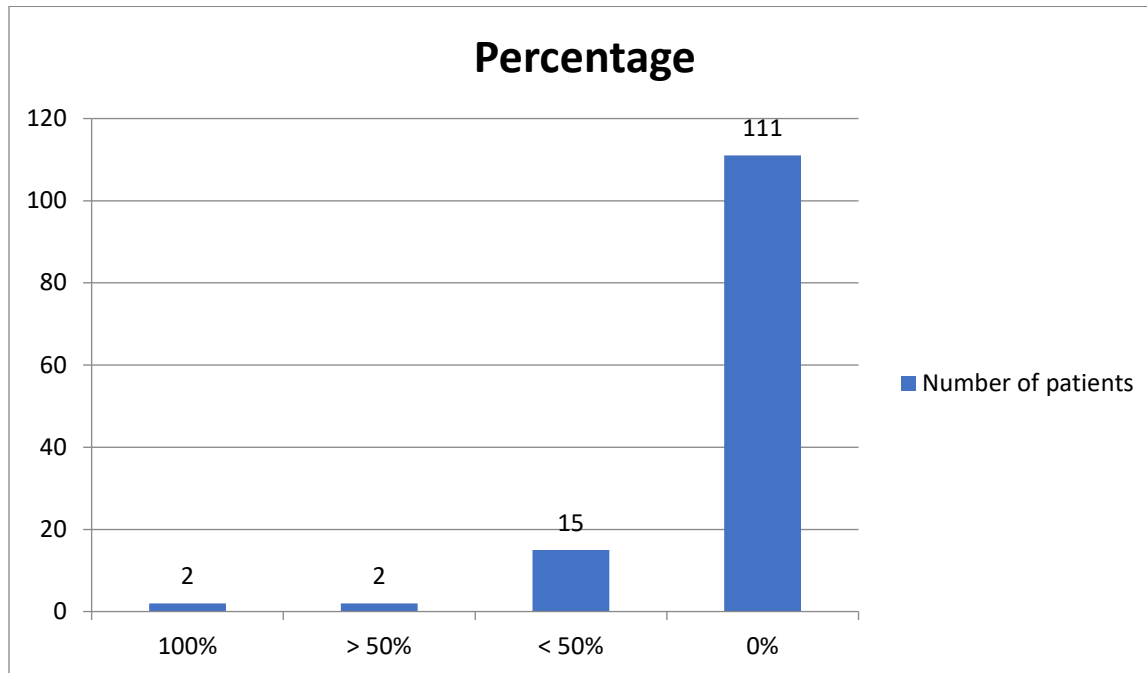
Most patients, 57.69% ($n=75$), were able to remember the frequency of all their medications. 16.15% ($n=21$) were able to recall the frequency for more than 50% of the medications. 19.23% ($n=25$) were unable to recall the frequency of any of their medications. 6.9% ($n=9$) were able to recall some but less than 50% of the medications.

Knowledge of Side-Effect Profile

Overall, patient's knowledge about the side-effect profile of their medication was poor (Graph-2). Only 2 patients knew the major side-effect of all their medications. 2 patients were able to recall the major side-effect of more than 50% of their medications.

Most patients, 85.38% ($n=111$), did not know the main side-effect of any of their medication. 11.53% ($n=15$) of patients were able to recall the side-effect of less than 50% of the medications.

Graph-2: Number of patients able to recall major side-effect



Medication Compliance

The majority of the participants reported good compliance with their prescribed medications. 76.92% ($n=100$) reported 100% compliance. 16.92% ($n=22$) of the patients reported compliance with more than 50% and 3.1% ($n=4$) reported compliance with less than 50% of their medications. Only 3.07% ($n=4$) reported that they were not compliant with any of their medication.

Medication Education

84.61% ($n=110$) of patients did not recall receiving education from HCP about their prescribed medications. 10% ($n=13$) responded that they had been educated by the hospital doctor. 5.38% ($n=7$) replied that their General Practitioner had provided medication education. 6 patients were educated by a pharmacist and 4 patients were educated by the nurse about their medications.

Most patients, 82.30% ($n=107$), agreed that more education about their medication would be helpful. Most patients agreed that a medication passport containing basic information about prescribed medication would be useful (85.38%, $n=111$). 14.61% ($n=19$) of the patients felt that medication passport would not be useful for them.

Conclusion

This prospective review of patient's knowledge about their prescribed medication shows that knowledge is poor among older adults. Polypharmacy is common in patients above 65-year-old.

Medication education is suboptimal and should be improved. A medication passport could be a useful tool to improve patient's knowledge of their regular medications. This study could support the implementation and use of a medication passport.

Discussion

Our study highlights that medication awareness is poor among older adults. Medication use has become more complex for patients over time. This is due to an ever-expanding number of therapeutic agents available, with increasingly specialized timings, dosage instructions and side effects encompassing them.

Further studies are needed to confirm the correlation between increasing age and reduced medication literacy.

Specific literature is sparse in this regard, with the majority of studies focused on the general population as per a systematic review published in the British Journal of Pharmacology¹⁰. Going forward, it is apparent that further studies are needed in medication literacy focussing older adults - a population in which there is polypharmacy and reduced health literacy, and as such presents with increased morbidity and mortality relating to prescription of medications¹¹.

Polypharmacy has a knock- on effect in reducing medication awareness-this may lead to an increased number of medication overdoses, increased side effect profile, and medication non-compliance.¹¹ Our study highlighted that although most patients reported good compliance with their prescribed medications, knowledge of the name, dose, frequency and indication for their medications were often low. The implications of this in terms of morbidity and mortality are under- researched and warrant further investigation.

Polypharmacy is a particularly pertinent issue amongst older adults. It is well characterized in the literature that, as our population ages, so too does the number of medications a patient is prescribed¹². Polypharmacy is described as being the prescription of 5 or more medications, and has common sequelae of increased medication non-compliance, over/under dosage, and increased risk of drug interactions. De-prescribing at any clinical interaction for medications that are no longer appropriate, no longer align with goals of care, or drugs that are no longer indicated has been shown to improve clinical outcomes¹³. Future studies could examine whether the interventions to reduce polypharmacy might improve medication literacy.

Study participants felt that improved education about their medications would be useful. Opportunities for medication education arise in all healthcare settings and can be carried out by doctors, nurses or pharmacists.

There are many interventions that could aid in improving education opportunities including improved staffing levels and access to education resources such as patient information leaflets¹⁴. A notable intervention is a medication passport, which has been previously established in both

literature and clinical practice in the geriatric population¹⁵. A medication passport ideally should contain up-to-date information on prescribed medications, such as name, dose and frequency. It could be digital or a hard-copy and patients could be counselled to carry this with them. Our study showed that most participants felt that a medication passport would be helpful. This study highlights gaps in knowledge of prescribed medications and could be used to guide future studies in the design and implementation of a medication passport.

Our study excluded older adults with a known cognitive impairment. Further studies could focus on reviewing medication knowledge amongst this cohort and their carers. It may also be useful to study older adults in a community setting.

Declarations of Conflict of Interest:

None declared.

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