



Research Article

ROLE OF PHYSICIANS IN DRUG ADHERENCE OF GERIATRIC PATIENTS IN THE UNITED ARAB EMIRATES

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ABSTRACT

Physicians have an important role in enhancing medication adherence among patients. Supporting the elderly patients in terms of medication administration improves the health outcomes. The study examined the roles of physicians in the medication adherence among geriatric patients attending private clinics in the United Arab Emirates (UAE). A mixed method of research involving interviews, questionnaires, and document analysis were used. Physicians working at the private clinics were interviewed individually. In addition, questionnaires were distributed to elderly patients in UAE. Demographic data were computed using descriptive statistics method. The Statistical Package for the Social Sciences (SPSS) program version 19 was used to analyze and code the raw data while Chi square test was used to analyze the responses. The results indicated that physicians have an important role in the medication adherence among geriatric patients. The results also revealed that physicians provide follow-up services for patients after discharge from the hospital. This was supported by 74% of the physicians who agreed to be performing follow-up services. Other roles identified included providing information on drug use and reactions (82%), conducting patients' education on self-care (88%), prescribing drug fit for patients (97%), providing counseling and emotional support (85%), and using electronic dosing (91%). In conclusion, physicians perform a significant role in providing medication support to the elderly in the UAE. These physicians provide information to geriatric patients on how to take their medication, therefore, promoting better health outcomes.

Keywords: Drug Adherence; Geriatric Patients; Physicians; Private Clinics; United Arab Emirates (UAE)

INTRODUCTION

Research has revealed that medication adherence is a growing concern for healthcare systems, caregivers, and several other sponsors in the healthcare sector due to the growing evidence that non-adherence is dominant and often associated with negative patient outcomes and relatively higher costs of care¹. The concept of effective and efficient medication management for the elderly should enable the physicians to provide better care services to the patients and improve health outcomes. This ensures that they maximize the benefits and reduce the risks that accrue from the use of medicines². Both the physicians and patients mutually establish the medication regimen and the treatment goals³.

The majority of the patients in UAE do not adhere to medication⁴. Hence, physicians in the UAE health sector should adopt strategies that would encourage patients to adhere to their medications^{5,6}.

The local UAE geriatric population above the age of 60 years shows a steep rise due to improved health care services. According to the Dubai Health Authority, the percentage of Emiratis above the age of 60 is 5.2% of the total population in 2012. By 2032, this percentage is expected to reach 11% and by 2050, it is expected to reach 19%⁷.

Private clinics in the UAE are numerous and have crucial role in the long-term development of healthcare. These clinics aim to deliver quality therapeutic and preventive healthcare services to the UAE population^{7,8}.

Based on 2015 UAE statistics, the number of geriatric patients treated in in-patient private clinics, mainly in Dubai, was 278,934⁹

MATERIALS AND METHODS

Study design

The study design used was a mixed research design¹⁰. The design was used to explore the roles of physicians concerning drug adherence in geriatric patients. Physicians specialized in internal medicine working in UAE private clinics were considered fit for the study. The Research Ethical Committee of Ajman University approved the research (F-H-18-1-04). All subjects signed a consent form stating acceptance to participate in this study.

Research tools

The first primary data collection method used was interviews. Clear questions were developed to elicit responses from the participants¹¹. Physicians from private clinics specialized in internal medicine in the various emirates of the UAE were interviewed.

The second primary data collection method used was a semi-structured questionnaire. The forms included 18 questions related to the issues under investigation in the study. Questionnaires required 5-10 minutes to be filled and were distributed to geriatric patients. The total number participated was 163 patients. The researcher was ready to clarify and explain questions to the geriatric patients or their families.

Sample selection, procedure for data collection, and data analysis

A stratified sampling strategy was used to achieve the needed representation of the participant groups. It is explained that stratified sampling is used when the cases in a population fall into distinctly different categories of a known sample of that population. Only physicians who signed an informed consent form were included in this study. The physicians were recruited on the basis of their experience and knowledge in medication adherence among the elderly.

A total of 111 physicians working in private clinics in UAE were recruited. The sample was selected with the expectation that consistent and suitable information related to the questions and the objectives of the research would be obtained. An interview guide was developed and used while interviewing the physicians. In addition, questionnaires were distributed to the patients during the data collection process.

Qualitative and quantitative data were analyzed differently in this study. The Statistical Package for the Social Sciences (SPSS) program version 24 was used to analyze and code the raw data. The SPSS program helps in determining whether the variables of the study are related to each other in answering the questions¹³. Graphs, pie charts, and tables were generated to present the analyzed data.

Descriptive statistics were used to compute the demographic data. Chi-square test was used to analyze the questionnaire data. Finally, the secondary data was used to add further meaning to the results of the qualitative and quantitative procedures undertaken in the current study.

Ethical approval number: F-H-18-1-04 was approved by Ajman University Research Ethical Committee. Furthermore, all subjects signed a consent form stating acceptance to participate in this study. In addition, the study was performed in accordance with ICH GCP Guidelines.

RESULTS

Demographics

The aim of this research was to assess the role of physicians in medication adherence in older patients in UAE private clinics. Responses from physicians were collected through interviews and questionnaires. The data collected was coded into a numerical format for statistical analysis. The demographics of the patients' survey respondents are shared in Table 1 below. As observed in the table, a total of 163 patients were recruited, the majority of the respondents were females 59.5% ($n = 97$) and the percentage of male respondents was 40.5% ($n=66$) with the largest age group identified as 55-64 years old (54%). In terms of marital status, 121 respondents (74.8%) were married while 42 respondents (25.2%) were single. The demographic factors are presented in Table 1.

Physicians were asked to share details regarding the medical illnesses that they have seen in elderly patients. The top four reported medical illnesses include chronic renal disease, hypertension, diabetes mellitus, and arthritis disorders. The lowest reported medical illnesses include Parkinsonism, Ischemic heart disease, and psychiatric disorders as indicated in Figure 1.

Geriatric patients were asked a series of questions to assess their adherence to medication. As shown in Figure 2, the respondents indicated that they are forgetful in taking the pills on time ($N =$

161) and have discontinued the use of the medication without prior consent from their physicians ($N= 66$). Even during travel, 79 respondents indicated that they forget to take their medication. Though a majority ($N = 107$) indicated that they do not have difficulty in taking their medication, 129 out of 163 respondents shared that they worry about the long-term effect of the medication on their health. In terms of whether the participants discontinue their medication if they feel their health is under control, a majority ($N = 119$) denied doing this. This reflects their worry about their health and their willingness to take their medication for a better outcome. The respondents were also asked about the amount of medication being consumed currently to which a majority ($N = 85$) indicated as 5-9 followed by 10-14 ($N = 63$).

Roles of physicians in drug adherence

Physicians were interviewed about their role in ensuring patients adherence to the drug regimen. The open-ended questions generated different responses where physicians highlighted their roles in helping patients to comply with the drug regimen. The physicians offered follow-up services through either phone interviews or physical visits to the patients' homes. Table 2 presents the roles of physicians in medication adherence among the geriatric patients in the UAE.

Physicians also disclosed that they provide counseling on drug use and drug to drug interactions when making prescriptions. This was done to prepare the patients for any side effects, especially for patients suffering from more than one condition.

Ninety-one physicians (81.9%) agreed to employ this method to ensure drug adherence, as any drug reaction without information from the clinicians would affect usage by patients.

Ninety-eight physicians (88.3%) consented to educate their patients on self-care such as activities of daily living, exercises, taking medicine on time, having frequent checkups, and knowledge of drugs to use. One hundred and eight physicians (97.3%) reported that giving drugs fit for the patients was one method they employ to enhance drug adherence. Another 101 physicians (91%) chose electronic dosing and explained that they prescribed medication using this method for precision dispensing of small fluid doses. Ninety-four physicians (84.7%) provided counseling and emotional support to patients who were under treatments.

The percentages of their responses are also presented in a bar graph as shown in Figure 3.

DISCUSSION

Physician's follow up, counselling, and care are important factors in promoting adherence of geriatric patients to their medications¹⁴. There were varied responses in the study where physicians provided various ways of ensuring patients' adherence to their medication regimen. The prescription of the right drugs to patients, using electronic dosing, providing counseling and emotional support, and providing education to patients on self-care were among the methods healthcare providers highly use in ensuring patients' adherence. It is suggested that patients' adherence to medication is highly enhanced by a great satisfaction in the services provided by their healthcare providers¹⁵. Therefore, physicians have a role to play in enhancing patients' drug adherence by providing quality services, follow-up consultations, and responding to the needs of the patients¹⁶.

Table 1: Demographic data of patients

Demographics	Male	Female
Gender	66 (40.5%)	97 (59.5%)
Age Group	55 - 64 years	65 - 74 years
	87 (54%)	63 (39.3%)
Marital Status	Married	Single
	121 (74.8%)	42 (25.2%)

Table 2: Roles of physicians in controlling geriatric patients' adherence to medications

Roles of physicians	Responses	%
Providing follow-up services after hospital discharge	82	73.9
Providing information on drug use and reactions	91	81.9
Conducting patients' education on self-care	98	88.3
Prescribing drug fit for patients	108	97.3
Providing counseling and emotional support	94	84.7
Electronic dosing	101	91
Others	49	44.1

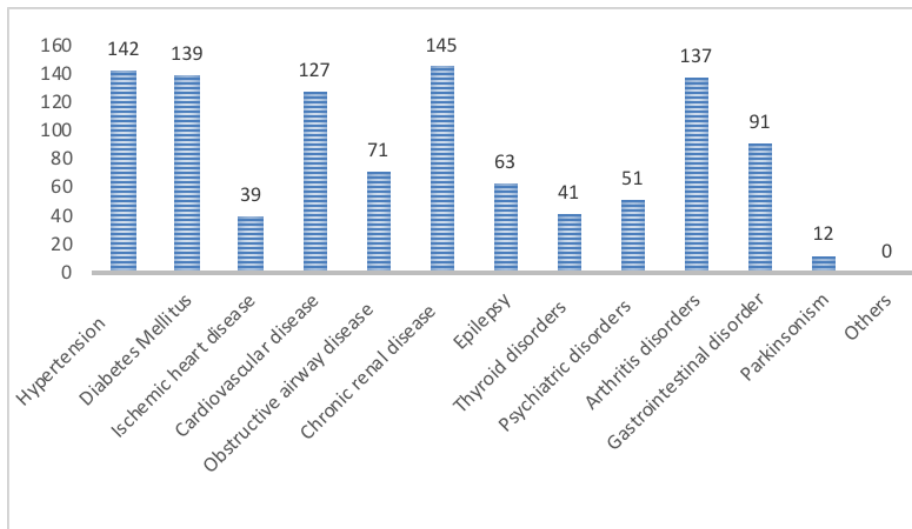


Fig. 1: Medical illnesses reported by patients

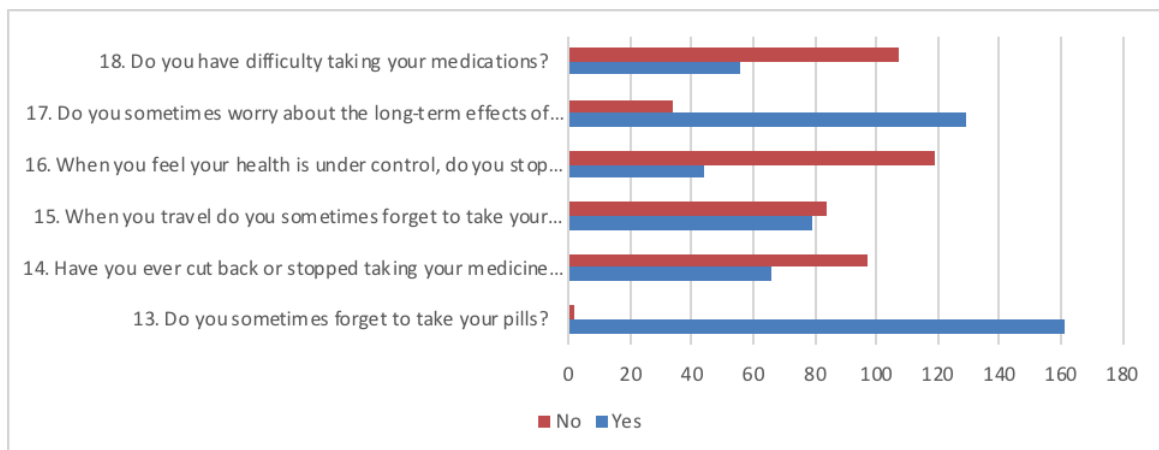


Fig. 2: A series of questions were answered by elderly patients to assess their adherence to medication

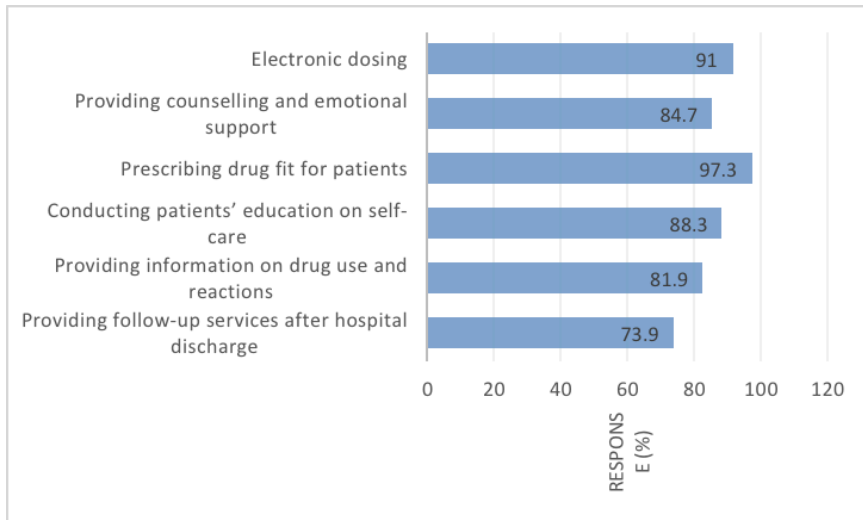


Fig. 3: Roles of physicians in controlling patients' adherence to medications

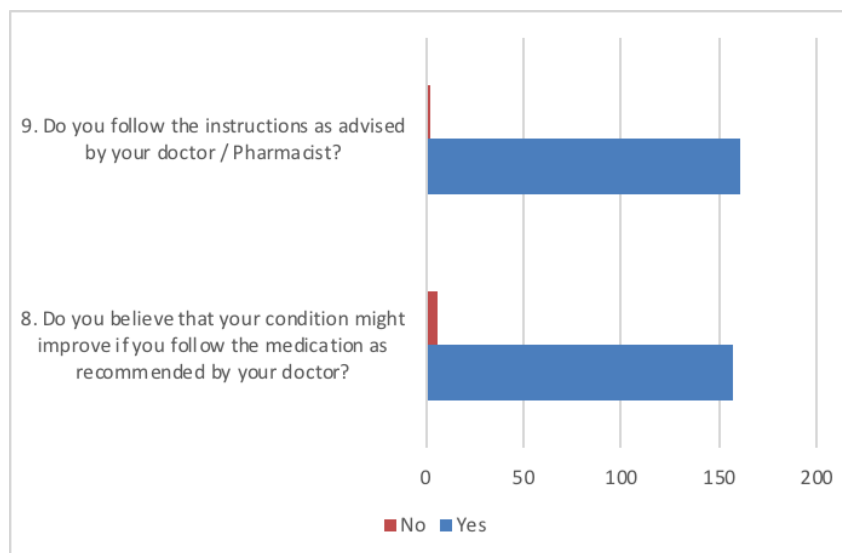


Fig. 4: Patients following medication instructions. (Colored)

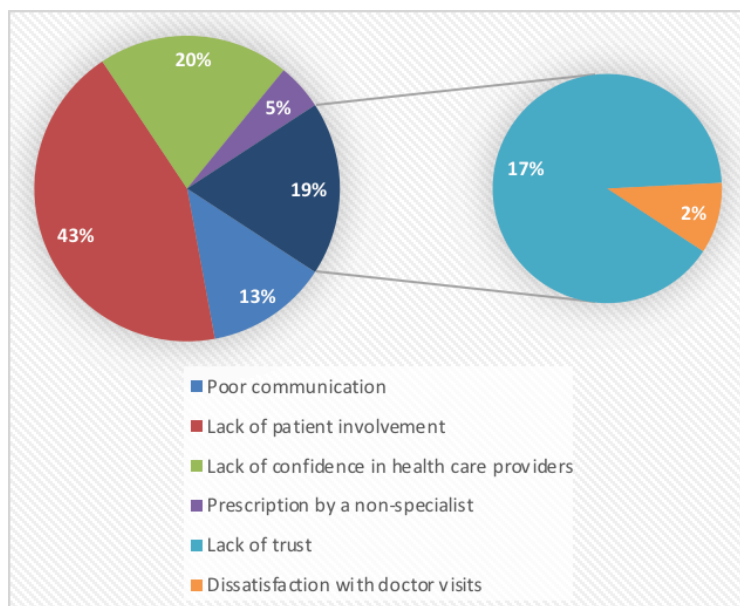


Fig. 5: Physician factors affecting medication adherence in geriatric patients. (Colored)

Our results were consistent with the findings of Nieuwlaat et al. in 2014 who conducted a study on the best means of enhancing drug adherence by health providers and found out that practitioners can overcome the barriers that prevent patients from adhering to their medications through providing support. Patients receiving on-going and constant support from doctors, nurses, and family members adhere to their medication instructions¹⁷.

Encouragements in the form of assistance, daily treatment support, counseling in the form of cognitive behavior therapy and motivational counseling, and continuous education lead to an improvement in adherence^{17, 18}. In that study, the participants mentioned the benefits of physicians in guiding geriatric patients to take their medication. The study suggested that receiving support promotes patients' adherence to the instructions given by the physicians.¹⁸

The results attained in this study were also consistent to the findings of previous two studies, which proved that the use of electronic reminders was effective in enhancing the patients' ability to adhere to their medications as it allowed patients not to miss any dosage. The studies showed that there is a remarkable improvement in drug adherence in the short term especially for elderly patients since most of them forget to take their drugs^{19, 20}.

However, a previous study showed that even though the provision of support improved a patient's adherence to medication, it was not so significant to lead to better outcomes²¹.

The results of this study also align with the findings in a study by Demonceau et al. in 2013 who explored the effects of interventions towards drug adherence. The researchers found that although these interventions had the ability to promote medication adherence, their effectiveness showed only a 1.1% reduction of non-adherence per month²².

The roles of physicians in assisting the elderly to adhere to their medication were also supported by the responses given by the patients. The patients provided their responses regarding whether they adhere to the instructions given by the physicians. A majority (N = 161, 99%) replied in affirmation. Similarly, when asked if they believed that their condition might improve due to medication adherence as recommended by their doctor, most of them agreed (N =157, 96%). The responses are given in the following Figure 4.

Despite the roles of physicians in assisting patients' medical adherence, some factors influence the ability of the elderly to abide by their medications. Some of these factors are associated with the roles of the healthcare provider and reduce medication adherence in geriatric patients. Most of the respondents (N = 71; 43.6%) identified the factor as lack of patient involvement by the physician. Other important healthcare factors identified include lack of confidence in health care providers (N=33; 20.2%), lack of trust (N=27; 16.6%), poor communication (N=21; 12.9%), and dissatisfaction with doctor visits (N=3; 2%). The findings are shared in the Figure 5.

CONCLUSION

Non-adherence to pharmacological therapies is the issue of concern that was addressed by this study due to its negative implication on the health and well-being of the expanding population of elderly individuals. The study is significant as it highlights the need for the implementation of behavioral and educational programs and interventions aimed at improving medication adherence by aged people in the UAE. The high predisposition of geriatric patients to chronic illnesses and their need for a wide range of therapeutics make non-adherence a

problem. Therefore, physicians have a key role in ensuring the adherence of geriatric patients to their medication. The primary responsibilities of these physicians are to conduct patients' follow-up, provide patients with adequate information on the uses of drugs and their effects, offer patients' education, prescribe relevant drugs, and ensure emotional support and counseling. Research has uncovered that medication adherence is an expanding concern for healthcare services, frameworks, and insurance suppliers. This is indicated by the developing evidence that non-adherence is regularly connected with negative patient results and higher expenses of care. Non-adherence to medication is common among the elderly in the UAE. This implies that different associates in the UAE healthcare division, such as physicians and insurance services, ought to embrace systems that would urge patients to stick to their medicines.

LIMITATIONS OF THE STUDY

To make the study a polycentric research, it would require greater number of physicians and clinicians of various specialization that would provide more objective answers to the problems under investigation. The study, however, captured the age aspect of the participants, which was essential for the research. Future research should investigate other unexplored areas, such as collaboration between patients' family members and pharmacists in providing follow up for medication adherence.

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