



Original Article

Doctor-Patient Communication A Requisite for Better Medication History Taking: Insight from Sudan

Maram M. Elamin*¹, Kannan O. Ahmed ¹, Osman K. Saeed ², Mahmoud Hilali ³, Merghani Yousif ¹

¹Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, University of Gezira

²Department of Internal Medicine, Faculty of Medicine, University of Gezira

³Blue Nile National Institute for Communicable Diseases, University of Gezira

Abstract

Despite the awareness of doctors about the significance of obtaining a comprehensive medication history for patients, they often neglect this in their practice, resulting in an incomplete patient medication list. The study aimed to investigate the role of communication skills as a crucial part of optimal pharmacotherapy. An observational, cross-sectional study was carried out at internal medicine department in a tertiary hospital, Wad Medani, Sudan. The research instrument was a form involved a checklist rating a doctor's performance during the medical encounters. Among 94 medical doctors, 51% were males and 6.15 (SE) was the average years of experience. About 13% of participants received under-graduation training in communication skills, while 21% had it after post-graduation. Concerning communication skills evaluation, 61% of specialists, 29% of registrars, and 7% of house officers reported an excellent performance. Gender and doctors' ranking in a medical team had a significant role in communication skills (P-value <0.05) with an overall adjusted R² of 0.339. Specialists were the most knowledgeable and skillful in obtaining structured medication history; 67% reported an excellent performance. Communication skills had a remarkable impact in getting patient medication history (P-value: <0.05) with an overall adjusted R² of 0.763. The study concluded that; gender and doctors' ranking in the medical team were the main predictors for doctors to be a good communicator. Communication skills have a significant role in medication history taking. There was a gap in knowledge and training in communication skills among internal medicine doctors specifically, "house officers." This gap negatively contributed to obtaining a comprehensive patient medication history.

Keywords

Doctor-patient communication, Communication skills, Medication history taking, Sudan.

1 Introduction

The doctor-patient relationship has become a disturbing social issue in developing nations due to a lack of trust and mutual understanding between doctors and patients [1]. The cultural capability of doctors to provide appropriate healthcare services that cope the social and cultural demands of the patients is substantial for removing communication barriers [2]. Verbal and nonverbal communication is known to establish a good interpersonal relation, obtaining and providing medical information, and making medication-related decisions [3]. Effective communication is essential in practice not only with patients, but also within the health care team, which including; the ability to communicate information and adequately engage patients in shared decision-making [4].

Thus, shared understanding during the medical encounter is the center of a successful doctor-patient relationships [5]. Much research indicates that the accuracy of medical practice and treatment outcomes depends on a precise interaction between the physician and patient [6]. The information provided by doctors does not seem to contribute adequately to the patient participation in clinical safety; it was found that; patients are not usually informed about precautions, side effects and, serious complications [7]. Although physicians have reported that they encouraging the adoption of a collaborative process, it was found that, in their daily practice, patients' participation is not actualized [8].

Other aspects of communication, are institutional factors that have a significant negative association with physician

communication; for instance, high level of staffing physician affects the goodness for physician communication with patients [9]. To ensure an optimal doctor-patient relationship, a peer assessment of communication skills is an effective approach to identifying gaps for improvement [10]. Promoting communication skills among the medical team is essential, that changes in patient medications made by specialists during hospital care transitions should be communicated to the other medical team members [11].

Although doctors know the importance of obtaining an accurate medication history and checking prescriptions with patients, they often neglect this in practice, resulting in medication discrepancies [12]. The medication history in the hospital medical records is often incomplete, a considerable number of prescription drugs in use is not recorded, and a high percentage of patients have one or more drugs not registered [13]. The use of structured medication history taking is an effective tool for obtaining an accurate patient medication list [14,15]. Miscommunication among doctors and patients is a significant barrier to completing comprehensive medication history [16]. Therefore, the positive therapeutic outcome is mainly related to collaborative decision-making and influential doctor-patient communication [17,18]. A recent study conducted in USA investigated the factors influencing COVID-19 vaccination proved that; doctor- patient communication plays a crucial role in facilitating vaccination intention [19]. On the other hand, an Italy study was carried out at the Andrology Unit, Department of Biomedical Metabolic and Neural Sciences of the University of Modena reported that; an effective communication is a fundamental part when discussing sensitive medical issues with patients and it was associated with good clinical outcomes [20].

Sudan, as a developing nation, faces many challenges in medical practice, as a shortage of registered medications, patients with different cultural diversity, lack of doctors' training and guidance in communication skills markedly affect the various health outcomes. This study highlighted and assessed the skills required for effective communication and its impact on medication history taking among doctors of the internal medicine department in a tertiary teaching hospital.

2 Methods

Study Design, Population and Settings

An observational, descriptive, cross-sectional study was conducted at the internal medicine department in Wad Teaching Hospital, Wad Medani, Gezira State, Sudan from March to September 2021. Wad Medani Teaching Hospital is a tertiary hospital in Central Sudan, established in 1927, with 350 beds distributed between six wards of internal medicine. Doctors eligible of the study were, consultants/ specialists, registrars on their residency period and house officers working in the internal medicine departments, and

they willing to participate. Doctors not willing to participate were excluded from the study. All eligible doctors working during study period 94 doctors (the whole staff) were recruited to participate in the study after obtaining written and verbal informed consent.

Data Collection

The data collection tool was form composed of three parts: The first part consisted of six questions (gender, age, years of experience, ranking in the medical team and pre/ post-graduation training in communication skills). The second part consisted of a checklist for rating performance of the eight items of communication skills [4], the items involved (greeting and introducing doctors, nonverbal communication (Eye contact, facial expression, tone of voice, posture), listening to patients carefully, give easy instructions, asking for feedback, interaction with the language barrier, show respect and spend enough time with patients), this tool for communication assessment has been internationally validated[21]. The tool involves an observer's rating doctor's performance during the medical encounters using a written description of performance (none= 0, poor =1, good= 2, excellent= 3, total score 24). The final scores of doctors were evaluated as (1-6) poor, (7-16) good, and (17-24) excellent performance. The third part was about structured medication history taking. Doctors were asked about their previous knowledge, documentation of each detailed information of patient medication history, and assessment of the ten items of structured medication history [22]. This evaluation was done by observing the doctors during the patient medication history taking. The items of obtained structured medication history included: Patient interviews, other caregivers, patient prescriptions, medication packages, family/ co-patients, medications for chronic diseases, over counter medications, supplements or vitamins, and drug allergies). Checklist for the doctor's performance has yes/ no answer (yes =1, no = 0, total score =10). Then the final scores were evaluated into (1-4) poor, (5-7) good, and (8-10) excellent performance. This form was filled by the researcher during the medical encounters and patient interviews.

Study Outcomes

The primary endpoint of this study was the impact of effective doctor- patient communication on obtaining a comprehensive medication history. Secondary endpoints were the factors influencing effective doctors' communication, and those affecting the obtaining of structured patient medication history.

Statistical Analysis

The data were analyzed using Statistical Package for Social Science (SPSS) software version 25 (SPSS Inc., Chicago, IL, USA). Means, frequencies, and percentages were used for continuous and categorical variables. Chi square and T test

were used to compare between dependent and independent variables. A general linear univariate model and general linear regression model with a significance of 0.05 were used to find the predictors of different associations.

Ethics Statement

All doctors were selected and requested to participate in the study after obtaining written and verbal informed consent. All collected checklists were coded to ensure confidentiality throughout the study. Ethical approval for this study was obtained from the Ethical Committee, Ministry of Health and University of Gezira, Serial NO 40-19.

3 Results and Discussion

This study reports the first experience assessing the communication skills of Sudanese doctors, and it's a significant role in medication history taking. The conduction of this study helps to find the gaps in skills, knowledge, and training required to cope the cultural diversity of Sudanese patients.

The study included 94 medical doctors, from which 51% and 49% were males and females respectively, in several conducted studies, females were usually predominant [21,23]. The mean age of doctors was 29.7 ± 0.9592 years (SE), this may be due to the dominance of the younger population structure in Sudan [24], and they had on an average of 6.15 (SE) years of experience regardless of their exact career development (Table1). The study included 45(48%), 31(33%), and 18(19%) of house officers, registrars, and specialists/consultants, respectively. For the different rankings in the medical team, whether the participant doctor was a houseman, registrar, or a specialist/consultant, the mean experience was 1, 5.68, and 19.78 years respectively as shown in (Table 1).

The impact of specific training on communication skills was assessed by asking doctors whether they had any curricular or extra-curricular activity on communication skills. Only 13% had training during their under-graduation studies (curricular modules), while 21% had it after graduation (extra-curricular exposure) (Table1). Although these skills are dependent on various behavioral factors, it has been shown that communicative abilities could be enhanced by training and experience [17]. These findings differed from that in developed societies, because of their significance in the practice of medicine; the training and teaching of communication skills are a part of the curriculum of medical schools [25].

The exact difference among the doctors was determined by their ranking level in the medical team, showing that 100% of specialists received post-graduation training courses in communication skills as regulated. All the house officers didn't receive any post-graduation training in communication skills, while only 10% of registrars received

training during their practice in internal medicine units (Table1). The current study shares some similarities with the developed nation policies. In the UK, the General Medical Council requires all doctors to complete a 360-degree evaluation of the care they provide used as supporting information for the renewal of their license to practice [10]. Furthermore, training doctors in applying communication skills are continued during the residency period and is a concern of medical educators [25].

Table 1 Doctors' demographics and career development

Variable	Participants (n)		Percentage %
Gender	Males	48	(51%)
	Females	46	(49%)
Age	Mean age	29.7 ± 0.9592 years (SE)*	
Years of Experience	Average	6.15±0.892 years (SE)	
Doctor ranking in the Medical team	Specialists	18	(19%)
	Registrars	31	(33%)
	House Officers	45	(48%)
Years of Experience	House Officers	1.0222±0.022 years (SE)	
	Registrars	5.677±0.517 years (SE)	
	Specialists	19.778±2.672 years (SE)	
Courses in *CS pre-graduation for doctors	Yes	13	(14%)
	No	81	(86%)
*CS courses post-graduation for doctors	Yes	21	(22%)
	No	73	(78%)
Specialists	Yes	18	(100%)
	No	0	(0%)
Registrars	Yes	3	(10%)
	No	28	(90%)
House officers	Yes	0	(0%)
	No	45	(100%)

*CS Communication Skills

Table 2 Evaluation of communication skills for doctors with different rankings in the medical team

Doctors' ranking in the medical team	N (%)	Total score	Min* score	Max* score	Mean		P value
					Statistic	SE	
Final score of communication skills for House Officers	45 (100%)	24	5.00	23.00	9.244	0.6357	0.000
Evaluation of score * Poor	(64 %)		6.00	24.00	13.6129	1.006	0.000
*Good	(29%)		7.00	24.00	18.2778	1.2381	0.000
* Excellent	(7%)						
Final score of communication skills for Registrars	31 (100%)						
Evaluation of score Poor	(32%)						
Good	(40%)						
Excellent	(29%)						
Final score of communication skills for Specialists	18(100%)						
Evaluation of score Poor	(6%)						
Good	(33%)						
Excellent	(61%)						

*Poor (1-4) *Good (5-7) *Excellent (8-10) Mini* minimum Max* maximum

Table 3 Association of communication skills and different variables

Source	d. f	F	P value
Corrected Model	5	10.554	0.000
Intercept	1	572.875	0.000
Gender	1	3.878	*0.052
Doctors' ranking in a medical team	2	3.992	*0.022
Age group of doctors	2	1.136	0.326
Total	94		
Corrected Total	93		
R Squared = 0.375 (Adjusted R Squared = 0.339)			

NS: no significant *p-value* (>0.05) d. f : degree of freedom

Dependent Variable: Final score of communication skills for doctors

Table 4 Evaluation of structured medication history taking for doctors of internal medicine

Doctors ranking in medical team	N	Percent	Total score	Minimum	Maximum	Mean	SE*
Structured medication history score for house officers	45	100.0	10	2.00	8.00	4.5111	0.232
Evaluation of score							
*Poor	31	(70 %)					
*Good	14	(30%)					
*Excellent	0	(0 %)					
Structured medication history score for registrars	31	100.0		3.00	10.00	5.6452	0.312
Evaluation of score							
Poor	12	(39 %)					
Good	18	(58 %)					
Excellent	1	(3%)					
Structured medication history score for Specialists	18	100.00		3.00	10.00	7.7778	0.446
Evaluation of score							
Poor	1	(5 %)					
Good	5	(28%)					
Excellent	12	(67%)					

*SE Standard Error *Poor (1-4) *Good (5-7) *Excellent(8-10)

Evaluation of Doctors' Communication Skills

Concerning the evaluation of communication skills of doctors, the study adopted the checklist rating method and evaluated the doctors' performance blindly during their routine daily practice. The result revealed that, only 7 % of house officers, 29 % of registrars, and 61 % of specialists have excellent performance. The minimum scores for the medical team were 4, 6 and 7 for house officers, registrars, and specialists, respectively. The maximum scores achieved were 23 for house officers, and the full score 24 for the registrars and specialists (Table 2). When the score means compared with doctors ranking in the medical team for each part, the P values were highly significant (P- value: 0.000) (Table 2). This could be justified by the fact that; specialists were exposed to extensive training throughout their clinical rotation till the award of medical doctorate and specialization. Medical educators recommend patient-centered interview training from the beginning of medical school and to continue providing such emphasis throughout clinical rotations and residency placements [26].

On the other hand, regarding the predictors of doctors to be good communicators; the model revealed a significant role of gender and doctors' ranking in a medical team (p-value: <0.05) R² of 0.375 and overall adjusted R² of 0.339 (Table 3). This finding comes consistence with a study conducted in Vienna that showed doctor-patient communication is influenced by gender, and this stresses the need for gender criteria in medical education and communication [23].

Evaluation of Medication History Taking knowledge and Skills for Doctors

The study evaluated the doctors' previous knowledge of structured medication history taking and if they cared to document each detailed information obtained from the patient. The result showed that only 28% of the doctors had a previous knowledge of structured medication history, and only 23% of them documented each detailed information of obtained patient medication history. Internal medicine doctors didn't take the documentation of clear structured medication history as an essential issue. In contrast to the study conducted in Nigeria to determine the impact of a physician's specialty on the frequency and depth of medication history documented in patient medical records proved that; internal medicine doctors appear more interested in writing more frequently and in greater depth medication history information [27].

The study also evaluated the use of structured medication history taking for doctors, which was considered a prime attempt in Sudan. This experience revealed that, specialists reported higher scores of excellent performances (67%), they asked patient the all-detailed information of structured medication history, followed by registrars (3%), while house officers didn't achieve any score evaluated as excellent (Table 4).

A constructed general linear regression model revealed that, communication skills and previous knowledge have a crucial and significant role in medication history taking (P-value: <0.05) with an overall R² of 0.76 and adjusted R² of 0.763 (Table 4). A study conducted in an Australian public teaching hospital confirmed that, improving the completeness and accuracy of medication in medical records is vital for optimizing patient safety and quality of care in specialty practice settings, this is substantially based on health professionals being a good communicator [25].

Table 4 Association between the role of communication skills and previous knowledge of doctors in medication history taking

Source	D. f	F	P value
Corrected Model	3	100.053	0.000
Intercept	1	2708.398	0.000
Communication skills scores evaluation	2	74.769	0.000***
Previous knowledge in medication history	1	12.342	0.001**
Total	94		
Corrected Total	93		
R Squared = 0.769 (Adjusted R Squared = 0.762)			

D. f degree of freedom P value Sig < 0.05

Thus, providing particular knowledge of structured medication history to the doctors of internal medicine will improve the accuracy and completeness of the medication lists as well as prevent medication discrepancies [15]. Since there was a lack of knowledge among the doctors regarding the use of structured medication history, this justifies the high percentages of poor performance scores achieved specifically by house officers and registrars.

Limitations of study

The study faced many challenges. Firstly, due to the COVID-19 situation led to elongation the period of study. Secondly, instability in work and practice of doctors due to the economic and political status of Sudan in the last two years.

On the other hand, many limitations were also present; 1) it was nonrandomized, 2) a single-center study; and hence not cover all the medical specialties in the hospital. 3) The study didn't evaluate the doctors' performance in different patients' situations. Despite all these challenges and limitations, the study findings are exciting, and they highlighted the crucial role of communication skills for developing nations in patients' history taking, specifically medication history.

4 Conclusion

The current study findings concluded that there was a gap in knowledge and practice in communication skills among internal medicine doctors specifically "house officers". This gap contributes substantially to inappropriate practice in obtaining comprehensive and complete patient medication history upon hospital admission. Under-graduation training courses in communication skills didn't have a significant concern in the curriculum of medical schools in Sudan. The study recommends: the inclusion of communication skills courses and structured medication history taking knowledge-based skills in undergraduate curriculum for medical students, continuous career development programs for internal medicine residents and house officers.

Author contributions

All authors made a significant contribution to this work, whether in the conception, literature search, study design, data instrument constructions, acquisition of data, analysis, drafting and revising of the article and gave final approval of the manuscript to be published.

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