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Evaluation of medication counseling practice at community pharmacies in Qassim region, Saudi Arabia

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ABSTRACT

Introduction: Pharmacists have a unique opportunity to promote good health through assuring the quality use of medicines. One of the most important tools to achieve this is medication counseling. Counseling plays an important role in enhancing medication adherence and optimizing medication therapy. Therefore, for improving the quality of services delivered by community pharmacists, it is essential to assess the current situation of counseling services delivered to patients.

Aims and objectives: To date, there is a paucity of data regarding the quality of counseling services delivered to patients in community pharmacies in Saudi Arabia. This study aims to fill this gap through evaluating the counseling skills and counseling content delivered by pharmacists in a sample of community pharmacies in Qassim region, Saudi Arabia.

Methods: The study was conducted at eleven community pharmacies in Qassim region. A convenient sample of community pharmacies was chosen based on their willingness to participate. To gather information, a form was prepared based on the core and complementary drug use indicators for evaluation of drug use in healthcare settings developed by the WHO. The study was conducted through observing the counseling services performed by the community pharmacists who participated in the study.

Results: Two hundred and thirty-five forms were completed in eleven community pharmacies. A total of 44.4% of the counseling skills was found to be performed adequately, while only 20.1% of the counseling contents were performed adequately.

Conclusions: The overall standard of medication counseling services provided to patients to improve usage of their medications, and consequently, their well-being was poor.

1. Introduction

Community pharmacists are uniquely positioned (through their accessibility, expertise, and experience) to play a large patient care role in the healthcare delivery system. They work at the heart of communities and are trusted professionals in supporting individual, family, and community health. Also, they are often patients' and other members of the public's first point of contact and, for some, their only contact with healthcare professionals. In addition, community pharmacies are not only a valuable health asset, but also an important social asset because often they are the only healthcare facility located in an area of deprivation.

By using their position at the heart of communities, pharmacists can use every interaction as an opportunity for a health-promoting intervention, facilitation, and provision of a wide range of public health and other health and wellbeing services. Also, by helping people to understand the correct use and management of medications as well as provide healthy lifestyle advice and support for self-care, community pharmacists can help contribute to better health and reduce admissions to hospitals. Provision of adequate counseling is considered as a primary condition for the achievement of all these mentioned objectives for many reasons. Firstly, counseling plays a critical role in enhancing patients' adherence. Adequate counseling is a necessary pre-requisite to help patients use their medicines as instructed and reduce possibilities of drug-drug interactions, drug-food interactions, drug allergies, or any other precautions that need to be taken while using medications (Carroll and Gagnon, 1983; Bailey, 1995; Park et al., 1996;

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Ansari, 2010). It has been proved in the literature that appropriate counseling is as important as the appropriateness of the dispensed medication itself. Several studies have emphasized the importance of adequate information provision to assure the patient's adherence and indicated that provision of adequate information on medications is associated with better patients' adherence (Isacson and Bingefors, 2002). Similarly, on the other hand, several studies have highlighted inadequate counseling as a possible reason for patients' non-adherence (Ansel, 1985; Le Grand et al., 1999; Jimmy and Jose, 2011). While proper patient counseling is assumed helpful for better therapeutic outcomes, on the other side, drug overdoses, ineffective drugs, injury, or even death can be a direct result of poor medication counseling (Brushwood and Simonsmeier, 1986; Rupp, 1992; Headden and Lenzy, 1996; Chen et al., 2005; Sanii et al., 2016). All of these make adequate counseling one of the most essential components of pharmaceutical care to improve patients' outcomes (Dobie and Rascati, 1994).

The American Society of Health System Pharmacists (ASHP) defines patient counseling as: "providing verbal or written information about medications to the patient or his/her caregiver. It also includes providing proper directions of use, advices on side effects, storage, diet and life style modifications" (ASHP, 1997). Hence, patients' non-adherence can be directly linked to physicians' and/or pharmacists' failure to provide appropriate counseling about the prescribed medications (Hussar, 1995). Therefore, provision of appropriate counseling is considered now as an integral part of healthcare provision (Astrom et al., 2000).

In Saudi Arabia, according to the pharmacy law, medication dispensing services should be executed by registered pharmacists. However, despite that law, which laid a solid ground for good pharmacy practice, and consequently appropriate counseling services, the literature does not seem to support the assumption of provision of satisfactory dispensing services, including counseling services, in community pharmacies in Saudi Arabia (Abdulhak et al., 2011; Al-Mohamadi et al., 2013; Hadi et al., 2016). To further explore the quality of counseling services in community pharmacies in Saudi Arabia, and uncover the areas that need improvement and intervention, this study aimed at evaluating the counseling practices of the community pharmacists in Qassim region of Saudi Arabia through documenting the counseling skills and content of counseling services provided by community pharmacists to the public. It was hoped that this would reveal the strengths and weaknesses of counseling practices in community pharmacies and, thereby, enhance further research on the topic that will lead to improvement of the service.

2. Method

The study was conducted at eleven community pharmacies. Data collection took place between April and May 2017. A convenience sample of community pharmacies was used. A form to gather information was prepared based on the core and complementary drug use indicators for evaluation of drug use in healthcare settings developed by WHO (WHO, 1993, 2002). It was then piloted in two community pharmacies in order to check the feasibility, improve the design, and subsequently modify it accordingly in order to ensure that the data would provide reliable information. The data collection form is anonymous; no pharmacist's information was documented.

The researchers closely observed both the skills (facial expression, greeting, and closing) and the content of counseling. According to the prepared form it is assumed that upon the request for a medicinal product the pharmacist should consider: demographics of the patient (e.g. identification of the patient receiving the medicinal product and considering his/her gender and real/approximate age); verifying administrative issues (e.g. expiry of the prescription); verifying non-dispensing criteria (precautions), namely; pregnancy, breastfeeding, allergies, contra-indications with illnesses or health problems, duplicity; verifying usage instructions; and finally verifying what the patients expect or what the physician has told them to expect from the medication. Also, the time in seconds spent in interaction and counseling was measured and documented.

To minimize the observer effect, acceptance for participation (passive consent) was secured several months before conducting the study, so the exact date of the data collectors' visit to the pharmacy was not known to the observed community pharmacist. Also details given to community pharmacists about the study objective were limited to "wanting to observe the dispensing services provided by pharmacists." All observations were conducted by two trained researchers in order to minimize variability and improve consistency. The study was reviewed and approved by the Research Unit, Unaizah College of Pharmacy, Qassim University.

3. Results

A total of 235 forms were completed with no missing information.

3.1. Counseling skills

Counseling skills were measured using three items. Each item carries an equal weight (33.3%). A total of 44.4% of the counseling skills (based on the summation of the satisfactory results of the three items) was found to be performed adequately. Although counseling skills seems adequate regarding 'facial expression' and 'closing,' as shown in Table 1, not a single pharmacist greeted a patient before starting counseling.

3.2. Counseling contents

Counseling contents were measured using four subsections: 'Counseling opening,' 'What is this medication used for?' 'How is this medication used?' and 'What are the expectations from this medication?' These subsections have three, one, five, and four items respectively. Each subsection carries an equal weight (25%) which is divided equally among its items. A total of 20.1% of the counseling contents (based on the summation of the satisfactory results of the items of the four subsections) was found to be performed adequately. All the pharmacists did not consider any of the items listed under the subsection 'Counseling opening.' Similarly, no patient was counseled about any of the items listed under the subsection 'What are the expectations from this medication?' The performance was average (17.2% out of 25%) for the subsection 'How is this medication used?' but weak (2.9% out of 25%) for the subsection 'What is this medication used for?' Frequencies and percentages for the counseling contents items as listed in the evaluation form are recorded in Table 2.

3.3. Counseling duration

The researchers recorded the duration of each counseling session between community pharmacists and their clients. The average counseling duration was less than one minute (51.54 ± 15.839 s). Details of counseling duration are shown in Table 3.

4. Discussion

An observational method is considered the most appropriate for conducting this type of studies to avoid social desirability bias that

Table 1
Counseling skill for all observed pharmacist-patient interactions.

Counseling skill	Satisfactory		Not satisfactory		Total satisfactory
	Frequency	Percentage	Frequency	Percentage	44.4%
Facial expression (smile)	170	72.3	65	27.7	24.1%
Greeting	0	0	235	100	0%
Closing	143	60.9	92	39.1	20.3%

Table 2
Counseling content for all observed pharmacist-patient interactions.

Counseling content	Satisfactory		Not satisfactory		Total satisfactory (%)
	Frequency	Percentage	Frequency	Percentage	20.1
Counseling opening					0
Patient identification	0	0	235	100	0
Administrative issues	0	0	235	100	0
Non-dispensing criteria	0	0	235	100	0
What is this medication used for?					2.9
Indication of the medication	27	11.5	208	88.5	2.9
How is the medication used?					17.2
Dose	195	83	40	17	16.6
Frequency	195	83	40	17	16.6
Duration	195	83	40	17	16.6
Route of administration	183	77.9	52	21.1	15.6
What to do if a dose is missed	40	17	195	83	3.4
What are the expectations from this medication?					0
Expectations of the drug used	0	0	235	100	0
Drug-Drug interactions	0	0	235	100	0
Drug-Food interactions	0	0	235	100	0
Precautions while using the drug	0	0	235	100	0
Common side effects	0	0	235	100	0
Storage conditions	0	0	235	100	0

Table 3
Time in seconds.

Item	Duration in seconds
Mean (Standard deviation)	51.45 (15.839)
Range	60
Minimum	30
Maximum	90
Median (interquartile range)	50 (40-60)

is associated with the usage of questionnaires in these types of studies where respondents tend to answer questions in a manner viewed favorably by others. Usage of this method is rising especially in studying delivery of care and has proved to be helpful in uncovering what is really happening, especially in healthcare settings (Al-Wazaify and Albsoul, 2005).

4.1. Counseling skills

Although the results generated from this study regarding counseling skills are found to be below the acceptable standards, they are still reasonable in comparison with findings from other studies reported in the literature. For example a study conducted in Finland, one of the best countries in the world for community pharmacy practice (Bell et al., 2007), revealed that the pharmacists' professional counseling skills were either fair or poor (Santos et al., 2013).

4.2. Counseling contents

Generally, the performance in the counseling contents section was less than adequate. Out of the two hundred and thirty-five patients included in the study, none was asked for his or her identification information; no prescription was checked for compliance with administrative issues; and no prescription was checked for compliance regarding non-dispensing criteria. The previous literature has also shown low results for counseling on these components. A study conducted in Ethiopia revealed that more than 90% of prescriptions were dispensed without checking patients' identities (Lenjisa et al., 2015). Another study conducted in Riyadh, Saudi Arabia mentioned that only 23% of pharmacists asked their clients about pregnancy status before dispensing their medications (Abdulhak et al., 2011). Despite the low proportion of patients who were asked about their pregnancy status in the Riyadh study, it is still far better than the current study with no patient being asked about any of the non-dispensing criteria including pregnancy status. The proportion may have been higher in the Riyadh study because simulated patients in that study were asking for antibiotics for UTI cases.

The same result was achieved for the subsection "Counseling opening" and the subsection "What are the expectations from this medication?" with none of the patients were asked about what they expect or what the physician had told them to expect from the medications. No information was provided to any patient about expectations from the drug used, drug-drug interactions, drug-food interactions, precautions while using the drug, common side effects, or storage conditions. This finding needs an attention. According to core and complementary drug use indicators for the evaluation of drug use in healthcare settings, it is essential for rational drug use to ask the patient about what the physician had told him or her about the prescribed medications (WHO, 1993, 2002). This is a necessary start as it gives the community pharmacist a chance to explain the information that may appear to be not clear to the patient and fill in any gap in information uncovered during counseling by the physician. The gaps in information are very likely, as lack of knowledge about drug-

drug interaction, drug-food interaction, or interference of other diseases with the newly prescribed medications is very common among patients. Therefore, it is serious when counseling a patient who is prescribed, for example, warfarin to neglect to counsel him or her about the necessity of having a balanced diet, as well as to be very cautious about adding any medications and never to do this without consulting a physician or pharmacist, because there is a great possibility that the added medications interfere with, and consequently, influence the response to warfarin (Raisch, 1993). It is also serious to neglect to provide information about the recommended storage conditions of the dispensed medications. While some medications requires special storage conditions (e.g., insulin), it is mentioned in the literature that many patients still store these medications, which need to be stored in the refrigerator (5–8 °C), at room temperature (Hughes and Blegen, 2008).

The result of the subsection "What is this medication used for?" revealed that 11.5% of the patients were counseled about the indication of their medications. This result, even when compared with studies conducted in developing countries, is considered low. For example, a study conducted in Ethiopia showed that at least 76% of patients were counseled about the indication of their medications (Etefa et al., 2013).

The subsection "How is this medication used?" scored relatively a good score (17.2 out of 25%). This total percentage almost represents four (scored about 16% each) out of the five items in the subsection, but it does not represent the fifth item "What to do if a dose is missed" which scored less than 4% of the total satisfactory results of this subsection. The findings of this subsection are relatively better than the findings in some studies in literature. For example, counseling about dose frequency in this current study was satisfactory in 83% of observations which is higher than the 79% and 37% satisfactory results reported for counseling about the same item in studies conducted in Ethiopia and Sudan respectively (Awad and Himad, 2006; Etefa et al., 2013; Binu et al., 2013). Similarly, the percentage of patients who were provided with information about the duration of the medication that was 83% in this study is relatively comparable to what has been reported in Ethiopia which was about 90%. (Etefa et al., 2013). In fact, counseling all patients about the dosage regimen is considered essential in the dispensing process. This is because some dosage regimens which look simple or obvious to community pharmacists are never so for patients. For example a dosage regimen of 'one tablet after meals' may be interpreted incorrectly by a patient who eats more than three meals a day. The counseling about the pharmaceutical dosage form and the 'route of administration' is also essential. This is because while administration of some medication dosage forms (e.g., tablets) is simple, others (e.g., inhalers) need significant counseling and patient education. It is mentioned in the literature that misuse among patients using pressurized metered dose inhalers (PMDI) can be as high as 50% (Chinet and Huchon, 1994; Hanania et al., 1994).

4.3. Counseling duration

Counseling duration was measured in this study because didicating an appropriate amount of time in providing adequate counseling about medications has been proven to be necessary for improving patient understanding and consequently achieving better therapeutic outcomes (Cipolle et al., 2004). However, there is no ideal amount of time to spend on counseling as it is rather dependent on various factors like patients' condition, patients' interest, as well as the pharmacist's work schedule (Arshad et al., 2011). Also time spent on counseling may need to be longer when a patient is using many medications, or has a complicated drug regimen, or when a pharmacist is counseling special groups like geriatrics (Palaian et al., 2006). Nevertheless, the World Health Organization (WHO) has set a standard of not less than 180 s for adequate dispensing time (WHO, 1993; Sisay et al., 2017). However, in the current study, the average mean time (in seconds) that the community pharmacist spent counseling the patients about their medications was less than one minute (51.45 ± 15.839). Although this result is far lower than the set standard, the literature has reported some studies with similar short counseling duration results. For instance, in several studies conducted in different countries, average dispensing times ranging between 105 and 210 s were reported (MoHCW, 2000; WHO, 2010; Angamo et al., 2011; Tamuno, 2011; Island, 2012; Prasad et al., 2015; Arustiyono, 2015; Bilal et al., 2016). Despite these reported low dispensing times, the average time for the current study is far lower than what was reported in the literature. This may be due to a lack of continuing professional development and on-the-job training regarding the importance and the skills to provide medication counselling and it could be due to lack of up-to-date drug information available for community pharmacists. This lack of clinical knowledge is considered by many researchers as a major obstacle that negatively affects the capability of community pharmacists to take enough time to provide adequate counseling to patients (Wabe et al., 2011). This limited counseling practice could be due to other factors including the fact that the practice in community pharmacies is generally business oriented (Alrasheedy et al., 2017) and also could be due the heavy workload for many community pharmacists. The findings uncovered by this study, supported by findings from other studies reported in the literature, indicate that the problem of short counseling duration in community pharmacies is not only local to community pharmacies in Saudi Arabia, but global in many countries and needs urgent interventions to improve the quality of pharmacy services provided to the patients at the community level.

4.4. Study limitations

This study has revealed important findings in the field of the quality use of medications, and has offered a reasonable base for policy-makers' intervention. However, despite its contribution, this study has limitations that should be addressed in further research. The convenient sampling approach is not the best sampling method but it was used because having a representative sample was difficult in the context of our study, due to the lack of a sampling frame and inadequacy of information on the population. Also there is a need to conduct this study in other regions for generalizability of the results. Also, as this study only covers the counseling performance of community pharmacists, there is a need for further studies in the future exploring the output of this counseling or, in other words, the level of patients' understanding after the counseling sessions.

5. Conclusion

The results of this study revealed that the overall standard of community pharmacists' counseling provided to patients to improve their usage of medications, and consequently, their well-being was poor. It was observed that only basic information regarding how to use the medication is provided without exerting enough effort in comprehensive patient education.

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