Practice Reports

DOCUMENTATION OF PHARMACIST'S INTERVENTIONS IN RIYADH HOSPITALS

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تهدف هذه الدراسة إلى تقييم معدل ومعوقات التوثيق من قبل صيادلة المستشفيات العاملين في الرياض بالمملكة العربية السعودية. ولهذا الغرض تم تصميم استبانة تتكون من ثلاثة أقسام وسبع صفحات وزعت على 550 صيدلياً في 16 مستشفى. وقد تم إدراج وتنظيم وتحليل إجاباتهم بواسطة برنامج حاسوبي خاص. ومن بين 309 صيادلة ممن تمت دراستهم، تبين أن 301 (97.7%) صيدلياً يعتقدون جازمين أنه يجب عليهم توثيق تدخلاتهم العلمية وأعمالهم ، ولكن 114 (36.9%) منهم فقط يقومون فعلياً بذلك. أما الصيادلة من ذوي المؤهلات العليا (مثل الماجستير ودكتور صيدلي والدكتوراه) فإن معدلات التوثيق لديهم أعلى معنوياً من معدلات التوثيق للصيادلة من حملة البكالوريوس(76.9% مقابل 33.2%).، وقد تخرج معظم الصيادلة (72.2%) من جامعة الملك سعود. وكان معدل توثيق التدخلات العلمية لدى الصيادلة ممن تخرجوا من جامعات في أمريكا الشمالية أعلى من أولئك الذين تخرجوا من جامعات عربية أ وغير عربية (96% و 33% و 9% ، على التوالي). وقد تباينت معدلات التوثيق بشكل كبير بين المستشفيات الستة عشر ما بين 0% إلى 79%. وقد اتضح أن 77 (25%) من الصيادلة لا يعلمون عما إذا كان لدى مستشفياتهم سياسات وإجراءآت للتوثيق أم لا ، وأقر 47 (15%) منهم بوجود مثل تلك السياسات والإجراءات. وقد تم التعرف على خمسة من المعوقات الرئيسية المتعلقة بالتوثيق، وهي عدم توفر الوقت الكافي لذلك (59.3%)، وعدم وجود نظام للتوثيق (50.3%)، وصعوبة الوصول إلى ملف المريض (26.7%) ، وعدم سماح اللوائح بذلك (22.1%)، وعدم الحاجة إلى التوثيق (3.6%). وتعتبر هذه النتائج ذات أهمية خاصة لمستقبل الصيدلة في المملكة العربية السعودية. إن قناعة الصيدلي وتعليمه وأنظمة الإدارة الصيدلية هي من الأسباب المحتملة لمعدل التوثيق المتدني حسب نتائج هذه الدراسة. وسنورد هنا بعض التوصيات لتحسين معدل التوثيق للتدخلات العلمية للصيادلة.

The purpose of this study was to evaluate the rate of and barriers to documentation of hospital pharmacists working in Riyadh, Saudi Arabia. A three-section, seven-page questionnaire was designed and distributed to 550 pharmacists in 16 hospitals. Responses to each question were coded individually, and a computer program was developed using the Statistical Package for Social Sciences (SPSS) for Windows (version 10). Of the 309 surveyed in this study, 301 (97.7%) pharmacists believe that they should document their interventions but, only 114 (36.9%) of them actually do so. Pharmacists with higher education (e.g., M.S., Pharm.D., Ph.D.) have a documentation rate significantly higher ($p<0.05$) than those with bachelor degrees (76.9% vs. 33.2%). Most of the pharmacists (75.2%) have graduated from King Saud University. Pharmacists graduated from North American universities document interventions at a rate higher than those graduated from Arab and non-Arab universities (69%, 33% and 9%, respectively). The documentation rate widely varied among the 16 hospitals in the range from 0% to 79%. Seventy seven (25%) of the pharmacists were not aware if they have policy and procedure (P&P) for documentation and 47 (15%) stated that they do not have P&P for pharmacists' documentation. Five major documentation-related barriers were identified. These include no time to document (59.3%), no existing system (50.3%), no access to patient's file (26.7%), not permitted per policy (22.1%), and no need to document (3.6%). The results of this study are important for the future of the pharmacy profession in Saudi Arabia. Belief, educational, and pharmacy management systems of the Pharmacist are possible reasons for the low documentation rate in this study. Recommendations to improve the documentation rate of pharmacists' interventions are discussed.

***Key words**:* Documentation, interventions, pharmacists, pharmacy profession

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Introduction

Pharmacists have always been labeled as poor documenters and they were subjected to legal claims or lawsuits due to failure to document (1). They have been sued for technical or mechanical errors, as well as for cognitive or intellectual errors. It has been estimated that 25% of legal claims against pharmacists were related to intellectual errors (2). One of the most common mistakes among pharmacists is relying on memory, rather than what physicians call, "practicing defensive medicine". To be recognized, valued and to preserve their role in the health care system, pharmacists must qualitatively document their activities or interventions through a scientifically sound method (3-4). Documenting pharmacist's interventions is an important part of pharmaceutical care concept in which pharmacists should accept their responsibilities and be accountable for what they do for the welfare of the patient (4). As pharmacists continue to adopt the concept of pharmaceutical care, documentation of their pharmacotherapeutic and patient-drug therapy outcome is becoming a necessity. The accreditation standards promoted by the Joint Commission on Accreditation of Healthcare Organization (JCAHO) requires not only that pharmacy departments should document all interventions related to patient care, but also the use of pharmacist interventions for ongoing drug use evaluations (DUEs) and medical staff credentialing (5). Studies have proven that the documentation of pharmacist's interventions has many values and positive impact such as improvement of the quality of patient care and patient outcome, justifying the pharmacist position, satisfying the JCAHO requirements and reducing the cost of health care (6-12). In addition, documentation enables pharmacists to demonstrate their knowledge, skills and professionalism. It also helps pharmacists to establish links with other health care providers and gain their acceptance (13).

Strand and colleagues (14) have classified the profession's development in term of documentation in pharmacy practice for the past three decades into three different stages, descriptive, summative and formative respectively. In the 1960s, after the evolution of clinical pharmacy, pharmacists started documenting their activities to describe their new direction (descriptive), and then as more descriptive data accumulated, pharmacists started using them to justify new positions to do existing activities or maintain the same empowering resources in order to provide existing services (summative). Finally, the summative data were used to improve pharmaceutical activities (formative). It has been almost 23 years since the introduction of clinical pharmacy practice in Saudi Arabia. To date, data regarding documentation of pharmacist's interventions in Saudi Arabia are lacking. The purpose of this study was to evaluate the rate of and barriers to documentation of pharmacists working in hospitals in Riyadh, Saudi Arabia. In this study we have used pharmacist intervention to denote pharmaco-therapeutic or clinical interventions (e.g., drug dose change, drug schedule change, drug addition or discontinuation, etc.)

Methodology

A seven-page questionnaire was designed for distribution to 550 pharmacists in 16 hospitals in Riyadh, Saudi Arabia. The questionnaire was divided into three sections. The first section was intended to determine the demographic information about pharmacists and their professional activities and practice settings. The second section sought to gather data on variables such as pharmacist's perception of pharmaceutical care concepts and the awareness of the existence of pharmaceutical care in Saudi hospitals. The third section was designed to obtain pharmacists' opinions on documentation, documentation-related barriers, flexibility of the current policies and procedures in supporting the pharmacist to assume his/her documentation responsibilities based on their professional practice requirements. The front page of the questionnaire was a letter signed by the principal investigator which explained the purpose of the study and contained instructions on how to administer the questions. The questionnaire, in its three sections, consisted of 47 questions of varied format, including checklists and open and closed-ended questions. Respondents were assured anonymity and that only the aggregate data will be reported. The questionnaire was pretested in two hospitals in Riyadh prior to its final implementation and distribution. The study was conducted during a 6-month period from May to October 2001. Few questionnaires were received after October. These were analyzed separately at a later date and it was determined that they would not affect the results of

the study, thus, they were excluded. For each returned questionnaire, it was assumed that the respondent interpreted the questions as intended and, consequently, answered them truthfully. Responses to each question were coded individually, and a computer program was developed using the Statistical Package for Social Sciences (SPSS) for Windows (version 10). The analyses included frequencies of responses for each of the 47 variables. The frequencies according to the type of practice, pharmacist's affiliation, type of practice responsibilities and the number of years in practice were also calculated. Results were compared using chi-square test, Fisher exact test, Kruskal-Wallis analysis of variance, Pearson zero-order correlation coefficient, one-way analysis of variance (ANOVA), Scheffé LSD procedure and Kendall's coefficient of concordance. The analysis of variance was used to examine the difference between means for quantitative data such as age and years since graduation.

Results

Of the 550 distributed questionnaires, 327 were returned (response rate 60%). Eighteen questionnaires were considered incomplete and thus excluded from the study leaving 309 for inclusion and analysis. Of the 309 respondents, we found that 301 (97.7%) of pharmacists believe that they should document their interventions. Overall, only 114 (36.9%) of these pharmacists actually document their interventions. Pharmacist demographics are shown in table 1. The documentation rate for male pharmacists (47%) was found to be significantly ($p<0.05$) higher than that of female pharmacists (30.2%). The majority of the pharmacists (58.8%) had 1-5 years of practical experience and only (16.1%) had more than 10 years of experience. An overwhelming majority (90%) of the pharmacists stated that documentation makes them feel more responsible in performing the tasks they embark upon. However, 74.8% indicated that the current policies of their institutions do not enable them to carry on this responsibility. Most of the pharmacists (91.6%) in this study held a B.S. degree in pharmacy. Pharmacists with higher degrees in pharmacy (M.S., Pharm.D., Ph.D.) significantly ($p<0.05$) document their interventions more than pharmacists with B.S. (76.9% vs. 33.2%).

Table 1. Pharmacists Demographic Data

	Saudi n (%)	Non-Saudi n (%)	Total n (%)
Gender:			
Male:	68 (33.7)	52 (48.6)	120 (38.8)
Female:	134 (66.3)	55 (51.4)	189 (61.2)
Age (years)*	29.1 ± 4.0	36.0 ± 7.5	31.5 ± 6.4
Degree:			
B.S.	188 (93.0)	95 (88.8)	283 (91.6)
M.S.	4 (2.0)	3 (2.8)	7 (2.3)
Pharm.D.	8 (4.0)	8 (7.5)	16 (5.2)
Ph.D.	2 (1.0)	1 (0.9)	3 (1.0)
Years of Practice:	62 (30.8)	11 (10.3)	73 (23.7)
1-2 yr	90 (44.8)	18 (16.8)	108 (35.1)
3-5 yr	40 (19.9)	37 (34.6)	77 (25.0)
6-10 yr	9 (4.5)	41 (38.3)	50 (16.2)
> 10 yr			

* Mean ± SD

Two hundred thirty three (75.2%) pharmacists were King Saud University graduates, 29 (9.4%) from North America, 11(3.6%) non-Arab and 36 (11.7%) were graduates of Arab universities. The rate of documentation was 69% for North America graduates, 63.6% for non-Arab graduates, and 32.6% for Arab graduates.

Of the 309 surveyed pharmacists, 202 (65.4%) pharmacists were working in large hospitals (more than 500 beds) and 107 (34.6%) in small hospitals (less than 500 beds). The documentation rate of pharmacist interventions in large hospitals was significantly ($p<0.05$) higher than those in small hospitals (41.8% vs. 27.8%). The documentation rate was also widely varied among the 16 hospitals. For example, the documentation rate reached 79.6% in one hospital, 47% in three and none in four hospitals. Of interests, we have found that 9 (56%) hospitals necessitate and require pharmacists to document their interventions and only 5 (31%) encourage documentation while 2 (12.5%) forbid documentation by pharmacists. Furthermore, the documentation rate was found to be higher for pharmacists working in governmental hospitals than those working in Ministry of Health or private hospitals 41.3%, 31.1%, 14.7%, respectively. Of the 309 pharmacists, 185 (60%) were aware of existing policies and procedures (P&P) for documentation in their hospitals, 77 (25%) were not aware if they have P&P and 47 (15%) pharmacists stated that they do not have P&P for pharmacists documentation.

Table 2. Distribution of documentation rate for pharmacists working in different pharmacy area

Practice Location	Documenting Activities			Total Interviewed		*p* (Sig)
	Saudi n (%)	Non-Saudi n (%)	Total n (%)	Saudi	Non-Saudi	
Outpatient	22 (84.6)	4 (15.4)	26 (25.7)	63	38	0.0131 (S) [a]
Inpatient	16 (76.2)	5 (23.8)	21 (33.3)	44	19	0.6274 (NS) [a]
IV/TPN	2 (28.6)	5 (71.4)	7 (53.8)	6	7	0.4148 (NS) [b]
Unit Dose	1 (33.3)	2 (66.7)	3 (20.0)	9	6	0.5253 (NS) [b]
Clinical Pharmacy	10 (66.7)	5 (33.3)	15 (78.9)	14	5	0.5304 (NS) [b]
Drug Information	6 (46.2)	7 (53.8)	13 (92.9)	7	7	1.0 (NS) [b]
Rotating*	15 (51.7)	14 (48.3)	29 (34.5)	59	25	0.0145 (S) [a]
Total	72 (63.2)	42 (36.8)	114 (36.9)	202	107	0.5316 (NS) [a]

* Outpatient/Inpatient/IV-TPN/Unit Dose

a. Chi-square test with Yate's correction for continuity

b. Fisher's Exact test (two-tailed)

Table 2 represents the distribution and the documentation rate for pharmacists working in different pharmacy areas. As shown in the table, the documentation rate was found to be higher for pharmacists working in drug information (92.9%), clinical (78.95%) and intravenous admixtures (53.8%) compared with those in the outpatient (25%), inpatient (33.3%) and unit dose (20%) areas. On the other hand, preferences of pharmacists regarding types of interventions that should be documented on daily basis were also investigated. Table 3 shows that drug-related problems were the most common type of interventions that pharmacist wanted to document (90.6%) followed by patient monitoring (58.1%) and advice for health care professionals (55.7%).

Five major documentation-related obstacles and barriers were identified. Of the 309 pharmacists, 183 (59.3%) stated that they had no time to document their interventions, 155 (50.3%) had no system for pharmacists documentation, 82 (26.7%) cannot access patient's file, 68 (22.1%) stated that their hospital P&P does not allow them to document, and only 11 (3.6%) indicated that there is no need for pharmacists to document their interventions as shown in table 4. The majority of the pharmacists pointed out more than one barrier. However, the time factor was the main barrier for pharmacists working in governmental hospitals while no system was claimed to be the main barrier for pharmacists working in the Ministry of Health hospitals and no access to the patient's file was considered as the main barrier for pharmacists working in private hospitals.

Table 3. Preference of pharmacists regarding types of interventions that should be documented.

Intervention	n (%)
Patient data	148 (47.9)
Drug-related problems	280 (90.6)
IV/TPN problems	132 (42.7)
Patient counseling	158 (51.5)
Advice for health care professionals	172 (55.7)
Patient monitoring	179 (58.1)
Answering drug information requests	151 (48.9)
Drug Use Evaluation (DUE) activities	145 (46.9)
P & T Committee activities	141 (45.6)
Adverse drug reaction (ADR) reporting	164 (53.1)
Other activities	31 (10)

Table 4. Documentation related barriers.

	Number (n=309)	%
No time	183	59.3
No system	155	50.3
No access to patient file	82	26.7
Not allowed per policy	68	22.1
No need	11	3.6

Discussion

The results of this study are unique and important for the profession of pharmacy in Saudi Arabia for several reasons. First, it reflects some parts of the current status of pharmacy practice in Saudi Arabia. Secondly, it is considered the first database to be published regarding documentation of pharmacist interventions in Saudi Hospitals. In addition, this study sought to identify barriers to documentation and to provide methods for

improving documentation of pharmacist's interventions.

There is almost a consensus among hospital pharmacists that documentation of pharmacist intervention is a must as 301 (97.7%) of the pharmacists in this study believe that they should document their interventions and only 8 (2.3%) pharmacists indicated that there is no need to document interventions. However, the pharmacists' beliefs are not exactly reflected in their practice, with only about 36.9% of the pharmacists actually documenting their interventions (Odds Ratio 0.3). This indicates the existence of a mismatch between pharmacists' beliefs and their actual practice. We can only speculate as to reasons why the documentation rate (36.9%) was low compared with the pharmacists' beliefs about documentation (97.7%). We can think of three general systems that may explain the low documentation rate. These systems may include the pharmacist's belief, educational, and the pharmacy management systems.

The majority (91.6%) of the practicing pharmacists holds a B.S. degree in pharmacy and most of them had 1-5 years of experience. They may have acquired competence in technical skills to perform daily activities but their belief systems may have not fully developed. Sawyer and Eckel (15) indicated that the demand for documentation of pharmacist interventions stems from the fact that the belief systems of pharmacists have not internalized the concept of pharmaceutical care as the desired future for the pharmacy profession. In addition, lack of competence, commitment, feeling of insecurity in the value of practice and the escape from responsibility to patient's drug therapy outcome and consequently accountability are also possible reasons for the low documentation rate. Pharmacists with a higher degree in pharmacy (e.g., M.S., etc.) are more competent than those with B.S. degree which may explain the higher documentation rate (76.9%) in the former group compared with (33.2%) in the later group. However, it is not only the pharmacist's knowledge and degree, but also his/her commitment and assumption of shared responsibility for the welfare of the patient are more important than the title behind the pharmacist's name (15).

The educational system may also have a significant impact on the pharmacist's belief and attitude toward documentation. Our knowledge and experience about pharmacy school degree and curricula help us understand and appreciate the reasons for higher documentation rate (69%) among pharmacists graduated from a North American university compared with that for Arab (33%) pharmacists in this study. For example, in the United States, the degree offered (Pharm.D.) and the curricula of pharmacy schools have been modified and made to be patient-oriented or clinically-directed to match the society mission. During pharmacy school, students are taught about the importance of documentation in different pharmacy courses. In addition, during internship, pharmacy students have a chance to practically observe the different systems available for documentations. Social demand, public awareness, pharmacy law, medical legal-litigation and patient-welfare are all driving forces for pharmacists to document their interventions. Many US graduates have the opportunity to receive additional patient-oriented clinical training in general and specialized pharmacy training programs known as "Residency". All of these factors help the US pharmacist to develop good communication skills (both verbal and written) and, therefore, become more confident and efficient. In contrast, most pharmacy schools in the Arab World still provide the product-oriented degree (B.S.). This degree may not suffice the increasing demand of the society for better health care. In this study we have noticed that pharmacists with master degree in pharmacy perform better and document higher than those holding the bachelor degree. Self-confidence, knowledge, and efficient communication skills might be more developed in M.S. degree holders. Currently, the College of pharmacy at King Saud University is the only pharmacy school that provides master degree in clinical pharmacy in all Arabs pharmacy schools. Therefore, we have very few pharmacists holding this patient-oriented degree. The concept of professional training "Residency program" has been recently introduced and still in its early stage. A major limitation to these programs is the fact that many pharmacy-training sites are of limited resources and lack sufficient number of qualified pharmacy preceptors.

Pharmacy directors and hospital administrations (pharmacy management systems) may have contributed significantly to the low documentation rate. This is because we found a wide variation in the documentation rate among the 16 hospitals. These variations could be the result of the level of education, commitment to the profession, and years of experience of the directors. We found that only 4

(25%) of the 16 pharmacy directors possess a higher degree in pharmacy and 10 (65.5%) had less than 10 years of experience. Although we did not evaluate pharmacy directors' commitment to the profession, we assumed that they were committed. Also, hospital administrators may see the pharmacy as a material management but not as a clinical department (15). The limited vision in conjunction with the shortcoming of pharmacy directors may result in the limited insight of hospital administrators. This might be explained by the fact that only 9 (56.25%) of the 16 hospitals require pharmacists to document interventions.

Although the workload in large hospitals is expected to be high, the documentation rate (41.8%) was found to be higher than that in small hospitals (27.8%). We may assume that large hospitals are more organized, structured and have systems in place on top of having more qualified and competent pharmacists.

Five major documentation related barriers being identified (no time, no system, no access, no P&P and no need) may have also contributed to the low documentation rate. They were closely related to both the pharmacists' belief and pharmacy management systems. The pharmacists' attitude toward documentation is a part of their belief systems. One hundred eighty three (59.3%) indicated that they had no time to document and 11(3.6%) stated that there is no need to document interventions. Pharmacy directors in some hospitals were unable to represent the pharmacy departments in an efficient way. This is evident by the lack of supporting P&P in their institution as indicated by 22.1 % of the pharmacists. In addition, the unavailability of systems for documentation as stated by 50.3% of the pharmacists is another good reason that may describe the inefficient management by pharmacy directors. Inability to access patient files may reflect shortcomings in the communication systems and or limitation in financial resources in some hospitals especially in private institutions as pointed out by 26.7% of the pharmacists. Therefore, pharmacy management inefficiency, and pharmacists belief systems are both additive reasons for the low documentation rate in this study. Our experience with the Ministry of Health hospitals is that they are the busiest in Saudi Arabia. The pharmacists in these hospitals surprised us when they stated that the main barrier for documentation was the unavailability of documentation systems. We believe it is not only the unavailability of the documentation systems, but also the time factor are the two main barriers in those hospitals.

We appreciate that the area of pharmacy practice may significantly affect the rate of documentation depending on the nature and the type of pharmacy practice. We expected high documentation rate in areas such as the drug information center, intravenous admixture units, and clinical or patient's area. It was surprising to us to find that 75% of the outpatient and 66.7% of the inpatient pharmacists do not document their interventions. As practicing pharmacists, we know that the rate of interventions made by committed pharmacists on daily basis are far beyond the rate reported in this study.

Recommendations

We cannot over-emphasize the importance of the results of this study. To improve the documentation rate in Saudi's hospitals, there is a need for a reprofessionalization in pharmacy practice to match the social mission of providing pharmaceutical care. We believe that the nature of the change is dramatic but we must understand its importance and do it in a systematic manner. To induce revolutionary changes, we must work positively on the pharmacist's belief, education and the pharmacy management systems. Therefore, the following steps are highly recommended:

1) More attention should be given to the pharmacy school curricula and training programs. Pharmacy school should modify its mission and curricula to match the society needs and mission. During school, students must learn and understand the concept of pharmaceutical care (16). Pharmacy students should be taught to conceptualize and execute responsible drug-related problems and understand how to solve them for individual patients. Pharmaceutical educators should design curricula that help to produce self-confident graduates with sufficient knowledge and skills to deliver patient care competently (16-17). Continuous education providers should help practicing pharmacist understand and implement pharmaceutical care. Practicing pharmacists should then commit their time and effort as preceptors for the students helping them to practice the provision of pharmaceutical care (17). During pharmacy

training, students should become familiar with the types of written communications commonly used by health care providers and learn to communicate using the same formats. It is during this period the trainee will learn how to take care of patients and gain more confidence.

2) More graduates with higher degrees in pharmacy are needed especially those with M.S. degree in hospital or in clinical pharmacy and Pharm.D. holders. The Pharm.D. degree is well established and recognized as the profession's highest professional degree. Therefore, we recommend that Pharm.D. degree as the single entry-level degree for professional pharmacy practice in Saudi Arabia. Fortunately, in 2002, the Saudi government has approved 3 new pharmacy schools. We hope that we will have more clinically-oriented pharmacist in the near future. We also recommend that colleges of pharmacy offer combined degree-residency programs and combined degree (Pharm.D.- M.B.A.) programs to produce pharmacy leaders in administration and management in addition to pharmacy education.
3) A change in the pharmacists' belief systems must be made. Sawyer and Eckel (15) stated that "Pharmacists must first define what they believe is right and necessary for the delivery of pharmaceutical care, rather than allow for the determination to be made by other professionals or administrators. They must then actually do what they say they believe in….Once they have done what they believe to be right, they must then document it". Pharmacists must appreciate the value of the services they are providing and should accept their responsibility for the welfare of their patients. They must build self-confidence and should be committed to their patients and profession. They should understand that performance and productivity are not only measured by assessing technical functions, but also by documented cognitive skills. Pharmacists should commit themselves to continuous care on behalf of individual patients and should conceive pharmaceutical care as both a purpose for pharmacy practice and a purpose of medication process. They should work as a team with other disciplines, support systems and staff and managers. We know that pharmacists in Saudi's hospitals make important contributions every day, often preventing patient injury, sometimes saving a life, and consistently reducing the cost of patient care. But without documenting what they do, they will lose the key to the profession's survival. Cohen said "If it isn't documented, it wasn't done" (18).
4) The pharmacy management system must also provide unique contribution to both patient care and the profession. More experienced pharmacists with specialties in, for example, hospital Pharmacy, pharmacy administration and business administration, are needed as pharmacy directors. Pharmacy directors should adopt the provision of pharmaceutical care and develop effective work systems to document and support it. They should play a key role in giving more support for the pharmacy staff to document their interventions through official channels in the institution. They should strive to represent the pharmacy department as a part of the health care system but not as a material management. Pharmacy directors must help their staff to directly access clinical information about individual patients. They must also be able to be actively involved in various hospital committees such as "Pharmacy and Therapeutics" and "Quality Assurance" committees and speak for pharmacy as an important member of the health care team. They should use all efforts to provide the pharmacy department and staff with the necessary resources (including computers, programs…etc) to facilitate ease of work and documentation of activities. There are two methods available for documentations: manual and automated systems (19-24). Both systems have been proven valuable for many hospitals. For example, at one institution, the manual documentation system has doubled the number of documented interventions per pharmacist per day and tripled the number of documented interventions per pharmacist per day related to targeted drugs (25). Each system has advantages and disadvantages depending on the objectives and outcomes desired. We suggest that depending on the pharmacy budget, staff numbers and work load, pharmacy departments may chose either system as appropriate. Pharmacy directors, through proper hospital channels and policies and procedures should support pharmacists to document their cognitive interventions in written communications such as patient medical records, progress notes, written

consultations, discharge summary letters, and medication profiles. Pharmacy directors should developed mechanisms to encourage pharmacists to document their interventions and make it a part of their credentialing. They may use pharmacy in-service, news, or meeting as communication tools for updates and information.

Conclusion

The documentation rate of pharmacist interventions was found to be low among hospital pharmacists in Riyadh area. The pharmacists' belief in documentation is not necessarily reflected in their practice. The low documentation rate may result from underdeveloped pharmacists' belief systems, educational and inefficient pharmacy management systems. We have identified 5 main barriers for documentations including no time, no system, no access, no P&P and no need for documentation. Pharmacists should do what they believe is right and document it especially when it is directly related to the patient drug therapy outcome. They should be prepared to share responsibility and committed to both patient and profession. The educational system should be modified to provide pharmacists who can meet the society mission and be able to face future challenges. Pharmacy directors have many things to offer to the profession, pharmacy staff and patients. They should work hard to represent pharmacy department as a corner stone in the health care system. They need to resolve all barriers and provide the necessary support for the success of their staff.

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