WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 5.990
Volume 4, Issue 12, 1484-1492. Research Article ISSN 2277– 7105

KNOWLEDGE AND AWARENESS OF HOSPITAL PHARMACIST TOWARD PHARMACEUTICAL CARE IN KHARTOUM STATE

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Article Received on
16 Oct 2015,

Revised on 07 Nov 2015,
Accepted on 29 Nov 2015

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ABSTRACT

Background: The philosophy of pharmaceutical care has been accepted worldwide, as the primary mission of pharmacy; pharmaceutical care mandates that practitioners not only dispense medications, but also assume responsibility for improving the quality of patients' outcomes. **Design**: This is a descriptive cross-sectional survey research by questionnaire. **Objectives**: The aim of the study is to describe the current pharmacy practice in hospitals in Khartoum state at Sudan, explore the knowledge and awareness of hospital pharmacists to implement pharmaceutical care practice. **Method:** A questionnaire was designed to explore the hospital pharmacist's understanding, knowledge and their perceptions on the philosophy of pharmaceutical care, barriers and also the current pharmacy practice. The cross-sectional study was conducted, which involve exploring and collecting data from hospital pharmacists in Khartoum state using the self-administered questionnaire approach. The mode of data collection chosen was a self- administered questionnaire. In a sample of 115 hospital pharmacists from a hospitals in Khartoum state. The data was collected and analyzed using the SPSS ver.16 (Statistical Package for the Social Sciences). **Result**: The respondent demographic Characteristic were collected and analyzed. The median age were found to be 25 years old, 77% are female, 41.7% had experience less than 2 years. Related to the knowledge and awareness of the hospital pharmacist among respondent using one sample t-test a total mark of scale was 30, a mean was compared to the value 18 there is significant deferent. **Conclusion:** The current practice of hospital pharmacists in Sudan needs further improvement. Knowledge and awareness is low about pharmaceutical care, continuous education programs would be an important approach for

improving pharmacists' knowledge of pharmaceutical care, identifying and realizing the role of pharmacists in the management of different diseases.

KEYWORDS: Hospital pharmacists, Current roles, Pharmaceutical care, Khartoum.

INTRODUCTION

Over the past few decades, in the health care environment worldwide especially in the United States witnessing the gradual and remarkable growth of the managed care system and pharmacy practice becoming more medically sophisticated, pharmacists are employing innovative patient care strategies such as pharmaceutical care practice. The philosophy of pharmaceutical care has been accepted worldwide as the primary mission of pharmacy. Pharmaceutical care mandates that practitioners not only to dispense medications, but also to assume responsibility for improving the quality of patients' outcomes.[1] The traditional role of the pharmacist that involves the preparation, dispensing and selling of medications is no longer adequate for the pharmacy profession to survive. Additionally, it has been argued that pharmacists have assumed a paternalistic role in discussions with patients about therapeutic options. Under this "pharmaceutical care" model, the patient delegates decision-making authority to the pharmacist. Implicit assumptions in delegating this authority include the perception that the "pharmacist knows best" and would be in the best position to make a therapeutic decision in the patient's best medical interests for the purpose of achieving definite results that improve a patient's quality of life (QoL).[1] To achieve these results,, pharmacists need to co-operate with patients and other healthcare providers in designing, implementing, and monitoring a care plan aiming to preventing and resolving drug therapy problems (DTPs).[2,3,4,5,6]

For the pharmaceutical care to achieve its goals it needs the traditional pharmacy to evolve and transform.[7,8,9] The perception and understanding of pharmacy need to be changed, evolved, and transformed as well as to reorient the practicing pharmacists to meet the challenges of the contemporary health care system. This is vital as the pharmacists are the main drive and main factor behind this transformation and application of pharmaceutical care practices. Hence, pharmacists' knowledge, perception, and attitude about the new emerging philosophy of pharmaceutical care are important.

The pharmacist's role has consequently evolved from that of a compounder and supplier of pharmaceutical products, to that of provider of patient care. This expansion to patient

centered care comprises a new responsibility for the pharmacist, and that is to ensure the effectiveness and safety of a patient's drug treatment in the best possible way by providing patients with counseling, drug information and to monitoring their drug therapy, the pharmacist can make a vital contribution to the outcome of drug therapy and to the patients' quality of life (WHO, 2006). The most generally accepted philosophy of Pharmaceutical Care was defined in 1990 by Hepler and Strand as "The responsible provision of drug therapy for the purposes of achieving definite outcome that improve a patient's quality of life".[1] The International Pharmaceutical Federation (FIP) adopted this definition in 1998 but added one amendment: "…achieving definite outcomes that improve or maintain a patient's quality of life". The definition has been redefined later by Cipolle, Strand and Morley; "Pharmaceutical care is a patient-centered practice in which the practitioner assumes responsibility for a patient's drug related needs and is held accountable for this commitment".[10] Pharmaceutical care practice is intended to meet a need in the health care system that has arisen due to the increase in complexity of drug therapy and the significant level of drug-related morbidity and mortality associated with drug use.[11] The International Pharmaceutical Federation adopted the guidelines for the achievement of good pharmacy practice in developing countries, which was approved by the World Health Organization.[12]

Understanding and knowledge of this philosophy must precede efforts to implement pharmaceutical care, which merits the highest priority in all practice settings. Studies on pharmacists' knowledge and understanding of pharmaceutical care are scarce and not consistent in their findings Study by Van Mil et al.[13], used the results of International Pharmaceutical Federation (FIP) questionnaire. One of the questions specifically asked for the definition of pharmaceutical care used internationally. Six out of 30 responding countries indicated in that they used Hepler and Strand definition as their current working definition, Twelve countries gave their own description or definition, which in all cases significantly different from Hepler and Strand definition and the twelve countries did not give a definition of pharmaceutical care.

One study has described the current practice of hospital pharmacists in Kuwait revealed that, the lack of uniformity in the responses regarding the focus and objectives of pharmaceutical care indicates a lack of appropriate understanding in this matter. All respondents have shown high willingness towards the implementation of pharmaceutical care services in their practice.[14] Yet, there is none known about pharmacists' knowledge on pharmaceutical care

in this country.

Aim of the study

The aim of the study is to describe the current pharmacy practice in hospital in Khartoum state in Sudan, explore the knowledge and awareness of hospital pharmacists toward pharmaceutical care concept.

METHOD

A questionnaire was designed to explore the pharmacist's understanding, knowledge, and their perceptions on the philosophy of pharmaceutical care and also the current pharmacy practice.

The questionnaire consists of two sections as follows

1. Section one: this section contains questions related to the samples of demographic characteristics and their practice profiles in the hospital pharmacy settings.
2. Section two: this section contains question related to pharmacists' knowledge and wareness on pharmaceutical care. This section was structured as statement of opinion and the response choice ranged from strongly agree to strongly disagree.

Study design

The cross-sectional study was conducted, which involved exploring and collecting data from hospital pharmacists in Khartoum state employing the self-administered questionnaire approach.

Sample size calculation

The size of the sample was 114 which are collected within a time frame.

Method of data analysis

The collected data analyzed by a statistician using Statistical Package for Social Science (SPSS) ver. 16.

Inclusion and exclusion criteria

Inclusion criteria are hospital pharmacist while exclusion criteria are junior pharmacist and community pharmacy pharmacist

RESULT

Table 1: demographic characteristics and their practice profiles

Demographics	Frequency	Percent
Gender		
Male	34	29.6
Female	77	67.0
Total	111	96.5
Qualifications		
Bpharm	90	78.3
PharmD	4	3.5
Msc	17	14.8
PhD	2	1.7
Other	2	1.7
Total	115	100.0
Current position in the Pharmacy		
Chief pharmacist	14	12.2
Staff pharmacist	93	80.9
Other	8	7.0
Total	115	100.0
Experience		
>4	22	19.1
2>	48	41.7
2-4	40	34.8
Total	110	95.7

Table 2: Current pharmacy practices.

Current pharmacy practices	Frequency	Percent
Type of drug distribution system		
Traditional system	50	43.5
Unit dose system	23	20.0
Individual prescription order	38	33.0
Centralized pharmacy service	2	1.7
Other	2	1.7
Total	**115**	**100.0**
Counseling / consultation room in pharmacy		
Yes	18	15.7
No	91	79.1
Under consideration	6	5.2
Total	**115**	**100.0**
Checking the appropriateness of prescription		
Sometime	60	52.2
Always	53	46.1
Never	2	1.7
Total	**115**	**100.0**
Intervention performs thorough interacting with physician		
Dose adjustment	99	86.1

Change root of administration	1	.9
Inappropriate drug selection	6	5.2
Other	9	7.8
Total	**115**	**100.0**
Counseling patients		
Always	45	39.1
Never	7	6.1
Sometime	63	54.8
Total	**115**	**100.0**
Accessing to medical records		
Yes	47	40.9
No	69	59.1
Total	**115**	**100.0**
Member of policy maker committee		
Yes	18	15.7
No	92	80.0
Total	110	95.7
Admixture compounding		
Yes	17	14.8
No	92	80.0
Total	**109**	**94.8**
Checking incompatibility between intravenous drug solutions		
Yes	43	37.4
No	66	57.4
Total	**109**	**94.8**
Education other health professionals and pharmacy students		
Yes	87	75.7
No	28	24.3
Total	**115**	**100.0**
Provide information on medicine:		
Yes	109	94.8
No	6	5.2
Total	**115**	**100.0**
Carrying any pharmaco-vigilance program activities		
Yes	13	11.3
No	102	88.7
Total	**115**	**100.0**

Table 3: knowledge and awareness one-Sample t-test.

Total mark of score	N	Mean	Std. Deviation	P.VALUE
30	115	7.84	6.130	.000

DISCUSSION

The respondent demographic characteristic were collected and analyzed. The mean age was found to be 26.77 years old. It was observed that most of the respondent are young pharmacists. Most of them had earned a Bsc degree in pharmacy as their highest professional degree, which is consistent with what Sumia Sir-Elkhatim[15] found that pharmacy education and practice in Sudan are product-focused. New role of pharmacist is not yet implemented in Sudan and the colleges of pharmacy must provide educational program in harmony with other professional bodies regarding pharmaceutical services. This finding suggests that pharmacists in Sudan are unutilized.

Related to the items describing the dispensing activities of the current pharmacy practice, a study by Abdul Aziz et al.[16] found that the rate of errors, which was still quite high in the hospital, was lowered by utilizing a Unit-Dose Distribution System compared to those facilities using the traditional distribution system which we found that the proportion of respondent who perform these activities only 20% .This study also found that over three quarter of hospital pharmacist respondent's claimed that they check each prescription for drug dose, duration of therapy and drug interaction. However, this conflicted with what was reported by the participant regarding detecting prescribing errors and making interventions when necessary. This finding is consistent with a study by Alnada Ibrahim and Jenny Scott[17] among community pharmacy pharmacist participant. It emerged that prescribing errors were spotted but only some pharmacist stated that they make made interventions and not regularly. Other observation regarding role of Hospital Pharmacist are less than half of respondent who accessing to medical record which influence the selection of drugs and dosage regimen, only 18% of the respondent are member of policy maker committee or drug and therapeutic committee, 14.8% of respondent are compounding intravenous admixture, 37.4% are checking incompatibilities between drug solution, 75.7% are educating other health professionals and pharmacy student and it's good that 94.8% of respondent are provide information on medicine. Another important role of hospital pharmacist is carrying pharmacovigilance program and reporting ADR, only 11.3% of respondent is carrying this program.

Related to the knowledge and awareness of the hospital pharmacist among respondent this section of the questionnaire consisted of 15 statements given total mark of 30. Using one sample t-test mean was compared to the value 18 there is significant deferent which means that there is lack of knowledge and awareness of hospital pharmacist respondent's toward pharmaceutical care.

CONCLUSION

The current practice of hospital pharmacists in Sudan needs further improvement. Knowledge and awareness is low about pharmaceutical care.

RECOMMENDATIONS

- Further studies should be conducted in this field in collaboration with Ministry of Health to more evaluation.
- Make use of the studies to increase knowledge and awareness of pharmacists in both hospitals and community towards pharmaceutical care.

REFERENCE

1. Hepler CD. and Strand LM. Opportunistic and responsibilities in pharmaceutical care. Am J hosp pharm, 1990; 47(3): 533-43.
2. Bell, J.S. , white head P., Aslani ,P. Mclachlon , AJ , Chen T.F. , (2006) Drug related problem in the community setting the journal of clinical Drug investigation., 2006; 26: 415-25.
3. Haugolle LS, Sorenses EW. Drug related problems in patients with angina pectoris, type 2 diabetic and asthma - interviewing patients at home. Pharmacy world and science., 2006; 28: 239-43
4. Blix HS. ,Viktil CC., Moger T.A, Reikvam A. Characteristic of drug related problems discussed by hospital pharmacists in multidisciplinary teams. Pharmacy world and sciences., 2006; 28: 152-8.
5. Soendergard E., Kirtoby B., Dinsen C. , Herborg H., kiellberg J. , Staehr P. Drug related problem in general practice: result from a development project in Denmark . Pharmacy world and science., 2006; 28: 61-4.
6. Sturgess IK, McElnay JC, Hughes CM, Crealey G. Community pharmacy based provision of pharmaceutical care to older patients. Pharm World Sci., 2003; 25: 218-26.
7. Winslade N. (1994). Large group problem. Based learning: A Prevision from traditional to pharmaceutical care – based therapeutic American journal of pharmaceutical

education., 1994; 58: 1, 64-73.

8. Winslade N, laurel T,sherry shi, Lambert set Al monitoring community pharmacist study using pharmacy claims data to asses performance American journal of hospital pharmacist., 1993; 50: 1720 -3.
9. Duncan. Hewitt, W.C (1992) formulation problem-solving as alternative to traditional pharmaceutics American Journal of Pharm. Education., 1992; 56: 242-251
10. Cipolle RJ, Strand LM, Morley PC. Pharmaceutical care practice: the clinician's Guide, 2nd edition. New York, NY: The McGraw – hill companies, Inc, 2004.
11. Calvin H.knowlton and Ritchard P.Penna . Pharmaceutical care 2nd edition. PA:chapeau and hall, new York., 2003.
12. World Health Organization. The role of pharmacist in self-care and self-medication. Report of the 4th WHO Consultative Group on the role of the Pharmacist. WHO/DAP/98.13, 1998.
13. Van Mill JWF. , Mcelnay J., De Jong – vau Denberg , LW. and tramp F.J. (1999), the challenge of defining pharmaceutical care an international level. International journal of pharmacy practice, 1999; 7: 202-208.
14. Awad A. , Al- Ebrahim S. and Abahussain E. Pharmaceutical care service in hospitals of Kuwait. J pharm Sci., 2006; 9(2): 149-57
15. Sumia Sir-Elkhatim Mohamed. Clinical pharmacy in the Sudan: Current state and future challenges. Khartoum Medical Journal., 2012; 5(2): 738-748.
16. Abdul Aziz, N., Rasuna, Z., Hassan, Y., Badrudin, C. P. (1990) Quality assurance study in the unite dose system in a teaching hospital (abstract). Published proceeding of the 1st Pan Pacific Asian Congress of Clinical Pharmacy, 1990; 23-26 November 1990, Penang – Malaysia: School of Pharmaceutical Sciences, USM and Malaysian Pharmaceutical Society.
17. Alnada Ibrahim and Jenny Scott. Community pharmacists in Khartoum State, Sudan: their current roles and perspectives on pharmaceutical care implementation Int J Clin Pharm. 2013 Apr; 35(2): 236-43.