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Assessment of Nurses' Knowledge and Practice of Some Gastrointestinal Drugs

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Abstract: **Nurses are highly accountable for ensuring that the medication therapy for patients is effective and harmless. All nurses are required to be careful and mindful of numerous strategies in order to prevent or decrease the possibility of medication errors. Additionally, nurses must follow the ten rights of medication administration, double check and read it back.**

Aim: To assess the nurses' knowledge and consideration of gastrointestinal tract drugs

Design: This study was conducted using a descriptive exploratory strategy.

Sampling: The sample calculated by using G. power software were Alfa =0.05%, Beta = 0.8, effect size 0.3, degree of freedom = 3 minimum sample size of 360 **the actual sample comprises of** 400**nurses working at the previously mentioned hospitals.**

Tools: A structured online questionnaire sheet.

Results: The majority of nurses (66.25%) had adequate knowledge regarding Motillium action and its nursing consideration. However, (43%) of participants had knowledge regarding Peptazol.

Keywords: **gastrointestinal drugs, knowledge, Practice side effects, ten rights.**

I. INTRODUCTION

It is essential for nurses to have a thorough understanding of various types of drugs as well as calculate correctly the doses of medication in order to avoid medication errors among patients, especially in critical situations. Nurses learned common drugs through pharmacology course during their undergraduate study and they enhance through research and profound reading about medication. Nevertheless, some nurses have difficulty in remembering all kinds of drugs especially if the drugs prescribed are new brand name and classification and not common medications in the clinical setting since there are hundreds of drugs circulated related to gastrointestinal treatment.

Some research studies revealed that lack in knowledge concerning drugs and dosage calculation could lead to medication error. "A Medication error is defined as any error in the prescription, dispensation, or administration of medicine, irrespective of whether the error causes any harm to a patient" [1].

Medication for gastrointestinal tract is commonly used that everyone could possibly take from the over the counter (OTC) medications and it considered safe. However for patient prescribed several drugs could lead drug-drug interactions (DDI) and it is a common problem that resulted to failure of treatment and some reported neurologic complication related to the

used of gastrointestinal drugs. In this aspect nurses whose responsibility is to prepare and manage prescription to the patient must knowledgeable about the side effects, adverse drug reaction and others to prevent medication error and complication related to gastrointestinal drugs.

II. LITERATURE REVIEW

Nurses begin their careers far sooner than other occupations. After completing the final year of B.Sc. education, Nursing graduates are held accountable for numerous lives, especially the lives of young patients (N). As a result, it's crucial to avoid medication administration errors among patients, especially when it comes to emergency medications and drug dose calculations, especially in urgent conditions. Every graduate nurse must be competent in the administration of pediatric emergency drugs as well as the calculation of drug doses. Medication errors, adverse drug events, and even mortality in children can occur due to a lack of knowledge among final year B.Sc. (N) students. The current study's findings can be used to guide future research.

Medication errors in drug concentration, being untimely about when to take a drug, demonstrating carelessness with how to take a drug, and overdosing of the drug are all examples of common medical errors in drug prescription [2]. Although the rate of errors portrayed by nurses and nursing students is low, research has revealed a high rate of medication errors produced by nurses and nursing students [3, 4,5] .

According to a study conducted by [6], 48.5 percent of nursing students make medication errors, with disremembering medicine prescriptions being the most common type of medication error [6] In a study of 393 nurses conducted by Balas and colleagues at the University of Pennsylvania in 2004, it was discovered that 30% of the nurses polled admitted to making at least one error [7].

Medication errors can be caused by a lack of pharmacological data, erroneous medication calculations, a lack of specified protocols, similarities in the shapes and pickings of drugs, similarity in drug names, and physicians' terrible handwriting [3]. All medication errors, as well as almost a third of all unfavorable drug measures, are theoretically avoidable [8]. Medication errors can be caused by a lack of pharmacological data, erroneous medication calculations, a lack of specified protocols, Similarities in drug forms and choices, similarities in drug names, terrible doctors writing [3]. All medication errors, as well as almost a third of all unfavorable drug measures, are theoretically avoidable [8]. Because the problem is multifaceted with medication errors, we must explore multidimensional strategies in order to solve them. Risk administration, which is a regular and continuous program for diagnosis and intervention, can help to reduce medication errors.

Handwashing procedures should be regulated in any condition where health care is provided since asepsis is a key aspect of the medicine administration process. While medication is primarily provided by nurses, the staff nurse plays a crucial role in reducing errors of medication. Multiple practical and theoretical domains, such as pharmacology knowledge and dosage calculating abilities, contribute to medication competency. However, no research has been done on Self-evaluation of Nurses of their observance to (and possibly, knowing divergence from) rules during the treatment process, or the possibility of a conscious medication error.

Medication errors are usually shared in the hospital department. They account for about 78 % of medical errors in intensive care units, and a patient's death can be caused by a variety of factors, including a prescription error, incorrect prescription transmission, labeling, packing, or quantity, preparation, distribution, medication, education, and monitoring, as well as improper use of medication.

Various literatures suggest that medication errors can arise as a result of the clinical complexity of the patient, Number of medicines supplied, recurrent variation of prescriptions, and the requirement to adjust dosage of the drug according to the patient's weight, according to a study by [9]. The presence of a safety culture is critical in the prevention of errors in complicated environments.

III. MATERIALS AND METHODS

Aims: Assessment of Nurses' Knowledge and consideration of gastrointestinal tract drugs.

Design: This study was conducted using a descriptive exploratory strategy.

Settings: The research was carried out at private hospitals in Saudi Arabia.

Sample: Calculated use G. power software were alfa =0.05% Beta = 0.8 effect size 0.3 degree of freedom=3 minimum sample size of 360 the actual ample comprising of 400 nurses working at the previously mentioned hospitals are willing to participate. Respondents were selected based on a specific criterion: they work directly with the patient, giving them medication. They work different shifts, and have at least one year of experience. Additionally, respondents to our questionnaire on the website were 400 nurses that care for patients in different departments.

Data collection: The researcher developed a questionnaire to assess nurses' knowledge about nursing practice of some GIT drugs. This questionnaire is divided into three parts, the first section of the questionnaire examines the demographics of the participants. (personal data, job, qualifications, and years of experience), the second part includes 17 questions that reflect the nurses' knowledge about GIT drugs' side effects, their actions, doses suitable for different age groups, interactions with other drugs, brand name, and side effects. The third part, which includes 10 questions, is for their knowledge related to practice of giving the medication.

Data analysis: Descriptive and inferential statistics were utilized data, analyzed by SPSS-22 statistical software. Data expressed as mean, standard deviation, number and percentage regression linear for numeric variables significant. Chi – square test for non- parametric variable significant. Score the knowledge and practice to analyze regression/correlation relationship of factors predicting knowledge and practice achievement**.**

PROCEDURE

After taking the initial permission from IRRB in IbnSina Medical National College and submitting it to the general manager of the hospitals, the researcher proceeded to collect data from all nurses working in different departments or units like surgical ward, medical ward, intensive care unit (ICU), operating room (OR) and emergency room (ER).The questionnaire distributed through online survey to all nurses and discussed for any further clarification. Usually, every participant takes 10 minutes. The data was collected over a period of one month, during different shifts. Moreover, the questionnaire was administered in Saudi Arabian Hospital's website, to gain more response.

PILOT STUDY

The objectivity, feasibility, and application of the survey tool were tested on ten nurses in a pilot study. The researcher gained the ability to work effectively with the individuals and data gathering tools after conducting the pilot study. The pilot study required alterations as a result of the findings, therefore amendments were made and subjects of the pilot study were excluded from the main study sample.

ETHICAL CONSIDERATION

The ethical committee and the hospital management gave their official approval for the proposed study to go ahead. The participant was fully informed about the study's objective, process, benefits, and nature, as well as the fact that he or she had the right to opt out at any time and for no reason. Later on, they gave their written consent. In addition, the participants were informed that the data collected would not be used in any other studies unless they gave their agreement again. All data was coded to ensure the confidentiality and privacy of each subject. Furthermore, any information gathered had no bearing on their annual evaluation.

IV. RESULTS

Data was collected from nearly 400 nurse who answered the online questionnaire:

Table (1): showed that the majority of nurses were female (72%). Almost 1/3 of the nurses had less than 3 years of experience (37.1%). Almost half of them have a bachelor's degree (48.5%). The majority of nurses attended training lecture (67.4%).

Table (2): The nurses had a poor degree of knowledge on side effects, medication interactions, and dosage accuracy.

Table (3): The nurses had a poor degree of practice when it came to the interaction, precautions, and considerations when administering the medicine.

Table (4): The male knowledge aspect's mean score was 0.927 points higher than the female knowledge aspect's mean score. With a P-value of 0.020, this association was statistically significant. Increased year of experience, degree of education, and attendance at training were all associated with a higher drug knowledge scores.

Table (5): When the P-value > 0.05, the results showed that the relationship was not statistically significant.

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V. DISCUSSION

The greater part of the study's participants were females as they constituted 72% of the participants, of which 48% had a bachelor's degree. The least percentage of respondents were Ph.D. holders, which constituted 10% of the participants. Most of our respondents didn't take any educational lecture or any training about pharmacological aspects. This result reflects the importance of impending staff training to enhance their knowledge about drugs given to patients. Furthermore, this was also discussed in [10], the mean knowledge score was in the pre-test 16.44, and the mean knowledge score post-test was 27.32. At a 0.05 level of significance, the estimated 'Z' value =19.08 was greater than the value of the table 0.4744.This demonstrates that the pre-test scores were weaker than the post-test scores.

The results of the study show that most of the respondents have insufficient knowledge and information regarding nursing precautions when handling medication. Only 35% of the nurses had information regarding nursing precautions for Buscopan. This result goes against the results of Markus [11], that the majority of nurses (70%) claimed to have prepared the medication as per the applicable instructions while paying little attention or concern to the current circumstances although, there were cases that require complete awareness of the present state. However, a third of the participants reported that when preparing medication, they depart from the standards (mean, 0.61 - 0.689).

Nurse education is a very important tool. Which has helpful possessions that further develops in their knowledge and quality of care-giving, decreases cost, and staff satisfaction that is beneficial with training and education [12].

Regarding the medication error as a serious problem, majority of nurses (67.4%) attend training courses related to the importance of medication errors, the results go against the study of [13], and Medical errors were identified as one of the most important concerns by 5% of physicians and 6% of the general population, according to the study.

Regarding the administration of appropriate dosage, 47% of nurse had fair knowledge about the appropriate dosage for Motillium, while nearly 35% of participants showed little information about the remaining drugs; Peptazol, Buscopan, and Metoclopramide. This result was discussed in majority of responders (90 %) said they always follow recommended recommendations, which clarifies the occurrence of asepsis in the medicine category. (The mean is 0.11 0.00.) In contrast, the percentage of nurses who said they continuously used hand sanitizer pre and post giving medication was significantly less than (69 %).

The knowledge score of pre-test for final year B.Sc. (N) nurses students related pediatric emergency medications and the computation of drug doses revealed that 64% of the students had poor information and 36% of the nurses students had Fair enough knowledge, according to [14].These scores reflected our study results which indicated that 47% of nurses had fair knowledge regarding the appropriate dosage for Motillium, nearly 35% of the participants showed little information about the remaining drugs; Peptazol, Buscopan, and Metoclopramide.

The most popular form of error that can occur in hospitals is medication errors. Figure (3) demonstrates that all respondents have little knowledge and information regarding nursing precautions when handling drugs. Only 35% had information regarding nursing precautions for Buscopan that matched with the study of [15]. Representing drug administration 40% of all clinical care acts performed by nurses. The majority of medications include equations for bolus or continuous infusion management. Currently, reliable data on medication mistakes in individuals admitted to intensive care units (ICUs) is unavailable. According to the technical literature, the analysis shows that nurses (80 %) are aware that proper understanding of how to calculate medication dosage is critical for reducing medication errors during the preparation stage.

In this study, the greater part of nurses had an insufficient level of information regarding nursing contraindications. This result disagrees with [16]. Where it is stated that the nurse is accountable and blamed for the excellence of nursing care given to clients.

The study guide finding states that hospital authorities should update the medication regimen to reduce error. These results aligned with the results in, the study used input in decision making for the electronic doctor order.

Regarding the documentation of medication, the majority of nurses ignore the importance of it indeed the importance of it this aligned with [17,9] were mentioned that the nurses' was not always documented the intervention after giving the care.

The result of this study mentions that the knowledge of the participant improves with the experience and this aligned with the result of [18].which states that, experiences influence pharmacological knowledge.

Finally the more active participation of nurses in the ward with more cases qualifies skills association and delivers chances for participating in protocol progress by sharing Case-based learning and knowledg [19,20,21,22].

Tables

TABLE: I frequency distribution of studied nurses as regarding their demographic data (n=400)

Characteristics	Percentage (Frequency)
	%(no.)
Gender	
Female	72% (168)
Male	28% (112)
years of experience	
<3	37.1% (148)
3 -	20.5% (82)
6 -	18.2% (73)
10 +	24.2% (97)
degree of educations	
Diploma	24.2% (97)
Bachelor	48.5% (194)
Master	17.4% (70)
PhD	9.8% (39)
ongoing training course	
No	32.6% (130)
Yes	67.4% (269)

Table (2): Frequency distribution of the correct answer of nurses' knowledge obtained by nurses

Knowledge Items	Correct Answer
	% (no.)
Side Effect Of Metoclopramide	35.6% (142)
The Correct Dosage Of Metoclopramide For Pediatric Patients	40.2% (161)
Contraindication Of Metoclopramide	18.4% (74)
Metoclopramide Safe For Which Groups Of The Following:	30.3% (121)
A Dose Of Buscopan For A Child (6-12) Years	22% (88)
A Dose Of Buscopan Appropriate For The Adult	25.8% (103)
Side Effect Of Buscopan	30.2% (121)
Action Of Motilium	24.35% (97)
Side Effect Of Motilium	13.25% (53)
Dose For Motilium In Adult (≥ 12 Years Of Age)	46.2% (185)
Medication Interact With Motilium	15.45% (62)
Action Of Peptazol	34.1% (136)
Side Effects Of Peptazol	35.6% (142)
Long Term Effect Of Using Peptazol	19.3% (77)
Normal Dose Of Peptazol For Adult	25.8% (103)
Medication Interact With Peptazol	12.1% (48)
Medication Increase The Side Effect With Peptazol	28% (112)
Patient Should Not Take Peptazoi	40.2%(161)

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Table (3): Frequency distribution of correct answer of nurses' practices obtained by nurses as regard of some GIT drugs. (n=400)

Practice Items	Correct Answer
	No. (%)
Classification Of Metoclopramide	35 (8.7%)
Nursing Precautions To Administer Metoclopramide	194 (48.5%)
Nursing Measures To Administer Buscopan	100 (25%)
Buscopan Is Not Safe For Which Group	93 (23.23%)
Medication Interact With Motilium	82 (20.45%)
Contraindication Of Using Motilium	80 (20.1%)
Motilium Is Not Safe For Which Group	92 (23%)
Nursing Measures To Give Motilium	152 (37.9%)
What Is The Nursing Consideration Of Peptazol	93 (23.15%)
Contraindication Of Peptazol	139 (34.8%)

Table (4) Regression/Correlation Relationship of Factors Predicting Knowledge Achievement

(Model)	(Un-standardized Coefficients)		(Standardized Coefficients)	(t.)	(Sig.)
	(B)	(Std. Error)	(Beta)		
(Constant.) Score Knowledge	5.171	.487		10.609	.000
1- Gender	-.972	.412	-.205	-2.359	.020
2- years of Experience	.094	.164	.053	.575	.566
3- Degree of education	.043	.218	.018	.196	.845
4- Attend continues training	.395	.400	.087	.989	.324

Dependent Variable: Score Knowledge

Table (5) Regression/Correlation Relationship of Factors determine of Correct Practice

(Model)	(Un-standardized Coefficients)		(Standardized Coefficients)	(t.)	Sig.
	(B)	(Std. Error)	(Beta)		
(Constant) Score practice	2.549	.489		5.215	.000
1- Gender	.385	.307	.109	1.253	.212
2- years of Experience	.192	.119	.144	1.605	.111
3- Degree of education	.230	.159	.129	1.445	.151
4- Attend continues training	-.227	.292	-.067	-.775	.440
5-Score Knowledge	.173	.065	.232	2.663	.009

Dependent Variable: Score practice

VI. CONCLUSION

The study revealed the gap between the knowledge and practices of nurses, as illustrated in the results .The practice is shown to have improvement when training and levels of knowledge are increased. We must focus more on the training and knowledge of female nurses to increase efficiency. The majority of nurses need to know the standard rules for medication, correct dose administration, its action, and drug nursing precautions. The level of knowledge of all nurses that participated in this study regarding side effects and giving correct dose of medication was unsatisfactory, which leads to dangerous practices that may cause death or serious complications. Additionally, the current study suggested that to avoid medication errors, it is necessary to provide ongoing training and education sessions for all nurses on the preparation and giving medication to the patient before reaching the patient, how to verify the correct dosage, evidence-based drug interactions, and facilitation of treatment for nurses. Published universal guidelines and standard precautions described in labels and publications related to drug administration, drug side effects, and how to manage them. Moreover, collaborative interaction with pharmacists, doctors, and nurses will improve nurse information. Should all nurses be alert of the consequences of medication errors.

REFERENCES

[1] Vetrano, D. L., Foebel, A. D., Marengoni, A., Brandi, V., Collamati, A., Heckman, G. A., ... & Onder, G. (2016). Chronic diseases and geriatric syndromes: The different weight of comorbidity. *European journal of internal medicine*, *27*, 62-67.

[2] Woods, A., & Doan-Johnson, S. (2002). Toward a taxonomy of nursing practice errors. *Nursing Management*, *33*(10), 45-48.

[3] Carlton, G., & Blegen, M. A. (2006). Medication-related errors: a literature review of incidence and antecedents. *Annual review of nursing research*, *24*, 19.

[4] Benner, P., Sheets, V., Uris, P., Malloch, K., Schwed, K., & Jamison, D. (2002). Individual, practice, and system causes of errors in nursing: a taxonomy. *JONA: The Journal of Nursing Administration*, *32*(10), 509-523.

[5] Kawamura, H. (2001). The approaches to factors which cause medication error--from the analyses of many near-miss cases related to intravenous medication which nurses experienced. *Gan to kagaku ryoho. Cancer & chemotherapy*, *28*(3), 304-309.

[6] Lindenmayer, D. B., Possingham, H. P., Lacy, R. C., McCarthy, M. A., & Pope, M. L. (2003). How accurate are population models? Lessons from landscape-scale tests in a fragmented system. *Ecology letters*, *6*(1), 41-47.

[7] Balas, M. C., Scott, L. D., & Rogers, A. E. (2004). The prevalence and nature of errors and near errors reported by hospital staff nurses. *Applied Nursing Research*, *17*(4), 224-230.

[8] GHASEMI, F., Valizadeh, F., & Moumennasab, M. (2008). Analyzing the knowledge and attitude of nurses regarding medication error and its prophylactic ways in educational and therapeutic hospitals of Khorramabad.

[9] Moyen, E., Camiré, E., & Stelfox, H. T. (2008). Clinical review: medication errors in critical care. *Critical Care*, *12*(2), 1-7.

[10] Alomari, A., Wilson, V., Solman, A., Bajorek, B., & Tinsley, P. (2018). Pediatric nurses' perceptions of medication safety and medication error: a mixed methods study. *Comprehensive child and adolescent nursing*, *41*(2), 94-110.

[11] Markus Karttunen RN, MNSc, PhDc (2019). (Senior Lecturer, Team Manager)1, Sami Sneck Ph.D., RN (Medication Education and Safety Coordinator)

[12] Carroll, O. T. D. (2015). Cross-Cultural and Inter-Professional Knowledge Translation of Developmentally Supportive Care in an Indian NICU.

[13] Blendon, R. J., DesRoches, C. M., Brodie, M., Benson, J. M., Rosen, A. B., Schneider, E., ... & Steffenson, A. E. (2002). Views of practicing physicians and the public on medical errors. *New England Journal of Medicine*, *347*(24), 1933-1940.

[14] Batra, B., & Shiju, D. J. (2018). Effectiveness of Structured Teaching Programm on Knowledge Regarding Paediatric Emergency Drugs and Calculation of Doses among B. Sc. Nursing Students in Selected Nursing Colleges at Bhopal (MP). Blegen MA, Vaughn T, Pepper G, Vojir C, Stratton K, Boyd M, Armstrong G. Patient and staff safety: voluntary reporting. American Journal of Medical Quality. 2004 Mar;19(2):67-74.

[15] Di Muzio, M., Tartaglini, D., De Vito, C., & La Torre, G. (2016). Validation of a questionnaire for ICU nurses to assess knowledge, attitudes and behaviours towards medication errors. *Ann Ig*, *28*(2), 113-121.

[16] Myrianthopoulos, V., Evangelou, K., Vasileiou, P. V., Cooks, T., Vassilakopoulos, T. P., Pangalis, G. A., ... & Gorgoulis, V. G. (2019). Senescence and senotherapeutics: a new field in cancer therapy. *Pharmacology & Therapeutics*, *193*, 31-49.

[17] Nurit, P., Bella, B. C., Gila, E., & Revital, Z. (2009). Evaluation of a nursing intervention project to promote patient medication education. *Journal of clinical nursing*, *18*(17), 2530-2536.

[18] Luokkamäki, S., Härkänen, M., Saano, S., & Vehviläinen-Julkunen, K. (2020). Registered Nurses' medication administration skills: a systematic review. *Scandinavian journal of caring sciences*.

[19] Klopotowska, J. E., Wierenga, P. C., de Rooij, S. E., Stuijt, C. C., Arisz, L., Kuks, P. F., ... & Smorenburg, S. M. (2011). The effect of an active on-ward participation of hospital pharmacists in Internal Medicine teams on preventable Adverse Drug Events in elderly inpatients: protocol of the WINGS study (Ward-oriented pharmacy in newly admitted geriatric seniors). *BMC health services research*, *11*(1), 1-9.

[20] Adhikari, R., Tocher, J., Smith, P., Corcoran, J., & MacArthur, J. (2014). A multi-disciplinary approach to medication safety and the implication for nursing education and practice. *Nurse education today*, *34*(2), 185-190..

[21] Kaboli, P. J., Hoth, A. B., McClimon, B. J., & Schnipper, J. L. (2006). Clinical pharmacists and inpatient medical care: a systematic review. *Archives of internal medicine*, *166*(9), 955-964.

[22] Gillespie, U., Mörlin, C., Hammarlund-Udenaes, M., & Hedström, M. (2012). Perceived value of ward-based pharmacists from the perspective of physicians and nurses. *International journal of clinical pharmacy*, *34*(1), 127-135.