



Research Article

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Assessment of Nurses Education and Attitudes Toward Patient Safe Medication Administration in Georgia

Manana Machitidze*, Medea Chitashvili, Maia Gogashvili and Nato Durglishvili

The University of Georgia, School of Health Science

*Corresponding author: Manana Machitidze, The University of Georgia, Tbilisi, Georgia.

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Abstract

Background: The role of nurse education in the treatment process is of great importance in ensuring safe patient care. Patient safety and nurse education are directly related, and while the level of nursing education is not up to par, challenges related to patient care are pressing worldwide. Taking this into account, healthcare specialists, both locally and internationally, are focused on improving the qualifications and expertise of nurses.

Aim: To evaluate the education and attitude of nurses in patient safety and how nurses in Georgia use knowledge in practice, in the example of one of the clinics.

Methodology: Quantitative research method. The main characteristic of the target population-nurses working in the clinic-was determined as a criterion for selecting respondents. The data obtained from the respondents were processed in the IBM SPSS program.

Results: Within the research framework, the question was answered: whether the Nurse's competence and attitude influence the process and quality of safe patient care. The results showed that in the said medical facility, nurses' knowledge and patient care were directly proportional to each other-the better the nurses' knowledge about safe patient care, the better the patients' safety was ensured.

Conclusion: The safety of the patient significantly depends on the professionalism of the Nurse, the quality of her knowledge and education, and her attitude toward the issue. Undoubtedly, the higher the level of education, the more it is ensured to create a safe environment for the patient, provide quality medical care, and prevent medical/nursing errors.

Keywords: Nurse, Nurses education, Patient safety, Nurses attitude

Introduction

The patient is an essential figure in the healthcare field; the system's primary goal is the patient's safe care, health improvement, and the provision of quality medical services. "Health care services should be timely, fair, integrated and efficient." [1]. Patient harm is the 14th leading cause of high mortality and morbidity. According to WHO data, out of 421 million hospitalizations worldwide, 42.7 million patients are harmed during treatment in a medical facility. (Ibid) Studies have shown that one in ten patients in high-income countries experience harm (adverse events, errors, incidents) whi

le receiving medical care (hospitalization). 50% of these cases are preventable. Regarding the 26 middle- and low-income countries, the rate of severe/critical events (Adverse Events) was 8%, of which 30% resulted in death, and 83% were preventable. Therefore, the risks of harm to the patient are many and require attention. (Ibid).

Patient safety is one of the critical components of the treatment process. It includes many aspects: creating a safe environment for the patient, gaining trust, following infection control rules (pre-

venting the spread of nosocomial infections), correct diagnosis, appropriate treatment planning, correct delivery of medications, and constant patient monitoring. It is also vital for the medical staff to provide accurate information, which helps the patient assess his condition. "Patient safety means protecting the patient from negative events related to medical care (medical error, harm, discomfort, pain that can be avoided)" [2]. It should be noted here that "patient safety is not only the responsibility of medical staff". It depends on the activities and actions of each member of the clinic, their education, competence, common vision, and attitude to issues related to patient safety and working environment" [3].

"Nurses play a crucial role in healthcare and often become unsung heroes with their quick response in emergencies. They are often the first to face emergencies and provide first aid" [2]. The Nurse is critical in patient safety-she spends the most time with the patient and has complete information about his health. The Nurse must use the available data correctly in the treatment process. The Nurse must assess the patient, maintain documentation, be involved in diagnostic/laboratory studies, administer prescribed medications, provide psychological support to the patient, and show empathy towards him. Among the factors hindering patient safety, it is worth noting nursing errors, which may be caused by insufficient professional skills, lack of staffing, and overloaded work schedules, making it difficult for nurses to cope with their work thoroughly.

According to WHO, every year, millions of patients worldwide suffer from the consequences of errors, and many cases lead to fatal outcomes due to the provision of low-quality and unsafe healthcare services. Many challenges to patient safety require significant interventions [2,4]. Of the challenges discussed by WHO, including medication administration, healthcare-associated infections, unsafe surgical procedures, unsafe injections, and others, most are associated with insufficient knowledge and experience of medical personnel. Medication administration and related errors are one of the common problems. Therefore, when analyzing the risks of safe patient care within the framework of the study, the assessment of the knowledge and attitudes of nurses related to medication administration will be a priority. Medication administration is one of the most significant issues in healthcare, directly related to patient safety, and the role of nurse education is enormous to all of this.

Medical errors often occur in the clinic when providing health services. Five components need to be met for safe care: identifying wrong patient, time, place, and procedure errors; Avoiding errors related to medication delivery; Informing the patient about the rules of medication administration; Reducing/monitoring the risk and incidence of patient falls; Assessment/monitoring of the patient's health status and condition [5].

The patient has medical (competence, correct treatment, correct delivery of medicines) and non-medical (courtesy, compassion and kindness, care, emotional stability, balance, fairness) expectations from the Nurse. Empathy helps build trust between the patient and the Nurse. An actual issue is the role of nurse education.

The Nurse must possess practical communication skills when interacting with the patient. To improve the theoretical and practical skills of nurses, it is necessary to conduct periodic training, which will be aimed both at deepening professional knowledge and developing skills, as well as at providing a safe environment for the patient. In addition to basic education, critical thinking skills are vital in nursing because they are a prerequisite for effective patient care [6]. The level of knowledge and training of nurses has a significant impact on patient safety outcomes. Timely identification of expected risks in obstetric care, awareness of patient safety, and willingness to take preventive measures are higher in nurses with a higher education degree [7]. The use of critical thinking in the modern healthcare system is increasingly relevant. Mere knowledge of the issue is insufficient if critical thinking and analysis skills are not used [6].

The higher the nurses' education level, the fewer patient complications, violations of patient safety rules, safe medication administration rules, and patient deaths. Nurses with higher education are more aware of risks and are actively engaged in evidence-based practice, critical thinking, and clinical reasoning. All of this helps to protect patient safety and reduce or prevent errors [8]. The quality of education, knowledge, and ability to think critically contribute to becoming a competent nurse and acting confidently in the work process [9]. Many problems in this direction are related to outdated literature that lags behind modern standards or is no longer relevant, irregular teachings, and less familiarity with new approaches to patient care, current so-called guidelines, and protocols.

Unfortunately, the problems listed above are still relevant in Georgia. In Georgia, five universities (two only for international students) and 21 vocational schools provide nursing education. It is a paradox, but considering that the tuition fee for the first level of higher nursing education in some higher institutions of Georgia is lower than in professional schools, the number of nursing applicants is higher at the lower level than in higher education. There is no second or third level of higher nursing education (master's degree, doctorate). Of course, this does not mean that nursing care is not highly skilled. They perform their work to a high standard within their competence, although it should be noted that this is achieved with experience and attendance at mandatory training for some clinics. The most important thing that can be observed in their work is the need for critical thinking skills, they are more focused on fulfilling the medical prescription.

Methods

The study was conducted in one of the highly reputable private clinics in Tbilisi, which specializes in emergency cardiological assistance. The study uses a cross-sectional quantitative research design. The inclusion criteria of the clinic were defined as the high referral rate of patients, the volume of the clinic, and the number of employed nurses. The clinic has 180 beds and treats patients in emergency, therapeutic, surgical, and intensive care units. Sixty Nurses are employed in the clinic (N=60). Since the purpose of the

study is to determine the knowledge and attitude of the Nurse and to reveal its connection to the safe care of the patient, all nurses working in the clinic, regardless of age and experience, were invited to participate in the study. The staff of the clinic who did not work as a nurse were excluded from the study.

The questions selected for the study were aimed at assessing nurses' knowledge and attitude toward patient safety and safe care. The questionnaire was anonymous; therefore, the confidentiality of the respondents is protected. All respondents who agreed to participate were included in the study. The developed questionnaire included twenty-three closed-type questions, which the Ethics Board of the School of Health Sciences of the University of Georgia approved. The results were processed in The IBM SPSS program.

Results and Discussion

Sixty out of 60 nurses working in the clinic participated (100%)

Table 1: Respondent s Gender.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	52	86.7	86.7	86.7
	Male	8	13.3	13.3	100
	Total	60	100	100	

Table 2: Education Level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Professional nursing education (college)	56	93.3	93.3	93.3
	Bachelor of Science in Nursing	4	6.7	6.7	100
	Total	60	100	100	

Table 3: Years of Nursing Experience.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 3 years	9	15	15	15
	3-5 years	10	16.7	16.7	31.7
	5-10 years	18	30	30	61.7
	> 10 years	23	38.3	38.3	100
	Total	60	100	100	

Knowledge about patient safety, safe care, correct medication administration, and safe injections. Only 8 out of 60 nurses working in the clinic reported needing information about patient safety and safe care at university or college, which is 13.3%. The remaining 52 nurses (86.7 %) had received the information mentioned in the university/college. Among them, 43 out of 60 nurses (71.7%) reported receiving this information about safe injections during their

(Table 1). Fifty-two are female, representing 86.7%, and the remaining 8 male nurses, representing 13.3%. Of the respondents participating in the study, 14 nurses are in the age group of 20 to 29 years (23.3%). 17-30 to 39 years old category (28.3%). Twenty-two nurses are aged between 40 and 49, 36.7%, and the rest of the respondents-7 nurses- belong to the category between 50 and 59-36.7%. Most nurses received professional nursing education, but only 4 had higher education (bachelor's program) (Table 2). Almost half of the surveyed nurses work in the therapeutic department, their total number is equal to 31, which is 51.7% of the total figure. The next place in the number of nurses is the surgical department, where 19 nurses work, their percentage is 31.7%. Seven nurses (11.7%) work in the intensive care unit. Almost half of the nurses working in the clinic have more than ten years of work experience, and only nine nurses less than three years (Table 3).

studies at university/college. In comparison, the remaining 17 nurses, 28.3%, did not receive this information about safe injections during their studies. Regarding training on patient safety, 43 nurses (71.7%) of the respondents have received training on this issue, and 17 nurses (28.3%) have yet to receive training on patient safety.

The respondents' response regarding the training in safe me-

dication administration is almost similar to the previous indicator. Out of 60 nurses, 48 had received training on this issue, 80% of respondents, and the remaining 12 nurses, 20%, had not. When asked about compliance with the five basic rules of medication administration, 57 nurses (95%) reported that they followed these rules, and the remaining three (5%) reported that they did not.

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In order to get more in-depth information from this study, more detailed questions were asked to nurses about how much they follow the rules of medication administration, what is their attitude towards patient safety and in their daily work, how they start communicating with the patient, what will they do during this process. The purpose of one of the questions was to determine if the nurses of this medical institution provide information to patients about the medicine they provide, for example, what this medicine is used for, how it works, what side effects it can have, what the patient should expect, etc. As a result of data processing, it was found that most nurses-60% (36 nurses)- always provide the patient with information about the medication. Sixteen nurses, which is 26.7% of respondents, sometimes provide. Six nurses (10%) indicated that they rarely provide this information to patients, and two nurses (3.3%) indicated that they never provide information about medications.

When asked whether they know the patient's diagnosis before administering the medication-the number of nurses who know the patient's medical diagnosis before administering the medication is 29, which is 48.3% of the respondents. Seven nurses (11.7%) were unaware of the patient's medical diagnosis. Seventeen nurses (28.3%) were unsure about this issue, and the remaining seven respondents (11.7%) indicated that they do not know the patient's medical diagnosis before administering the medication because it is not their responsibility.

Several questions in the questionnaire were formulated in opinion form, on which the respondents expressed their opinion. The burnout of nurses in medical facilities is one of the severe problems; concerning this issue, nurses were asked whether they think the number of nurses in the clinic is sufficient to ensure patient safety/safe care. There were five different answers to this question. "The number of nurses in this clinic is sufficient to ensure the safety of patients." nurses (8.3% of the respondents) agree with the mentioned proposal, nine nurses (15%) partially agree, and 36.7% of respondents (22 nurses) partially disagree with this opinion. 11 out of 60 nurses disagree entirely and think there are not enough nurses in the clinic. The remaining 13 nurses (21.7%) still need to answer this question. Forty-one nurses (68.3%) ultimately agreed with the proposed question-opinion, "This clinic constantly provides training for new staff," and 12 nurses (20%) partially agreed. As 8.3% of nurses (5 nurses) partially disagreed. One Nurse (1.7%) completely disagreed, thus noting that training of new personnel is not always carried out in this clinic. Furthermore, to the question related to additional training-whether nurses would like to receive more training on the topic of safe patient care-6 different answers were revealed (Table 4).

Table 4: I wish we had more on safe patient care.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	30	50	50	50
	Agree	22	36.7	36.7	86.7
	Disagree	1	1.7	1.7	88.3
	Strongly Disagree	23	3.3	3.3	91.7
	Prefer not to answer	3	5	5	96.7
	I think, I have enough knowledge about it	2	3.3	3.3	100
	Total	60	100	100	

It is interesting to evaluate the Nurse's safe care of the patient in the Mat Clinic. When asked whether the nurses would feel safe (as a patient) in this clinic-71.7% (43 nurses) said they would feel safe while being treated. Eight nurses (13.3%) partially agreed with this opinion. Moreover, the remaining nine nurses (15%) still need to answer. Providing information to the patient about medication is distributed as follows: the age category of nurses between 20-29

years of age who always provide information about medication to patients is 8 out of 14 nurses, and in the same category, the number of nurses who never provide this information to the patient is 2. Out of 17 nurses in the 30-39 age category, ten nurses always provide information about the medication to the patient, never-0. As for the 40-49 age category nurses, 16 out of 22 nurses always explain to the patient what medication they provide and for what purpose,

while in this category, none were found. One such Nurse never gives this kind of information to a patient. Only 2 out of 7 nurses in the 50-59 age category always provide the patient with information about the medication. The Nurse should have explained the medication to the patient in this category.

Teamwork is an essential factor in safe patient care. The assessment of nurses according to different work units is unevenly distributed. In particular, to the question: Do they think that in the clinic where the medical staff works in a mutual agreement, they

work as a team-2 out of 3 emergency department nurses agree with the above opinion and one partially. 7 out of 7 nurses in the intensive care unit think that the medical staff works as a team. Out of 31 nurses in the therapeutic department, 28 agreed with this opinion, one partially, one completely disagreed, and one chose not to answer this question. Out of 34 nurses in the surgical department, 15 agree that the medical staff in the clinic work as a team and mutually agreed, two partially agree with this opinion, 1 completely disagrees, and the remaining one Nurse partially disagrees. (Table 5).

Table 5: Working unit* Do you agree that in the clinic where you work, the medical staff works together as a team? Crosstabulation.

		Do you agree that in the clinic where you work, medical staff works together as a team?					Total
		Strongly Agree	Agree	Disagree	Strongly Disagree	Prefer not to answer	
Working Unit	Emergency	2	1	0	0	0	3
	Intensive care unit	7	0	0	0	0	7
	Therapeutic unit	28	1	0	1	1	31
	Surgical Unit	15	2	1	1	0	19
Total		52	4	1	2	1	60

order to determine whether there is a relationship between the Nurse's education level and patient safety outcomes, a Chi-Square test was performed. Two variables were selected, 1) whether nurses have received training in patient safety, and 2) whether they practice the five basic rules of medication administration to ensure patient safety. 2 hypotheses were assumed. According to the null

hypothesis H (0), the higher the level of education of the Nurse, the higher the probability of safe patient care. According to the alternative hypothesis H (1), a high level of nurse education only sometimes leads to safe patient care. The confidence limit is $\alpha=0.05$, and the Chi-Square test answer is 0.131 (Table 6).

Table 6: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	2.285 ^a	1	0.131		
Continuity Correction ^b	0.73	1	0.393		
Likelihood Ratio	2.008	1	0.157		
Fisher's Exact Test				0.191	0.191
Linear-by-Linear Association	2.247	1	0.134		
N of Valid Cases	60				

Note*:

- a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .85.
- b. Computed only for a 2*2 table.

In order to determine whether there is a relationship between the variables, the data were processed in SPSS and correlational relationships were identified. 3 variables were selected, namely: the level of education of the Nurse, whether the Nurse had received training on medication administration, and the extent to which nurses follow the five basic rules of medication administration. A negative correlation (-0.134) was established between the level of

education and training with medication administration, and a negative correlation was established between the level of education of nurses and those nurses who follow the five rules of medication administration (-0.061). Regarding nurses who have received training in medication administration and follow the five basic rules of medication administration, a medium positive relationship was established between these two variables (0.268*).

The Global Patient Safety Challenge was launched to reduce the risk associated with patient care, improve services, and develop strategies for implementing evidence-based interventions. The global patient safety challenge focuses on issues related to the administration of medicines (and not only), the goal of which is to ensure the safe administration of drugs (in the process of prescribing, supplying, using, and monitoring the treatment), improving and strengthening this system, reducing errors made during the administration of medicines and preventing related harm avoidance.

In addition to the problems mentioned above, one of them is the demotivation of employed professionals to continue their activities because most need more growth potential, the opportunity to deepen their knowledge, and often not decent working conditions and remuneration. The mentioned problems are acute in Georgia, which hinders the development of the nursing profession. For medical personnel implementing health services, constant updating of knowledge is inevitable and essential. Therefore, systematic or periodical training will help them, on the one hand, to deepen their understanding, to adopt modern approaches, as well as to increase their self-confidence, and change their attitude towards work. Because Georgia belongs to the list of countries where the nursing law has not been developed, and most nurses are graduates of professional nursing education, postgraduate education is even more critical. Unfortunately, the situation is not regulated in this direction either it should also be noted that more than the level of education is needed to demonstrate knowledge. Motivation plays an important role. A motivated nurse who does not have a higher education, but systematically attends various types of training, significantly deepens his knowledge. Education, experience, and motivation-form a link necessary for forming a highly professional staff. Several studies have shown that the higher the educational level of a nurse, the lower the mortality in the clinic and the medical errors, the difficulties in admitting mistakes, and the risks of patient safety care. One of the study, conducted by Aiken, L.H., and colleagues, aimed to identify a correlation between the proportion of Registered Nurses (RNs) and the incidence/severity of severe complications in surgical patients, including mortality. The survey showed that 70% of the respondents had a bachelor's degree. A bachelor's degree was associated with a 5% reduction in patient mortality and survival failure. Analyze his study once again concluded that the outcome indicator was lower in hospitals where nurses had a bachelor's degree or higher. However, it should be noted that the experience of the Nurse is no less critical. Interestingly, in 1950, 92% of nurses had graduated from a diploma program, while in 2001, only 3% had graduated, 61% had an associate's degree, and 36% had a bachelor's degree [10]. Analyzing this data, of course, the development of the field and the presence of highly educated staff during these years is evident. However, it is in these data that we can see the importance of experience. That is why there is and always will be a question: education or experience? What is the role of motivation? Or will they all be together? Probably all together. Education will undoubtedly change the attitude of the Nurse toward work. To critically think more, analyze, and act with caution.

That is why each factor is vital for a successful career and becoming a professional. When we talk about education, apart from primary education, training is also meant. It allows persons to "fill" the lack of knowledge, and not only that. The study showed that among nurses with a bachelor's education, there were behaviors such as problem-solving orientation, effective communication, and critical thinking (Ibid). That is why we can safely say that the level of nursing education and the background of nursing education play an essential role. However, we should ignore torrence (accumulated over the years of work) and motivation.

In Africa, specifically in Ethiopia, on March 20, 2018, a study conducted by representatives of the Department of Nursing, Medicine and Health Sciences at the Universities of Danbahar Dar, Axum, and Gondar showed that 89.7% of nurse respondents had a bachelor's degree in nursing. Nurses with a master's degree had better patient safety knowledge than those with bachelor's degrees. According to the few, good knowledge of nurses about patient safety contributed to the formation of correct/positive attitudes of nurses toward patient safety during their care. Some of the nurses had additional training in patient safety. At the same time, some of them were given this information during initial medical and nursing education, and some followed current guidelines and protocols in patient safety-34.9% of the respondents had received patient safety knowledge during initial medical/nursing education. 45.5% received continuing education and 15.5% received training in patient safety [11]. Based on the results of the study, those nurses who had knowledge deficits had similar attitudes. Nurses with up-to-date information about patient safety have greater confidence in patient care, which, based on various evidence, improves the quality of care.

Conclusion

The knowledge and attitude of nurses toward patient safety plays an important role in creating a safe environment for the patient, providing quality medical care, and preventing medical/nursing errors. Among healthcare workers, nurses have a unique role in patient safety, as they are the most often in direct contact with the patient and therefore spend a significant amount of time in the treatment/care process. Therefore, raising their awareness, raising their level of education, and changing their attitude towards patients is necessary to ensure patient safety.

Nursing education plays a critical role in developing necessary thinking skills and competence. Nurses with higher education, such as those with a bachelor's or master's degree, demonstrate more vital necessary thinking skills. Because higher education programs include a broader range of concepts, theories, and evidence-based practices, they foster the growth of critical thinking. Of course, when we talk about critical thinking and competence, experience is an essential factor; the more nursing practice, the more the nurse gets to know and analyze different cases of the patient's health and treatment process. This helps improve their ability to analyze information and make decisions. Through experience, nurses develop

knowledge gained through education, allowing them to apply their knowledge and critical thinking more effectively. It should also be noted that in addition to basic education, continuing nursing education is essential.

To raise and deepen the qualification and knowledge of practicing nurses. Although the vast majority of nurses in Georgia are graduates of professional education, the results of the study also showed that continuing education plays a vital role in the ever-evolving field of nursing. It ensures the competence, adaptability, and critical thinking skills of nurses. As the demands on nurse's increase, it is imperative for them to actively pursue ongoing professional development. By realizing the benefits and value of continuing education, nurses can feel more confident in their practice regarding safe patient care. Enhancing and updating knowledge allows nurses to improve their professional competence.

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Conflict of Interest

There is no conflict of interest. The confidentiality of the respondents participating in the research is protected. Also, the article protects the copyright of the used literature. The style is main-

tained; The source information is not distorted. Financial interest or funding was not used for the research.

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