

## Effectiveness of Professional Nursing Ethics Teaching Program on Knowledge, Attitudes and Practice Issues among Nurses

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### Abstract

**Background:** Nurses are expected not only to have the appropriate nursing skills and knowledge but also to have the ethical and legal standards resulting from the standard practices. **Aim:** The aim of this study was to examine the effect of professional nursing ethics teaching program on Knowledge, attitudes and practice issues among nurses. **Methods:** A quasi-experimental design was utilized. **Setting:** The study was conducted at Zagazig University Emergency Hospital. **Sample:** Seventy staff nurses working in different departments of Zagazig University Emergency Hospital were recruited for the study. **Tools of data collection:** Three tools were used: (1) Nursing Ethics Knowledge Questionnaire, (2) Nursing Ethics Attitude Questionnaire, and (3) Issues in Practice of Nursing Ethics Questionnaire. **Results:** There were statistically significant strong correlations between nurses' knowledge and attitudes of professional nursing ethics after the teaching program, As well as a strong correlation between nurses' knowledge and practice issues of professional nursing ethics after the teaching program. **Conclusion:** professional nursing ethics teaching program has a positive influence in improving staff nurses' knowledge, attitudes and practice issues regarding professional nursing ethics. **Recommendation:** Nurses must actively participate in professional activities to expand knowledge, develop skills, understand the impact of ethical issues, and implement strategies to accomplish desired changes in the work environment while preserving personal integrity and authenticity.

**Keywords:** Attitudes, Knowledge, Teaching program, Professional Nursing, Practice issues.

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### I. Introduction

Nursing ethics is an important part of the nursing profession in holding nurses responsible for patient care within the context of legislation. Nurses are expected not only to have the appropriate nursing skills and knowledge but also to have the ethical and legal standards resulting from the standard practices (1). Ethics are moral principles that attempt to determine what is morally correct and wrong with regard to human action, and have been described in human life as the science of morals and rules of conduct. Ethical principles provide the basis for nursing practice and the basis for decisions taken by nurses regarding the consequences and universal moral principles when making clinical judgments (2).

Beneficence, non-maleficence, autonomy, and justice are the main values of professional nursing ethics that must be followed in all conditions. Benefit means encouraging or doing good. Nurses work to promote the best interests of their clients and to strive for optimum results. Non-maleficence means doing away with harm. Nurses have to maintain a level of professional practice to avoid causing clients harm or distress. The non-maleficence policy also includes disclosing suspected abuse to discourage further victimization and to protect clients from chemically impaired nurses and other professionals of health care. Autonomy stands for independence and self-directedness. (3)

Clients have the right to self-determination and are entitled to decide what happens to them; consequently, competent adults have the ability to consent to or refuse treatment. Nurses have to respect the wishes of patients, even if they don't agree. Lastly, justice requires that all clients receive equal and fair treatment. Nurses face justice issues every day when it comes to organize care for their clients (4-5).

Nursing is regulated internationally by human rights, health-care laws and nursing ethical guidelines (6). Nurses are expected to provide high-quality physical care for patients, ranging from relieving pain to helping patients recover, meeting health promotion goals and ensuring patient and family support (7). All nurses face ethical problems when delivering patient care regardless of their specialty. Ethics is therefore very important for nursing because nurses practice ethics on a daily basis and need help in ethical decision-making, as they practice both traditional and renewed nursing roles. The nurse knows the moral duties and rules required from practicing ethics and could be depended on to participate in certain ethical behaviors (8-9). Ethics training is a mechanism aimed at helping healthcare professionals to understand the role of moral values in their

relationships with the people they serve, the community they work in, colleagues and other healthcare disciplines, and the relevance of such values in their professional identity. (10-11).

**Significance of the Study:**

It is commonly known that nurses face many unique ethical challenges that arise during their patient care routines that cause moral conflicts; this demonstrates the need for nurses to gain knowledge and expertise in the ethical delivery of care (8). Professionalism in nursing not only implies knowledge and skills but also the code of ethics and taking moral positions are essential components of daily nursing practice. Ethics training is one way to help professionals handle ethical dilemmas (9).

**Aim of the study:**

The present study was conducted to examine the effect of professional nursing ethics teaching program on knowledge, attitudes and practice issues among nurses.

Research hypothesis:

There will be a significant difference in the knowledge, attitudes and practice issues regarding professional nursing ethics before and after implementation of the teaching program for staff nurses.

Subjects and Methods:

**Research design:**

A quasi-experimental design was utilized.

**Study setting:**

This study was conducted at the Zagazig University Emergency Hospital which provides a wide spectrum of health services at El Sharkia Governorate in Egypt. This hospital receives emergency cases and injuries 3 days/week from Zagazig City and other near areas, giving care for about 7.5 million people, according to the hospital most recent statistical data. The hospital is occupied with (185) beds.

**Subjects:**

Include staff nurses working in different departments of Zagazig University Emergency Hospital

**Sample size:**

The sample was taken through a proportionate random sampling technique by using a simplified formula  $n = N / 1 + N(e)^2$  provided by Yamane (12). A 95% confidence level and  $P = 0.05$  are assumed for equation. The ideal sample size was 70 staff nurse.

**Tools of data collection:**

A questionnaire sheet was used to collect data for this study and composed of four parts:

Part (1): This covers staff nurses' demographic information such as age, department, education level, and years of experience.

Part (2): Questionnaire on professional knowledge of nursing ethics. The researchers developed this section based on scientific literature (13-14-15-16-17), which attempts to test the knowledge of nurses about professional ethics in nursing care. This consists of 24 multiple-choice questions concerning the awareness of nurses about professional nursing ethics covering seven dimensions, namely: Definition of the code of ethics for nursing (1), principles of professional nursing ethics (14), importance of knowledge of nursing ethics (1), the source of this knowledge and the source of consultation where an ethical problem arises (2), role of the ethics committee (4). Additionally, if they take any informed consent and have attended any medical ethics training previously (2).

The scoring system for the questionnaire consisted of giving a score of one for the correct answer and zero for the wrong answer for Multiple-choice questions.

Levels of knowledge:

The scoring levels were grouped into two categories namely inadequate knowledge ( $\leq 75\%$ ), and adequate knowledge ( $> 75\%$ ). (18). The internal consistency of this inventory was assessed by using Cronbach's alpha coefficient and it was (0.80).

Part (3): Professional nursing ethics attitude questionnaire developed by Chopra et al (19) on the basis of the ethical principles and responsibilities of Indian nurses to evaluate the attitudes of nurses towards core values for guidance and attitudes of nurses towards patients, consisting of 18 statements covering certain areas related to ethical principles and attitudes such as non-maliciousness, and, beneficence, autonomy, justice, confidentiality, and professional responsibility. The nurses' responses 1, 2, 3, 4, 5 for strongly disagree, disagree, not sure,

agree, strongly agree respectively. The instrument's efficiency was calculated using the Cronbach alpha and coefficient, it was (0.90).

**Scoring system:**

The scores were categorized into favorable attitude (participants who scored > 75% on attitude based questions) and unfavorable attitude (participants who scored ≤75% on attitude based questions).

Part (4): Issues in professional nursing ethics questionnaire: The questionnaire was created by Ketefian (20) and consists of several stories about nursing practice that have ethical implications in nurses. The contents of each story represent some kind of dilemma. Several examples of the problem categories include how to address an unreported drug error quality of patient life / death and dying, dispute over the right thing to do, whether to report medical errors or not, managed nursing care issues. In addition, how to respond to unsafe staffing levels.

A number of questions follow each story. The nurses were asked if they agreed or disagreed with certain statements on everyday ethical practices, such as ethical behavior, autonomy, paternalism, confidentiality, informing patients of wrongdoing and informing relatives of the condition of the patient, informed consent and the influence of religious beliefs on treatment. The respondents were asked to rate their answers on a Likert scale ranging from 1 to 5 (respectively strongly disagree, disagree, not sure, agree and strongly agree). The internal consistency of this inventory was tested using the alpha coefficient of Cronbach, and it was (0.84).

**Scoring system:**

The scores were categorized into good practice (participants who scored ≥ 75% on practice based questions) and poor practice (participants who scored <75% on practice based questions).

**Content validity and reliability:**

After the instrument was translated into Arabic, data were collected using a self-administered questionnaire. A jury of experts (5 professors & 7 assistant professors) from academic nursing staff, nursing faculties, Zagazig and Cairo Universities has developed the content and face validity. All the necessary adjustments were made according to their opinions.

**Pilot study:**

A pilot study was conducted on 10 % of the research sample (n=7) before using it to evaluate its accuracy and feasibility. All nurses participating in the pilot study were excluded. An informed consent was received from the entire study sample for inclusion in the analysis. Involvement in the study is voluntary. Each participant may decide to stop the study and withdraw at any time without consequence.

**Field work:**

The study was carried out for six months from the beginning of May to the end of October 2019 as the following:

Preparatory phase: It began with a review of national and international resource of theoretical and empirical literature on the subject of the study using textbooks, articles, magazines, research, and internet search to get a clear picture of all aspects related to the study. The pre-test forms have been given to nurses to determine their training needs regarding professional ethics in nursing. The learning needs of nurses were established based on pre-test results. Accordingly, the program's goals have been set out and the content developed.

Implementation phase: The training program designed for this study was implemented through nine sessions, from which three theory and six practical sessions were held. These sessions lasted 15 hours; 3 theory hours (one hour for each theoretical session); and 6 practical sessions (two hours for each practical session). Having the whole number of nurses at the same time was difficult so the nurses were classified into five groups each group consisting of about 14 nurses. All sessions were repeated to the five main groups until 70 nurses completed the entire 15-hour instruction period.

The program includes two main parts, the first theoretical part covers knowledge of professional nursing ethics, such as: concept of ethics, nursing code of ethics, importance of ethics in the nursing profession, role and importance of hospital ethics committee, ethical dilemma, ethical decision-making, ethical and legal aspects of nursing principle, how to prevent ethical and legal problems in nursing, and obstacles of applying professional ethics. The second part is practical in the form of giving nurses situations regarding professional ethics in nursing. The data were gathered during morning and afternoon shifts for four days / week. The time each staff nurse needed to complete each sheet varied from 25 to 30 minutes.

The researchers used different teaching approaches to attract the attention of nurses and to inspire them to participate, such as seminars, group discussion and brainstorm. The teaching media included: power point, white blackboard and a copy of the program which covered theoretical and practical information about professional nursing ethics.

**Evaluation phase:** The impact of the educational program was measured during this phase; it was carried out immediately after the program was introduced and followed up after 3 months of implementation using the same method formats used before the program was implemented.

**Administrative and ethical considerations:**

Before the research started, ethical approval was given by the Scientific Research Ethics Committee at the Faculty of Nursing-Zagazig University, and by the hospital's medical and nursing directors and the unit head nurses after describing the study's purpose.

**Statistical design:**

All data were collected, tabulated, and statistically analyzed using version 20.0 of the Social Science Statistical Package (SPSS), quantitative data were expressed as mean ± SD and range, and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). Paired t-test was used to compare normally distributed variables between two dependent groups. P.

Pearson correlation coefficient has been determined to determine the relationship between different variables of the sample,(+) sign indicates direct correlation and-) (sign indicates reverse correlation, even values close to 1 indicate strong correlation and values close to 0 indicate weak correlation. All testing was two-sided. P-value < 0.05 was deemed statistically significant (S), and p-value < 0.001 was considered highly statistically significant (HS), and p-value ≥ 0.05 was considered statistically insignificant (NS).

**II. Results**

**Table 1:** Frequency and Percentage Distribution of Nurses According to their Demographic Variables. (n = 70)

Demographic variables	No	%
<b>Age (in years)</b>		
<25	16	22.9
≥30	54	77.1
<b>Expeirience(in years)</b>		
>5years	14	20.0
10 ≤years	56	80.0
<b>Qualification</b>		
Diploma	50	71.4
technical institute	20	28.6
<b>Department</b>		
Neurological Unit	5	7.1
ENT Unit	5	7.1
Surgical Unit	14	20
Orthopedic Unit	21	30
ENT	1	1.4
Operating room	8	11.4
Casualty and Emergency Unit	13	18.7
Infection control	1	1.4
Cardio vascular Unit	2	2.9

Table (1): depicts that 77.1% of nurses aged more than or equal to 30 years. As well, the highest percentages of nurses had experience for more than 10 years, had Nursing diploma, and were working in orthopedic unit (80%, 71.4 %, & 30%, respectively).

**Table (2): Level of Nurses' Knowledge Regarding Professional Nursing Ethics Through the Program (n = 70).**

Knowledge	Time						Paired t- test 1	p-value	Paired t- test 2	p-value
	Pre intervention		Post intervention		3 months post program					
	No	%	No	%	No	%				
Inadequate knowledge	45	64.3	5	7.1	10	14.2	16.9	<0.001*	13.45	<0.001*
Adequate knowledge	25	35.7	65	92.9	60	85.8				
Mean ±SD Range	21.1±3.5 16-27		26.5±2.2 19-28		24.7±4.2 17- 26					

Highly significant p<0.001

**Table (2):** demonstrates that, there was a highly significant differences in knowledge level of staff nurses during three phases of the program; pre, immediate post program, and follow up after three month p<0.001, where their knowledge was inadequate among 64.3% of the studied nurses and improved to be adequate among 92.9% of them at immediate post and still adequate among 85.8 % at follow up after three months.

**Table (3): Level of Nurses' Attitude Regarding Professional Nursing Ethics Through the Program (n = 70).**

Attitude	Time						Paired t- test 1	p-value	Paired t- test 2	p-value
	Pre intervention		Post intervention		3 months post program					
	No	%	No	%	No	%				
Unfavorable attitude	60	85.7	5	7.1	10	14.3	10.4	<0.001**	8.86	<0.001**
Favorable attitude	10	14.3	65	92.9	60	85.7				
Mean ±SD range	53.5±13.8 31-80		75.3±11.6 36-90		69.2±12.7 34-85					

**Table (3):** displays that, 85.7% of studied nurses had unfavorable attitude regarding professional nursing ethics at the pre-intervention phase, these were enhanced at the post-intervention phase, where 92.9% had favorable attitude, and still favorable among 85.7 % at follow up after three months. Moreover, there was highly statistically significant differences of nurses' attitude regarding healthcare ethics during three phases of the program; pre, immediate post program, and follow up after three months (p<0.001).

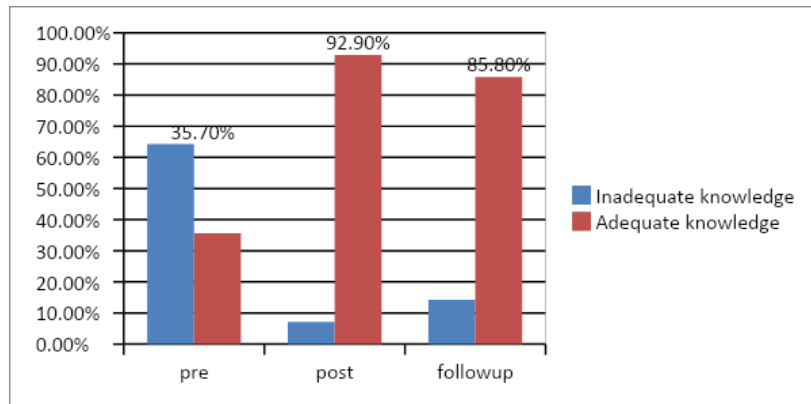
**Table (4): Level of Practice Issues Regarding Professional Nursing Ethics among Nurses Through the Program (n = 70).**

Practice	time						Paired t- test 1	p-value	Paired t- test 2	p-value
	Pre intervention		Post intervention		3 months post program					
	No	%	No	%	No	%				
Poor practice	54	75.3	10	14.3	17	21.45	7.2	<0.001**	5.95	<0.001**
Good practice	16	24.7	60	85.7	53	78.55				
Mean ±SD Range	49.9±5.4 40-58		64.5±14.7 16-80		58. ±9.8 18-75					

**Table (4):** shows that (75.3%) the studied nurses had poor practice level regarding professional nursing ethics at the pre-intervention phase. These were upturned at the post-intervention phase, where 85.7% had good practice level, and still good among 78.5 % at follow up after three months. As well, there was a highly

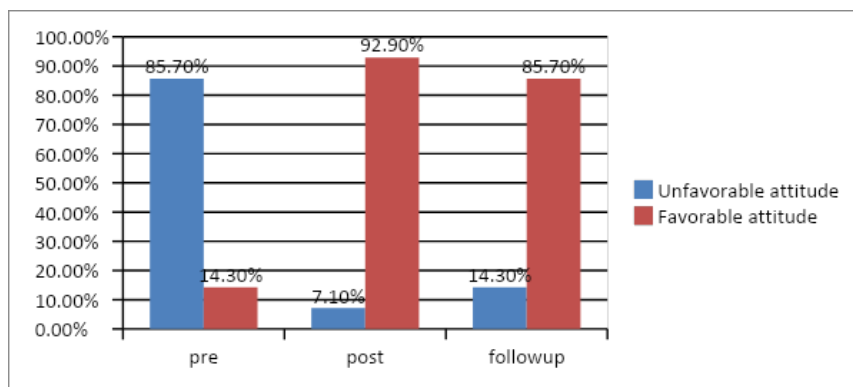
statistically significant difference in practice issues regarding healthcare ethics among staff nurses during the three phases of the program implementation ( $p < 0.001$ ).

Figure(1): Illustrates that there was highly statistically significant improvement in level of nurses' knowledge regarding professional nursing ethics at pre, post and three months later program intervention where 92.9% and 85.8% of them had an adequate knowledge immediate post and three months later at follow up the program respectively compared to Preprogram scores (35, 7%).



**Figure (1): Knowledge Level of Studied Nurses about Professional Nursing Ethics Pre, Post, and Three Months Post Intervention Program.**

Figure (2): shows that there were highly statistically significant improvement in level of nurses' attitudes regarding professional nursing ethics pre, post and three months later program intervention. Where 92.9% and 85.7% of them had a favorable attitudes immediate post and three months at follow up the program respectively compared to preprogram scores (14.3%).



**Figure (2): Attitude Level of Studied Nurses about Professional Nursing Ethics Pre, Post, and Three Months Post Teaching Program.**

Figure (3): presents that there were As well, there were highly statistically significant improvement in level of practice issues regarding healthcare ethics pre and post and three months later Teaching Program among staff nurses. Where 85.7%, 78.5 of them had a good practice immediate post and three months follow up the program respectively compared to preprogram scores (24.7 %).

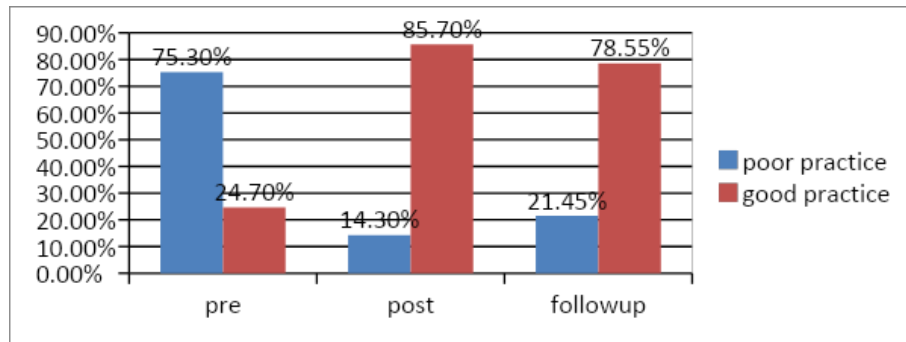


Figure (3): Practice Level of Studied Nurses about Professional Nursing Ethics Pre, Post, and Three Months Post Teaching Program.

Table (5): Correlation between Nurses' Knowledge and Attitudes of Professional Nursing Ethics pre & post program intervention (n =70)

S. No	Scores	Knowledge of healthcare ethics		Attitudes of professional nursing ethics
.1	Pre training		0.028	
.2	Post training		0.327	
			P-Value=0.006**	

Table (5): reveals that, there is a statistically significant strong correlation ( $r = 0.327$ ) between nurses' knowledge and attitudes of professional nursing ethics after the teaching program  $p < 0.006$ .

Table (6): Correlation between Nurses' Knowledge and Practice Issues of Professional Nursing Ethics Pre & Post Teaching program (n =70)

S. No	Scores	Knowledge of healthcare ethics		Practice issues
.1	Pre training		0.235	
.2	Post training		.576	
			P-Value=0.001**	

Table (6): shows that, there is a statistically significant strong correlation ( $r = 0.576$ ) between nurses' Knowledge and practice issues of health care ethics after the teaching program ( $p < 0.001$ ).

Table (7): Association between Nurses' Post Knowledge Scores of Professional Nursing Ethics and their Socio Demographic Characteristics (n=70)

	Knowledge level post intervention			No.	$\chi^2$	p-value
	inadequate	moderate	Adequate			
	No (%)	No (%)	No (%)			
<b>Age in years</b>						
<25 years	0	0	16 (100)	16	20.7	<0.001
≥25 years	5 (9.2)	30 (55.6)	19 (35.2)	54		
<b>Experience</b>						
≤5years	0	0	14 (100)	14	17.5	<0.001
>5years	5 (8.9)	30(53.6)	21 (37.5)	56		
<b>Qualification</b>						
Diploma	0	15 (30)	35 (70)	50	33.3	<0.001
technical institute	5 (25)	15 (75)	0	20		

Department										
Neurological Unit	▪	1	1.4	0	00	4	5.7	5	24.6	<0.001
ENT Unit	▪	0	00	2	2.8	3	4.2	5		
Surgical Unit	▪	2	2.8	3	4.2	9	16.5	14		
Orthopedic Unit	▪	4	5.7	7	9.9	1	15.6	21		
ENT	▪	0	00	0	00	1	1.4	1		
Operating room	▪	1	1.4	1	1.4	6	8.1	8		
Casualty and Emergency Unit	▪	0	00	4	5.7	9	16.5	13		
Infection control	▪	0	00	00	00	1	1.4	1		
Cardio vascular Unit	▪	0	00	1	1.4	1	1.4	2		

$\chi^2$  (Chi square test)

The findings of the above table shows that significant associations are found between knowledge of nurses on professional nursing ethics after the teaching program and their demographic variables ( $p < 0.001$ ).

**Table (8): Associations Between Practice issues, Attitudes level of Professional Nursing Ethics and Socio Demographic Characteristics at Post Intervention Phase Among the Studied Nurses (n=70)**

	Post teaching practice issues				Post teaching attitude				No.
	poor		good		Unfavorable		Favorable		
	No(%)	No(%)	No(%)	No(%)	No()	No(%)	No()	No(%)	
<b>Age</b>									
<25 years	0		16(100)		0		16(100)		16
≥25 years	10(18.5)		44(81.5)		5(9.3)		49(90.7)		54
F test P - value	0.1				0.58				
<b>Experience</b>									
≤5years	0		14(100)		0		14(100)		14
>5years	10(17.9)		46(82.1)		5(8.9)		51(91.1)		56
F test P - value	0.19				0.57				
<b>Qualification</b>									
Diploma	0		50(100)		0		50(100)		50
technical institute	10(50)		10(50)		5(25)		15(75)		20
F test P - value	0.0001				0.001				
<b>Department</b>									
Neurological Unit	1	1.4	4	5.7	2	2.9	3	4.3	5
ENT Unit	1	1.4	4	5.7	1	1.4	4	5.7	5
Surgical Unit	2	2.9	12	17.1	2	2.9	12	17.1	14
Orthopedic Unit	2	2.9	19	27.1	4	5.7	17	24.3	21
ENT	1	1.4	3	4.3	2	2.9	2	2.9	1
Operating room	1	1.4	3	4.3	2	2.9	2	2.9	8
Casualty and Emergency Unit	2	2.9	11	15.7	3	4.3	10	14.3	13
Infection control	0	0.0	1	1.4	0	0.0	1	1.4	1
Cardio vascular Unit	0	0.0	1	1.4	0	0.0	1	1.4	2
F test P - value	0.02				0.001				

f= Fisher exact test  $p < 0.05$  significant

This table declares that there are highly statistically significant associations found between nurses' attitude and practice issues regarding professional nursing ethics and their qualifications and departments. However, no significant associations are detected with their age and experience years ( $p > 0.05$ ).

### III. Discussion:

Nursing is a medical science field and its mission is to provide quality care essential for the security and enhancement of social health. Nurses face certain ethical problems when taking care of patients; therefore one of the most vital issues in nursing education is the learning of ethical principles. Knowledge in nursing has been substantially established and focuses on the technical competences Jolaei, et al. (2015) (21).



In medical settings, the nurses faced significant difficulties that sometimes these challenges are so complex, and they can affect their performance. Ethical practice is a basic component of professional care for patients, and nurses in different positions need to conduct their practices in the nursing profession on the basis of common unit standards and professional ethics, particularly in healthcare, the potential impact on well-being of patients is very significant Numminen, et al. (2016) (22). The nurses must therefore have the awareness and develop their attitudes and procedures regarding professional ethics in nursing.

With regard to the awareness of professional nursing ethics of staff nurses, the results of this study showed that there were highly statistically significant differences in the level of knowledge of staff nurses during the three phases of the program; pre-, immediate post-program and follow-up after three months, where their knowledge was inadequate among more than two-thirds of them and improved To be adequate in the majority (92.3%) at immediate post and still adequate in the majority (85.8%) at follow-up after three months.

The researchers believe this could be due to the staff nurses being motivated to learn about nursing ethics and being able to easily acquire knowledge. In addition, the program has been successful in enhancing and improving their awareness of professional nursing ethics that challenges nurses at work with ethical principles such as autonomy, welfare, truthfulness, fairness, loyalty and trust.

In line with the previous findings of Khandan et al. (2015) (23), who conducted a study to evaluate the impact of nursing ethics codes on the awareness and attitude of nurses towards ethical issues in hospitals in South-East Iran, and found that the knowledge of nurses about ethical codes in experimental group after intervention improved significantly Similarly, Gocmen et al. (2014) (24) who stated that education in ethics enhances awareness of moral issues and ethical decisions of student nurses. Zakaria et al. (2016) (25) also reported that the teaching program on ethical issues has a positive effect on improving knowledge of nurses.

As regards the attitudes of nurses towards professional nursing ethics prior to, immediate post, and after 3 months of training, the current study findings showed that there were highly statistically significant differences in attitudes of nurses with regard to professional nursing ethics during three phases of the program; pre-, immediate post-program and follow-up after three months, Where their attitudes were unfavorable among the majority of them (85.7%) and where they changed to be favorable among the majority of them (92.9%) in the immediate post and still favorable among the majority of them (85.7%) in the follow-up after three months.

This could be attributed to the educational program that enhanced the willingness of nurses to know and enhanced attitudes to their ethics codes. Nurses also learned how to defend themselves from work-related legal aspects. The researchers therefore suggest that managers and planners should pay attention to the codes of ethics training as an important factor in nursing education.

In the same context, Khandan, et al. (2015) (23) reported that the attitude of the experimental group after the ethics education program had a positive and significant effect. Moreover, Relf, et al. (2015) (26) assumed that one of the most positive effects of nursing ethics codes education is developing the attitudes and beliefs of nurses for the creation of ethical behaviors. Moreover, Grundstein, et al. (2016) (27) have stressed that ethical training programs have a significant influence on the conduct of nurses with respect to ethical issues. Jolae, et al. (2015) (21) used a new design in training ethics in a similar study, and found that education in ethics advanced the attitudes of nursing students. The research of Gocmen et al. (2014) (24) found significant improvement in the awareness of ethical principles and moral sensitivity in experimental group.

The current research findings showed that, in the pre-teaching program period, most of the nurses evaluated had poor level of practice about professional nursing ethics, while most had good practice level in the post of program teaching process and after three months. For addition, there was also a very statistically significant difference in the ethics of healthcare.

The researchers attribute these results to the educational course, which included practical sessions on various ethical issues facing nurses in their work environment and how to cope with these problems, which in turn improved their level of knowledge and attitudes towards ethical issues, resulting in an increased level of professional ethics practices. Furthermore, increased awareness of ethical issues among nurses also helped them practice professional ethics and made more difficult decisions based on deciding right and wrong.

Such previous results are in line with that of Hafez, et al. (2016) (28) & Akbari and Taheri (2015) (29) which found that most nurses had insufficient patient ethics practice. In addition, Adhikari et al. (2016) (30) who conducted a study in Nepal to examine the current state of healthcare ethics knowledge, attitude and practice among resident doctors and nurses in a tertiary teaching hospital and confirmed that nurses were unaware of major healthcare ethics documents. Moreover, Bilal et al. (2017) (31) who conducted a study to assess the impact of the integrated ethics program on the awareness and performance of nurses at health centers in rural Fayoum region Egypt, and reported that there was a significant difference between pre- and post-program performance of nurses. That finding was agreed with that of Ellis(2014) (32) who believed that most nurses had good practices to protect the secrets and privacy of the patient. On the other hand, these results were incongruent with those of Smith et al. (2013) (33) conducting a study on the experience of New Zealand nursing students with ethical issues in clinical practice.

The results of this study suggest that after the education program, there was a statistically significant strong correlation between the knowledge of nurses and the attitudes of professional nursing ethics. This may be due to the fact that acquiring knowledge and providing knowledge base is an essential requirement for improving the attitudes of nurses, which means that improving the knowledge of nurses after program leads to an improvement in their attitudes of ethics in the health care. This result was in line with that of Zakaria et al (2016) (25) who found that knowledge was strongly correlated.

In the same direction, Aghdamet et al. (34) showed that in order to direct performance nursing profession requires knowledge of ethics. In this regard, Iglesias and Vallejo (2014) (35) indicated that insufficient exposure and/or inadequate knowledge of ethics in nursing education programs has been cited as leading to poor socialization of nurses in terms of their ethical roles and lack of commitment to ethics as professionals. The nurses believe that knowledge of ethics is necessary because they guide nursing practices and identity. As well as, nurses who lack experience is unable to prevent harm to patients.

Findings from this research also found that, after the training program, there is a statistically significant strong correlation between the knowledge of nurses and the practice issues of nursing ethics. This suggests that increasing the degree of ethical competence will enhance practical issues; therefore the researchers suggest that nursing practice must be dependent on reliable evidence, and nursing education must provide practitioners with the skills to confront current practices.

The forgoing finding was compatible with that of Abd-Elrhaman and Ghoneimy (2019) (36), who found that the overall awareness of staff nurses and complete practices about professional nursing ethics immediately after the program had positive statistically significant correlation. Additionally, after the teaching program, Zakaria et al. (2016) (25) suggested that there was a strong correlation between nursing ethics knowledge and ethical behavior. Hassan et al. (2015) (37) and Hafez et al. (2016) (28) have found that there was a statistically significant association between the knowledge and practice of nurses with respect to professional ethics. Such earlier results are consistent with those of El-Emand et al. (2016) (39) confirmed that a statistically significant relationship existed between the knowledge of nurses and professional nursing ethics practices. Also, Risjord(2011) (40) who asserted that nursing ethics practice has a strong, organic relationship with awareness of nursing and nursing values and action. In this regard, Osingada et al. (2015) (41) found that ongoing ethical education of nurses was necessary for a sustainable, high standard of ethical awareness among health care nurses in Uganda. As well, Harrowing and Mill (2010) (42) declared that Ugandan nurses require ethical education sessions to help them in addressing the problems their nursing practice faces. Moreover, Su et al. (2012) (43) Concluded that the majority of nurse respondents in China indicated that education in nursing ethics was mandatory for all health-care personnel. Nevertheless, Subedi et al. (2018) (44) Timilsina (2017) (45) stated that no significant relationship existed between level of knowledge and the current practice of complete professional ethics.

As regards the correlation between the post-training awareness scores of nurses on professional nursing ethics and their demographic variables, the results showed that statistically significant associations are identified between the knowledge of nurses after the training program on professional nursing ethics and their demographic variables (age, experience, qualification and department). This could be clarified as age plays an important role with the awareness of nurses regarding ethics by level of qualification and accumulation of experience.

This interpretation is supported by several researches carried out by Anup et al. (1),Aliyu et al. (2015) (46),Hassan et al. (2015) (37),Elemam et al. (2015) (38),Timilsina (45) (2017) and Abd- Elrhaman and Ghoneimy(2019) (36) who Reported that the knowledge of nurses and their demographic variables are linked. Younger nurses reported an increased frequency of encountering ethical problems compared to experienced and senior nurses with few years of experience. In this background, it has been stated that greater satisfactory knowledge has been correlated with older age.

In a similar study, conducted by Hafez et al. (2016) (28) mentioned that the knowledge scores have a statistically significant correlation with the age, years of experience and work environment of nurses, while their practices have not been affected by their personal and job characteristics. On the other hand, Subedi et al. (44) and Zakaria et al. (2016) (25) found that nurses ' knowledge of nursing ethics with selected demographic variables is not significantly associated

The present findings of the study revealed that there are important correlations found between the attitudes of nurses and issues of practice with regard to nursing ethics and their qualifications and departments while there are no clear connections with their age and years of experience. This findings show that highly educated nurses will have a high level of nursing ethics attitudes and practices. Researchers also agree that there are many factors that affect nursing ethics attitudes and practices rather than age and years of experience, such as preparation, unit managerial style, guidance and communications.

Such results contradict those of El-Emam et al (2016) (38), which found that there was no statistically significant correlation between the overall professional ethics practice of the nurse and any demographic characteristics. In comparison to Chopra et al. (2013) (19) who claimed that there were statistically significant relationships between nurses' attitudes to ethics and their increase.

#### **IV. Conclusion:**

The findings of this study concluded that, after the program was introduced, there were statistically significant enhancements in the knowledge attitudes and practices of staff nurses about professional nursing ethics.

#### **V. Recommendations:**

The following suggestions are proposed, based on the results of the current study findings:

Hospitals must carry out on - the-job training as well as continuing education to discuss basic concepts in nursing ethics and their implementation in clinical practices to improve the knowledge attitudes and practices of nurses on professional ethics in nursing.

Nurses must engage actively in professional activities to broaden awareness, develop skills, understand the impact of ethical issues and adopt strategies to achieve desired changes in the work situation while retaining personal integrity and authenticity.

Nurses must be representative on institutional ethics committees with full involvement in all decisions related to their work setting.

Each hospital must implement interdisciplinary strategies to recognize and define experiences of ethical problems among nurses.

Regular review and assessment of the performance of nurses in relation to ethical behavior, to ensure its compliance by clear evaluation sheets for professional ethics.

Further researches: on professional nursing ethics and patient' rights should be carried out.

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