

Effect of an Educational Program on Enhancing Nurses' Knowledge and Their Compliance with Ethics in Maternity Health Services

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Abstract The study aimed to investigate the effect of an educational program on enhancing nurses' knowledge and their compliance with ethics in maternity health services. **Design:** Quasi-experimental study. **Setting:** The study conducted at the obstetrical and gynecological departments at the Mansoura University Hospital, Egypt. **Subjects:** consisted of sixty-five nurses who worked at the previous mentioned setting from January 2019-April 2019. **Type of sample:** Purposive sampling. **Tools:** Self-administered structured questionnaire, an observational checklist for the code of ethics to assess nurse's compliance with ethics in maternity health services, likert scale to assess nurse's satisfaction & nurses' self-reported barriers. **Results:** The current study results showed that there was significant improvement of the total score of knowledge after implementing the program (15.06 ± 1.07) in comparison to before (11.53 ± 2.08). In addition, the majority of nurses were complying with the nursing code of ethics during implementation of the duty of care & health instructions for women, communication skills and reporting & equipment processing. The most common barriers facing the nurses were shortage in nursing staff, work overload and emergency situations by 63.1%, 53.8% and 49.2% respectively. There was a highly statistically significant relation between the total knowledge score & nursing code as well as there was a highly significant improvement between barriers nursing duty of care & health instructions and communication skills $p \leq 0.001$. Also, there was a significant difference between barriers & post intervention equipment processing $p \leq 0.05$. The majority of nurses were satisfied with the educational program. **Conclusion:** The majority among the studied sample had a highly significant improvement post-intervention compared to pre-intervention regarding nurse's knowledge and their compliance with nursing ethics at the maternity health services, additionally there was a highly statistically significant relation between the total knowledge score & nurses compliance with nursing code of ethics. Also, the shortage in nursing staff was the main barriers that prevented the nurses to comply with nursing ethics at maternity health services. **Recommendation:** Design and implement a nursing ethics protocol and guideline to enhance nurse's compliance with the ethical issue at maternity health services.

Keywords: compliance, educational program, ethics, maternity health services

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1. Introduction

Ethics are defined as a section of philosophy that investigate what our behavior ought to be in relation to ourselves, human being and the external environment [1]. Ethical and legal foundations produce a framework for recognizing the proper incorporation of reproductive information and its translation into healthcare practice. Likewise, described the ethical, social and legal concerns as they relate to healthcare provider commitments, ethical and legal concepts such as obtaining informed consent,

confidentiality, the obligation to caution, and genetic testing, are themes exhibited [2].

The ethics indeed refers to both desirable and undesirable actions, attributes, habits, and activities [3]. Of the most significant human rights and ethical standards in the domain of nursing practice is recognition of patient rights. Consequently, nurses must have enough information and the necessary fundamental aptitudes and skills to respect the patients' rights [4].

The ethical values offer a framework for assessing the attitude, and nursing values that impact the nurses' objectives, actions, and strategies. Nurses as one of the health care providers and member in the health care

system who are in charge of offering care to the clients and patients dependent on the ethical issues. They in need for the ethical knowledge to lead their suitable capacity to manage situations and to give proper and safe legal and ethical care in the present evolving world. Ethics look for the most ideal method for dealing with the patients as well as the best nursing capacity and function [5].

Furthermore, maternity nursing is an exciting and dynamic area of nursing practice. With that excitement comes issues related to ethical challenges, high rates of cases and litigation in obstetrics, and the challenge of practicing safe and evidence-based nursing care that is responsive to the necessities of women and their families [6]. Additionally, ethics involved identifying what is good, right and fair. Ethical issues emerge each day in the healthcare and everybody has a role to carry out in guaranteeing the ethical delivery of care. Health care givers, particularly perinatal and neonatal nurses, face ethical issues, possibly because of their interactions with women in the reproductive age groups [7]. Maternity care providers and clinicians had a lack of understanding of women's autonomy in decision-making has been recognized as a certain barrier to shared decision-making [8].

Compliance originate from the Latin word *complier*, which means to fill up and hence to complete an action, transaction, or process and to fulfil a promise. According to the *Oxford English Dictionary*, the relevant definition is the acting in accordance with, or the yielding to a desire, request, condition, direction, etc.; a consenting to act in conformity *with*; an acceding *to*; practical assent. Or the act of complying with a wish, request, or demand; acquiescence [9].

Compliance with the principles and the ethical codes of maternity services would result in providing fair treatment/care, protecting patients from unnecessary risks, enhancing recovery, improving and increasing patient's pain tolerance level, reducing women's anxiety, making motivation for the patient to have a better cooperation with the medical team, reducing treatment costs, increasing satisfaction and strengthening mutual trust between the therapist and the patient [10].

Moreover, nurses are accountable for integrating the ethics during their daily practices and duties. Given the intricacy of the ethical issues and situations, the code can just framework the nurses' ethical responsibilities and guide them in their decision-making [11]. There are other elements are necessary in ethical practices for example a commitment to do well, an affectability and responsiveness to ethical and moral issues, and an eagerness to develop relationships with people who have healthcare problems and needs. Practice situations have an impact on the nurses' ability to be successful in keeping the ethics of their practices [12].

Maternity nurses, as the providers of a comprehensive scope of health services such as maternal and neonatal care, counseling, family planning, labor, and management of the gynecological problems, they must be attentive about their legitimate and ethical commitments [13]. Maternity nurses are responsible for the safety of women and supporting their empowerment. Therefore, they would encounter many important ethical issues during their professional activities [14,15].

1.1. Significance

Nursing ethics is an interdisciplinary subject and its content is moral values of nursing. It offers the standards and norms of professional behavior for nurses and the rules of knowledge right from a wrong conduct during the application of nursing obligations and duties [16]. Therefore, the necessity of compliance with the moral values and the uniformity in care and the treatment behavior are of critical importance [17]. Ethical performance is one of the main factors in providing quality care to women. It is necessary for the health care personnel, at any position of service, to base their performance on common values which are indicators of their loyalty to the society and their profession as well [18].

One of the main problems, that facing maternity nurses in the workplace were the legal and ethical topics. Because of the advances in different fields of the maternity care specialties, including contraception, IVF, abortion, oncology centers, critically ill patient department and infertility, the legal and ethical issues have developed and expanded [19]. Therefore, the first step in preventing entanglement in legal issues is improving ethical awareness of the ethical issues and the nursing compliance with the ethical principles [20]. Moreover, at maternity health services, observing the legal and ethical issues among the nurse's professional practices must be emphasized [13].

1.2. Aim of the Study

The study aimed to investigate the effect of an educational program on enhancing nurses' knowledge and their compliance with ethics in maternity health services.

1.3. Hypothesis

Implementation of an educational program was expected to enhance nurse's knowledge and their compliance at the maternity health services.

Research Design: Quasi-Experimental study design (pretest & posttest) was used.

Setting: The study was conducted at the obstetrical and gynecological departments, Mansoura University Hospital, Egypt.

2. Subjects

2.1. Sample Type & Size

Purposive sample included 65 nurses who are working in the previously mentioned setting & met inclusion criteria.

2.2. Inclusion Criteria

1. Age more than 20 year and less than 40 years.
2. Nurses who provided direct patient care.

2.3. Exclusion Criteria

1. Nurses who provide administrative direct services, supervisors, assistant director.

2.4. Operational Definition

Compliance: is the act of complying with willingness following the ethics.

2.5. Data Collection Tools (DCT)

Four tools were utilized for the purpose of this study

First tool: Self-administered Structured Questionnaire established by the researchers after revising the related literatures and written in Arabic language, it included three parts:

First part was used to assess the nurse's general characteristics, age, education, years of experience, and area of residence.

Second part: assessing nurses' knowledge's related to nursing ethics included 13 questions concerning the concept, importance, principles of nursing ethics at maternity health services as well as nursing role while. Each question was scored as two for the correct answer and one for the incorrect answer.

Tool II: An Observational Checklist for the Code of Ethics [21]

The Canadian Nurses Association (CNA) Code of Ethics for Registered Nurses which is a statement of the ethical values of nurses and of nurses' commitments to persons with health-care needs and persons receiving care, Nursing Values and Ethical Responsibilities were categorized into (Providing Safe, Compassionate, Competent and Ethical Care- Promoting Health and Well-Being - Promoting and Respecting Informed Decision-Making - Honoring Dignity- Maintaining Privacy and Confidentiality- Promoting Justice and Being Accountable). An observational checklist was utilized to assess nurse's compliance while providing nursing ethics at maternity health services which included sub item 28 items; it was designed by the researchers in English language to assess nurse's compliance with nursing of ethics during their daily practices at maternity health services. The observational checklist was assessed as comply or not comply, it evaluated as 2 score for comply practical skills & 1 score for not comply.

It was consisted of 3 parts as the following:

Part 1: Application of ethics during duty of care & health instructions for women (12 item)

Part 2: Ethics during communication skills and reporting (11 item).

Part 3: Ethics during equipment processing (5 item)

Third tool: Likert Scale: It developed by the researchers after revising the interrelated literatures. Concerning the implementing nursing ethics program nurses' satisfaction assessed by Likert scale, each nurse was instructed to respond to each item as satisfied, uncertainly satisfied and not satisfy. It was consisted of 9 statements; each statement was evaluated as satisfied, uncertainly satisfied and not satisfied. Nurses' satisfaction was evaluated as 3 scores for satisfied, 2 score for uncertainly satisfied & 1 score for not satisfied.

Forth tool: Nurses' Self-Reported Barriers: It was developed by the researchers and filled by the nurses to assess the barriers that facing them while implementing the nursing duties at maternity health services and prevent them to integrate nursing ethics at maternity health

services. Each item has two probable answers with scores (one for no and two for yes answer).

2.6. Development of the Study Tools

2.6.1. Content Validity

The researchers revised the recent literature related to the present study title and reviewing the current national and international articles and scientific journals. Then design tools of data collection. Tools were reviewed by three experts in maternity nursing field-tested the content validity. The tools were modified according to the experts' suggestions.

2.6.2. Reliability of Tools

Reliability of tools were tested by using a Cronbach's alpha score. Cronbach's alpha coefficients for the second and third part of tool regarding the knowledge reliability =0.74, regarding the second tool reliability=0.78, consequently, the tools were found to be reliable.

2.7. Pilot Study

Five nurses were included in the pilot study and selected from the pre-mentioned setting. The pilot study established to measure the feasibility, validity of the tools and time required for the accomplishment of each one. They were excluded from the main study sample. Results acquired were valuable in evaluation and modification of the tools; these subjects were later excluded from the study subjects.

2.8. Written Approval

1. An official letter containing the title and aim was directed to the chief of obstetrical & gynecological departments, at MUH then the data collection approval was obtained.
2. The aim of the study was clarified to each participant before applying the study. Informed consent was obtained from each nurse to participate in the study, after ensuring that the data collected will be treated confidentially. They had rights to refuse to participate or withdraw at any time from the study and the tools of data collection and program did not harm the studied sample dignity, not touch moral, religious or cultural issues.
3. All ethical considerations were clarified to each nurse before explaining the nature of the study.

2.9. Field Work through Three Phases

1. **Preparatory phase:** The researchers revised the related recent literature and the tools of data collection concerning the study topic, then obtaining an official approval from the director of obstetrical and gynecological departments, finally the researchers conducted the pilot study to assess practicability.
2. **Implementation Phase:** Data were collected over four months from January to April 2019. The researchers visited the previously mentioned setting

for three times per week, starting from 9:00am to 9:00pm, six nurses were interviewed according to the hospital registration book.

Educational Nursing Ethical Program: Designed & implemented an educational program regarding the nursing ethics, the content of the program was covered through 4 sessions, each session take about 20-30 minutes, lecture, brainstorming and group discussion which used as method of teaching.

- Objective of 1st session: established rapport and relieve the fear & tension from the studied nurses who participate in the study and to assess the nurse's knowledge regarding nursing ethics pre intervention.
- The 1st session containing (registration- researchers introduced themselves to each studied nurses who participate in the study, then explain the aim of the study to gain her confidence and trust, obtained written informed consent from each nurse to participate in the study. Tools were distributed and explained to nurses to answer the study tools about (general basic characteristic & knowledge about nursing ethics), (pre-intervention format). The number of nurses in each session was 6 nurses
- Objective of 2nd session: raising and improving nurse's knowledge & compliance with nursing ethics.
- At the 2nd session firstly the studied nurses were educate about (Definition of nursing ethics, Standards of nursing ethics, Importance of nursing ethic, Principles of nursing ethics, Dangerous of professional ethics, Privacy while providing care, Considering mothers complain, Respect mother objection of care, Oral consent before providing care, Considering patient identity, Respecting hospital policy regulations and rules, Comply with patient protective procedures, Respecting patient reproductive rights) and Code of ethics for registered nurses.
- Objective of 3rd session: Enforcement of their knowledge through group discussion and answering their questions.
- Objective of 4th session: Evaluate knowledge and compliance with code of ethics for registered nurses after ending the session.

3. Evaluation Phase Two Months Post-intervention

- The same pre-intervention format was used after two months to evaluate nurse's knowledge & comply with nursing ethics that used an interviewing questionnaire schedule & observational checklist. Finally, evaluate nurse's self-reported barrier & satisfaction sheet regarding the educational Nursing Ethical program.

3.1. Statistical Design

The collected raw data were coded and analyzed by using SPSS version 20.0. Then, the data were presented by using the descriptive statistics in the form of frequencies & percentages. Quantitative variables were presented as means \pm standard deviations and paired t test were used for comparison. Cronbach's α (alpha) is used for test score reliability measure of sample. Statistical significance was considered at p-value <0.05 , highly significant difference obtained at $P < 0.01$ and non-significant difference obtained at $P > 0.05$.

4. Results

Table 1: Illustrates the studied nursing general characteristics. It was represented that about fifty percent their age was ranged from 18-25 years, around three quarters had technical institute, and more than half studied sample were from the rural area.

Table 2 shows that, pre-intervention of nurses' correct knowledge had the lowest percentage 3.1%, 9.2%, 13.8%, 23.1% regarding standards of ethics, definition of ethics, dangerous of professional ethics and principles of ethics respectively. While the result shows that post-intervention of nurses' correct knowledge had the highest percentage 93.8% regarding the meaning of nursing ethics and 92.3% regarding principles of nursing ethics, and 96.9% respect mother objection of care and 95.4% oral consent before providing care.

Table 1. Distribution among the studied sample according to their general characteristics (n=65).

| Items | No | % |
|--------------------------|----|------|
| Age | | |
| 18-25 | 31 | 47.7 |
| 26-33 | 27 | 41.5 |
| 34-40 | 7 | 10.8 |
| Educational level | | |
| Bachelor | 5 | 7.7 |
| Technical institute | 48 | 73.8 |
| Diploma | 12 | 18.5 |
| Residence | | |
| Rural | 36 | 55.4 |
| Urban | 29 | 44.6 |
| Experience | | |
| 5 year | 12 | 18.5 |
| 5-10 year | 29 | 44.6 |
| More than 10 years | 24 | 36.9 |

Table 2. Distribution among the studied sample according to their correct knowledge related to nursing ethics pre-intervention compared to post-intervention at the maternity health services (n=65)

| Items | Pre-intervention | | Post-intervention | |
|--|------------------|-----------|-----------------------|-----------|
| | Correct | Incorrect | Correct | Incorrect |
| Definition of nursing ethics. | 6 (9.2) | 59 (90.2) | 61 (93.8) | 4 (6.2) |
| Standards of nursing ethics. | 2 (3.1) | 63 (96.9) | 45 (69.2) | 20 (30.8) |
| Importance of nursing ethics | 9 (13.8) | 56 (86.2) | 62 (95.4) | 3 (4.6) |
| Principles of nursing ethics. | 15 (23.1) | 50 (76.9) | 60 (92.3) | 5 (7.7) |
| Dangerous of professional ethics. | 9 (13.8) | 56 (86.2) | 50 (76.9) | 15 (23.1) |
| Privacy while providing care. | 58 (89.2) | 7(10.8) | 61(93.8) | 4(6.2) |
| Considering mothers complain. | 49 (75.4) | 16 (24.6) | 58 (89) | 7 (10.8) |
| Respect mother objection of care | 54(83.1) | 11(16.9) | 63(96.9) | 2(3.1) |
| Oral consent before providing care. | 47(72.3) | 18(27.7) | 62(95.4) | 3(4.6) |
| Considering patient identity | 49(75.4) | 16(24.6) | 60 (92.3) | 5(7.7) |
| Respecting hospital policy regulations and rules | 47(72.3) | 18(27.7) | 62 (95.4) | 3(4.6) |
| Comply with patient protective procedures | 58 (89.2) | 7(10.8) | 63(96.9) | 2(3.1) |
| Respecting patient reproductive rights | 54 (83.1) | 11(16.9) | 63(96.9) | 2(3.1) |
| Mean ± SD | 11.53± 2.08 | | 15.06 ± 1.07 | |
| Paired t test = | | | t =13.47 P= 0.0001 | |

Table 3. Distribution among studied sample according to compliance related to their nursing duty of care & health instructions for mother's pre-intervention compared to post intervention at maternity health services(n=65)

| Items | Pre-intervention | | Post-intervention | |
|---|------------------|-------------------|-------------------|-------------------|
| | Comply No (%) | Not Comply No (%) | Comply No (%) | Not Comply No (%) |
| Being Accountable: | | | | |
| -Delegation for colleague. | 15(23.1) | 50 (76.9) | 45 (69.2) | 20 (30.8) |
| - Nursing responsibilities for delegation. | 15(23.1) | 50 (76.9) | 44 (67.7) | 21 (32.3) |
| -Report & record any health problem. | 60(92.3) | 5 (7.7) | 63(96.9) | 2 (3.1) |
| Providing Safe, Compassionate, Competent and Ethical Care: | | | | |
| -Record accurate laboratory investigation | 51(78.5) | 14 (21.5) | 60 (92.3) | 5(7.7) |
| -Explain procedures before care. | 59(90.8) | 6 (9.2) | 63 (96.9) | 2 (3.1) |
| -Compliance with infection prevention standards. | 57(87.7) | 8 (12.3) | 64 (98.5) | 1 (1.5) |
| Maintaining Privacy and Confidentiality: | | | | |
| -Safety, integrity & confidentiality during providing patient care | 11(16.9) | 54 (83.1) | 6 (9.2) | 59 (90.8) |
| Promoting Justice: | | | | |
| -Avoid discrimination among health team & patient. | 2 (3.1) | 63 (96.9) | 62 (95.4) | 3 (4.6) |
| Promoting Health and Well-Being: | | | | |
| - Counsel and educate patient | 11(16.9) | 54 (83.1) | 65 (100) | 0 (0) |
| -Instruct mothers about future dangerous signs | 4 (21.5) | 51(78.5) | 55 (84.6) | 10 (15.4) |
| -Support mothers regarding neonatal with congenital anomalies. | 56(86.5) | 9(13.5) | 61(93.8) | 4(6.2) |
| -Distribute hospital discharge information among patient before discharge | 10(15.4) | 55 (84.6) | 43 (66.2) | 22 (33.8) |

Table 3 illustrates that, the nurses' compliance pre-intervention had low percentage 3.1%, 15.9%, 15.4% & 16.9% regarding avoidance of discrimination among the health team and patient, Distribute hospital discharge information among patient before discharge Counsel and educate mother, Safety, integrity & confidentiality during providing patient care respectively, while post-intervention of nurses improved their compliance regarding items of nursing duty of care & health instructions for mothers, also it was observed that approximate all of nurses (100%) Counsel and educate patient.

Table 4 illustrates that pre-intervention of nurses' compliance had 3.1%,7.7%, 10.8%, 18.5%, 39%, 45% regarding Continues inform patient about her health status, Immediate recording and reporting for sharp needle injury

Great and welcome, Reports for any ethical misconduct, Respect patient right respectively at the same items of pre-intervention.

Table 5 shows that, the improvement occurred in all items post-intervention; but actually, the improving was observed regarding comply of nurses with infection prevention measures using the standard (protective equipment), it was observed that the percentage of nurses were (87.7%) post-intervention in comparison to (16.9%) pre-intervention.

Table 6 illustrates that, the majority of nurses were satisfied regarding the educational nursing ethical program. It was observed that (100%) regarding to Content was easy& clear. Teaching methods was effective, sessions covered the content and Sessions helped in evaluate an ethical compliance.

Table 4. Distribution among studied sample according to compliance with communication skills & reporting pre-intervention compared to post-intervention at maternity health services(n=65)

| Items | Before | | After | |
|---|---------------|-------------------|---------------|-------------------|
| | Comply No (%) | Not comply No (%) | Comply No (%) | Not comply No (%) |
| Promoting and Respecting Informed Decision-Making: | | | | |
| -Great and welcome | 7 (10.8) | 58 (89.2) | 63 (96.9) | 2 (3.1) |
| -Respect patient right | 12(18.5) | 53 (81.5) | 64 (98.5) | 1 (1.5) |
| Honoring Dignity: | | | | |
| -Respect trans cultural, religious | 18(27.7) | 47 (72.3) | 57(87.7) | 8(12.3) |
| Being Accountable: | | | | |
| -Avoid discuss of medical terminology in front of the patient | 13(20) | 52 (80) | 60(92.3) | 5(7.7) |
| -Compliance with recording and keep it securely | 53(81.5) | 12(18.5) | 64(98.5) | 1(1.5) |
| -Reports for any ethical mistake. | 7(10.8) | 58(89.2) | 65(100) | 0(0) |
| -Immediate recording and reporting for sharp injuries | 5(7.7) | 60(92.3) | 63(96.9) | 2(3.1) |
| Maintaining Privacy and Confidentiality: | | | | |
| -Avoid un necessary exposure of body parts | 42(64.6) | 13(35.4) | 63(96.9) | 2(3.1) |
| Promoting Justice: | | | | |
| -Avoid discrimination between patient related to socioeconomic status & religious | 16(24.6) | 49(75.4) | 61(93.8) | 4(6.2) |
| Promoting Health and Well-Being: | | | | |
| -Continues inform patient about her health progress | 2(3.1) | 63(96.9) | 51(78.5) | 14(21.5) |
| -Communicate between health team in case of health emergency situations | 50(76.9) | 15 (23.1) | 65 (100) | 0 (0) |

Table 5. Distribution among studied sample according to their compliance with equipment processing pre- intervention compared to post Intervention maternity health services (n=65)

| Items | Before | | After | |
|--|---------------|-------------------|---------------|-------------------|
| | Comply No (%) | Not comply No (%) | Comply No (%) | Not comply No (%) |
| Being Accountable: | | | | |
| -Ensure quantity & quality of sufficient equipment. | 63(96.9) | 2(3.1) | 65(100) | 0(0) |
| Providing Safe, Compassionate, Competent and Ethical Care: | | | | |
| -Decontaminated & isolated infected equipment. | 63(96.9) | 2(3.1) | 65(100) | 0(0) |
| -Clean equipment before & after use. | 61(93.8) | 4(6.2) | 65(100%) | 0(0%) |
| -Sterile equipment before & after use. | 64(98.5) | 1(1.5) | 65(100) | 0(0) |
| -Comply with infection prevention measures using standard (protective equipment) | 11(16.9) | 54(83.1) | 57(87.7) | 8(12.3) |

Table 6. Distribution among studied sample according to their satisfaction regarding ethical educational program post-intervention maternity health services (n=65)

| Items | Satisfy | Uncertainly | Not satisfy |
|---|----------|-------------|-------------|
| | No (%) | No (%) | No (%) |
| Improved knowledge | 60(92.3) | 2(3.1) | 3(4.6) |
| enhance comply with ethics | 61(93.8) | 0(0) | 4(6.2) |
| Content was easy& clear | 65(100) | 0(0) | 0(0) |
| Teaching methods was effective. | 65(100) | 0(0) | 0(0) |
| Setting was comfortable, organized& suitable. | 61(93.8) | 2(3.1) | 2(3.1) |
| suitable number of trainees | 61(93.8) | 0(0) | 4(6.2) |
| Sessions covered the content. | 65(100) | 0(0) | 0(0) |
| Sessions helped in evaluate an ethical compliance | 65(100) | 0(0) | 0(0) |
| Sessions implemented in suitable time | 62(95.4) | 0(0) | 3(4.6) |
| Suggested to repeat it in the future | 60(92.3) | 3(4.6) | 2(3.1) |

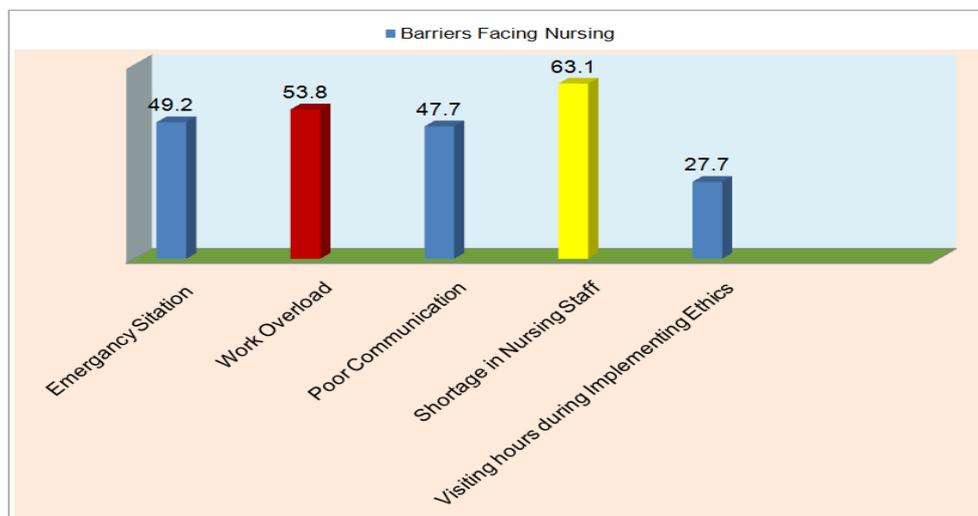


Figure 1. Barriers that facing studied sample regarding their compliance with ethics at maternity health services.

Table 7. Mean score between total knowledge score and nurses compliance with nursing code of ethics (n=65)

| Nurses compliance with nursing code of ethics | Mean± SD | Mean ± SD total Knowledge score | Significance test |
|--|-------------|---------------------------------|-----------------------|
| Compliance with nursing duty of care & health instructions | 24.43± 1.61 | 15.06 ± 1.07 | t= 37.83 P= 0.0001 |
| Compliance with communication skills & reporting | 21.41±0.96 | | t= 37.9 P= 0.0001 |
| Compliance with equipment processing | 7.87 ±0.33 | | t= 50.6 P= 0.0001 |

Table 8. Mean score between nurse's compliance with the nursing code of ethics and barriers that facing studied sample at the maternity health services post-intervention (n=65)

| Nurses compliance with nursing code of ethics | Mean± SD | Mean ± SD Total Barriers Score | Significance test |
|--|-------------|--------------------------------|-----------------------|
| Compliance with nursing duty of care & health instructions | 24.43± 1.61 | 7.36± 1.7 | t= 60.23 P= 0.0001 |
| Compliance with communication skills & reporting | 21.41±0.96 | | t= 50.4 P= 0.0001 |
| Compliance with equipment processing | 7.87 ±0.33 | | t= 2.12 P= 0.038 |

Table 7 shows there was a highly statistically significant relation between the total knowledge score & completion nursing duty of care & health instructions- Possessing good communication skills- Equipment processing ($P < 0.001$).

Table 8 shows that there was a significant difference between barriers & post intervention equipment processing $p \leq 0.05$. In addition, there was a highly significant improvement between barriers nursing duty of care & health instructions and possessing good communication skills $p \leq 0.001$.

5. Discussion

The present study aimed to investigate the effect of an educational program on enhancing nurses' knowledge, and their compliance with ethics in maternity health services. The aim was attained within the framework of the present study, research hypothesis was implementation of an educational program was expected to enhance nurses knowledge and their compliance at maternity health services, this hypothesis was answered from the present study findings as the present study had shown a highly significantly improvement in the nurses' knowledge regarding the definition of nursing ethics, principles of nursing ethics, standards of nursing ethics, oral consent before providing care, respect mother objection of care pre intervention compared to two months post intervention.

Furthermore, the current study revealed that the majority among studied sample their knowledge had improved after giving educational program about nursing ethics compared to pre-intervention. This is agreed with Hassan et al., [22] who conducted a study in Port Said to assess the professional ethics practiced by the nurses who are working health care centers, and reported that nurses did not have any training courses regarding the patient rights. As well as, the courses about the nursing ethics was often ignored so; the nursing students were getting to be uncaring toward to ethical issues in everyday nursing work.

In addition, the current study result is in line with Pavlish, et al., [23] who stressed that the nurses require a solid knowledge base that assist in understanding of emerging ethical problems. Moreover, they need the skills

to negotiate calmly and take moral action when required in any clinical conditions specifically those that come with caring for patients and families. Also, Alexander & Wabster, [24] who emphasized that the training program regarding ethics is effective for improving nurses' awareness and performance. Also, this result is consistent with Belal & Khalil and Elnady, [25] who reported that, there was a significant and positive effect for improving the nurse's knowledge related to definition of integrated ethics in comparison to low level of nurse's knowledge before the program which in turn affects adversely on performance and compliance of nurses to ethics.

It was noticeable from the study findings that the majority of studied sample had incorrect knowledge pre intervention which may be due to lack of knowledge about ethical issue in their under graduate curriculum also, lack of in-services training program and job training to enhance their compliance with nursing ethics in maternity health services this finding stress on the importance of continues education program at maternity health services about nursing ethics

Concerning to nursing duty of care & health instructions for mothers it was also, observed that from the study finding that were a significant improvement. This finding pointed our attention toward the importance of implemented nursing ethics program to enhance nurse's competencies as counsel and educate mother, report & record any health problem, compliance with infection prevention standards and record accurate laboratory investigation. While there is moderate improvement regarding safety, integrity & confidentiality during providing woman care, delegation for colleague and nursing responsibilities for delegation this is may be related to nurses' delegate her responsibilities to other colleague when she not able to perform it due to lack of experience like insertion of IV catheter or obtaining blood sample for certain cases or using new technology devices. Also, nursing duty regarding provide written hospital discharge information is not high as a result of shortage of nursing staff and over work load which constrain her from completely giving discharge information which help woman to complete her recovery.

The present study finding revealed that majority of studied sample had complied with, explain procedures before care before intervention which was significantly

improved two months post intervention, this finding agreed with [25,26] who reported that about two third of the studied nurses had complied with explain procedures among patient. This outcome could be because of the efficacious following of the directors which power nurses to please by giving health education among patients. Because their supervisors continuously monitor their compliance with nursing ethics while providing maternity health care.

Consequently, documentation of the nursing activities is very essential as it is the legal tender for any nursing interaction and care. Nursing documentation is usually considered as a legal concern which the nurse must take very seriously [27]. This was on the same line with Adekilekun, [28] suggested that proper documentation is another common source of litigation. A proper documentation of the date, time and history (in brief), positive physical findings, investigations, treatment and instructions to the junior staff and the patient are necessary.

The present study had revealed that the majority of studied sample were improved post intervention compared to pre-intervention regarding comply with avoidance of patients discrimination and colleague this is consistence with ANA, [29] which had stated that "Nurses advocate for the ethical and justice practice of nursing by creating and sustaining environments that support accepted standards of professional practice. Nurses strengthen practice environments by refusing to practice in ways that would create a negative impact on the quality of care. The nurse's role in ethics and human rights: protecting and promoting individual worth, dignity and human rights in practice settings.

Based on the present study findings, it was observed that about two third among studied sample had comply with distribute hospital discharge information and as well as comply with delegation for colleague. This was agreed with Bailes, Rachel & Keller [30] who state that the instructions given to the patients before the discharge is an additional responsibility of the nurse. Nurses have to understand the importance of obtaining the best data to achieve optimal outcomes for patients.

The present study findings had shown that majority of nurses had comply with the communication skills and reporting such as great and welcome, respect patient right ,trans cultural , religious ,avoid medical terminology with woman, cooperation between health team If there's a health problem, compliance with recording and keep it securely, reports for any ethical misconduct, immediate recording and reporting for sharp needle injury this is due to the importance of implementing program about nursing ethics in maternity health services, which help the nurses to avoid errors and illegal practice which expose nurses to hazards in their work and expose her life to risk. Additionally, it was observed from studied sample concerning their compliance with nursing ethics program, which consequently had reflected upon nurse's compliance with ethics while providing the nursing care.

Additionally, Bijani et al, [31] who found that the highest average scores for comply with nursing ethics among both nursing students and nurses pertained to "respecting the client/patients' privacy when performing nursing interventions this was agreed with the finding of

present study sample avoid unnecessary exposure of body parts. While the lowest average scores pertained to "introducing themselves and stating their title and professional role" in nursing students, and "consulting the hospital ethics committee about decision-making" when confronting ethical challenges" in nurses.

The present study finding had revealed that the majority among studied nurses had improved post intervention compared to pre-intervention regarding comply with equipment processing through ensure quantity & quality of sufficient equipment, decontaminated & isolated infected equipment, clean equipment, Sterile equipment before & after use and comply with infection prevention measures using standard (protective equipment. This finding was in agreement with Fashafesheh et al., [32] who report that there's improving actually was observed regarding comply with infection prevention measures using standard (protective equipment) pre-intervention compared to post-intervention. This finding had directed our attention toward the importance of the present study implementing program about nursing ethics at maternity health services

Concerning to the present study finding nurses self-reported that the main barriers preventing them to comply with nursing ethics at maternity health services were shortage in nursing staff & emergency situations poor communication and visiting hours. This was agreed with [33,34] who stated that absenteeism was a global problem in the working force and this shortage in nursing staff was due to a high absenteeism rate of nurses, which reflected upon consequently increased work pressure, stress, leaving behind their colleagues to execute their part of work, additionally turnover, frustration and absence of responsibility also, shortage in nursing staff is one of the factors causing job dissatisfaction, inevitable increased workload and nurse turnover.

It was evident from the present study that there was a significant relation between the studied self reported barriers and their compliance with ethics in maternity health services the relationship between nurse compliance with communication skills and barriers that facing studied sample at obstetrical and gynecological department at the MUH.

The majority among studied sample were satisfied with utilization of an educational program about nursing ethics in maternity health services, this is because simple, clear languages of program objectives, suitable number participate in the session, adequate session media additionally high quality of teaching methods, comfortable setting & sessions implemented in suitable time for nurses that they needed for it, covered the content and which was helped in evaluating nurses compliance with nursing ethics program as well as tent had covered the aim of the program, which give an overview about nursing ethics that help nurses to make decision making of situations expose in her work & confronted with real ethical problems, also, presented real life examples of situations encountered. This was agreed with [33].

The present findings represented post-intervention, that there was a highly statistically significant relation between knowledge score and nursing compliance as regard to completion nursing duty of care & health instructions-communication skills & report- Equipment processing).

These findings were in conformity with Nasiriani et al, [35] who reported in their study conducted in Iran about the factors of compliance to professional codes of ethics from midwives' working in healthcare centers that the applicability of the professional codes of ethics and the awareness of the nurses ethical points have a direct statistical correlation with the nurses compliance to the codes. As well as by increasing the level of knowledge and awareness, the compliance to the ethical codes will increase. Similarly, Faisal et al., [36] had believed that it is required to increase nurse's awareness about the professional ethics and principles. Also, Farajkhoda et al., [18] claimed that the lack of awareness among the nursing would result in violation of the professional ethical principles.

The present study had revealed that a highly significant improvement between nurse's compliance with communication skills, report and the barriers facing the studied sample in obstetrical and gynecological setting after application of nursing ethics post-intervention. This was agreed with Shafipour et al., [37] who reported that although the nature of barriers in hospital wards as workload, uncontrolled presence of the patients' relatives who may interfere with the nurses' duties and shortage of nurses, they do the best effort to provide high quality of woman care. Also reported that may be useful and chance for nursing managers in planning the caring processes accordingly such that they can provide a peaceful relaxing caring environment, minimize conflicts and therefore overcome the barriers, thus improving the quality of patients care.

From the present study finding it was concluded that majority among nurses were satisfied with implemented program regarding the nursing ethics in health services, as well as there was a significant relation between the communication skills, report and barriers facing their compliance with ethics at maternity health services. This has directed the researcher's attention to the importance of reapplying an educational nursing ethics program to all maternity clinics in all clinical health settings.

6. Conclusion

The present study concluded that a highly significant improvement among studied sample pre-intervention compared to two months post intervention regarding nurse's knowledge and their compliance with nursing ethics at maternity health services, additionally the majority among studied sample were satisfied with implementation of the present study program at maternity health services post intervention. Also, the main barrier that prevents nurses to comply with nursing ethics at maternity health services was shortage in nursing staff.

7. Recommendations

- Reapplication of the present study nursing ethics program on another sample and another setting.
- Design and implement a nursing ethics protocol and guideline to enhance nurse's compliance with ethical issue at maternity health services.

- Establishing a nursing ethical committee at maternity health services to design and implement a nursing ethics program as well as develop a system to monitor implementation of nursing ethics.
- **Further research** is recommended to be study patient satisfaction concerning application of nursing ethics.

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