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Assessment of Nurses' Knowledge and Practice Regarding Care of Women Undergoing Hysteroscopy

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Background: Hysteroscopy visualization of endometrial cavity has revolutionized the detection and management of the endometrial pathologies over the last few decades. Purpose of the study was to assess maternity nurses' knowledge and practice regarding care of women undergoing hysteroscopy. **Design:** A descriptive design was used. **Setting**: Obstetrics and Gynecological department in Menoufia University hospitals. **Sample:** A convenient sample containing 45 nurses caring for women undergoing hysteroscopy. **Instruments**: Knowledge of nurse structured questionnaire and nurses' performance observational checklist were used. **Results:** Approximately 2.2% of nurses had good knowledge about definition, indications, suitable time, complications, time needed for diagnosis, and time needed for therapeutic or surgical treatment of hysteroscopy. Also, the majority of nurses had low level of practice related to pre, intra, and post-operative preparation for women undergoing hysteroscopy. **Conclusion:** Nurses had poor knowledge score and low practice level regarding nursing care provided for women undergoing hysteroscopy procedure. **Recommendation:** Continuous teaching programs related to pre and postoperative care of women having hysteroscopy are required for nurses to develop and improve their knowledge and practice.

Key words: *Nurses' Practice, Care of Women, Hysteroscopy*

Introduction

Hysteroscopy is a gynecological procedure that may be indicated for abnormal uterine bleeding, diagnosis and management of infertility, contraception, or sterilization. Surgeons use distending media during hysteroscopy to view the uterine cavity. Media options include carbon dioxide gas and both electrolytic and nonelectrolytic fluids. All distending media is absorbed by the patient's body, but the manner in which each media is absorbed is unique to its chemical composition (Donan, etal., 2020).

Hysteroscopy is typed according to many things such as the first classification was according to the setting: Office hysteroscopy, inpatient hysteroscopy is performed to an anesthetized or sedated patients within formal operating theatre. The second classification was according to the structure of hysteroscopy: flexible hysteroscopy, rigid hysteroscopy which provide better image, fewer failed procedures, quicker examination time and reduced cost. The last classification is according to the purpose of hysteroscopy: diagnostic hysteroscopy, operative hysteroscopy through introducing other instruments which can help and treat the abnormalities of the uterus (Zimmer, 2019).

The historical background of the hysteroscopy: A German Bozzini (1773) was the first to invent the endoscope. The French Desormeaux presented the first truly workable cystoscope in 1985, in 1869 Pantaleoni used Desormeanx's cystoscopy in performing a hysteroscopic examination in a postmenopausal woman with abnormal uterine bleeding. Heineberg in 1914 and Seymour in 1926 introduced an endoscope that had an internal channel for illumination containing system of irrigation with low viscosity fluid to permit uterine distension, otherwise; further population use the with wide range (Kandeel, et al. 2020).

Meanwhile, it estimated that 358,000 maternal deaths occurred worldwide in 2008 (800 deaths every day), a 34% decline from the levels of 1990. Maternal mortality is much greater in developing countries compared to developed nations. In Egypt, maternal mortality ratio (MMR) was declining from 70 deaths per 100.000 live births in1998 to 37 deaths per 100.000 live births in 2017 (WHO, 2020).

Furthermore; about 15% of outpatient cases and 25% of gynecologic surgery cases with abnormal uterine bleeding. Abnormal uterine bleeding is the direct cause of a significant health care burden for woman, their families and society. Up to 30% of women will seek medical assistance for this problem during their reproductive years. Therefore, the assessment of the studied nurses' knowledge and performance are the most important gynecological examinations. Accordingly, the present study aims to assess maternity nurses' knowledge and practice regarding the care of women undergoing hysteroscopy (Singh, 2018).

Maternity nurses play a vital role in hysteroscopic technique in which pre-operative, intra-operative and post-operative fields, the nursing intervention is including the pre-operative teaching and counseling to women about the procedure, doctors, preparation, operation room, equipment, outcome of procedure, complication or side effects, anesthesia, supporting the women psychological status, reducing fear and anxiety related. While the main goal is maintaining women safety intra-operatively, later in postoperative phase; ensure better outcomes, prevent infection and complications (Nestler, 2019).

Significance of the study

The single most essential method of lowering post-operative gynecological issues is to have a qualified nurse provide complete nursing care regarding hysteroscopy. Since the right to health and life is a social human right, providing complete nursing care is also a moral and ethical concern. Accordingly, it should be ensured that every woman has access to full gynecological nursing care, particularly before and after surgery (Ibrahim et al., 2022). As a result, this study was carried out to assess maternity nurses' knowledge and practice regarding the care of women undergoing hysteroscopy

Purpose of the study

- To assess maternity nurses' knowledge and practice regarding care of women undergoing hysteroscopy.

Research Questions

- What are the studied nurses' level of knowledge about care of women having hysteroscopy?
- What are the studied nurses' level of practice in the care of women having hysteroscopy?

Methods

Research design:

A descriptive design was utilized in this study.

Setting of the study:

The study was conducted in Obstetric and Gynecological department at Menoufia University hospital, Menoufia Governorate, Egypt.

Sample:

a- Sampling type:

A convenient sample of all maternity nurses' who work in Obstetrics and Gynecological department at Menoufia hospital were recruited in the study.

b- Sampling size:

All maternity nurses' providing care for women having hysteroscopy in Obstetrics and Gynecological department at Menoufia University hospital (45nurses)

Instruments:

The researcher developed this questionnaire after a review of literature (Yang et al. 2020) in order to assess maternity nurses' knowledge and practice regarding the care of women undergoing hysteroscopy. Data was collected using two instruments.

Instrument one: Knowledge of Nurses Structured Questionnaire:

It was used to assess characteristics of the studied sample. It was divided into two parts as prescribed:

- **Part 1: Socio-demographic characteristics data:**

  It included age, educational level, years of experience, and the previous attendance of training courses…. etc.

- **Part 2: Knowledge of nurses about hysteroscopy:**

  It was used in order to assess the studied nurses' knowledge regarding hysteroscopy. It included many important questions such as

definition of hysteroscopy, indications of hysteroscopy, complications, and specific nursing intervention.

Scoring system:

Each answer for each item was provided a score (one for correct and zero for incorrect). The total knowledge score was calculated by summation of scores for the "know item". The scores were converted into percent. The total knowledge scores were presented as follows:

- **Good:** ≥ 75% of total knowledge score.
- **Fair:** <75% - 50% of total knowledge score.
- **Poor:** if the percent score was less than 50%.

Instrument two: Nurses practice observational checklist:

The observational checklist was developed by the researcher based on the literature review to assess the studied nurses' practice regarding hysteroscopy. It contained thirty statements about six essential competencies 5 items for preoperative 5 items for intra-operative and other 5 items for postoperative care.

Scoring system:

Two scores were provided for done and one for not done. The total scores ranged from 20 to 40, where < 20 indicated low level of nursing practice, 20 to30 indicated moderate level of nursing practice, and 30 to40 indicated high level of nursing practice.

Validity of the instrument: -

The questionnaire was formulated and cross-checked for its validity by five qualified experts (five professors in Maternity nursing at Faculty of Nursing); who reviewed the instruments for content accuracy and internal validity. They asked to judge the items for completeness and clarity (content validity) and the required modifications were done accordingly.

Reliability of the instruments: -

Test-retest reliability, which measures the internal consistency of the instruments, was used to evaluate the researcher's dependability. The identical instruments were given to the same nurses under study on two or more occasions, under similar circumstances. The test consistency of the outcome over time was compared to the scores obtained from repeat testing.

Ethical consideration:

The protocol was approved from the Hearing and Ethical Research Committee of the Faculty of Nursing at Menoufia University on 5/1/2021 no (953). Nurses was informed that all information collected during the study will be kept confidential and used only for statistical purpose. A written consent was obtained from nurses regarding their acceptance to participate in the study.

Pilot study:

Pilot study was carried out on 10% of the studied nurses (5 nurses) in order to evaluate the study instruments according to the simplicity, clarity, applicability and time required for data

collection. These nurses were excluded from the main study sample. Results of the piloting study helped in refining the interview questionnaire and to schedule the time framework. The required modifications were done in form of clarification and simplification of some sentences.

Procedure:

A letter was from the Dean of the Faculty of Nursing, Menoufia University to the director of Menoufiya University Hospital explaining the purpose and methods of data collection.

The data collected in a period of three months, from the beginning of October 2022 to the end of March 2023. The researcher began the study by visiting the Obstetrics' and Gynecology department at Menoufia University hospital twice per week (Monday-Wednesday) from 9AM - 1PM. At the beginning of interview, the researcher greeted the studied nurses, introduced herself, explained the purpose of the study and the nature of the study.

The structured interviewing questionnaire was given to each nurse for obtaining their personal data and collecting the studied nurses' knowledge regarding hysteroscopy. The time needed for completing the structured interviewing questionnaire was about 10 minutes. Then, the researcher used the observational checklist to assess studied nurses' practice and the time needed for each nurse about 30 minutes.

Statistical analysis:

The data collected was organized, categorized, analyzed and tabulated Statistical analysis was done using SPSS version 22.0. Frequency and percentages were used for descriptive data. A statistical significant difference was considered if P <.05. A highly statistical significant difference was considered if P<. 01. A very highly statistical significant difference was considered if P<.001

Results

- Table 1 shows the sociodemographic characteristics of studied nurses.
- Table 2 shows the distribution of studied nurses according to their knowledge scores about hysteroscopy.
- Table3 shows the distribution of studied nurses according to their pre-operative practice about hysteroscopy.
- Figure (1) Level of knowledge of studied nurses about hysteroscopy.
- Table 4 shows the Correlation between total knowledge scores and total practice level of studied nurses

The table 1: showed that 66.7% of studied nurses were 20 to 30 years old, 66.7% of studied nurses lived in rural area, 62.2% of the studied nurses had technical nursing education. In relation to occupation, 75.6% of studied nurses were working as assistant nurses. Concerning years of experience, 42.2% of studied nurses had below 5 years of experience.

Table 2: revealed that 62.2% of studied nurses reported incorrect answer regarding to indications of hysteroscopy, 51.1% of studied nurses did not know the suitable time for hysteroscopy. On the other hand,

46.7% of studied nurses did not define the hysteroscopy correctly, 53.3% did not know the time needed for diagnostic hysteroscopy.

Table 3: showed that 86.7% of studied nurses pre-operatively performed bathing before surgery correctly. About 93.3% of studied nurses did not correctly explain procedure (steps- time- persons- equipment…) or build a trust relationship using primary explanation, active listening or assure shaving the perineum. While 95.6% of studied nurses did not greet women with touch or take a complete history.

Figure (1): demonstrates levels of knowledge among the studied nurses for women undergoing hysteroscopy. They had average score of knowledge regarding hysteroscopy (60%); the studied nurses had good score of knowledge regarding hysteroscopy (2.2%) and had poor score of knowledge regarding hysteroscopy (37.8%).

Table 4: clarifies the correlation between the studied nurses' total scores of knowledge and the total level of practice. There was a very highly statistically significant positive correlation between the studied nurses' total knowledge score and the total practice level.

Table (1): Sociodemographic characteristics of Studied Nurses (N = 45)

Variables	No.	%
Age		
- 20 to less than 30	30	66.7
- 30 to less than 40	9	20.0
- More than or equal to 40	6	13.3
Educational level		
- Diploma of nursing	9	20.1
- Technical diploma of nursing	28	62.2
- Bachelor degree	6	13.3
- Post- graduate (Master or PHD.)	2	4.4
Experience		
- less than 5 years	19	42.3
- More than 5 and less than 10 years	15	33.3
- More than 10 years	11	24.4
Position Level of Work		
- Assistant nurse	34	75.6
- Professional nurse	8	17.8
- Nursing supervisor	3	6.6
Residence		
- Rural	30	66.7
- Urban	15	33.3
Previous training Courses		
- Yes	4	8.9
- No	41	91.1

Table (2): Distribution of Studied Nurses according to Their Knowledge scores about Hysteroscopy. (N=45)

Variables	Nurses' knowledge	
	No.	%
Definition of hysteroscopy		
Incorrect answer or (don't know)	21	46.7
Correct answer	24	53.3
Indications of hysteroscopy		
Incorrect answer or (don't know)	28	62.2
Correct answer	17	37.8
Suitable time for hysteroscopy		
Incorrect answer or (don't know)	23	51.1
Correct answer	22	48.9
Complications of hysteroscopy		
Incorrect answer or (don't know)	20	44.4
Correct answer	25	55.6
Time needed for diagnostic hysteroscopy		
Incorrect answer or (don't know)	24	53.3
Correct answer	21	46.7
Time needed for therapeutic or surgical hysteroscopy		
Incorrect answer or (don't know)	27	60.0
Correct answer	18	40.0

Table (3): Distribution of Studied Nurses according to Their pre-operative practice about Hysteroscopy (N=45)

Variables	Nurses' pre-operative practices (N=45)			
	Done		Not done	
	No.	%	No.	%
Greeting the woman with touch.	2	4.4	43	95.6
Explain the procedure (steps- time- persons- equipment……)	3	6.7	42	93.3
Build a trusting relationship using primary explanation, and active listening.	3	6.7	42	93.3
Take a complete history.	2	4.4	43	95.6
Perform a complete physical examination.	3	6.7	42	93.3
Instruct her about methods and exercises that reduce stress and anxiety related to procedures	8	17.8	37	82.2
Provide instructions regarding the operation for both the woman and her family.	7	15.6	38	84.4
Shaved the perineum.	3	6.7	42	93.3
Perform bathing before surgery.	39	86.7	6	13.3

Figure (1) Levels of knowledge of studied nurses about hysteroscopy. (N=45)

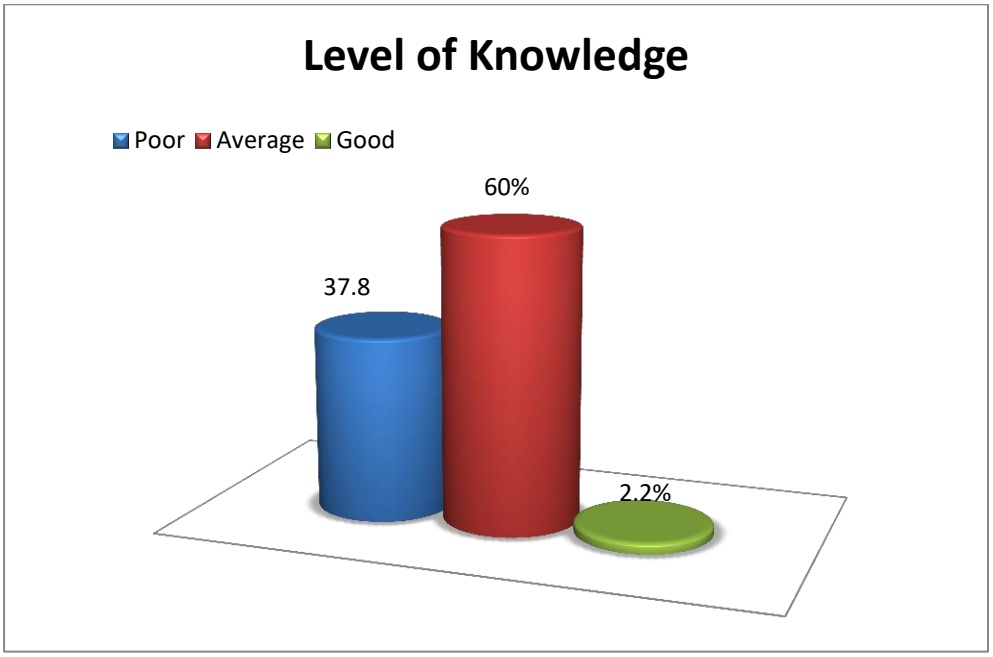

Table (4): Correlation between total knowledge score and total practice level of studied nurses (n=45)

Variables	Total Practice	Test of sig.	P value
	R	P value	
Total knowledge	.566**	**.001****	.715

Discussion

The complex nursing tasks that require a higher level of education—including the application of evidence-based practice—should be handled by maternity nurses. In order to reduce hospital stays, avoid complications, reduce sepsis, and increase patient satisfaction, highly qualified nurses contribute to better women's health procedural outcomes (Nestler, 2019).

As regards studied nurses' knowledge about care of women undergoing hysteroscopy, results of the current study revealed that more than half of studied nurses did not have knowledge about definition, indication, the duration of diagnostic hysteroscopy, the duration of therapeutic hysteroscopy and complications of hysteroscopy. This result was in agreement with Zimmer et al., (2019) who stated that none of studied nurses had correct answers related to definition, types, complications of hysteroscopy. Also, this result was similar to Saleh, (2019), who reported that nearly two thirds of studied nurses had inadequate knowledge regarding definition, preparation, proper time, duration, methods of diagnosis and complications of hysteroscopy. This insufficient level of studied nurses' knowledge could be attributed to lack of receiving educational programs and training for hysteroscopy care.

On the other hand, this finding was in disagreement with Kandeel et al., (2020) who stated that about half of

studied nurses or equal had adequate correct answer regarding knowledge about hysteroscopy. This difference could be attributed to differences in settings and policies.

Concerning the statistical correlation between the studied nurses' total knowledge score and total practice level; the present study demonstrated that, there was a highly statistically significant positive correlation between total knowledge score and total practice level of studied nurses. When the knowledge increased, the practice of studied nurses improved. The study results were congruent with Ali, (2019), who mentioned that there was a highly statistically significant correlation between the studied nurses' total practice level and total knowledge score. This could mean that the higher the nurses level of education, the higher their level of practice

Conclusion

Based on the results of the current study; it was demonstrated that majority of studied nurses had lack of knowledge regarding hysteroscopy and low level of practice related to care of women undergoing hysteroscopy.

Recommendations

In the light of the finding of present study the following recommendations are suggested:

Educational programs must be developed for maternity nurses to increase their knowledge about hysteroscopy care. Instructional booklets, posters and brochures about hysteroscopy care must be provided for maternity nurse to clarify how to deal with hysteroscopy devices, instruments, cleaning, sterilization, storage, staff manipulation, communication and counseling skills that should be provided. Further studies: Researches about methods which improve nurses' knowledge and practice for the care of women undergoing hysteroscopy.

References

Ali, N. (2019): Assessment of nursing care for women undergoing hysteroscopy. Master Thesis, Faculty of Nursing, Menoufia University, Egypt, pp. 20-30.

Donan, P.C., Jr, Pace, K.A., Ruiz, C.W. and Gracia, M.M. (2020), Distending Media Used During Hysteroscopy: Perioperative Nursing Implications. AORN J, 112: 634-648. https://doi.org/10.1002/aorn.13246

Ibrahim, S., El-shabory, N., Abou El-gheet,O.(2022). Nurses' Performance Regarding Care of Women Undergoing Hysterectomy and Women Satisfaction In Port Said Hospitals. Port Said Scientific Journal of Nursing ,9(3),1-25.

Kandeel, M., Sayyed, T., Tharwat, A., Hamed, A.(2020). Hysteroscopy versus transvaginal ultrasound in infertile women prior intra-cytoplasmic sperm injection. Menoufia Med J,33(2):400-404. Available from: http://www.mmj.eg.net/text.asp?2020/33/2/400/287770

Nestler, N. (2019): Nursing Care and Outcome in Surgical Patients-Why do We Have Care, Reviewers Comments to Original Submission, pp.1-7 Available

Saleh, D., El Ashal, G., Elsherif, S., Awad, S., Mahmoud, M., Gohar, M., El Hadi, A., & Elgebaly, A. (2019). Routine use of hysteroscopy before in-vitro fertilization: Systematic review and meta-analysis of randomized controlled trials. Evidence Based Women's Health Journal, 9(4), 533-541. doi: 10.21608/ebwhj.2019.64356

Singh, N. (2018): Chromo Hysteroscopy-Anew Technique for Endometrial Biopsy in Abnormal Uterine bleeding, open journal of obstetrics and gynecology, India, pp 3:11-14.

World health organization, (2020): Trends in maternal mortality: Accessed: November 14, 2020: Available at: http://www.who.int/reproductivehealth/publication/monitoring/maternalmortality2013/en.2014

Yang, S. Y., Chon, S. J., & Lee, S. H. (2020). The effects of diagnostic hysteroscopy on the reproductive outcomes of infertile women without intrauterine pathologies: a systematic review and meta-analysis. Korean journal of women health nursing, 26(4), 300–317. https://doi.org/10.4069/kjwhn.2020.12.13

Zimmer, M., Pomorski, M., Kamiński, P., Doniec, J., Huras, H., Sieroszewski, P., Sikora, J., Stojko, R., Ludwin, A., Radwan, M., & Fuchs, T. (2019). Polish Society of Gynecologists and Obstetricians Guidelines for the application of hysteroscopy in gynecology. Ginekologia Polska, 90(8), 482–489. https://doi.org/10.5603/GP.2019.0083