

Assessment of Nurses' Knowledge and Practice Regarding the Care of Patients Undergoing Gastrointestinal Endoscopy

*Laila zeidan Ghazy Mohamed, Dr. Labiba Abd El kader Mohamed,
Dr. Amal Bakr Abo El-Ata, Dr .Ehab Atef Abd El-latif⁴*

M.Sc., Faculty of Nursing, Port Said University, Professor of Medical Surgical Nursing Department, Faculty of Nursing, Cairo University, Assistant Professor of medical surgical nursing Faculty of Nursing, Port said University, Assistant Professor of Surgery Faculty of Medicine Mansoura University,.

ABSTRACT

Background: Gastrointestinal endoscopy is diagnostic and therapeutic procedure that provide good view of the mucosal surfaces of the upper gastrointestinal tract. It is an integral tool in the evaluation and management of many gastrointestinal and hepatobiliary conditions. **Aim** of this study was to assess nurse's knowledge and practice regarding the care of patients undergoing gastrointestinal endoscopy. **Subjects and methods:** A descriptive research design was used. A convenient **sample** was used; it includes all nursing staff working at the endoscopy unit in gastrointestinal surgical center at Mansoura university hospital. Two **tools** used for data collection. Tool one is structured interview questionnaires **part I:** sociodemographic data **part II :** Knowledge questionnaire . Tool two is an observational check list for nurses' practice. **Results:** show that the nurses' had a satisfactory level of knowledge and practice regarding GIT endoscopy. **Conclusion,** the study concluded that the nurses' had a satisfactory level of knowledge and practice .The study **recommended** periodic assessment of nurses' knowledge and practice continuously in order to up to date them.

Keywords: *Gastrointestinal endoscopy, nurse's knowledge and practice.*

INTRODUCTION

Endoscopy or colonoscopy is useful for visualizing the inside of gastrointestinal system. Endoscopy involves passing a camera on the end of a fiber -optic cable through the mouth to examine esophagus, stomach or small intestine Colonoscopy is via the anus into rectum or large intestine (*Harris et al., 2010; Keshav, 2014*).

As the result of the great advances in medical practice and surgical techniques, patient care in the hospitals has changed considerably in recent years. One of these practices is the endoscopy procedures (*American Society for Gastrointestinal Endoscopy, 2014*). Endoscopy gives valuable information about the gastrointestinal tract. It allows visualization of the interior of the alimentary tract on a monitor (*Chun, Yang & Choi, 2014*).

Endoscopy in patients with GI bleeding is effective in diagnosing and treating most causes of GI bleeding and is associated with a reduction in blood transfusion requirements and length of intensive care unit/total hospital stay (*Lloyd et al., 2010*). Early endoscopy (within 24 hours of hospital admission) has a greater impact than delayed endoscopy on length of hospital stay and requirements for blood transfusion (*Perng et al., 2009*).

In Egypt, Average endoscopy procedures are 15 million procedures per year. 55% are esophago-gastro-duodenoscopy and 15% lower GI endoscopy and 30% for colonoscopy procedure (*Nabolsy, 2012*). More than 20 million GI endoscopic procedures are performed annually in the United States (*Everhart, 2010*).

Risks of endoscopy include respiratory depression or allergic reactions from medications used for sedation. All endoscopic procedures carry some risk of bleeding and gastrointestinal Perforation (*Cotton, Eisen and Aabakkenet et al., 2010*). These risks are quite low with diagnostic upper endoscopy and colonoscopy (1:1000 procedures), although the risk is as high as 2:100 when therapeutic procedures such as polypectomy, control of hemorrhage, or stricture dilatation are performed (*Anderson, Ben-Menachem, Gan et al., 2009*).

Endoscopy nurses are professionally responsible for preparing the patient before each type of endoscope. There are general preparations and specific preparations before each type. The general preparations involve the patient's history through interviewing the patient to determine the plan of care to be implemented. Privacy must be maintained especially if sensitive issues are addressed. The nurse is responsible for minimizing or eliminating any environmental distraction (*Society of Gastroenterology Nurses and Associates, 2010*).

AIM OF STUDY:

The aim of the study was to assess nurses knowledge and practice regarding the care of patients undergoing gastrointestinal endoscopy.

SUBJECTS AND METHODS:

(I) TECHNICAL DESIGN

Research design:

A descriptive research design was used in the current study.

Setting:

The study was conducted at the endoscopy unit in gastrointestinal surgical center at Mansoura university hospital.

Sample:

A convenient sample of all staff nurses working in endoscopy unit in gastrointestinal surgical center, the total number were (30).

TOOLS FOR DATA COLLECTION:

TOOL (I): Structured interview questionnaires: It was consisted of two parts:

Part (1): Demographic characteristics of nurses include (e.g., name, age, sex, education level etc.).

Part (2): Nurses' Knowledge regarding the care of patients undergoing gastrointestinal endoscopy, which include questions related to types of endoscopy and nursing role pre, during and after procedure. It included 10 questions.

The scoring system:

The right answer was scored one point and wrong answer was scored zero point, the total points were converted to percentage as follows: The total score of $\geq 60\%$ was

considered a satisfactory level of knowledge, and < 60% was considered as unsatisfactory level of knowledge.

TOOL (II): Observation Checklist for Nurses:

It included observing nurse's role during the three phases: pre (21 steps), during (5 steps) and after procedure (8 steps).

The scoring system:

One point for done correctly step, and zero for incorrect or not done step. The total points converted to percentage as follow: total scores of $\geq 60\%$ was considered a satisfactory level of practice, and total scores of < 60% was considered unsatisfactory level of practice.

(II) OPERATIONAL DESIGN:

Preparatory phase

It included reviewing of recent related literature, different studies and theoretical knowledge of various aspects of the problems using textbooks, articles, medical websites, periodicals and magazines that concern with the topic of GI endoscopy and role of nurse in every phase of care in addition to preparing the needed tools.

A. Content tool Validity:

It was ascertained by a Jury consisting of academic medical surgical nursing experts (8), medical experts in GI endoscopy unit (1), head nurse of GI endoscopy unit (1) and endoscopy unit nurse (1) to make sure that the tools used are measuring the purpose of the study. Changes were done according to the experts opinions. This phase was carried out in a period of one month before starting data collection.

B. Reliability:

Reliability of tools was done using Cronbach Alpha Test. The tools of the study were applied to 5 nurses. Reliability coefficient for tool I was 0.8 and for tool II was 0.7.

C. Pilot study:

A pilot study had been undertaken before starting the data collection phase. It was carried out in August (2015) on 10 % of participants (5 nurses) to test the applicability of the tools and to estimate the time needed to complete the tools. Necessary

modifications were done according to the pilot study. The subjects included in the pilot study were not included in the study sample.

D. *Field of work:*

The researcher assess nurses' knowledge and practice by collecting data regarding GI endoscopy by using (tool I and tool II) during visiting the endoscopic unit at gastrointestinal surgical center of Mansoura university hospital twice weekly (Saturday and Thursday) in the morning shift.

(III) ADMINISTRATIVE DESIGN

A written permission was obtained from the director of gastrointestinal surgical center of Mansoura university hospital through an official formal letters from the dean of the faculty of nursing, Port Said University to carry out the study after explaining aim and significance of the study.

Ethical Consideration:

After obtaining the official permission to conduct the study, the studied nurses were informed with the aim and nature of the study. It was emphasized that the participation is voluntary and confidential and anonymity of the subject was assured through coding of data.

(IV) STATISTICAL DESIGN:

The raw data were coded and transformed into coding sheets. The results were checked. Then, the data were entered using SPSS version 20.0 statistical software package. Output drafts were checked against the revised coded data, percentage and percentage distribution.

Difficulties of the Study:

1. It was difficult to interview every nurse in GI endoscopy unit because of high admission rate of patients undergoing GI endoscopy.
2. Overcrowding of endoscopy unit which is divided into five rooms according to GI endoscopy types (stomach, colon, ERCP, Laser, recovery room). It was difficult to observe all nurses' practice (N0=30).

RESULTS:

Table (1): the study result shows that (46.7%) of the studied nurses were in age group 18 to less than 28 years and (93.3%) were females and (96.7%) married. There were (66.7%) coming from urban areas. It also revealed that (63.3%) had secondary nursing school and (40.0%) had 5 to less than 10 years as well as more than 10 years experience in nursing. Moreover, (56.7%) had more than 5 years experience in endoscopy unit and (100%) didn't attend training courses before working in endoscopy unit.

Table (3) :shows that the total knowledge score of the studied nurses was satisfactory with (Mean \pm SD) 89.7 ± 4.7 .

Table (5): shows that the total practice score of the studied nurses satisfactory with (Mean \pm SD) 79.7 ± 4.3 .

Table (1): Frequency and percentage distribution of demographic characteristics among studied nurses' (n=30).

Demographic Variable	Studied nurses	
	No.	%
Age		
18-<28	14	46.7
28-<38	12	40.0
38-<48	3	10.0
48 and more	1	3.3
Gender		
Female	28	93.3
Male	2	6.7
Marital status:		
Married	29	96.7
Widow	1	3.3
Residence:		
Rural	10	33.3
Urban	20	66.7
Educational level:		
Secondary nursing school	19	63.3
Technical nursing institute	9	30.0
Bachelor	2	6.7
Nursing Experience (years)		
< 5	6	20.0
5-<10	12	40.0
>_10	12	40.0
Experience in endoscopy unit (years)		
> 3	3	10.0
3-<5	10	33.3
>5	17	56.7
Training courses before working in endoscopy unit:		
Yes	0	0.0
No	30	100.0

Table (2): Studied nurses' knowledge regarding GIT endoscopy (N= 30).

Knowledge items		Studied nurses	
		No.	%
1. Meaning of GIT endoscopy.	Incorrect	2	6.7
	Correct	28	93.3
2. Purpose of GIT endoscopy.	Incomplete	5	16.7
	Correct	25	83.3
3. Types of GIT endoscopy.	Incomplete	1	3.3
	Correct	29	96.7
4. Benefits of GIT endoscopy.	Incomplete	6	20.0
	Correct	24	80.0
5. Role of nurse before endoscopy procedure.	Incomplete	24	80.0
	Correct	6	20.0
6. Role of nurse after endoscopy procedure.	Incomplete	1	3.3
	Correct	29	96.7
7. Role of nurse during endoscopy procedure.	Incorrect	2	6.7
	Correct	28	93.3
8. Role of nurse in ERCP endoscopy procedure.	Correct	30	100.0
9. Complications of endoscopy procedure.	Incomplete	27	90.0
	Correct	3	10.0
10. Steps of endoscopy disinfection and sterilization.	Incomplete	4	13.3
	Correct	26	86.7

Table (3): Total knowledge score of the studied nurses (N=30) regarding GIT endoscopy:

Item	Studied nurses (N=30)
Total knowledge score :	
<i>Mean +_ SD</i>	<i>89.7 +_ 4.7</i>
Knowledge score level :	
- <i>Satisfactory</i>	<i>30 (100.0 %)</i>
- <i>Unsatisfactory</i>	<i>0 (0.0 %)</i>

Table (4): practice of studied nurses regarding the care for patients undergoing GIT endoscopy (N=30).

Practice Items		Studied nurses (n=30)
General preparation (pre procedure) score	Unsatisfactory	7 (23.3%)
	Satisfactory	23 (76.7%)
	Min-Max	54.2-83.3
	Mean±SD	65.9±6.7
Preparation for lower GIT score	Unsatisfactory	0 (0.0%)
	Satisfactory	30(100.0%)
	Min-Max	100.0-100.0
	Mean±SD	100.0±0.0
Specific preparation for ERCP score	Unsatisfactory	0 (0.0%)
	Satisfactory	30(100.0%)
	Min-Max	100.0-100.0
	Mean±SD	100.0±0.0
During procedure score	Unsatisfactory	0 (0.0%)
	Satisfactory	30(100.0%)
	Min-Max	60.0-100.0
	Mean±SD	78.0±12.1
Post procedure score	Unsatisfactory	0 (0.0%)
	Satisfactory	30(100.0%)
	Mean±SD	66.7-83.3
	Min-Max	75.6±8.4
Patient's discharge score	Unsatisfactory	0 (0.0%)
	Satisfactory	30(100.0%)
	Min-Max	81.3-100.0
	Mean±SD	90.8±6.1

Table (5): Total practice score of the studied nurses regarding the care for patients undergoing GIT endoscopy (N=30).

Item	Studied nurses (N=30)
Total practice score:	
Mean +_ SD	79.7 +_ 4.3
Practice score level :	
- Satisfactory	30 (100.0 %)
- Unsatisfactory	0 (0.0 %)

DISCUSSION:

Gastrointestinal endoscopy is an integral tool in the evaluation and management of many gastrointestinal and hepatobiliary conditions (*Vergis et al., 2011*). Endoscopy nurses play a critical role in the provision of safe, high quality endoscopy to relieve anxiety and to give explanations about the modality of the endoscopic procedure. (*Pauline, 2012*).

Regarding demographic characteristics of the studied nurses, this study revealed that about half of the studied nurses were within the age range from 18 to less than 28 years and majority of the nurses were females, married and most of them lived in urban areas. It also revealed that more than half of them graduated from secondary nursing school. Moreover all of studied nurses did not have any training courses before working in GI endoscopy unit as they graduated from secondary nursing school and about more than half of them had more than 5 years experience in endoscopy unit.

As regarding nurses' level of knowledge, the results revealed that the nurses' staff had a satisfactory level of knowledge. This might be related to the fact that providing care to the patient undergoing gastrointestinal endoscopy needs special skills, knowledge and nursing specialty or may be related to the fact that about half of nurses were 18-28 years this age might have good readiness for learning new things, they might have more responsibilities toward the young nurses so more capacity of learning. This result is in agreement with *Meyer & Elliott, (2010)* who noted that nurse's knowledge scores were higher among younger and newly graduated nurses . Moreover, *Endevelt (2009)* indicated that the younger nurses are more knowledgeable than old ones.

As regarding nurses' level of practice in caring of patients undergoing GIT endoscopy, the present study revealed that nurses had a satisfactory level of practice. This finding indicated that skills can be easily improved, especially if linked with their relevant scientific base of knowledge. *Mansour (2012)* agreed with the current study results and mentioned that, continuing education is required to maintain competence in practice. Moreover, *Friese et al. (2012)* reported that, continuing education must result in practice change to be effective. Integration of knowledge occurs when information is combined with practice.

CONCLUSION:

Based on the results of the present study, the studied nurses had a satisfactory level of knowledge and practice regarding caring of patients undergoing gastrointestinal endoscopy

RECOMMENDATIONS:**RECOMMENDATIONS FOR NURSES:**

1. Periodic assessment of nurses' knowledge and practice about caring of patients undergoing gastrointestinal endoscopy to continuously updating their knowledge and practice.
2. Periodic in-service training to maintain the good level of knowledge and practice and update nurses working with this group of patient.

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تقييم معلومات و مهارات الممرضات تجاه العناية التمريضية للخاضعين لمنظار الجهاز الهضمي

الخلاصة

يعتبر منظار الجهاز الهضمي وسيلة علاجية وتشخيصية لأمراض الجهاز الهضمي و تهدف هذه الدراسة إلى تقييم معلومات ومهارات الممرضات تجاه العناية التمريضية للخاضعين لمنظار الجهاز الهضمي. تتكون عينة البحث من 30 ممرضة يعملن بوحدة المناظير بمركز جراحة الجهاز الهضمي بجامعة المنصورة. وتم استخدام استمارتين لجمع البيانات. الأداة الأولى: تقييم معلومات الممرضات و الثانية ملاحظة الأداء لتقييم أداء الممرضات قبل و أثناء و بعد إجراء منظار الجهاز الهضمي. أظهرت هذه الدراسة تحسن في معلومات ومهارات الممرضات. و انتهت هذه الدراسة إلى انه يوجد معلومات ومهارات مرضية عند الممرضات و أوصت الدراسة بعمل تقييم دورى لمعلومات ومهارات الممرضات و عمل برنامج تعليمي لهم.