

EFFECT OF IMPLEMENTING NURSING GUIDELINES ON NURSES KNOWLEDGE AND PRACTICE FOR PATIENT WITH GASTROINTESTINAL BLEEDING DURING THE FIRST 24 HOURS

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Abstract:

Gastrointestinal (GI) bleeding is a potentially life-threatening condition that requires prompt and appropriate management. **Aim** of this study was to examine the effect of implementing nursing guidelines on nurses' knowledge and practice for patient with gastrointestinal bleeding during the first 24 hours. **Materials and Method:** Quasi experimental design was utilized. **Study subjects:** All available nurses were included (40) nurses. **Two tools** were used: including demographic characteristics of the studied nurses, nurses' knowledge and practice about nursing management of patients with GI bleeding. **Results:** before implementing the guidelines 11.1% of the studied nurses had satisfactory level of knowledge, and 2.8% of them had satisfactory level of practice, while after implementing the guidelines 97.2% of them had satisfactory level of knowledge and 86.1% had satisfactory level of practice. **Conclusions:** Nursing management intervention guidelines significantly improved nurses' performance for patients with GI bleeding.

Keywords: GI bleeding, guidelines, nursing management.

Introduction:

Bleeding from the gastrointestinal (GI) tract and its management are associated with significant morbidity and mortality. GI bleeding involves any bleeding in the GI tract from the mouth down to the anus (1). Classically, GI hemorrhage was classified into upper (source proximal to the ligament of Treitz) and lower (source distal to the ligament of Treitz) subgroups (2).

The incidence of upper gastrointestinal hemorrhage in Egypt is approximately 100 patients per 100,000 populations per year. Bleeding from the upper gastrointestinal tract is approximately 4 times as common as bleeding from the lower GI tract (3).

Immediate evaluation and appropriate resuscitation is of major importance in these patients. Resuscitation includes intravenous administration of

fluids, and supplemental oxygen, correction of severe coagulopathy, and blood transfusion when needed. The threshold for blood transfusion depends on the underlying condition, rate of bleeding, and vital signs of the patient, but is generally set at a hemoglobin level of ≤ 70 g/L (4).

Endoscopy in patients with UGIB is effective in diagnosing and treating most causes of UGIB and is associated with a reduction in blood transfusion requirements and length of intensive care unit/total hospital stay. 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. In appropriate settings, endoscopy can be used to assess the need for inpatient admission (5).

Education and training helps professional nurse to keep up to date on the most recent developments in nursing care and to be able to manage the demands of nursing practice. It is recommended that continuous education in nursing is needed to promote development of knowledge and skills of nurses and to improve the quality of care given for their patients. Also the formed training courses played an important role in enhancing and updating nurses' knowledge and performance so it is important to examine the effect of implementing nursing guidelines on nurses' knowledge and practice for patient with gastrointestinal bleeding during the first 24 hours (6).

The aim of this study is to examine the effect of implementing nursing guidelines on nurses' knowledge and practice for patient with gastrointestinal bleeding during the first 24 hours.

Subjects and method

Research design:

Quasi experimental design was utilized to carry out this study.

Setting:

This study was conducted in the medical emergency unit and hepatology unit at Benha university hospital.

Subjects:

All available nurses were included in the study (40) nurses and after pilot study became (36) of both sexes who are working in medical emergency and hepatology department at Benha university hospital, with different age, qualification, years of experiences, different level of education who provide nursing care for patients with GI bleeding.

Tools of Data Collection:

Data was collected by using the following tools:

Tool I :- Interview questionnaire sheet:

Nurses Knowledge sheet was used for the purpose of assessment of nurses'

knowledge about GIT bleeding and nursing management of patients with gastrointestinal bleeding during the first 24 hours. It was adopted from **Elshekh (2002)** and modified by the researcher. It consists of (33) questions divided into two parts.

Part (1): Demographic Characteristics of the Studied Nurses

Included questions related to personal characteristic of the study subjects which composed of (6) questions including sex, age, qualifications, years of experiences, attending training sessions on how to provide nursing care for patients with gastrointestinal bleeding during the first 24 hours, and the number of these courses.

Part (2): Nurses' knowledge about nursing management of patients with GI bleeding during the first 24 hours.

Nurses' knowledge about GIT anatomy, causes and complications of GI bleeding and GI bleeding nursing management included 27 questions in the form of true or false and multiple choice questions.

Regarding scoring system, for the GIT interview sheet each correct answer was given score of one while incorrect answer or don't know were given zero. The answers of nurses were evaluated using model answer prepared by the investigator. For each part, the score of the items were summed up and divided by the total of items, giving a mean score of the part. These scores were converted into percent score. All scores were transformed into score % as follows:

Score % = (the nurse score/ total score) x 100 Then score % was transferred into categories as follows:

Knowledge categories:

- <75% were considered **unsatisfactory (inadequate).**
- ≥ 75% were considered **satisfactory (adequate).**

Tool II: -Observational checklist to observe nurse's practice about nursing management of patients with GI bleeding.

This tool aimed at assessing the practice of the studied nurses regarding GI bleeding management. It was adopted from **Elshekh(2002)** and other modifications were done by the researcher. GI bleeding practice checklists consists of (7) main parts covering all the procedure related to GIT bleeding nursing procedures and consists of (100) questions which included the following categories:

- Part 1:** Patient assessment it included (11) items.
- Part 2:** immediate care it included (4) items.
- Part 3:** Administer blood products transfusion as ordered it included (19) items.
- Part 4:** Perform enema as ordered. It included (27) items
- Part 5:** Insert a large-bore nasogastric tube as ordered it included (20) items.
- Part 6:** Perform gastric lavage as indicated it include (15) items.
- Part 7:** Psychological intervention it included (4) items.

Regarding scoring system, for GI bleeding practice items, the item done was scored one and not done was scored zero for each item, the scored items were summed up and the total divided by the number of the items, giving mean score. All scores were transformed into score % as follow:

- The observed nurse score = score of performance checklist
- The maximum score = total score of the performance checklist
- $\text{Score \%} = (\text{score of performance checklist} / \text{total score of the performance checklist}) \times 100$. Then score % was transferred into categories as follow

Practice categories:

- <75% were considered **unsatisfactory (inadequate)**.
- $\geq 75\%$ were considered **satisfactory (adequate)**.

2. Administrative design:

An official permission was obtained from the dean of Faculty of Nursing, Benha University to the directors of Benha University Hospitals at which the study was conducted.

3. Operational Design

This part included: validity & reliability, pilot study and field work.

Validity & Reliability:

Tools of data collection were developed after reviewing the national and international Literatures related to the study, this tools adopted and modified by the researcher then tested for content validity by a panel of five experts in the field of medical surgical nursing one of them was assistant professor and two lecturers at the faculty of Nursing, Benha University and two lecturers at the faculty of Nursing, Mansoura University reviewed the tools for clarity, relevance, comprehensiveness, understanding, applicability and simplicity for implementation and some modification were applied accordingly.

Reliability test was made by using Cronbach's Alpha and was in knowledge part ($\alpha = 0.882$) which is very good.

A pilot study was carried out on 10% (four nurses) who were selected randomly from 40 nurses under study those nurses were then excluded from the study. The purpose of the pilot study was to ascertain the clarity and applicability of the tool and to estimate the time needed to answer the interview sheet. Based on the finding of the pilot study, modification was made to make the tool more applicable to nurses.

Field Work:

The study was implemented through the following four phases:

Phase 1: Preparatory Phase (Assessment):

The researcher introduced herself to the study participants and gave them a brief idea about the aim of the study. Then oral consent was obtained from each nurse in the study. The interview sheets were filling by the researcher in the nurses' room after interviewing each nurse individually. The average time taken by

the investigator to fill out the form for each nurse was 20 to 30 minutes.

Observing nurses' performance during GI bleeding management was done in order to fill performance checklist sheets of the studied nurses, observing span was 3 hours/day at morning and afternoon shift. This phase was conducted by the researcher during the period from the beginning of April to the end of August 2016.

These pre-tests were done to assess the level of knowledge and practices of the study group concerning GIT and nursing management of patients with GI bleeding during the first 24 hours before starting the educational program.

Phase II: Developing nursing management guidelines:

The researcher assessed the educational needs of the nurses regarding GI bleeding then went through literature review and internet searching for relevant information to construct the educational program under the guidance of the supervisors. The main aim was to improve knowledge and practices of nurses regarding nursing management of patients with GI bleeding during the first 24 hours. A simple colored Arabic booklet was developed for nurses covering all items related to GI bleeding and its management. The Educational booklet includes definition of GI bleeding, its causes, signs& symptoms, complications and different nursing procedures related to GI bleeding management including patient assessment, Administer blood products transfusion as ordered , Perform enema as ordered, Psychological intervention, Insert a large-bore nasogastric tube as ordered, Perform gastric lavage as indicated procedures. It is written in simple Arabic language containing colored pictures clarifying each step in all procedures mentioned above for more understanding.

Phase (III): Implementation phase:

The educational program considered for this study has been carried out in nurses' room at medical emergency and hepatology unit. The implementation of the program was within the schedule of the nurses working hours. The subjects

were divided into small groups (5 groups), each group consist of seven nurses, except the last group was 8 nurses according to the total number of nurses (36). The program was conducted through five sessions; each group obtained the five sessions through 2 weeks, each session took about 30- 45 minutes.

Diverse teaching methods were used during the sessions including; interactive lectures, group discussion, demonstration & re-demonstration, data show, pictures, printed booklets, and actual nursing management on the patients. It took three months from the beginning of September to the end of November 2016.

Phase 4: Evaluation phase:

The evaluation phase focused on determining the effect of the program through nurses' GI bleeding interview sheet and performance checklists using the same tools in pre-program assessment directly after implementing the guidelines (post-test) which performed after one month from (pre-test) and continued for three months from the beginning of December to the end of February 2017. The results were compared to the pretest results to evaluate the impact of the program on knowledge and practices of the nurses.

The period of data collection take place from the beginning of April 2016 to the end of February 2017 about eleven months.

Ethical Consideration:

All relevant ethical issues were taken into consideration including the following: The research approval was obtained before starting with the program, the aim of the study was explained to each nurse and then an oral consent for participation in the study was obtained from each one of them, ensuring nurse's privacy and confidentiality of the collected data during the study. Voluntary participation as they were given an opportunity to refuse the participation, and they were assured that there information which would be used for research purposes only.

Results:

More than half of the studied nurses were less than 30 years old (58.3%), and more than half of the studied nurses were females (69.4%). Regarding the level of education more than half of them had nursing technical institute (58.3%), while only 8.3% of them are nursing faculty. About half of the studied nurses (50.0%) had less than five years experience. Majority of the studied nurses (91.7%) had no training courses and only (2.8% & 5.6%) had training courses from one to two times respectively **Table (1)**.

The total unsatisfactory score knowledge before implementing guidelines for the studied nurses was (88.9%) but only (2.8%) after while the total unsatisfactory score for practice before implementing guidelines for the studied nurses was (97.2%) but only (13.9%) after **Table (2)**.

There was a positive statistically significant relation between total

knowledge and total practice ($p=0.011$) before applying guidelines **Table (3)**.

There was a positive statistically significant relation between total knowledge and total practice (0.003) after applying guidelines **Table (4)**.

There was statistical significant relation between gender and educational level and total knowledge ($p=0.041$, 0.007) respectively while there was no statistical significant relation between age, duration of nursing experiences, number of training course and total knowledge ($p=0.152$, 0.083, 0.289) respectively **Table (5)**.

There was statistical significant relation between age and educational level and total practice ($p=0.005$, <0.0001) respectively while there was no statistical significant relation between gender, duration of nursing experiences, attending training and total practice ($p=0.436$, 0.056, 0.710) respectively **Table (6)**.

Table (1): Distribution of demographic characteristics of studied nurses (n=36).

Demographic characteristics	Studied nurses (n=36)	
	No.	+
Age (years)		
Less than 30	21	58.3
30-<40	10	27.8
40-<50	5	13.9
Mean±SD	27.6±9.5	
Gender		
Male	11	30.6
Female	25	69.4
Educational level		
Nursing diploma	5	13.9
Nursing technical institute	21	58.3
Nursing Faculty	3	8.3
Master degree in nursing	7	19.4
Duration of nursing experience (years)		
Less than 5	18	50.0
5-<10	3	8.3
10- or more	15	41.7
Attending training on care of GIT bleeding patients		
No	33	91.7
Yes	3	8.3
One training course	1	2.8
Two training courses	2	5.6

Table (2): Scores of knowledge and practice of the studied nurses before and after applying guideline

Scores		Studied nurses (n=36)				Mc Nemar test
		Before guidelines		After guidelines		
		No.	%	No.	%	
Knowledge score						
Anatomy and physiology of GIT	Unsatisfactory	26	72.2	4	11.1	P<0.0001*
	Satisfactory	10	27.8	32	88.9	
Causes and complications of GIT bleeding	Unsatisfactory	24	66.7	0	0.0	P<0.0001*
	Satisfactory	12	33.3	36	100.0	
Nursing care of GIT bleeding patient	Unsatisfactory	29	80.6	1	2.8	P<0.0001*
	Satisfactory	7	19.4	35	97.2	
Total knowledge	<i>Unsatisfactory</i>	32	88.9	1	2.8	P<0.0001*
	<i>Satisfactory</i>	4	11.1	35	97.2	
Practice score						
Nursing assessment	Unsatisfactory	36	100.0	19	52.8	P<0.0001*
	Satisfactory	0	0.0	17	47.2	
Immediate care/physical intervention	Unsatisfactory	28	77.8	0	0.0	P<0.0001*
	Satisfactory	8	22.2	36	100.0	
Administering blood products transfusion						
Pre-procedure	Unsatisfactory	27	75.0	0	0.0	P<0.0001*
	Satisfactory	9	25.0	36	100.0	
During procedure	Unsatisfactory	35	97.2	1	2.8	P<0.0001*
	Satisfactory	1	2.8	35	97.2	
Post procedure	Unsatisfactory	36	100.0	1	2.8	P<0.0001*
	Satisfactory	0	0.0	35	97.2	
Total	Unsatisfactory	33	91.7	0	0.0	P<0.0001*
	Satisfactory	3	8.3	36	100.0	
Perform enema						
Pre-procedure	Unsatisfactory	31	86.1	7	19.4	P<0.0001*
	Satisfactory	5	13.9	29	80.6	
During procedure	Unsatisfactory	28	77.8	0	0.0	P<0.0001*
	Satisfactory	8	22.2	36	100.0	
Post procedure	Unsatisfactory	36	100.0	26	72.2	P=0.001*
	Satisfactory	0	0.0	10	27.8	
Total	Unsatisfactory	35	97.2	12	33.3	P<0.0001*
	Satisfactory	1	2.8	24	66.7	
Inserting large-bore nasogastric tube	Unsatisfactory	33	91.7	6	16.7	P<0.0001*
	Satisfactory	3	8.3	30	83.3	
Perform gastric lavage	Unsatisfactory	34	94.4	12	33.3	P<0.0001*
	Satisfactory	2	5.6	24	66.7	
Total practice score	<i>Unsatisfactory</i>	35	97.2	5	13.9	P<0.0001*
	<i>Satisfactory</i>	1	2.8	31	86.1	

*significant at P≤0.05

Table (3): Correlation between scores of knowledge and practice of the studied nurses before applying guidelines.

Practice score	Anatomy and physiology of GIT		Causes and complications of GIT bleeding		Nursing care of GIT bleeding patient		Total knowledge	
	r	P	r	P	r	P	r	P
Nursing assessment	0.454	0.005*	0.087	0.614	0.496	0.002*	0.475	0.003*
Immediate care/physical intervention	0.407	0.014*	0.04	0.819	0.495	0.002*	0.434	0.008*
Administering blood products transfusion	0.402	0.015*	0.038	0.824	0.512	0.001*	0.440	0.007*
Perform enema	0.309	0.066	0.017	0.920	0.383	0.021*	0.314	0.062
Inserting large-bore nasogastric tube	0.340	0.043*	0.063	0.714	0.411	0.013*	0.373	0.025*
Perform gastric lavage	0.365	0.028*	0.007	0.970	0.456	0.005*	0.379	0.023*
<i>Total practice score</i>	0.398	0.016*	0.031	0.858	0.482	0.003*	0.421	0.011*

r: Pearson correlation coefficient *significant at $P \leq 0.05$ **Table (4):** Correlation between scores of knowledge and practice of the studied nurses after applying guidelines

Practice score	Anatomy and physiology of GIT		Causes and complications of GIT bleeding		Nursing care of GIT bleeding patient		Total knowledge	
	r	P	r	P	r	P	r	P
Nursing assessment	0.553	0.0001*	0.306	0.070	0.116	0.500	0.498	0.002*
Immediate care/physical intervention	0.345	0.040*	0.065	0.705	0.262	0.123	0.344	0.040*
Administering blood products transfusion	0.353	0.035*	0.209	0.221	0.229	0.180	0.388	0.019*
Perform enema	0.223	0.191	0.287	0.090	0.151	0.380	0.304	0.071
Inserting large-bore nasogastric tube	0.059	0.733	0.023	0.895	0.114	0.509	0.092	0.595
Perform gastric lavage	0.424	0.010*	0.321	0.057	0.157	0.359	0.442	0.007*
<i>Total practice score</i>	0.457	0.005*	0.327	0.051	0.210	0.220	0.486	0.003*

r: Pearson correlation coefficient *significant at $P \leq 0.05$

Table (5): Relation between total knowledge score and demographic characteristics among the studied nurses before and after applying guidelines

Socio-demographic characteristics	Total Knowledge score of nurses (n=36)				
	n	Before guidelines		After guidelines	
		Mean±SD	Significance	Mean±SD	Significance
Age (years)					
Less than 30	21	257.5±13.1	F=1.763	90.8±7.2	F=1.997
30-<40	10	60.4±9.9	P=0.187	94.1±4.3	P=0.152
40-≤50	5	68.9±12.5		96.3±4.5	
Gender					
Male	11	58.3±17.2	t=0.517	89.2±8.9	t=2.125
Female	25	60.6±10.1	P=0.608	93.9±4.4	P=0.041*
Educational level					
Nursing diploma	5	51.1±6.1	F=4.788	90.4±4.2	F=4.770
Nursing technical institute	21	57.2±11.9	P=0.007*	90.3±6.7	P=0.007*
Nursing Faculty	3	75.3±17.4		98.8±2.1	
Master degree in nursing	7	67.8±5.1		97.9±1.9	
Duration of nursing experience (years)					
Less than 5	18	57.0±13.9	F=1.019	90.1±7.4	F=2.688
5-<10	3	60.5±5.7	P=0.372	95.1±4.3	P=0.083
10- or more	15	63.2±11.2		94.8±4.4	
Attending training on care of GIT bleeding patients					
No	33	75.3±14.9	t=2.381	96.3±3.7	t=1.076
Yes	3	58.5±11.5	P=0.023*	92.2±6.5	P=0.289

t: Student t-test

F: ANOVA test

*significant at P≤0.05

Table (6): Relation between Total practice score and demographic characteristics among the studied nurses before and after applying guidelines

Socio-demographic characteristics	Total Practice score of nurses (n=36)				
	n	Before guidelines		After guidelines	
		Mean±SD	Significance	Mean±SD	Significance
Age (years)					
Less than 30	21	36.1±12.4	F=4.517	82.4±7.4	F=6.374
30-<40	10	45.9±19.9	P=0.018*	85.8±7.6	P=0.005*
40-≤50	5	57.9±17.2		94.9±2.9	
Gender					
Male	11	36.3±11.8	t=1.320	83.5±7.4	t=0.788
Female	25	44.3±18.4	P=0.196	85.8±8.4	P=0.436
Educational level					
Nursing diploma	5	33.4±6.0	F=41.582	84.0±8.1	F=9.313
Nursing technical institute	21	32.5±5.2	P<0.0001*	81.2±6.6	P<0.0001*
Nursing Faculty	3	61.2±15.8		93.4±2.9	
Master degree in nursing	7	67.5±11.9		93.8±3.6	
Duration of nursing experience (years)					
Less than 5	18	34.6±10.0	F=4.019	82.2±7.4	F=3.139
5-<10	3	45.2±23.4	P=0.027*	83.5±9.2	P=0.056
10- or more	15	49.9±19.3		88.8±7.7	
Attending training on care of GIT bleeding patients					
No	33	44.6±21.1	t=0.297	86.8±10.8	t=0.375
Yes	3	41.6±16.8	P=0.768	84.9±7.9	P=0.710

t: Student t-test

F: ANOVA test

*significant at P≤0.05

Discussion:

Gastrointestinal bleeding is very distressing for patients, especially from the upper tract, and the nurse has an important role to play in remaining calm and reassuring the patient about any action that needs to be taken. This, combined with good first-aid skills, will save lives and lead to effective treatment of any underlying gastrointestinal conditions (7).

Nursing programs are designed to teach new nurses the very latest in health care technology, there are new products coming out each year that the nurses need to understand. Nurses who have been in the field more than a few years may require training to learn how to use the new digital patient files and health care software. In service training in nursing is seen as necessary component to help professional nurse to keep up to date on the most recent developments in nursing and to be able to manage the demands of nursing practice (6).

This study was carried out to examine the effect of implementing nursing guidelines on nurses' knowledge and practice for patient with gastrointestinal bleeding during the first 24 hours.

The study hypothesized that, H1 - There will be significant increase in nurses' knowledge after implementing guidelines of nursing management of patients with GI bleeding during the first 24 hours than before. H2 -There will be significant increase in nurses' practice after implementing guidelines of nursing management of patients with GI bleeding during the first 24 hours than before.

In this study the minority of studied nurses attending training courses. Similarly to Ramsey et al.(2002) founded in their study that, most of the nurses did not receive any special education or in-service training. This in contrast with Abd El- All et al. (2014) as their study found

that half of studied nurses were attending training program. Also Amer et al. (2015) found that two fifth of the studied nurse attended training courses during their work.

This may be due to lacking motivation and inability of some nurses to attend training course due to lacking of nurses' number, also they may feel that attending courses has little or no value for them and not affecting their salary.

The present study showed that, majority of the studied nurses gave incorrect answer before implementing the educational guidelines regarding knowledge about GI bleeding. This lack of knowledge may be due to large number of nurses in our study sample had nursing technical institute with less than five years' experience and not attending training courses about GI bleeding.

The findings are in congruence with Abd El- All et al. (2014) whom said that the nurses' staff had poor level of knowledge before implementing of the educational guidelines.

The result in the present study revealed that there is a significant improvement at the post-guidelines phase as more than two-thirds of nurses had high knowledge level regarding improvement in nurses' knowledge about GI bleeding. This show that nurses were able to learn and get correct information about GI bleeding management as this is a practice of their daily work. And might be related to the fact that about half of nurses were less than 30 years this age might have good readiness for learning new things.

Our findings are in agreement with Abd El- All et al. (2014) that found in their study that great improvement in knowledge score levels after implementing of the educational guidelines.

These results are in agreement with those of Prochaska and Velicer (2012) that noted that nurse's knowledge and practice

improved immediately after receiving to the training program.

Also **Ragab et al.(2013)** revealed that about half of the nurses had poor level of knowledge before implementing of the training program.

As well, **Gunson (2011)** agreed that those programs are urgently needed to provide up-to-date knowledge and improve nurse's competency and skills. In addition **Tokars and Ali (2010)** stated that education and training are two component of staff development that occur after an employee's indoctrination. Early staff development emphasized orientation and in-service training.

This study showed that, there was a marked improvement in nurses' practice after implementing the educational guidelines in comparison with their practice level before implementing the educational guidelines and there was a statistical significant improvement as total satisfactory score for practice before implementing the guidelines for the studied nurses was(2.8%) which improved to (86.1%) after implementing the guidelines.

This may be due to the effect of explaining the correct steps of GI bleeding nursing procedures in the educational guidelines with colored pictures illustrating each step, using data show and implementing these steps on the patient for all study group. This is in harmony with **Abd El- All et al. (2014)** whom found that there is improvement in the practice score levels obtained by nurses' post designed teaching protocol this has been concluded by the presence of significant differences between results of pre and immediate post designed teaching protocol. This finding indicated that skills can be easily improved, especially if linked with their relevant scientific base of knowledge.

Moreover **Abd-Alla (2010)** documented that the in service training has

a beneficial effect in improving the nurse's knowledge and skills. They also recommended that educational programs should be organized according to the needs of nurses with continuous evaluation.

Also **Friese (2012)** reported that, continuing education must result in practice change to be effective. Integration of knowledge occurs when information is combined with performance.

Morse (2010) added that, will be usefully for the nurses continuing education courses because it helps advance both their knowledge and skills. Continuing education helps that nurses are kept up to date with new knowledge, skills and information.

Ellis and Hartly (2010) mentioned that a systematic program of orientation on-the-job training, specialized training, and regular in-service training shall be developed and implemented for health information employees to create a positive, motivational climate and to enhance employee opportunity for promotion. In addition an active program of quality assurance review focusing on health information practices.

Similarly **Ragab et al.(2013)** revealed improvement in the practice scores levels obtained by nurses after implementing of the training program in all items.

Also **Batrof and Mansour (2012)** agree with our study and mentioned that, continuing education is required to maintain competence in practice. Education may take the form of on the-job training, programs, workshops or conferences that education has a significant impact on the knowledge and competencies of the nurse clinician.

This study revealed that there is a statistical significant relation between gender and educational level with total knowledge, but there is no statistical significant relation between age, duration of nursing experiences, and number of training course with total knowledge. In

my opinion this may be due to lack of supplies, or lack of nurses number with numbers of patients so the nurse may have knowledge but don't perform the ideal nursing care.

The study found that there was statistical significant relation between age and educational level with total practice, but there was no statistical significant relation between gender, duration of nursing experiences, attending training and total practice

From my point of view, all nursing staff providing care is encountered with the same circumstances such as large numbers of patients with shortage of staff, limited time, and lack of needed supplies regardless to their personal characteristics. This is in harmony with **Ragab et al.(2013)** that demonstrated that significant relation between level of education and practice.

In the same context this result agrees with that of **Ahmed and Galal (2011)** that reported a statistically significant correlation between nurse's performance scores and their level of education. **Amer et al. (2015)** said that there was statistically significant relationship between nurses' practice and attendant to training and nurses qualification

Abd El- All et al. (2014) said that there was no significant relation between nurse's practice level and their years of experience post implementing designed nursing protocol.

Conclusion

Based on the findings of the present study, it could be concluded that:

There was a statistical significant difference in regard to basic knowledge of the studied sample between pre, and post the implementation of the guidelines ($P \leq 0.05$). Also there was a statistical significant differences between the overall practice before and after

implementing the guidelines as 2.8% of the studied nurse' score was improved to 86.1% after implementing the guidelines.

Recommendations

Based on the result of the present study, the following recommendations are suggested:

Administrators should create policies and plans for providing continuous education to the nursing staff, Evaluating nurses' knowledge and practice periodically to determine the effect of the training programs, Implementing the developed booklet about nursing management of patients with GI bleeding, Hepatology department should be supplied by checklists about all procedures and there must be standardized written nursing care in gastroenterology and internal medicine department. In addition to making of nursing library and net including all deferent nursing sciences.

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