

## Effect of Nursing Intervention on Clinical Outcomes and Patient Satisfaction among Upper Gastrointestinal Bleeding

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### Abstract

Upper gastrointestinal (GI) Gastrointestinal (GI) bleeding is an extremely common clinical problem, resulting in significant morbidity, mortality, and cost. Aim: determine the effect of nursing intervention on expected clinical outcomes and satisfaction of patients with upper gastrointestinal bleeding. Design: This quasi-experimental design. Setting: was conducted at the emergency department. Sample: a convenience sample 50 adult patients diagnosed with upper gastrointestinal bleeding (UGIB). Tools: used for data collection included sociodemographic and medical data sheet, patient clinical outcome and patient satisfaction. Results: Statistically significant differences were found between the study and control group after application of nursing intervention regarding patients' clinical outcomes items (bleeding attack, vital signs, laboratory tests, mental status and medical co-morbidities) at level  $P= 0.040, 0.000, 0.001, 0.066$  and  $0.045$  respectively, highly statistically significant differences were existed between the study and control group after application of nursing intervention regarding level of patients' satisfaction as a total score recorded  $77.20 \pm 4.24$  for the study group while it was  $57.68 \pm 10.6$  for the control group, achievement of the average scores for the most of the checklist items which related to nurses' performance. Conclusions: Findings illustrate that nursing intervention improve patients' expected clinical outcomes and their satisfaction. Recommendations: These findings suggest that generalization of the standardized nursing intervention in form of booklet for patients with UGIB at all hematemsis departments of Mansoura University Hospitals is important to maximize the expected clinical outcomes for patients with UGIB.

**Keywords:** Upper gastrointestinal bleeding, Nursing intervention, Patient satisfaction, Outcome

### 1. Introduction

Acute upper gastrointestinal hemorrhage (AUGIH) is a life-threatening emergency that results in a high morbidity and mortality and therefore requires admission to hospital for urgent diagnosis and management. Despite new therapeutic tools such as the proton pump inhibitors, endoscopic interventions, and surgical advances, the clinical outcome has not changed significantly and mortality rate remains around 10 % (Vreeburg et al. 1997). There are many causes for upper gastrointestinal hemorrhage; acid peptic disease (e.g., gastric and duodenal ulcers as well as gastritis) is the most common cause of upper GI bleeding, accounting for 50-75% of all cases (Kovacs et al. 1997), even among patients with chronic alcohol use, portal hypertension, and varices (Stanley, 2009; McQuaid, 1996). The relative frequency of different causes of UGIB in Egypt is esophageal varices followed by duodenal ulcer, gastritis, esophagitis, hiatus hernia, and neoplasm (Sarin, Monga, & Adams, 2009).

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 (Longstreth & Feitelberg, 2008). According to the statistical records of the Hematemesis Unit at the emergency hospital, Mansoura University at 2011, a mortality rate was 20 % of patients admitted to the Hematemesis Unit annually (Mansoura Annual Statistical Records, 2011).

Despite improved technology in the management of UGIB, mortality has remained high. This has been attributed to the increase in the population of elderly people who tend to have other underlying diseases leading to the high mortality rate. According to international literature, mortality varies from 4% to 14% (Morgan & Clamp, 2008; Katschinski, et.al. 2009). Re-bleeding is considered a risk factor of mortality and occurs in 10-30% of those successfully treated patients (Vreeburg, Snel, & Bruijne, 2007).

Patients with severe medical co-morbidities and those with persistent or recurrent bleeding are at highest risk of dying. Also advanced age, state of shock at admission and presence of advanced chronic liver disease are other factors of adverse prognostic values (Avery Jones, 2006; Johnston et al., 2007). One of the scoring systems for predicting the clinical outcome of gastrointestinal (GI) bleeding has been introduced by (Kollef et al, 2007) who identified five

predictors of risk and could be used to triage patients with upper and lower GI hemorrhage. The five predictors represented by the acronym "BLEED": ongoing bleeding, low blood pressure, elevated prothrombin time (PT), erratic mental status, and unstable co-morbid disease.

The role of the nurse in managing a patient with upper GI bleeding requires specific attention. In the first instance, the nurse must have a specific role in the nursing care that assists a patient in hypovolaemic shock; also patient comfort can be maintained by assessing the need for analgesia. The nurse should be confident in ABC (airway, breathing, circulation) resuscitation, will also be required to undertake ongoing assessment for the patient's fluid and electrolyte status (Smith, 2012).

Nurses should actively involve patients in education regarding diagnosis, drug therapy and causal factors. Appropriate primary care referrals may be required to provide adequate support. Acute upper GI bleeding is the most common emergency managed by gastroenterologists. The gastroenterologist served as a facilitator for the medical staff caring for the patients, often monitoring intravenous hydration and delivering blood/blood products. The aim was to decrease the time interval from admission to achievement of hemodynamic stability and improvement in hemoglobin level (Smith, 2012).

Patient satisfaction has also been recognized as an important issue for health care managers. Many previous studies have developed and applied to assess patient satisfaction as a quality improvement tool for health care providers (Young, Meterko & Desai, 2000; Jackson & Kroenke, 2007; Burroughs et al., 2009). Following increased levels of competition and the emphasis on consumerism, patient satisfaction has become an important measurement also for monitoring health care performance of health plans (Jatuli, Bundeck & Legorreta, 2007). This measurement has developed along with a new feature: the patient's perspective of quality of care (Ross, Steward & Sinacore, 2005; Kane, Maciejewski, and Finch, 2007; Hall

& Dornan, 2000). Moreover, Patient satisfaction with care generally is viewed as an important component in assessing the quality of care. Quality of care traditionally is assessed under the headings of process, structure, and health outcomes measures (Robert, 2009). Some classify patient satisfaction as a component of outcomes; others view consider it as a separate dimension. Various dimensions of patient satisfaction have been identified, ranging from admission to discharge services, as well as from medical care to interpersonal communication. Well-recognized criteria include responsiveness, communication, attitude, clinical skill, comforting skill, amenities, food services, etc. (Rubin, 2000; Carey & Seibert, 2003).

The purpose of implementing nursing intervention is to improve the quality of care, and decrease its cost by focusing the nurses' effort toward appropriate goals, heightening their motivation for goal achievement as well as eliminating non essential nursing activities, in which all of these can reflect improvement of patient's clinical outcomes especially for critically ill patients (Ellis & Hartley, 2000).

UGIB patients need special nursing care, and to assure quality of this care, it is important to apply specific nursing intervention that can entails knowledge and skills required by nurses in order to carry out care effectively, and ameliorate patient care, improve cost effectiveness, decrease patient's problems and complications as well as improve patient's clinical outcomes. Therefore, the application of nursing intervention for patients with UGIB aids in establishing basic quality of nursing care rendered. It also assists the profession of nursing in meeting its obligation for improving its practice and policies (Othman, 2010). So, this his study aimed to assess the effect of nursing intervention on expected clinical outcomes and satisfaction of patients with upper gastrointestinal bleeding.

Operational definition

*Clinical outcomes:*

UGIB patients need special nursing care in order to assume an improvement in their clinical outcomes.

*Patient's satisfaction:*

Patients' expectations of care matched the actual care received.

## 2. Subjects and Methods:

### *Study Design and sample*

A quasi experimental research design was utilized. A convenient sample of 50 patients (male and female) admitted in the emergency ward was included in the study. The subjects were selected randomly and divided equally into study and control groups, 25 patients in each group. Patient's age ranged from above 21 to below 65 years.. Official written permissions to conduct the study was obtained from the Director of Mansoura Main University Hospital. Verbal explanation of the nature and the aim of the study were performed to medical and nursing staff in surgical wards. In addition for participants who met the inclusion criteria. Patients were given verbal and written information about the study and written consent was obtained from the participants. The study was conducted at the emergency ward, Mansoura Main University Hospital.

Data were collected by using this questionnaire was developed by the researchers based on literature review and specialist opinion. It was divided into five parts.

### *A. Patient's Sociodemographic data and Medical data*

This comprised of data related to patient's age, sex, level of education, marital status and occupation. The medical information form included the information of patient's health history as, date of admission, present

diagnosis, and episode of bleeding (recent and previous), previous hospitalization, past medical history, laboratory studies.

B. *Grady Coma Scale*: This part was utilized to assess the level of level of consciousness of patients in elsewhere. The grade I patient is only slightly confused. The grade II patient requires a light pain stimulus (such as sharp pin tapped lightly over the chest wall). The grade III patient is comatose but will ward off deeply painful stimuli such as sterna pressure or nipple twist with an appropriate response (Teasdale & Jennett, 1979).

#### *Instruments*

Four instruments were used to collect data pertinent to study:

##### *A. Patient's Sociodemographic data and Medical data*

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##### *Scoring System*

Glasgow Coma Scale provides a score in the range 3-15. The Glasgow Coma Scale stated the normal state merits a score of 15, patients with GCS 13-15 Mild brain injuries can result in temporary or permanent neurological symptoms. Also GCS scores 12-9 stated moderate state (impairments in cognition, physical skills, and/or emotional/behavioral functioning). While GCS scores of 3-8 are usually said to be in a coma.

##### *C. Clinical outcome sheet*

This tool was adapted by (Kollef *et al*, 2007) and used to assess UGIB patient's expected clinical outcomes after exposed to special intervention. It includes medical co-morbidities, persistent or recurrent bleeding, mental status, laboratory investigations and vital signs.

##### *D. Patient satisfaction structure interview*

It was adapted by Morsy, (2000) and used to assess patient's satisfaction. It included 20 close ended questions arranged in four groups namely, communication (6 Question), continuity of care (5 Question), technical care (5 Question) and consideration of patients concerns (4 Question). Content validity was tested by ten experts in the field of nursing. Reliability for Tools was done by using test- re test. Patients' responses were ranked using five-point rating scale ranging from 5 to 1 point as follows where "very satisfied (5 points), satisfied to some extent (4 points), in between (3 points), unsatisfied to some extent (2 points) and very unsatisfied (1 point). The level of patient's satisfaction were ranging from 100 to 20, in which 100 means very satisfied, while 20 means minimal satisfaction.

##### *Reliability and Validity*

The validity and reliability of satisfaction scales were checked. Measurement of the content and construct validity referred to the validation of the study. And also reassessed the reliability of the scales, internal consistency of rating scale was done by Cronbach's alpha coefficient. The reliability coefficient for perspectives scale was 0.87.

##### *Study Procedures*

- Official permission to conduct the study was obtained from the hospital administrative authority after explanation of the aim of the study. After a thorough review of literature, tool A was developed by the researcher; tool B and C was translated and adopted by the researcher to suit the Egyptian culture. This tools included (patient's relevant information sheet, patient's expected clinical outcome sheet, structured Interview patient satisfaction schedule,) were revised by 10 experts in the field of medicine and nursing at the Faculty of Medicine and Nursing of Mansoura and Alexandria University, as a jury to test its content validity and feasibility and necessary modification were done according to the opinions of the experts. The reliability of the developed tools was estimated using the Cronbach's alpha test to measure the internal consistency of the tools. It was found to be 0.779 which indicate high reliability.
- Agreement of subjects to participate in the study was taken through written informed consent. The subjects were divided into two groups (study group and control group). The researcher started collection of data with control group on admission, using (patient's relevant information sheet and structured Interview patient satisfaction schedule) to avoid result contamination.
- A pilot study was carried out in order to assess the clarity and the applicability of patients' relevant tool (patient's relevant information sheet, structured Interview patient satisfaction schedule). It was conducted on 5 patients not included in the study. Analysis of the pilot study was done, and the necessary modifications were

done.

- Data collection was carried out in three phases: preparatory phase, implementation phase and evaluation phase for upper gastrointestinal bleeding patient's outcomes.

*Data were collected in 3 phases:*

*1<sup>st</sup> Preparatory phase:*

The preparatory phase of the study included review of literature was carried out regarding upper gastrointestinal needs and management approaches. Experts' advice was sought to ensure content comprehensiveness, clarity, relevancy and applicability. The study is supposed to be implemented from April to Oct. 2012 in the previously mentioned setting. Patients were met in emergency ward to fill out the questionnaire. The time for each interview ranged from 30-40 minutes.

*2<sup>nd</sup> Implementation Phase:*

The implementation phase was divided into two parts: first part was assessment phase for control group and the second phase for all items of care. While the control group received only the routine hospital management, in the second part of implementation phase, the nursing intervention was implemented for the study group only (30 subjects). The intervention also includes often monitoring intravenous hydration (weight, intake and output), delivering blood/blood products, give analgesic and closed observation for vital signs. Also knowledge about importance of complying with treatment, diet and follow up. The practical part of the intervention was lengthy and comprehensive to cover all the items and activities required to maintain compliance with management and proper care.

*3rd Evaluation Phase:*

Finally, the researcher collected data from the study group regarding their expected clinical outcomes using . Tool given at the end of the program for evaluating the effectiveness by comparing the results of the pre, and post intervention.

*Data Analysis*

After data collection, statistical analysis was done using (SPSS) program to assess patient's expected clinical outcomes and satisfaction throughout nursing intervention phase. Data was presented in tables; a statistical significant difference between variables of both groups was done. Also for analysis of quantitative data (mean and standards deviation) was used and t- Test also was used.

### 3.Results:

The findings of the study were presented in two parts; first part describes the distribution of the study and control group according to sociodemographic characteristics and health information data (Table I&II). The second Part presents the comparison of findings (clinical outcomes and patient's satisfaction).

Table I Distribution of the study and control groups according to sociodemographic characteristics Table I distribution of the study and control groups according to socio demographic characteristics, this table showed that, 96% of the study group and 84% of the control group were between the age group of 41 and 59 years old. Also 72% of studied sample and 68% of the control group were males. As regards marital

Sociodemographic characteristics	Study group (B)		Control group (A)	
	N	%	N	%
Age (in years)				
20-40	1	4.0	4	16.0
41-59	24	96.0	21	84.0
Sex				
Male	18	72.0	17	68.0
Female	7	28.0	8	32.0
Marital status				
Single	1	4.0	1	4.0
Married	24	96.0	23	92.0
Widow	-	-	1	4.0
Level of education				
Illiteracy	8	32.0		20.0
Read and write	8	32.0		52.0
Primary education	5	20.0		16.0
Secondary Education	2	8.0		4.0
University	2	8.0		8.0
Occupation				
work	18	72.0	16	64.0
Not work	7	28.0	2	8.0

status, most of the study sample 96.0% was married. In relation to level of education, the results revealed that, the highest percentage of the study group 32.0% was able to read and write while, 85.0% was for the control group. As regards occupation, the table showed that, 68.0% of studied patients had manual work, and 64.0% for the control group.

Table II Distribution of patients of both groups according to their health history immediately on admission

Table II. Distribution of patients of both groups according to their health history immediately on admission, revealed that, the highest percentages 52.0% and 56.0% of the study group and control group respectively had recurrent attack of Hematemesis and Melena during hospitalization. In relation to past medical history

Health history immediately on admission	Study group (B)		Control group (A)	
	N	%	N	%
Previous attack				
Recurrent attack	12	48.0	11	44
No attack	13	52.0	14	56
Past medical history				
Chronic liver disease	7	28.0	10	40.0
Diabetes mellitus	10	64.0	10	40.0
Ischemic heart disease	2	8.0	3	12.0
Renal failure /resp. disease	-	-	2	8.0
level of consciousness				
Conscious	16	64.0	18.0	72.0
Semi conscious	7	28.0	6	24.0
Un conscious	2	8.0	1	4.0
Mobility status				
Mobile	8	32.0	7	28.0
Mobile with assistance	11	44.0	7	28.0
Immobile	6	24.0	11	44.0
Smoking habit				
Smoke	16	64.0	8	32.0
Not smoke	9	36.0	17	68.0
Dietary habit				
Fatty	23	92.0	20	80.0
Spicy	2	8.0	5	20.0
Salty	2	8.0	5	20.0
Stress and anxiety				
Present	9	36.0	14	56.0

the result showed that, the highest percentage of studied patients 64.0% had past medical history of liver disease while, non of patients had renal failure or bronchial asthma. As for control group, the highest percentage (40.0%) of the patients had diabetes mellitus, while, 4.0% had renal failure and bronchial asthma. As regards level of consciousness, the result showed that, the highest percentage 64.0% of the study group and 72.0% of the control group respectively was conscious. Regarding mobility status, the table showed that, 44.0% of the study group was mobility with assistance to be the highest percentage. While 44.0% of the control group were immobility. In relation to smoking habit, the result revealed that, 64.0% of the studied patients were smokers. While 68.0% of the control group were not smoked. As regards dietary habit, the table showed that, 92.0% and 80.0% of the study and control group respectively had fatty food intake. Regarding stress and anxiety, the result showed that, the highest percentage (64.0%) of the study group had neither stress nor anxiety. While about half of the patients of the control group complained of stress and anxiety.

Table III: Comparison between expected clinical outcomes of patients in the study groups before and after application of nursing intervention.

Patient's clinical outcomes	Study group (B) Before Intervention		Study group (B) After Intervention		T- test	P-value
	No	%	No	%		
Bleeding attack:					9.789	0.044**
• Persistent attack	12	48.0%	5	20.0%		
• Recurrent attack	10	40.0%	8	32.0%		
• No attack	3	12.0%	12	48.0%		
Vital signs:					18.870	0.0003
Systolic Blood pressure	19	76.0%	7	28.0%		
• < 100mmhg	6	24.0%	18	72.0%		
• > 100mmhg					4.669	0.056
Pulse rate						
• > 100 b/m	15	60.0%	11	44.0%		
• < 60 b/m	10	40.0%	14	56.0%		
Hemoglobin	17	68.0%	16	64.0%	1.75	0.082
• Within normal range	8	32.0%	9	36.0%		
• Below normal						
Mental status:	13	52.0%	24	96.0%	2.887	0.026**
• Conscious	12	48.0%	1	4.0%		
• Semi conscious						
Medical co- morbidities:	15	60.0%	18	72.0%	9.658	0.028
• Yes	10	40.0%	7	28.0%		
• No						

\*\*=(statistically significant difference) \*\*\*=(highly statistically significant difference)

Table III comparison between expected clinical outcomes for patients of the study groups before and after application of nursing intervention, this table showed that, there was a statistically significant difference between the study group before and after application of nursing intervention regarding bleeding attack, in which the lowest percentage 20.0% had persistent attack while 48.0% had no attack after application of nursing intervention, comparing to study group before application of nursing intervention where P value = (0.044). The table also presented highly statistically significant differences regarding systolic blood pressure, in which the result recorded highly percentage 72.0% of the study group had increased in systolic blood pressure than 100 mmhg after application of nursing intervention, while it recorded 24.0% before application of nursing intervention at P level = (0.000). Moreover, the table also revealed that, there was a statistically significant differences between the study group before and after application of nursing intervention regarding laboratory tests (prothrombin time), mental status and medical co-morbidities where P value was (0.001, 0.026, and 0.028) respectively.

Table IV Comparison between both study and control groups in relation to patient's expected clinical outcomes after application of nursing intervention

Patient's expected clinical outcomes	Study group (B)		Control group (A)		t- test	P-value
	No	%	No	%		
Bleeding attack:						
• Persistent attack	5	20.0%	11	44.0%	9.669	0.040*
• Recurrent attack	8	32.0%	14	56.0%		
• No attack	12	48.0%	-	-		
Vital signs:						
<i>Systolic Blood pressure</i> • < 100mmhg	7	28.0%	20	80.0%	14.025	0.000*
• > 100mmhg	18	72.0%	5	20.0%		
<i>Pulse rate</i>						
• > 100 b/m	11	44.0%	18	72.0%	9.251	0.001*
• < 60 b/m	14	56.0%	7	28.0%		
<i>Hemoglobin:</i>						
• Within normal range	16	64.0%	16	64.0%	2.635	0.001*
• Below normal range	9	36.0%	9	36.0%		
<i>Mental status:</i>						
• Conscious	24	96.0%	18	72.0%	5.429	0.066a
• Semi conscious	1	4.0%	6	24.0%		
• Unconscious	-	-	1	4.0%		
<i>Medical co- morbidities</i>						
• Yes	7	28.0%	10	40.0%	9.526	0.045*
• No	18	72.0%	15	60.0%		

\*= (statistically significant difference) a = no statistical significance

Table IV comparison between both study and control group in relation to patient's expected clinical outcomes after application of nursing intervention, this table presented that, there was a highly statistically significant differences between both study and control group regarding systolic blood pressure, in which the highest percentage 72.0% of the study group had a systolic blood pressure more than 100mmhg after application of nursing intervention, while 20.0% was for control group at level P= ( 0.000). at the same line, the table also revealed that, there was a statistically significant differences between both study and control group regarding pulse rate, in which 44.0% of the study group had tachycardia after application of nursing

Table V: Comparison between level of satisfaction for the study groups before and after application of nursing intervention

Patient satisfaction	Study G. N= 25	%	Study G. N= 25	%	T- test	P-value
	(X <sub>2</sub> ±SD)		(X <sub>2</sub> ±SD)			
• Communication	16.64±3.01	55.4	25.64±2.17	85.4	15.286	0.000***
• Continuity of care	10.04±1.90	40.16	17.16±1.65	68.64	14.025	0.000***
• Technical care	13.00±0.40	52	16.84±1.88	67.36	10.694	0.000***
• Consideration of patient concerns	10.20±1.68	51	17.28±1.76	86.4	11.915	0.000***
• Total scores	50.24±6.03	50.2	77.20±4.24	77.2	19.34	0.000***

\*\*\* = (highly statistically significant difference)

intervention comparing to 72.0% for the control group, with P value= (0.001).

Also there was a statistically significant differences between both study and control group regarding bleeding attack and medical co-morbidities after application of nursing intervention at level P= (0.040) and (0.045) respectively.

Table VI Comparison between both study and control groups in relation to level of patients' satisfaction after application of nursing intervention.

Patient satisfaction	Study G. N= 25	%	Study G. N= 25	%	T- test	P-value
	(X $\pm$ SD)		(X $\pm$ SD)			
• Communication	25.64 $\pm$ 2.17	85.4	20.00 $\pm$ 4.41	66.6	5.728	0.000***
• Continuity of care	17.16 $\pm$ 1.65	68.64	11.80 $\pm$ 3.57	47.2	6.813	0.000***
• Technical care	16.84 $\pm$ 1.88	67.36	13.84 $\pm$ 3.09	55.36	4.142	0.000***
• Consideration of patient concerns	17.28 $\pm$ 1.76	86.4	12.60 $\pm$ 2.38	63	7.891	0.000***
• Total scores	77.20 $\pm$ 4.24	77.2	57.68 $\pm$ 10.6	57.6	8.51	0.000***

\*\*\* = (highly statistically significant difference)

Table V comparison between level of satisfaction for the study groups before and after application of nursing intervention, it can be observed from this table that, there was a highly statistically significant difference between the study group before and after application of the standards regarding Communication, Continuity of care, Technical care, Consideration of patient concerns, where P value was at levels (0.000, 0.000) respectively. In relation to the total score of patient's satisfaction level, it can be observed that, there was a highly statistically significant difference between the study group before and after application of the standards at level 50.2400  $\pm$  6.03 and 77.20  $\pm$  4.24 respectively where, P value was found to be (0.000).

Table VI comparison between both study and control groups in relation to level of patients' satisfaction after application of nursing intervention, this table presented that there was a highly statistically significant difference between study group and control group after nursing intervention regarding Communication, Continuity of care, Technical care, Consideration of patient concerns, P value was significant at level (0.000) respectively. In relation to the total score of patient's satisfaction level, there was a highly statistically significant difference between control group and study group after nursing intervention at level 57.68  $\pm$  10.6 and 77.20  $\pm$  4.24 respectively where P value was significant at level (0.000).

Table VII noticed that the average scores with standard deviation have been achieved for all items of the checklist except for the items of (health history, endoscopic therapy and balloon tamponade) which recorded low average scores at levels (5.69 $\pm$ 8.13), (1.05 $\pm$ 1.76), (0.70 $\pm$ 2.66) respectively.

#### 4. Discussion

Upper gastrointestinal bleeding (UGIB) presents a clinical problem in Egypt with a significant mortality rate which could be markedly reduced by providing the Hematemesis Unit with well trained and experienced staff. Cooperation between the medical and nursing staff is mandatory for the proper management of hematemesis patients, so the nurse at the Hematemesis Unit faced challenging responsibility in evaluating and diagnosing the problem and instituting prompt and appropriate nursing care. The quality of nursing care depends on comprehensive and intelligent determination of the impact of nursing intervention on the health status of the patient where the patients are the concern of this determination (Robert, 2005).

The majority of the studied patients suffering from Hematemesis, lies in the middle adult and their age ranged between fourth and fifth decade. This distribution is similar to another study done by Kaliamurthy et al. (2011) sated that upper gastrointestinal bleeding tends to occur at an older age. The mean age of all patients was 55 years. According to the present study, the highest percent of study and control group were male. This finding coincides with another study carried out by Yavorski, (2008) who revealed that the incidence of UGIB is 2- fold greater in males than in females, in all age groups; however, the death rate is similar in both sexes. This may be explained by the high incidence of smoking and occupational stress among men rather than women in the Egyptian community. Regarding age, there were significantly males more than females, which is similar to study by Longstreth & Feitelberg(2008) in which there was a distinct male preponderance. Upper gastrointestinal bleeding tends to occur at an older age and the mean age of 55 years old. Most of the studied samples had recurrent attack of hematemesis on admission; this result comes in agreement with Adler, (2009) who explained that, most of hematemesis patients hospitalized with history of recurrent attack of bleeding episodes.

The result of the present study revealed that, there was statistically significant difference between the study and

the control group after application of nursing intervention regarding bleeding attack. Also it revealed that, more than two third of the control group present with recurrent bleeding during hospital stay, compared to minority of the study group. This means that, the bleeding attack was improved after nursing intervention implementation in the present study. This findings comes in agreement with Zimmerman, (2005) who reported that, patient with continued bleeding after admission is associated with high risk of intervention and up to a 50-fold increased mortality. Another studies done by Blatchford, (2007) & Cameron, (2002) revealed that, lack of emergent intervention for initial hematemesis doubles mortality. In the same line Shahinpour, (2008) emphasized that, determination of bleeding site is a key factor in successful emergency management of patient with bleeding and can prevent recurrent bleeding and adverse clinical outcomes.

The result of the present study showed also an increased in systolic blood pressure than 100 mmhg and normalized pulse rate for the study group after application of nursing intervention, comparing to the control group. This finding come in agreement with Blatchford, (2007) & Cameron, (2002) and Rockall, ( 2005) they stated that, initial shock (hypotension and tachycardia) is associated with increased mortality and need for intervention.

Moreover, the results of the present study revealed that, most patients of the study group were conscious after application of nursing intervention. This finding coincides with Bashir, (2008) who mentioned that, restoration of the circulatory blood volume and close observation of patients; as well as trials to establish the diagnosis of the exact cause of bleeding, are all improve patients' hemodynamic status as well as patient's clinical outcome.

The result of the present study illustrated stability in medical co-morbidities of the study group after application of nursing intervention, which reflects an improvement in their clinical outcomes comparing with control group. This finding come in agreement with another studies which reported that, the absence of significant co-morbidities is associated with good clinical outcomes and also associated with mortality as low as 4 %, even one co-morbidities almost doubles mortality and the presence of cardiac failure or malignancy significantly worsens prognosis (Blatchford,et al.,2007;Cameron,et al.,2002;Shahinpour,2008 and Rockall,2005).

Patient satisfaction in the present study is presented fewer than four main headings namely: communication, technical care, continuity of care and concern items. Result revealed that, the total mean score regarding level of satisfaction of the study group after application of nursing intervention was improved compared with the total score before application of nursing intervention. This finding in agreement with Morsy, (2000) who reported that the overall level of patient satisfaction was 66.32%. Another study found that overall level of patient satisfaction was 87.4% (Lewis and Woodside).

The present study showed also that, level of satisfaction for the study group was increased in relation to communication after application of nursing intervention. In another study by Shppard,(2003) researcher found that patients satisfaction with community mental health service to be significantly related to many aspects of work undertaken by community psychiatric nurses and social workers.

These findings are consistent also with Morsy, (2000) who reported similar findings about the patient satisfaction in relation to technical care. Recent study carried out by Hinshow, (2004) reported that, patients were highly satisfied. In another study by Hinshaw, and Atwood (2004) found a drop in patient satisfaction in relation to technical care.

In relation to continuity of care, this study showed that more than half of the study patients were satisfied after nursing intervention implementation. This is in agreement with Hjortdahl, (2009) about continuity of care and has been found to be a significant factor in relation to patient satisfaction. Nelson, (2003) found also that, receiving attention & concern from nurses were a common source of satisfaction. This showed in agreement with the present study results.

Acute gastrointestinal bleeding is an extremely common clinical condition affecting a large patient population. The diverse clinical presentations, etiologic factors and treatment modalities are important to understand, and early identification of the source of bleeding is, the essential component in reducing morbidity and mortality. So, the present study was carried out to document information on the clinical outcome of patients admitted with UGIH to a government hospital in Egypt with the intention of encouraging staff lead the provision of a protocol led service for these seriously ill patients who require urgent and skilled management. Management of patients with UGIH should include assessing the risk of gastrointestinal bleeding, minimizing the duration of exposure to anti platelet and antithrombotic agents in patients at high risk, and recognizing the early signs of bleeding (Mumtaz et al.,2008).

## 5. Conclusion and recommendation

A Nursing intervention for patients with upper gastrointestinal bleeding had been proven to have a positive effect on the expected clinical outcomes of the study group which is reflected on improvement of patients' clinical outcomes and their satisfaction. It is recommended that provision of in service training program for nurses on update of nursing intervention for patient with upper gastrointestinal tract bleeding to refresh their knowledge,

continuous supervision and assessment of patients with upper gastrointestinal tract bleeding is very important, annual guideline about nursing intervention of patients with upper gastrointestinal tract bleeding should be available in the hematensis unit and replication of study on a large probability sample is very important.

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