

## Effect of Designated Nursing Intervention on the Outcomes of Patients with Upper Gastrointestinal Bleeding

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### Abstract

**Background:** Upper gastrointestinal bleeding is an extremely common clinical problem, resulting in significant morbidity, mortality and cost. **The study aimed to:** evaluate the effect of designated nursing Intervention on the outcomes of patients with upper gastrointestinal bleeding. **Design:** A quasi-experimental research design used in this study. **Setting:** This study was conducted at the Intensive Care Unit & Emergency Department in As-salam International Hospital. **Subject:** A Purposive sample of seventy adult patients divided equally into two groups diagnosed with upper gastrointestinal bleeding. **Tools:** Three tools were used for data collection, included sociodemographic and medical data sheet, patient clinical outcome, patient satisfaction, designated nursing intervention. **Results:** Statistically significant relation were found between the study and control group after designated nursing intervention regarding patients' level of knowledge, clinical outcomes items (bleeding attack, vital signs and medical co-morbidities) and highly statistically significant relation were existed between the study and control group after application of nursing intervention regarding level of patients' satisfaction. **Conclusions:** Based upon the findings of the present study, it was concluded that designated nursing intervention improves patients expected clinical outcomes and their satisfaction. **Recommendation:** These findings suggest that regular follow up for all patients with UGIB to evaluate their health conditions and to detect any complications early.

**Keywords:** Upper Gastrointestinal Bleeding, Nursing Intervention, Outcomes.

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### I. Introduction

Upper gastrointestinal bleeding (UGIB) is a life-threatening condition that accounts for a significant number of hospitalizations, leading to considerable morbidity, mortality and resource utilization. UGIB has a multitude of causes with peptic ulcer disease and varices being the most common, and disproportionately affects the adult with a higher mortality among these patients. The majority of UGIB patients do not require intervention; therefore, identifying patients at risk of rebleeding or mortality is the goal. Aggressive resuscitation and timely endoscopy for localization of the bleeding source are paramount to identify patients who do not stop bleeding and may require endoscopic, surgical, or angiographic intervention.<sup>[1]</sup>

Upper gastrointestinal bleeding (UGIB) is a common problem with an annual incidence in USA approximately 80 to 150 per 100,000 populations, with estimated mortality rates between 2% to 15%. UGIB is classified as any blood loss from a gastrointestinal source above the ligament of Treitz. It can manifest as hematemesis (bright red emesis or coffee-ground emesis), hematochezia, or melena. Patients can also present with symptoms secondary to blood loss, such as syncopal episodes, fatigue, and weakness. UGIB can be acute, occult, or obscure.<sup>[2]</sup>

More than 1% of adult people aged 80 years and adult are hospitalized each year because of gastrointestinal bleeding and rates of both upper and lower GI hemorrhages increase significantly with aging. Adult people can originate from lesions common to all age groups or from lesions associated specifically with aging. Although that the approach to the diagnosis and management of gastrointestinal bleeding is not specific to adult people.<sup>[3]</sup>

Adult people differ from younger people in the same conditions for several aspects of clinical presentation and outcomes. In adult people, morbidity and mortality from GI bleeding are determined by both the nature and the entity of bleeding and by the presence of comorbid medical conditions, including cardiovascular and pulmonary disease.<sup>[4]</sup> Patients with acute upper gastrointestinal (GI) bleeding commonly present with hematemesis (vomiting of blood or coffee-ground-like material) and/or Melena (black, tarry stools). The initial evaluation of patients with acute upper GI bleeding involves an assessment of hemodynamic

stability and resuscitation if necessary. Diagnostic studies (usually endoscopy) follow, with the goal of both diagnosis, and when possible, treatment of the specific disorder.<sup>[5]</sup>

There are a lot of diverse diseases causing bleeding from upper gastrointestinal tract including peptic ulcer, erosive gastritis, and esophageal varices, bleeding from esophageal tears due to excessive vomiting, gastric carcinoma, esophageal carcinoma and various bleeding disorders. In western population the most common lesion causing bleeding from UGIT is peptic ulcer (50%) followed by esophageal varices (14%).<sup>[6]</sup>

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 hypovolemic shock. Management of GI bleeding is limited in primary care and immediate hospital admission is usually required. Once hospitalized initial priorities relate to the support of the patient's circulation as opposed to the identification of the source of the bleed, Endoscopy is usually performed only once resuscitation has been achieved.<sup>[7]</sup>

### **1.1 Significance of the Study:-**

Despite improved technology in the management of UGIB, mortality has remained high in USA. 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%, re-bleeding is considered a risk factor of mortality rate and occurs in 10-30% of those successfully treated patients.<sup>[8]</sup> Upper gastrointestinal bleeding is a frequent gastrointestinal emergency accounting for > 250,000 hospitalizations annually in the USA. Traditionally, upper gastrointestinal bleeding has been divided into non-variceal and variceal, due to the significantly different prognosis associated with each category.<sup>[9]</sup>

So significant of this study was to gastrointestinal bleeding is a common problem with numerous causes. Egyptian suffers from upper gastrointestinal bleeding. 60% of patient presented with hematemesis and melena. The present study revealed that esophageal varices were responsible for 45% deaths of adult patients with upper gastrointestinal bleeding. According to the statistical records of Sayed Galal Hospital, Al-Azhar University, and Cairo.<sup>[10]</sup>

### **1.2 Aim of the Study**

The aim of this study was to evaluate the effect of designated nursing intervention on the outcomes of patients with upper gastrointestinal bleeding thought the following:

1. Assess upper gastrointestinal bleeding patient's needs.
2. Designated nursing intervention for patient with upper Gastrointestinal bleeding based on the initial assessment.
3. Implement the designated nursing intervention for the patient with upper gastrointestinal bleeding.
4. Evaluate the effect of the designated nursing intervention on upper gastrointestinal bleeding patient outcomes.

## **II. Research Hypothesis**

At the end of this study, the designated nursing intervention will positively affect the upper gastrointestinal bleeding patient's outcomes, will be a better health status & high satisfaction level than those patients did not receive the designated nursing intervention as measure by tools (I, II, III).

## **III. Subjects and Methods**

### **2.1 Research Design:**

A quasi experimental research design was used in this study. Quasi-experiments are most likely to be conducted in field settings in which random assignment is difficult or impossible. They are often conducted to evaluate the effectiveness of a treatment—perhaps a type of psychotherapy or an educational intervention.

### **2.2 Research Setting:**

This study was conducted at emergency department and intensive care units in AS-Salam International Hospital affiliated to specialty hospitals.

### **2.3 Subjects:**

A purposive subject of 70 adult patients diagnosed with upper gastrointestinal bleeding was involved in this study from the above mentioned setting they were selected according to the sensitivity analysis in relation to the number of patients exposed to upper gastrointestinal bleeding with the year 2018 at AS-Salam International Hospital affiliated to specialty hospitals according to the statistics department which affiliated to setting.

Patients were divided randomly into two equal groups (35 patients for each).

**Sample size Equation:** at 95% confidence, power of the study. The researchers depended on the following equation to calculate the sample size:

$$n = \frac{NZ^2 P(1-p)}{d^2 (N-1) + Z^2 P(1-p)}$$

n=sample size  
N= Total society size= (144).  
D= error percentage= (0.5).  
P= percentage of availability of the character and Objectivity= (0.1).  
Z= the corresponding standard class of significance 95 %=( 1.96).

$$n = \frac{144(1.96)^2 0.1(1-0.1)}{(0.05)^2 (144-1) + (1.96)^2 0.1(1-0.1)}$$

$$n = \frac{49.787136}{0.703244} = 70$$

**Inclusion Criteria:**

- Recently enter the emergency department.
- Patients who complain from upper gastrointestinal bleeding as recently of anticoagulants medication & peptic ulcer.
- Patients who was undergoing endoscopic procedure.

**Exclusion Criteria:**

- Liver cirrhosis Patients
- Cancer Patients

**2.4 Tools of Data Collection:**

**Data was collected using the following Tools:-**

**Tool (I) – Interview Questionnaire Tool:-**

This tool was developed by the investigator after reviewing the national and international related literature. Consisting of 2 parts:-

**Part A: Patient’s Sociodemographic Characteristics:**

This was included demographic data as: patient’s age, sex, and level of education, marital status, occupation.

**Part B: Patient’s Medical Data:**

The medical information form included the information of patient's health history such as, present diagnosis, and episode of bleeding (recent and previous), previous hospitalization, past medical history, laboratory studies.

**Scoring system of knowledge of the patient about upper gastrointestinal bleeding**

The scoring system was ranging from 0 (incorrect) to 2 (correct) points for each item.

Score % = (the observed score / the maximum score) × 100

**The total score was from 0-24 grades:**

- Knowledge satisfactory >60%
- Knowledge unsatisfactory <60%

**Tool (II) - Grady Coma Scale:**

This part was adopted from <sup>[11]</sup> utilized for assess the level of consciousness of patients and it included the five grades. Grade I patient is who only slightly confused. Grade II patient requires a light pain stimulus (such as sharp pin tapped lightly over the chest wall). Grade III patient is comatose but will ward off deeply painful stimuli such as sterna pressure or nipple twist with an appropriate response. Grade IV patient exhibits decorticate or decelerate posturing to a deep pain stimulus. Grade V patient does not respond to any stimuli: flaccid.

**Scoring System:**

Score % = (the observed score / the maximum score) × 100

**The total score was from 0-3 grades:**

- 1 (deep pain)
- 2 (light pain).
- 3 (calling name).

**Tool (III) -This Tool was consisting of 2 parts:-**

**Part I: Clinical Outcome Questionnaire**

This tool was adopted from <sup>[12]</sup> 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, hemoglobin level and vital signs and hospital stay.

## **Part II: Patient Satisfaction Questionnaire Sheet**

It was adopted from <sup>[13]</sup> this used to evaluate patient's satisfaction toward nursing care. It included 15 closed questions arranged in three groups, communication (5 Questions), continuity of care (5 Questions), and technical care (5 Questions).

### **Scoring System of Patient's Satisfaction:**

The scoring system was rating from 1 (poor) to 5 (excellent) points for each item. Each question response was either poor (1 grade), fair (2 grade), good (3 grade), very good (4 grade) and excellent (5 grade).

Score % = (the observed score / the maximum score) × 100

### **The total score was from 25-75 grades:**

- Poor <50%
- Average 50-75%
- Good >75%

### **Ethical Considerations:**

The research approval obtained from the ethical committee before starting the study, permission has been obtained orally from each patient to participate in the study. Before data collection, patients were informed about the aim of the study and what would be done with the results. They were given an opportunity to refuse participation from the study and they were notified that they could withdraw at any time from the research. Also, they were assured that the information would remain confidential and used for the research purpose only. Ethics, values, culture and beliefs were respected.

### **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.

### **Pilot Study:**

It was carried out on 7 patients with upper gastrointestinal bleeding. They represented about 10% of the total study sample. The aim of the pilot study was to evaluate clarity, simplicity, applicability of data collection tools, as well as, to determine the time allowed to fulfill the developed tools. The number of the pilot study was excluded from the study sample and replaced by other 7 patients during collected data.

### **Field Work:**

Data were collected in 6 months from the beginning of February 2019 to the end of July 2019. Patients were interviewed 3 days/week (Monday & Tuesday & Wednesday). Investigator was interviewed one or two patients per day from 10 am to 1 pm, till the needed sample completed. The investigator started data collection by introducing himself to the patients and explained the aim of the study and its importance. They were assured that the information collected would be treated confidentially and would be used only for the purpose of the study. Data pertinent to the study variable were collected through structured face to face interview and all the tools filled by the investigator, Interviewing the patients was carried out in specialized room (emergency, intensive unit).

### **Statistical Design:**

All data collected, obtained were organized, categorized, tabulated and analyzed by using the Statistical Package for the Social Sciences (SPSS) version 20.0, which was applied to frequency tables and Statistical significance. The Statistical significance and association were assessed using percentage (%), the arithmetic mean, standard deviation (SD), chi square, t-test, Pearson correlation (r) to detect the relation between variables and p-value.

## **IV. Results.**

**Table (1)** shows that there was no statistically significant relation between demographic characteristics of the two groups with (P-value > 0.05) and indicates the mean age of study and control group under study was 39.86±7.57 and 42.71±8.14 years respectively, also more than half (54.3 %) of the studied patients were males in study group, more than half (54.3 %) of them were females in control group. In addition to two fifths (40.0%) of studied patient were having second level of education, more than half (62.9% & 51.4%) of studied patient married in study and control groups respectively and more than half (60.0% & 62.9%) of studied employed in both group respectively.

**Table (2)** reveals that, there was a statistically significant relation between health history immediately on admission of the two groups regarding duration of bleeding for 10 minutes at p-value=0.03 and more than half of the study and control group (60%) were presented with peptic ulcer, more than one third (37.1 % & 48.6%) of them were having sudden onset of recent bleeding while more than two thirds (68.6%) and above half (57.1%) of them have hypertension, ischemic heart disease regarding past medical history for study and control group respectively and more than half of studied were having family history of upper gastrointestinal bleeding as both study and control group (54.3% & 62.9%) respectively.

**Table (3)** reveals that, there was a statistical significant relation between patient's clinical outcome before designated nursing intervention of the two groups where three fifths (62.9 %) of the studied patients were having medical co morbidities of hypotension and more than one third (34.3%) of control group were having medical co morbidities of hypotension at p value 0.031. In additional to more than one third (45.7 %) of the studied patients were having recurrent attacks of bleeding , while more than three quarters (77.1 %) of control group were having recurrent attacks of bleeding at p value 0.009. Also this table demonstrates that there was no statistical significant relation between patient's clinical outcomes before designated nursing intervention of the two groups regarding mobility, hemoglobin, systolic blood pressure and heart rate (p-value > 0.05).

**Table (4)** shows that there was a highly statistically significant relation between study group before and after designated nursing intervention and their medical co morbidities at p value < 0.001 where study group before designated nursing intervention was more having hypotension as compared to after the intervention, there was a high statistically significant relation between the study group before and after designated nursing intervention and their recurrent bleeding attacks at p value < 0.001 where the study group after designated nursing intervention was not having recurrent attack of bleeding as compared to before intervention.

**Table (5)** demonstrates that there was a highly statistically significant relation between the study groups before and after designated nursing intervention and their satisfaction at p value < 0.001 where study group after designated nursing intervention was more satisfied than before (97.1%). **Table (6)** reveals that there was a highly statistically significant relation between study and control group after designated nursing intervention and their level of satisfaction at p-value < 0.001 where study group after designated nursing intervention was more satisfied as compared to control group (97.1%).

**Table (7)** clarifies that there was a statistical significant relation between the studied patients' level of knowledge and their level of education and their occupation at p-value p 0.028 and 0.018 respectively where studied patients of secondary level of education and employed patients were having more satisfied knowledge.

**Table (1):** Distribution of patients in the study group and control group regarding to their demographic characteristics (n=70).

Socio-demographic data	Study group (n=35)		Control group (n=35)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
<b>Age (years):</b>					2.843	0.189
20->30.	3	8.6	0	0.0		
30->40.	12	34.3	8	22.9		
40 or more.	20	57.1	27	77.1		
Mean of age ±SD	39.86±7.57		42.71±8.14			
<b>Sex:</b>					0.514	0.473
Male	19	54.3	16	45.7		
Female	16	45.7	19	54.3		
<b>Level of education:</b>					1.005	0.800
Illiteracy	7	20.0	6	17.1		
Primary Education	9	25.7	12	34.3		
Secondary Education	14	40.0	14	40.0		
High Education	5	14.3	3	8.6		
<b>Marital status:</b>					2.971	0.396
Single	4	11.4	3	8.6		
Married	22	62.9	18	51.4		
Widow	9	25.7	12	34.3		
Divorced	0	0.0	2	5.7		
<b>Occupation:</b>					0.060	0.806
Unemployed	14	40.0	13	37.1		

Employed	21	60.0	22	62.9		
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**Table (2):** Distribution of the study and control groups according to their health history immediately on admission (n=70).

Health history	Study group (n=35)		Control group (n=35)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
<b>Present diagnosis:</b>						
Peptic ulcer	21	60.0	21	60.0	0.000	1.000
Gastritis	9	25.7	8	22.9	0.078	0.780
Haematemesis	3	8.6	5	14.3	0.565	0.452
<b>Episodes of bleeding</b>						
<b>Recent episode of bleeding</b>						
<b>*Onset:</b>						
Gradually	2	5.7	6	17.1	1.270	0.259
Sudden	13	37.1	17	48.6	0.525	0.468
<b>*Duration (min):</b>						
5 minute	4	11.4	0	0.0	2.386	0.122
10 minute	11	31.4	21	60.0	4.566	0.031*
<b>Previous episode of bleeding</b>						
<b>*No previous</b>						
	16	45.7	11	31.4	1.507	0.220
<b>*Onset:</b>						
Sudden	4	11.4	1	2.9	2.138	0.343
<b>*Duration (min):</b>						
5 minute	4	11.4	1	2.9	2.138	0.343
<b>*Frequency:</b>						
2 time	1	2.9	1	2.9	0.000	1.000
3 time	2	5.7	0	0.0	1.875	0.392
4 time	1	2.9	0	0.0	0.515	0.473
<b>Past medical history:</b>						
Diabetes mellitus	19	54.3	14	40.0	0.920	0.338
Hypertension	24	68.6	20	57.1	0.560	0.454
Ischemic heart disease	24	68.6	20	57.1	0.560	0.454
Renal disorder	4	11.4	4	11.4	0.000	1.000
Hepatic disorder	4	11.4	2	5.7	0.181	0.671
<b>Family history:</b>						
Yes	19	54.3	22	62.9	1.710	0.425
No	16	45.7	13	37.1		

**Table (3):** Comparison between patients (study group and control group) regarding to their clinical outcome before designated nursing intervention (n=70).

Clinical outcome sheet	Study group (n=35)		Control group (n=35)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
<b>Medical CO-Morbidities:</b>						
Metabolic disorder	1	2.9	1	2.9	0.000	1.000
Respiratory disorder	2	5.7	6	17.1	1.264	0.261
Hypovolemic shock	4	11.4	3	8.6	0.018	0.891
Infection	6	17.1	4	11.4	0.116	0.734
Hypertension	3	8.6	8	22.9	1.727	0.189
Hypotension	22	62.9	12	34.3	4.646	0.031*
Diabetes Mellitus	0	0.0	1	2.9	0.117	0.733
<b>Bleeding attack:</b>						

Recent	13	37.1	8	22.9	11.619	0.009*
Recurrent	16	45.7	27	77.1		
No Attack	6	17.1	0	0.0		
<b>Mobility:</b>						
Mobile	22	62.9	13	37.1	6.367	0.095
Immobile	13	37.1	20	57.1		
Mobile with assistance	0	0.0	2	5.7		
<b>Hemoglobin level:</b>						
Within normal range	23	65.7	25	71.4	1.373	0.503
Below normal	12	34.3	10	28.6		
<b>Systolic blood pressure:</b>						
<100 mmhg	8	22.9	6	17.1	0.357	0.550
>100 mmhg	27	77.1	29	82.9		
<b>Heart rate:</b>						
< 60	8	22.9	6	17.1	0.357	0.550
>100	27	77.1	29	82.9		

**Table (4):** Comparison between the patient study group regarding to their clinical outcome before and after designated nursing intervention (n=35).

Clinical outcome sheet	Study group Before(n=35)		Study group After(n=35)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
<b>Medical CO-Morbidities:</b>						
Metabolic disorder	1	2.9	0	0.0	0.002	0.961
Respiratory disorder	2	5.7	0	0.0	0.511	0.475
Hypovolemic shock	4	11.4	5	14.3	0.008	0.926
Infection	6	17.1	3	8.6	0.498	0.481
Hypertension	3	8.6	2	5.7	0.015	0.902
Hypotension	22	62.9	5	14.3	15.450	<0.001**
Diabetes Mellitus	0	0.0	0	0.0	0.000	1.000
<b>Bleeding attack:</b>						
Recent	13	37.1	9	25.7	17.239	<0.001**
Recurrent	16	45.7	4	11.4		
No Attack	6	17.1	22	62.9		
<b>Mobility:</b>						
Mobile	22	62.9	19	54.3	5.231	0.264
Immobile	13	37.1	13	37.1		
Mobile with assistance	0	0.0	4	11.4		
<b>Hemoglobin level:</b>						
Within normal range	23	65.7	28	80.0	3.036	0.219
Below normal	12	34.3	7	20.0		
<b>Systolic blood pressure:</b>						
<100 mmhg	8	22.9	2	5.7	4.200	0.039*
>100 mmhg	27	77.1	33	94.3		
<b>Heart rate:</b>						
< 60	8	22.9	2	5.7	4.200	0.039*
> 100	27	77.1	33	94.3		

**Table (5):** Comparison between study group before and after designated nursing intervention and their satisfaction (n=35).

Level of satisfaction	Study group Before(n=35)		Study group After(n=35)		Chi-square	
	No.	%	No.	%	x <sup>2</sup>	p-value
Poor	6	17.1	0	0.0	62.252	<0.001**
Average	28	80.0	1	2.9		
Good	1	2.9	34	<b>97.1</b>		
<b>Total</b>	35	100.0	35	100.0		

**Table (6):** Comparison between study and control group regarding their level of satisfaction after designated nursing intervention (n=70).

Level of patients satisfaction	Study group (n=35)		Control group (n=35)		Chi-square test	
	No.	%	No.	%	x <sup>2</sup>	p-value
Poor	0	0.0	3	8.6	37.702	<0.001**
Average	1	2.9	23	65.7		
Good	34	97.1	9	25.7		
<b>Total</b>	35	100.0	35	100.0		

**Table (7):** Relation between patients' socio-demographic data before and after designated nursing intervention and their level of knowledge about upper gastrointestinal bleeding (n=35).

Socio-Demographic data	Level of knowledge before				Level of knowledge After				Chi-square test	
	Satisfied		Unsatisfied		Satisfied		Unsatisfied		x <sup>2</sup>	p-value
	No.	%	No.	%	No.	%	No.	%		
<b>Age (years):</b>										
20->30	0	0.0	3	15.0	2	7.1	1	14.3	4.583	0.101
30->40	8	53.3	4	20.0	12	42.9	0	0.0		
>40	7	46.7	13	65.0	14	50.0	6	85.7		
<b>Sex:</b>										
Male	7	46.7	12	60.0	14	50.0	5	71.4	1.036	0.309
Female	8	53.3	8	40.0	14	50.0	2	28.6		
<b>Level of education:</b>										
Illiteracy	2	13.3	5	25.0	4	14.3	3	42.9	4.554	0.028*
Primary education	3	20.0	6	30.0	9	32.1	0	0.0		
Secondary education	7	46.7	7	35.0	11	39.3	3	42.9		
High education	3	20.0	2	10.0	4	14.3	1	14.3		
<b>Marital status:</b>										
Single	1	6.7	3	15.0	3	10.7	1	14.3	1.619	0.445
Married	12	80.0	10	50.0	19	67.9	3	42.9		
Widow	2	13.3	7	35.0	6	21.4	3	42.9		
<b>Occupation:</b>										
Unemployed	5	33.3	9	45.0	9	32.1	5	71.4	80.03	0.018*
Employed	10	66.7	11	55.0	19	67.9	2	28.6		

## V. Discussion

Upper gastrointestinal bleeding (UGIB) is the bleeding from any part of the gastrointestinal tract proximal to the duodenojejunal junction or the ligament of Treitz. It may manifest as Haematemesis or melena or both. The incidence of upper gastrointestinal bleeding is more common compared to lower gastrointestinal bleeding. Despite improvements in diagnosis and treatment modalities over the last few decades, an in-hospital mortality rate of 5% is still a matter of concern. <sup>[14]</sup>The management of UGIB has advanced with new endoscopic techniques and the pharmacologic landscape has changed. Anticoagulant or antiplatelet therapy, including combination therapy, is becoming more common, substantially increasing the risk for UGIB. <sup>[15]</sup>



The result considering age of the studied patients, the present study showed that seventy patients were included in the present study, their mean age was  $39.86 \pm 7.57$  For study group and  $42.71 \pm 8.14$  For control group, more than half of the studied patients in study group and more than three quarter of control group were in the age of 40 years or more. These findings came in line with <sup>[16]</sup> in Chennai, entitled “A Study on upper gastrointestinal endoscopic findings in patient admitted with upper gastrointestinal bleeding” who reported that majority of patients were in the age group of 50- 64 years.

Also these finding were supported with <sup>[17]</sup> USA entitled “Clinical outcomes of upper gastrointestinal bleeding in patients with gastric gastrointestinal stromal tumor” who found that no difference between two groups in age most patients over 50 years suffer from UGIT (P-Value = 0.059). These studies were contradicted with <sup>[18]</sup> in Nigeria entitled “Clinical characteristics and outcome of patients with upper gastrointestinal bleeding at the emergency department of a tertiary hospital” who reported the percentage of number of patients in the age group of equal to or above 50 years of age was more than half comprising more than half of all the patients. These studies contradicted with <sup>[19]</sup> entitled “Esophagogastroduodenoscopy”: Impact of a designed nursing teaching protocol on nurse's performance and patient's outcome” who reported the majority of the patient's their age ranged from 20-30 years.

As regards to the sex of the studied patients, the present study stated that more than half were males in study group, although more than half of them were females in control group. These findings were similar to some extent to those of the study by <sup>[14]</sup> in South India, entitled "Retrospective study of clinical profile, endoscopic profile and in hospital mortality in acute upper gastrointestinal bleeding" who revealed that, two thirty consecutive patients diagnosed with acute upper gastrointestinal bleeding, less than four fifth patients were males and less than one quarter were females.

Also this study was supported by study of <sup>[20]</sup> entitled “Effect of nursing intervention on clinical outcomes and patient satisfaction among upper gastrointestinal bleeding” who stated that more than two third of studied patients and more than two third of the control group were males. From the investigator point of view, these finding may be due to the high incidence of smoking and occupational stress among men rather than women in the Egyptian community.

In relation to educational level of studied patients more than one third of the studied patients were secondary level of education in both group, these finding were agreed with <sup>[21]</sup> entitled “Emergency department presentation of a patient with a severe upper gastrointestinal bleeding: A simulation case for training emergency M=medicine residents” who reported that slightly more than one tenth of studied patients were having secondary level of education, in additional to these finding disagreement with <sup>[22]</sup> entitled “The relationship of patient satisfaction with care and clinical outcomes” who found that the highest percentage of the study group less than one third was able to read and write while, more than four fifth was for the control group.

As regards to the occupation of the studied patients, the present study demonstrated that more than half of the studied patients were employed in both group. These findings were consistent with <sup>[23]</sup> in South Valley University-Egypt, entitled “Clinical outcomes and patient satisfaction assessment among upper gastrointestinal bleeding at Qena University Hospital at Upper Egypt” who found that, more than two third of studied patients had manual work, and two third for the control group. From investigator point of view, these findings may be due to most Employed have stress. Also these finding contradicted with <sup>[24]</sup> entitled “Activism as occupation: promoting health in Marginalized communities” who found that 46% of studied group are unemployed.

Concerning to patient's medical history, the finding of the present study clarified that more than half of the studied patients were having present diagnosis with peptic ulcer in the study and control group. These finding were in the same line with <sup>[25]</sup> in European, entitled “Comparison of AIMS65, Glasgow–Blatchford score, and Rockall score in a European series of patients with upper gastrointestinal bleeding: performance when predicting in-hospital and delayed mortality” who revealed that more than one quarter of the studied patients were presented with duodenal ulcer, less than one quarter esophageal varices, less than one fifth gastric ulcer, less than one fifth acute gastric erosions, slightly more than one tenth esophagitis, less than tenth Mallory–Weiss tears and esophageal ulcers, less than tenth angiodysplasia, less than tenth neoplasms, and more than one tenth unidentified source. From investigator point of view, these findings may be due to infection with helicobacter pylori bacteria, which are called gastric bacterium and the use of NSAIDs, are among the most common causes of this occurrence.

As regards to the bleeding episodes of the studied patients more one third were sudden onset of recent bleeding, these supported with <sup>[26]</sup> entitled “Seasonal patterns of acute esophageal variceal bleeding in patients with liver cirrhosis” who reported more than two fifth suffer from rebleeding attack . From investigator point of view, these findings may be due to most patients not follow up.

Regarding past medical history, the present finding showed that more than two third of the studied patients were having past medical history of HTN and IHD in study group and more than half of the studied patients were having past medical history of HTN and IHD in control group, These findings contradicted with <sup>[27]</sup> entitled “Upper gastrointestinal bleeding in the presence or absence of portal hypertension and/or non-variceal lesions” who reported studied patients two third had past medical history of diabetes mellitus while, non of patients had

renal failure in the study group. From investigator point of view, these findings may be due to most patients with gastrointestinal bleeding suffered from chronic diseases.

These findings disagreement with <sup>[28]</sup> entitled “Gastrointestinal bleeding risk of selective serotonin reuptake inhibitors by level of kidney function” who found slightly more than one tenth of patients with CKD suffer from UGITB. As regards to the family history, the present study stated that more than half of the studied patients were having family history of upper gastrointestinal bleeding as both study and control group. These findings were consistent with <sup>[29]</sup> in London, United Kingdom, entitled “Upper gastrointestinal bleeding caused by hereditary hemorrhagic telangiectasia” who revealed that half Caucasian woman presented with hematemesis had a past medical history of asthma and there was no family history of coagulopathies. From investigator point of view, these findings may be due to Egypt differs from European countries in this regard and life style differences.

As regards to previous hospitalization, the present study illustrated that more than three quarter of the studied patients were with no history of previous hospitalization in study group while more than two third of them in control group, these studied contradicted with <sup>[30]</sup> entitled “The function of the professional association” who reported half patients with previous hospitalization association with Haematemesis. From investigator point of view, these findings may be due to sometimes, a patient with upper gastrointestinal bleeding may not show any signs of bleeding.

The present study revealed that half of the studied patients admitted hospital twice in study group who had previous hospitalization while more than one third of control group admitted three times and both group stayed from 3 - 5 days. These finding also supported with <sup>[31]</sup> entitled “Causes of mortality in patients with peptic ulcer bleeding: a prospective cohort study of 10,428 cases” who revealed that the mean length of follow up was 5.7 days (range 1-50 days) in all patients. These findings were consistent with <sup>[32]</sup> Ethiopia, entitled “Adult patients’ satisfaction with inpatient nursing care and associated factors in an Ethiopian Referral Hospital” who stated that the length of stay varied from 2 to 6 nights and large proportion of patients the majority stayed in the ward for 2 to 7 nights. Also these finding supported with <sup>[33]</sup> who found that length of stay in hospital between 9-10 days p-value=0.076. From investigator point of view, these findings may be due to most patients undergo some medical examinations, or possibly a surgical endoscopic intervention.

The present study found that more than half of the studied patients were having medical co morbidities of hypotension in study group and more than one third of control group were having medical co morbidities of hypotension. These finding were contradicted with <sup>[34]</sup> in Mannheim, Germany, entitled “Use of the over-the-scope-clip (OTSC) in non-variceal upper gastrointestinal bleeding in patients with severe cardiovascular comorbidities: a retrospective study, annual meeting of the German Society of Endoscopy” who revealed that more half had severe cardiovascular co-morbidity (ischemic heart disease, congestive heart failure, hypertension, valvular heart disease, peripheral arterial occlusive disease and atrial fibrillation). From investigator point of view, these findings may be due to Egypt differs from European countries in this regard, due to the presence of some environmental diseases and societal causes. .

The current study found that more than one third of the studied patients were having recurrent attacks of bleeding in study group and more than three quarter of control group were having recurrent attacks of bleeding. These findings contradicted with <sup>[35]</sup> entitled “Upper gastrointestinal bleeding clinical update American society of gastrointestinal endoscopy” who revealed that the rebleeding rate observed in our patients was lower than upper that reported less than one tenth in non-cirrhotic patients. These findings were contradicted with <sup>[36]</sup> entitled “The role of endoscopy in acute non-variceal upper-GI hemorrhage” who explained that, most of hematemesis patients hospitalized with history of no recurrent attack of bleeding episodes.

The present study clarified that there was a high statistically significant relation between the study group before and after designated nursing intervention and their medical co morbidities where the study group before designated nursing intervention was more having hypotension. These finding were contradicted with the study carried by <sup>[14]</sup> who found that chronic liver disease was the commonest co-morbidity, followed by diabetes mellitus.

These finding disagree with <sup>[37]</sup> Assiut university “Effect of nursing preparations on patients' pain and satisfaction, who showed that the complications present in less than one tenth of the studied groups and the type of the complications were (failure of control of upper GIT bleeding 37.5%, syncope in 37.5%, respiratory arrest 12.5% and myocardial infarction in 12.5%). These finding were contradicted with <sup>[38]</sup> entitled “The effectiveness of current acute variceal bleed treatments in unselected cirrhotic patients” who found there was a statistically significant relation between two groups regarding to respiratory complications.

These finding were contradicted with <sup>[39]</sup> entitled “Acute upper gastrointestinal haemorrhage in west of Scotland” Who 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.

The present study showed that there was a high statistically significant relation between the study group before and after designated nursing intervention and their recurrent bleeding attacks where the study group after

designated nursing intervention was not having recurrent attack of bleeding. These findings were contradicted with [40] in Bangladesh entitled "Risk assessment of acute upper gastrointestinal haemorrhage with rock all score in DMCH" who reported that more than half of the studied patients gave a history of more than 2 attacks of bleeding. From investigator point of view, these findings may be due to affect positively designated nursing intervention on patients.

The present study found there was a statistically significant relation between the study group and control group after designated nursing intervention and their medical co morbidities of respiratory disorder at value 0.033. These findings supported with [41] entitled "The effects of nurse-led health coaching on health-related quality of life and clinical health outcomes among frequent attenders" who found that there was a statistically significant relation between study and control group regarding to medical co morbidities. From investigator point of view, these findings may be due to some patients may be suffer from respiratory disorder in past history.

The result of the present study indicated that there was high statistically significant relation between the study group and control group after designated nursing intervention and their bleeding attack where most patients of study group after designated nursing intervention was not having attack of bleeding at p value 0.001 while three fourth of the control group have recurrent bleeding these findings disagreement with [42] who found there were no statistically significant relation between two groups post and follow up guidelines intervention regarding bleeding attack.

The present study showed that there was a highly statistically significant relation between the study groups before and after designated nursing intervention and their satisfaction about total of continuity of care at p value <0.001 where the study group after designated nursing intervention was more satisfied than before. These findings were supported with [43] London entitled "Reducing hospital admissions by improving continuity of care in general practice" who more than half maintaining continuity of care for patients is recognized by general practice as an essential component of general practice.

The present study demonstrated that there was a highly statistically significant relation between the study groups before and after designated nursing intervention and their satisfaction about total technical care at p value < 0.001 where study group after designated nursing intervention was more satisfied than before. These findings were consistent with [44] entitled "International consensus recommendations on the management of patients with nonvariceal upper gastrointestinal bleeding" who reported that more than half of the study patients were satisfied after nursing implementation.

The present study clarified that there was a high statistically significant relation between the study groups before and after designated nursing intervention and their satisfaction at p value < 0.001 where study group after designated nursing intervention was more satisfied than before. These findings were in an agreement with [45] In England entitled "Continuity of care in general practice: effect on patient satisfaction" who reported that continuity of care has been found to be a significant factor in relation to patient satisfaction. From the investigator point of view, these findings may be due to effective designated nursing intervention.

These findings contradicted with [46] in New York entitled "Nursing staff turnover, stress & satisfaction: models, measures and management in annual review of nursing research" who found that 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.

The present study clarified that there was a highly statistically significant relation between study and control group after designated nursing intervention and their satisfaction at p-value < 0.001 where study group after designated nursing intervention were more satisfied as compared to control group. These findings in an accordance with [47] entitled "The most commonly reported predictor of satisfaction, patient satisfaction a systematic review" who reported that satisfaction was most commonly measured using an ordinal scale. Twenty-seven studies slightly more than one tenth used a validated satisfaction survey. Eighty-three percent of studies reported more than 80% satisfaction. From investigator point of view, these findings may be due to increased awareness of patients after implementation of designated nursing intervention.

This is supported with the research study of [19] entitled "Effect of nursing teaching guidelines among patients with cirrhosis on their knowledge regarding minimizing hepatic encephalopathy" who found that the minority of the study sample and this improved after application of the nursing teaching guidelines and affect positively on patient's health.

These study supported with [48] entitled "Association of aspirin use with major bleeding in patients with and without diabetes" who reported that one tenth of the study group compared to more than one quarter of the control group after implementing of a designed teaching protocol were positive effect. From investigator point of view, these findings may be due to Maintaining the degree and safety of satisfying patients.

The present study clarified that there was a statistical significant relations between the studied patients' level of knowledge and their level of education and their occupation at p-value p 0.028 and 0.018 respectively where studied patients of secondary level of education and employed patients were having more satisfied knowledge. These findings were supported with [49] who reported that age was positively correlated with knowledge before and immediately after implementing a designed nursing intervention. Age was positively

correlated with practice of nurses with a highly statistical significant. Thus, it was shown knowledge scores tended to rise with increasing patient's age and experience year's. These findings were supported with <sup>[19]</sup> who found that there was a highly statistically significant relation between knowledge and sociodemographic characteristics post implementing designed nursing protocol  $P < 0.001$ .

These results are in agreement with <sup>[50]</sup> entitled "Management of variceal and nonvariceal upper gastrointestinal bleeding in patients with cirrhosis" who has shown that knowledge of patients who received an education program about their role of nursing care provided to patients with GIT will put a positive effect on patient outcomes. From investigator point of view, these findings may be due to after intervention became most patients more awareness and satisfactory. These findings were contradicted with <sup>[27]</sup> who emphasized that patient's having no adequate training and those with no or low experience years are more liable to misunderstanding of physician instructions about care management. This may indirectly affect the health status of patients under their care. Also these studies were contradicted with <sup>[51]</sup> who found that there were no statistically significant correlation between patient's total knowledge and sociodemographic data in the study and control group pre-, post- and follow up guidelines intervention in the control group and the study group. Also these studies were contradicted with <sup>[52]</sup> entitled "Outcomes of upper gastrointestinal bleeding based on time to endoscopy who found that no difference in the number of intervention after application of intervention. From investigator point of view, these findings may be due to difference of subject.

## VI. Conclusion

Considering the results of the present study, it can be concluded that, patients knowledge and clinical outcomes were improved significantly post a designated nursing intervention concerning one of the most important areas of nursing care provided for the upper gastrointestinal bleeding patients at the critical care areas which leading to improvement of patient outcomes in form the occurrence of upper gastrointestinal bleeding complications among study group as compared by the control group subjects.

## VII. Recommendations

**In the light of the current study findings, the following recommendations are suggested:**

- ❖ Regular follow up for all patients with UGIB to evaluate their health conditions and to detect any complications early.
- ❖ Establishment of patients educational centers in hospitals equipped by suitable related materials, Medias and audio-visual aids for teaching all UGIB patients how to live with their medical condition.
- ❖ Continuous supervision and assessment of patients with upper gastrointestinal tract bleeding is very important.
- ❖ Update of nursing intervention for patient with upper gastrointestinal tract bleeding to refresh their knowledge.
- ❖ Annual guideline about nursing intervention of patients with upper gastrointestinal tract bleeding should be available in the Emergency and Intensive Care unit.
- ❖ Standardized nursing procedures should be used to guide the nurses in dealing with patients with UGIB.
- ❖ Replication of study on a large probability sample is very important.

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