

## Assessment of Patient's knowledge and Perception Regarding Factors Aggravating Esophageal Variceal Bleeding

Wesal Ali Abassy Ali\*, Neamatallah Gomaah Ahmed\*\*, Asmaa Mohamed Khorais\*\*\*

\*B.Sc Nursing, \*\* Assistant Professor of Medical Surgical Nursing, \*\*\* Assistant Professor of Medical Surgical Nursing, Critical Care Nursing Department- Faculty of Nursing- Ain Shams University

### Abstract

**Background:** Esophageal variceal bleeding (EVB) remains a major complication of portal hypertension in patients with liver cirrhosis. Factors that contribute to EVB are any conditions that increase the abdominal venous pressure such as muscular exertion from lifting heavy objects, straining at stool, sneezing, coughing and vomiting. **Aim:** This study aimed to assess patients' knowledge and perception regarding factors aggravating esophageal variceal bleeding. **Design:** Descriptive exploratory design was utilized to answer the research questions. **Setting:** This study was conducted at intensive care of hematemesis unit at Alexandria University Hospital. **Subjects:** The study subject included 70 patients from both genders. **Tools: Part (I)** Patient's interviewing questionnaire tool: It included the socio-demographic characteristics of patient (age, gender, educational..etc), patients' clinical data such as present and past medical history. **Part (II)** The assessment of patient's knowledge regarding factors that aggravate EVB. **Part (III)** Patient's perception scales was used to assess patients' illness perception. **Results:** The results revealed that, the mean age of the studied patients were  $51.3 \pm 5.11$ , 68.6% were males and 100% of them were married. 62.9% had unsatisfactory level of knowledge regarding factors aggravating EVB. 57% of the studied patients had high score perception about EVB, 43% of the studied patients had low score perception about EVB. **Conclusion:** The study findings concluded that, the most factors which affect esophageal varices bleeding were age, sex, education level, residence, income, history of disease, knowledge regarding esophageal varices definition, causes, aggravating factors, complications, and different management strategies. **Recommendations:** The study should be replicated on large sample size and in different hospitals setting in order to generalize the result.

**Keywords:** Assessment, esophageal variceal bleeding, aggravating factors, perception.

### Introduction

Varices are dilated, tortuous and engorged blood vessels that may develop in the esophagus, stomach, duodenum, colon, rectum and anus. The most clinically significant site of varices is the gastro-esophageal junction because of the propensity of varices in this area to rupture, resulting in massive gastrointestinal hemorrhage (Morton and Fontaine, 2013).

When portal pressure increase, the patient may progress small varices with time and the dynamic circulation increases, blood flow will increase through the varices. Thus the tension raise in the wall. Variceal hemorrhage resulting from rupture occurs when the expending force exceeds the maximal wall

tension. Varices symptoms not appear until the varices start to bleed (Ogilvie et al., 2015).

Esophageal Variceal bleeding (EVB) is a life-threatening condition that is characterized by acute, massive bleeding. The risk of variceal bleeding increases with severity and variceal size. Bleeding occurs in 25% to 30% of patients within 2 years of diagnosis and 20% to 30% mortality from each bleeding episode. It accounts for 75% of all upper gastrointestinal bleeding (UGIB) and responsible for 20% of deaths among Egyptian patients between the ages of 35 to 75 years while in the Western countries, it accounts for 30% of all upper gastrointestinal bleeding (Mahdy et al., 2018).

When bleeding is occurred, many complications happened to patient that affected

on his health such as death and serious condition. Shock will produce causing decreased cerebral perfusion which affected on patient conscious level, diminished hepatic perfusion may develop and encephalopathy (Triantos & Kalafateli, 2015).

Factors that contribute to EVB are any conditions that increase the abdominal venous pressure such as muscular exertion from lifting heavy objects, straining at stool, sneezing, coughing and vomiting. Esophagitis, irritation of vessels by poorly chewed foods or irritating fluids, ingestion of foods high in roughage and reflux of stomach content can also precipitate for EVB (White et al., 2013).

Understanding illness perceptions is critical for providing effective treatment. Patients with chronic conditions may actively construct their own personal models of illness in an attempt to deal with the impact of their condition (Wahl et al., 2014).

Patients having esophageal varices (EV) always need frequent follow up and adherence to instructions given by doctors and nurses regarding their diet, medication and activities to prevent life threatening re-bleeding. So this disease costs a lot of money and happens in any time. The role of the nurse in management of upper GIB focuses upon risk assessment, emergency management and evaluation of responses to therapy. Care of upper GIB patient is intensive and requires rapid decision-making (Dewit et al., 2017).

### **Significance of the study**

Esophageal varices result from portal hypertension and develop in the most patients with advanced cirrhosis. Acute variceal hemorrhage is a significant cause of morbidity and mortality in cirrhotic patients and places huge requirements, both social and economic, on health system resources. The management of acute variceal hemorrhage is difficult and need a collaboration of multi-disciplinary team including the nurse, the physician and surgeon who may be in a powerful position to positively help such patients to adapt to life and minimizing the associated complications (Nettina, 2014).

The incidence of esophageal varices bleeding and mortality rate increases. It consider medical emergency among the affected patients and a major cause of morbidity and mortality. Variceal hemorrhage occurs in 20% to 40% of the patients with liver disease all over the world (Bhagani et al., 2017). In 2016 (200) patients admitted to The Main Alexandria University, 15 of them were re-admitted to the hospital because of repeated attack of esophageal varices bleeding (The Statistical Records of Main Alexandria University, 2016).

### **Aim of the study**

This study aimed to assess patients' knowledge and perception regarding factors aggravating esophageal variceal bleeding through:

1. Assessing level of knowledge of patients regarding factors aggravating esophageal variceal bleeding.
2. Assessing the perception of patients regarding factors aggravating esophageal variceal bleeding.

### **Research questions:**

To fulfil the aim of this study the following research questions were formulated:

- 1-What is the patients' level of knowledge regarding factors aggravating esophageal variceal bleeding?
- 2- What are the perception of patients regarding factors aggravating esophageal variceal bleeding?

The study will be portrayed under the four main designs as the following:

- I. Technical design.
- II. Operational design.
- III. Administrative design.
- IV. Statistical design.

### **I. Technical design:**

The technical design includes research design, setting, subject, and tools of data collection.

**Research design:**

Descriptive exploratory design was being utilized to answer the research questions. Descriptive research describes a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. Therefore, observation and survey tools are often used to gather data (Nassaji, 2015).

**Setting:**

This study was being conducted in intensive care of hematemesis unit at Alexandria University Hospital. Intensive care of hematemesis unit present in medical department at the first floor. There is one unit which contains five beds, there are curtains between beds to maintain patients' privacy and contains four ventilators. Two qualified nurses and twenty two technical nurses are working in this unit.

**Subject:**

According to the statistical records of Alexandria University Hospital, the number of patients admitted to hematemesis unit suffering from esophageal varices bleeding during the year 2016 were 200 patients. A representative purposive sample of 70 patients with esophageal varices bleeding were recruited from the above mentioned setting based on the following equation.

**Sample size calculation:**

A sample size of 70 patients with esophageal varices bleeding was selected to achieve 80% power analysis to detect a mean of period differences of 0.7 with an estimated standard deviation of differences of 3.0 (Hoglund et al., 2011) and with a significance level (alpha) of 0.05 using two-sided Wilcoxon test assuming that the actual distribution is uniform (Hintze, 2011).

$$X = Z (c/100)^2 r (100-r)$$

$$N = Nx / ((N-1) E^2 + x)$$

$$E = \text{Sqrt} [(N-n)x / n(N-1)]$$

Where N is the population size, r is the fraction of responses that interested in, and Z(c/100) is the critical value for the confidence level (Chow et al., 2007).

- **Type 1** error with significant level ( $\alpha$ ) = 0.5

- **Type 2** error with significant level ( $1-\beta$ ) = 90%

**Sample type** a purposive sample technique was used in the study. **Patients were selected according to the following criteria:**

**Inclusion criteria:**

- Adult patients of both sexes.
- Patients able to communicate.
- Patients agree to participate in the study.

**Exclusion criteria:**

- Hemodynamically unstable patients.
- Patients disagree to participate in the study.

**Tools of data collection:**

Data were collected using the following tools:-

**Tool I: Patient's interviewing questionnaire (appendix 1):-**

It was developed by researcher in Arabic language after reviewing the related literature, it included three parts:

**First part:** this part was concerned with patient's socio-demographic characteristics (age, gender, marital status, educational level, occupation, average monthly income and place of residence).

**Second part** this part was concerned with patients' present and past health history. It included nine closed ended questions, seven for past history and two for present history. Past history included the items regarding comorbid conditions, previous operation, previous admission with EVB and medical treatment. Present history included questions that assess patient's chief complaint and causes of current admission (Abd Elkader et al., 2014).

**Third part:** this tool was adopted by the researcher. it was concerned with the assessment of patient's knowledge regarding disease process and factors that aggravate EVB. It included 14 questions, 5 MCQ and 9 questions have patient's response yes or no. MCQ covered the following items; definition, symptoms, causes, treatment, complication of the disease. The other 9 questions covered risk factors of esophageal varices bleeding (aging, medication, food, drinks, and exercise) (Abd Elkader et al., 2014).

**Scoring system:**

Scoring system regarding the patients' knowledge as the following: One grade was given for the correct answer and zero for the incorrect answer with total grade 14 for total (14) questions. The total level of patients' knowledge score was categorized as follows:

- $\geq 70\%$  was considered satisfactory level of knowledge ( $\geq 10$  degree).
- $<70\%$  was considered unsatisfactory level of knowledge ( $< 10$  degree).

**Tool-II Illness Perception Questionnaire (IPQ):** this tool was adapted from **Redmen, (2003)** it was used to assess patients' illness perception and consisted of three parts: 1- identity (14 items), 2- causes of illness (18 items) and 3- patient's view of illness (38 items that included timeline, consequence, timeline cyclical, personal control, treatment control, illness coherence and an emotional representations).

1. Identity: sum items related to signs and symptoms.
2. Causes: items C1- C18.
3. Timeline (acute/chronic): sum items IP1- IP5 + IP18.
4. Consequences: sum items IP6 - IP11.
5. Personal control: sum items IP12- IP 17.
6. Treatment control items: sum items IP19– IP23.
7. Illness coherence items: sum items IP24– IP28.
8. Timeline cyclical: sum items IP29- IP32.
9. Emotional representations: sum items IP33– IP38.

#### Scoring system:

High scores on the identity, timeline, consequences, and timeline cyclical dimensions represent strongly held beliefs about the number of symptoms attributed to the illness, the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition. High scores on the personal control, treatment control and coherence dimensions represent positive beliefs about the controllability of the illness and a personal understanding of the condition.

▪ Patient's response regarding identity was yes = 1 or no= 0.

▪ Patient's response regarding causes of illness and patient's view of illness (timeline, consequence, timeline cyclical, personal control, treatment control, illness coherence and an emotional representations) was as follows:

- Strongly disagree =1

- Disagree =2
- Neither agree or disagree = 3
- Agree = 4
- Strongly agree = 5

The patient's score for identity ranged from 0 to 14 grades. The patient's score for causes of illness and patient's view of illness ranged from 56 to 280. The total level of patients' perception score ranged from 56 to 294 which categorized as follows:

- High score perception  $\geq 50\%$ .
- Low score perception  $> 50\%$ .

## II. Operational design:

The operational design included preparatory phase, content validity and reliability, pilot study and field work.

### A. Preparatory phase:

It included reviewing current and past, local and international related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines, and developing tools of data collection. Permission for data collection and implementation of the study in Main Alexandria University Hospital was obtained to the hospital administrative personnel by the submission of a formal letter from the faculty of nursing, Ain Shams University.

### B. Content validity and reliability:

#### Content validity:

It was ascertained by a group of seven experts from medical surgical nursing department, Faculty of Nursing, Ain shams university. Juries were from different academic categories three professors, two assistant professors and two lecturers. The experts reviewed the tools for clarity, relevance, comprehensiveness, simplicity, or applicability of the tools. Experts response were either agreed or disagreed or agreed with modification for the face validity and content validity, about 71.4% of the experts were in agreement with the proposed tools, required modification were done.

#### Reliability:

Reliability of tools were tested statistically using Cronbach's Alpha which is a model of internal consistency and its normal range between 0 and 1 (value more than 0.5 acceptable reliability), tool-I patient's interviewing questionnaire was reliable at (0.799) and tool-II illness perception questionnaire (IPQ) was reliable at 0.823.

#### **Pilot study:**

The pilot study was carried out on a group of seven patients (10% of the subjects) to test the clarity, applicability, feasibility and relevance of the study tools and to determine the needed time for the application of the tools. The patients who were included in the pilot study were excluded from the study sample.

#### **C. Field of work:**

The aim of the study was explained and simplified to the patients who agreed to participate in the study prior data collection. The actual work of this study took about 6 months started from January 2019 until June 2019. The data were collected by the researcher through 4 days /week during morning and afternoon shift in the previously mentioned settings. Each patient was interviewed individually by the researcher for about 30 minutes. The first tool, patient's interview questionnaire filled in by the researcher and it took 10 minutes. The second tool was patients' illness perception that included identity, causes of illness, and patient's view of illness (timeline, consequence, timeline cyclical, personal control, treatment control, illness coherence and an emotional representation). It took 20 minutes.

#### **III. Administrative design:**

An official permission was issued from the faculty of nursing Ain Shams University to the director of Alexandria University Hospital and director of the hematemesis unit which the study was conducted, explaining the purpose of

the study and requesting the permission for data collection from the study group. Meeting and discussion were held by the researcher to explain the aim, the nature and the objectives of the study.

#### **Ethical Considerations:**

The ethical research considerations in this study included the following:

The research approval was obtained from the faculty ethical committee before starting the study. The researcher clarified the aim of the study to patients included in the study before starting. The researcher assured maintaining anonymity and confidentiality of subjects' data of the patients included in the study. Patients were informed that they were allowed to choose to participate or not in the study and they had the right to withdraw from the study at any time.

#### **IV. Statistical design:**

The collected data were organized; categorized, tabulated and statistically analyzed using Statistical Package for Social Science (SPSS) version (20.0), also Microsoft office Excel is used for data handling and graphical presentation. Quantitative data were expressed as a mean  $\pm$  standard deviation (SD), and qualitative data were expressed as frequency and percentage.

- Arithmetic mean: as average describing the central tendency of observation.
- The standard Deviation: as a measure of dispersion of results around the (for quantitative variable).
- Chi-square (X<sup>2</sup>) test of significance was used in order to compare proportions between qualitative parameters.

The p-value was considered significant at  $<0.5$ .

## Results

### Part I: Sociodemographic characteristics and health history of the studied patients

**Table (1): Frequency and percentage distribution of the patients' sociodemographic data (n=70)**

Sociodemographic characteristics data	N	%
<b>Age</b>		
< 50	27	38.5
50-55	23	32.9
>55	20	28.6
<b>Mean ± SD</b>	51.3± 5.11	
<b>Gender</b>		
Male	48	68.6
Female	22	31.4
<b>Marital status</b>		
Single	0	0
Married	70	100
<b>Education level</b>		
Can't read/ write	2	2.8
Primary	15	21.5
Secondary	41	58.5
University	12	17.2
<b>Type of occupation</b>		
Employee	26	37.1
Housewife	14	20.0
Worker	13	18.6
Farmer	17	24.3
<b>Residence place</b>		
Rural	43	61.4
Urban	27	38.6
<b>Income/month/E.P</b>		
Enough	0	0
Not enough	100	100
<b>Treatment covered by</b>		
Health insurance	32	45.8
National funded	36	51.4
Self payment	2	2.8

**Table (1)** reveals that, the mean of age the studied patients were  $51.3 \pm 5.11$  years, 68.6% were males and all of them were married. The table also shows that 58.5% had secondary education, 37.1% were employed and 61.4% live in rural areas. All of the studied patients mentioned that they had not enough income, 45.8% treated through health insurance, 51.4% treated through national fund and 2.8% depend on their own expenses.

**Part II: Patient's knowledge regarding factors aggravating esophageal variceal bleeding.****Table (2): Frequency and percentage distribution of the studied patients level of knowledge regarding esophageal varices (n=70).**

Knowledge item	Satisfactory		Unsatisfactory	
	N	%	N	%
<b>Esophageal varices</b>				
- Definition	11	15.7	59	84.2
- Sign & Symptoms	14	20	56	80
- Causes	23	32.8	47	67.1
- Complication	2	2.8	68	97.1
- Treatment	15	21.4	55	78.5
<b>Factors aggravating esophageal variceal bleeding.</b>				
- Increase intra-abdominal pressure	15	21.4	55	78.5
- Aging	36	51.4	34	48.5
- Medication	18	25.7	52	74.2
- Nutrition & drink				
• Food	37	52.8	33	47.1
• Drinks	18	25.7	52	74.2
- Exercise	32	45.7	38	54.2

**Table (2)** shows that the studied patients had unsatisfactory level of knowledge regarding definition, sign and symptoms, causes, complications and treatment of esophageal varices bleeding (84.2%, 80%, 67.1%, 97.1%, 78.5%) respectively. The table also shows that the studied patients had unsatisfactory level of knowledge regarding factors aggravating esophageal varices bleeding (increase intra-abdominal pressure, medication and drinks that (78.5%, 74.2%, 74.2%) respectively.

**Table (3): Frequency and percentage distribution of the patients' total level of knowledge regarding esophageal varices (n=70).**

Knowledge items	Satisfactory		Unsatisfactory	
	N	%	N	%
<b>Esophageal varice</b>	13	18.6%	57	81.4%
<b>Factors aggravating esophageal variceal bleeding</b>	26	37.1%	44	62.9%
<b>Total</b>	21	30.0%	49	70.0%

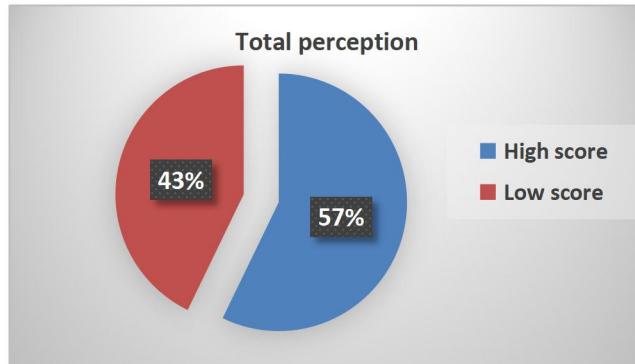
**Table (3)** shows that, 70% of studied patients had unsatisfactory total level of knowledge, 81.4% had unsatisfactory level of knowledge regarding esophageal varices and 62.9% had unsatisfactory level of knowledge regarding factors aggravating esophageal variceal bleeding.

**Part III: Illness perception of the studied patients with esophageal varices bleeding regarding identity, timeline, consequence, timeline cyclical, personal control, treatment control, illness coherence and emotional representation.****Table (4): Frequency and percentage distribution of the perception of the patients regarding identity (signs & symptoms) of the disease (n=70).**

Identity	Yes		No	
	N	%	N	%
1- Mouth inflammation	26	37.1%	44	62.9%
2- Abdominal pain	28	40.0%	42	60.0%
3- Nausea	32	45.7%	38	54.3%
4- Hematemesis	54	<b>77.1%</b>	16	22.9%
5- Indigestion	32	45.7%	38	54.3%
6- Melena	62	<b>88.6%</b>	8	11.4%
7- Jaundice	18	25.7%	52	74.3%
8- Itching	2	2.9%	68	97.1%
9- Dyspnea	36	51.4%	34	48.6%
10- Difficult breathing	24	34.3%	46	65.7%
11- Dizziness	46	<b>65.7%</b>	24	34.3%
12- Fatigue	26	37.1%	44	<b>62.9%</b>
13- Sleep difficulties	28	40.0%	42	60.0%
14- Unconsciousness	20	28.6%	50	<b>71.4%</b>

**Table (4)** shows that, the studied patients reported that melena, hematemesis and dizziness are a symptom of esophageal varices bleeding (88.6%, 77.1%, 65.7% respectively). The table also reveals that 71.4% and 62.9% of the studied patients mentioned that unconsciousness and fatigue are not symptoms of esophageal varices bleeding.

**Figure (1):** Frequency and percentage distribution of the studied patients according to their total perception (n=70).



**Figure (1)** shows that 57% of the studied patients had high score perception about EVB, 43% of the studied patients had low score perception about EVB.

**Table (5):** Frequency and percentage distribution of the perception of the patients regarding to causes of the disease (n=70).

Possible cause	Strongly disagree		Disagree		Agree neither nor disagree		Agree		Strongly agree	
	N	%	N	%	N	%	N	%	N	%
A Germ or virus	0	0.0%	8	11.4%	2	2.9%	52	<b>74.3%</b>	8	11.4%
Ageing	0	0.0%	4	5.7%	0	0.0%	42	<b>60.0%</b>	24	34.3%
Smoking	0	0.0%	2	2.9%	6	8.6%	42	<b>60.0%</b>	20	28.6%
Altered immunity	0	0.0%	0	0.0%	12	17.1%	34	<b>48.6%</b>	24	34.3%
Poor medical care in my past	0	0.0%	6	8.6%	6	8.6%	34	<b>48.6%</b>	24	34.3%
Alcohol drinking	0	0.0%	8	11.4%	8	11.4%	34	<b>48.6%</b>	20	28.6%
Stress or worry	10	14.3%	2	2.9%	12	17.1%	32	45.7%	14	20.0%
My emotional state	2	2.9%	22	31.4%	20	28.6%	24	34.3%	2	2.9%
Hereditary	0	0.0%	2	2.9%	2	2.9%	22	31.4%	44	<b>62.9%</b>
My personality	18	25.7%	26	37.1%	8	11.4%	18	25.7%	0	0.0%
Pollution in the environment	0	0.0%	34	48.6%	18	25.7%	16	22.9%	2	2.9%
Chance or bad luck	10	14.3%	20	28.6%	24	34.3%	12	17.1%	4	5.7%
Diet or eating habits	20	28.6%	18	25.7%	16	22.9%	8	<b>11.4%</b>	8	11.4%
Family problems	12	17.1%	32	45.7%	18	25.7%	8	11.4%	0	0.0%
Overwork	0	0.0%	30	42.9%	32	45.7%	8	11.4%	0	0.0%
My mental attitude	20	28.6%	26	37.1%	18	25.7%	6	<b>8.6%</b>	0	0.0%
Accident or injury	16	22.9%	34	48.6%	16	22.9%	4	5.7%	0	0.0%
My own behavior	22	31.4%	22	31.4%	26	37.1%	0	0.0%	0	0.0%

**Table (5):** shows that, the studied patients agreed that Germ or virus, aging, smoking, altered immunity, poor medical care in my past and Alcohol drinking caused the disease (74.3%, 60%, 60%, 48.6%, 48.6% and 48.6% respectively) and 62.9% of them strongly agreed that hereditary caused the disease. Whereas 11.4 and 8.6% of the studied patients agreed that diet or eating habits and their mental attitude respectively are causes of esophageal varices bleeding.



**Part IV: Relation between characteristics of the studied patients, their total Knowledge and their total perception correlation between total knowledge of the studied patients and their perception.**

**Table (6): Relation between characteristics of the studied patients and their total Knowledge (N=70)**

Items		Satisfactory		Total knowledge Unsatisfactory		$\chi^2$	P-Value
		N	%	N	%		
Age	<50	14	52	13	48	6.518	.024*
	50 – 55	5	22	18	78		
	>55	2	10	18	90		
Gender	Male	14	29	34	71	2.811	.058
	Female	7	32	15	68		
Education level	Can't read/write	0	0	2	100	9.357	.006*
	Primary	1	7	14	93		
	Secondary	9	22	32	78		
	University	11	92	1	8		
Type of occupation	Employee	17	65	9	35	8.159	.009*
	Housewife	2	14	12	86		
	Worker	2	15	11	85		
	Farmer	0	0	17	100		
Residence	Rural	6	14	37	86	5.967	.031*
	Urban	15	55	12	45		

\*Significant at  $p < 0.05$ .

**Table (6)** shows that, there was statistical significance relation between patients' total level of knowledge regarding age, whereas the patients aged over 50 years and over 55 years old have unsatisfactory level of knowledge 78% and 90% respectively. The table also shows that there was statistical significance relation between patients' total level of knowledge regarding education level whereas the patients who can't read and write and who have secondary and primary educational level have unsatisfactory level of knowledge 100%, 93% and 78% respectively. Regarding occupation and residence, the table illustrate that 100% of the farmer and 86% of the studied patients who lived in rural area have unsatisfactory level of knowledge.

**Table (7): Relation between characteristics of the studied patients and their total perception (N=70).**

Items		High score		Total Perception Low score		$\chi^2$	P-Value
		N	%	N	%		
Age	<50	20	74	7	26	8.261	.005*
	50 – 55	15	65	8	35		
	>55	5	25	15	75		
Gender	Male	28	58	20	42	1.647	.074
	Female	12	54	10	46		
Education level	Can't read/write	0	0	2	100	11.913	.000*
	Primary	5	33	10	67		
	Secondary	23	56	18	44		
	University	12	100	0	0		
Type of occupation	Employee	21	81	5	19	7.330	.031*
	Housewife	12	86	2	14		
	Worker	4	31	9	69		
	Farmer	3	18	14	82		
Residence	Rural	19	44	24	56	6.664	.045*
	Urban	21	78	6	22		

\*Significant at  $p < 0.05$ .

**Table (7)** shows that, there was statistical significance relation between patients' total perception regarding age, whereas 74% of the patients aged under 50, have high score about EVB. Additionally, the table shows 100% of the patients who had university educational level had low score about EVB. Regarding residence, the table illustrate that 78% of the patients who lived in urban had high score about disease.

**Table (8): Correlation between total knowledge of the studied patients and their total perception**

Item	Total perception	
	r.	P value
Total Knowledge	0.891	.009*

**Table (8)** shows that there was a positive correlation between patients' total level of knowledge and their total perception.

## Discussion

**Discussing the finding of the current study** is categorized under four main parts. **The first part** is concerned with the socio-demographic characteristics and the health history of the studied patients. **The second part** discussed the finding related to the level of knowledge of patients with esophageal variceal bleeding. **The third part** discussed the finding related to illness perception of patients with esophageal variceal bleeding. **The fourth part** discussed the finding related to relation between characteristics of the studied patients, their total Knowledge and their perception. Correlation between total knowledge of the studied patients and their perception.

### Part I: Socio-demographic characteristics and health history of the studied patients.

In the relation to demographic characteristics, the results of the present study showed that, more than one third of the studied patients were below 50 years with a mean age of  $51.3 \pm 5.11$  year. This finding is similar to **Abd Elkader et al. (2014)** who showed that less than two thirds of the study subjects' age ranged from  $40 < 60$  years old with a mean age of  $54.9 \pm 9.88$  years. Concerning gender, the current study revealed that more than two thirds of the studied patients were males. This finding is similar to **Moftaha et al. (2014)**, who found that three quarters of the studied patients were males. This explains that most of those patients were old age, which put him, at higher risk factors for esophageal variceal bleeding.

Regarding marital status, the current study revealed that all of the studied patients were married. This finding is similar to **Mahmoud, (2013)**, who reported that the most of patients were married. This finding is also in the same line with **Abdulla, (2010)**, who reported that the majority of patients were married.

In the relation to educational level, the current study revealed that more than half of the studied patients had secondary education. This result is incongruent with **Abd El-ftah, (2018)**, who reported that two thirds of the patients were illiterate. In the researcher's point of view, the results of this research indicate that although the majority of patients are educated, they have had esophageal varices and its complications. Therefore, this indicates the role that health teaching plays in disease prevention and increasing the patient's awareness regarding the disease, its complications, and its treatment plan.

In the light of patients' occupation, the current study revealed that more than one third of the studied patients were an employee. Although the studied patients were an employee and not expose to physical exertion they suffer from EVB. This result is not similar to **Abd Elkader et al. (2014)**, who reported that more than half of the patients were farmers. Regarding patients' residence, the current study revealed that less than two thirds of the studied patients lived in rural areas. It might be related to lack of availability of educational resources for patients in rural areas. This finding is similar to **Abdulla (2010)**, who reported that more than half of the patients were from rural area.

Regarding average monthly income, the current study revealed that all of the patients mentioned that the income does not cover the cost of the treatment and more than half of the patients treated through the national fund. The finding is similar to **Taha et al. (2017)**, who reported that the most of the patients' income is insufficient. In the researcher's point of view, when the income was not enough, the patients did not adherence to medication.

### **Part II: The findings related to the level of knowledge of patients with esophageal variceal bleeding**

The results showed that, the most of the studied patients had unsatisfactory level of knowledge regarding EV. This finding is in agreement with **Taha et al. (2017)**, who showed that the majority of patients had unsatisfactory level of knowledge about disease and its therapeutic management.

The results showed that, less than two thirds of the studied patients had unsatisfactory level of knowledge regarding aggravating factors of EVB. This finding is in agreement with **Liao et al. (2011)**, who reported that the most patients had unsatisfactory level of knowledge regarding aggravating factors of EVB. In the researcher's point of view, this finding it might be related to lack of availability of educational resources for patients.

The results showed that, more than three quarters of the studied patients had unsatisfactory knowledge about definition, sign and symptom, causes, and treatment of esophageal varices. In the researcher's point of view these findings it might be related to lack of availability of educational resources for patients.

The results showed that, the majority of studied patients had unsatisfactory knowledge about complications of esophageal varices. In the researcher's point of view that patient's awareness of disease complications serves as a warning and motivation for him to adhere to the therapeutic regimen.

Regarding factors which aggravate esophageal variceal bleeding, the results showed that more than three quarters of studied

patients had unsatisfactory level of knowledge regarding increasing intra-abdominal pressure as aggravating factors of EVB. This finding is in agreement with **Liao et al. (2011)**, who mentioned that the most patients had unsatisfactory level of knowledge regarding constipation, vomiting, and severe coughing as precipitating factors for rupture of EV.

Concerning aging the results showed that less than half of the patients had unsatisfactory level of knowledge about aging. The researcher's point of view this finding it may be related to lack of availability of educational resources for patients. Concerning medication, the results showed that less than three quarters of the studied patients had unsatisfactory level knowledge regarding medication as aggravating factor of EVB. This findings in the same line with **Abd Elkader et al. (2014)**, who reported that two thirds of the study subjects had low total knowledge score regarding medication.

Regarding nutrition, less than half of the studied patients had unsatisfactory level of knowledge regarding diet and less than three quarters of them had unsatisfactory knowledge regarding drinks that precipitate EVB, This findings in the same line with **Abd Elkader et al. (2014)**, who reported that three quarters of the study subjects had low total knowledge score about high risk related nutrition.

Concerning exercise, more than half of the studied patients had unsatisfactory level of knowledge about exercise of esophageal varices bleeding. This finding is in agreement with **Jin, (2008)**, who reported that more than half of the patients were not comply to exercise which may be due to incapability to carry out exercise or not have knowledge about its importance.

### **Part III: Illness perception of the patients with esophageal variceal bleeding**

On the light of the study finding regarding the patients' perception about signs and symptoms of the disease, more than three quarters of the patients reported that hematemesis is a symptom of EVB and the most of them reported that melena is a symptom of EVB. In addition, less than two thirds of the studied patients reported that dizziness is a

symptom of EVB, while around two thirds of the studied patients reported that fatigue and unconsciousness are not symptoms of EVB. In the researcher's point of view. This might be the most of the studied patients complained of hematemesis and melena and did not complain of fatigue and unconsciousness. This finding are in the same line with **Owid, (2012)**, who reported that more than half of patients presented with hematemesis & Melena.

Regarding the studied patients' perceptions about the causes of the disease, the result revealed that most of the studied patients had perceived that a Germ or virus, Aging, smoking and hereditary were causes of EVB, Whereas the minority of the studied patients said that diet or eating habits and their mental attitude respectively are causes of EVB. This finding were in the same line with **Groz et al. (2017)**, who mentioned that viral infection one of causes of EVB. In the researcher's point of view, the results of this research indicate that the studied patients had secondary education they think that hereditary is the cause of the disease and does not think that diet or eating habits the cause of the disease.

#### **Part IV: Relation between characteristics of the studied patients, their total knowledge and their perception. Correlation between total knowledge of the studied patients and their total perception.**

Regarding the relation between socio-demographic characteristics of the studied patients and their total knowledge, there was a statistical relation between patients' total level of knowledge and their age, education level, type of occupation and residence. This finding agreed with **Abou El-Fadl, (2015)**, who reported that there were significant relations between socio-demographic characteristics and their total knowledge. Also, this finding is against with **Abd Elftah, (2018)**, who reported there no relation between characteristics of the studied patients and their total Knowledge.

Concerning the relation age of the studied patients and their total knowledge, more than three quarters of the studied patients aged over 50 years and the most of the studied patients aged over 55 years have unsatisfactory

level of knowledge. This finding disagreed with **Che et al. (2014)**, who stated that there was significantly relation between patients' level of knowledge and young educated patients.

Regarding the relation between the education level of the studied patients and their total knowledge, All of the studied patients were not read and write, more than three quarters of the studied patients had primary education had unsatisfactory level of knowledge. This finding disagreed with **Che et al. (2014)**, who stated that there was significantly relation between patients' level of knowledge and young educated patients.

Regarding the relation between the occupation of the studied patients and their total knowledge, all of the studied patients were farmer had unsatisfactory level of knowledge. This is because of not keep a healthy diet, work as a farmer it is a hard work and this is a result of inability of patients to read about disease and its aggravating factors. Regarding the relation between the residence of the studied patients and their total knowledge, most of the studied patients from rural had unsatisfactory level of knowledge. It may be related to lack of availability of educational resources for patients.

There was statistical significance difference between patients' level of perception regarding age, level of education, occupation and residence.

Concerning the relation between age of the studied patients and their perception, less than three quarters of the studied patients aged less than fifty years had high score of perception. This finding agrees with **Ammouri et al. (2011)**, who reported that there is a significant relation between age and illness perception.

Regarding to the relation between patients' illness perception and educational level, all of the studied patients had a university education had high score of disease, This finding inagrement with **Blair, Angus et al. (2014)**, who mentioned that there is a relation between illness perception and the educational level.

Concerning to the relation between patients' illness perception and residence, more than three quarters of the studied patients from urban had high score of disease. This result from adequate educational program about a healthy habit in diet and exercise and people in the urban had a positive perception about disease and its aggravating factors.

Regarding to the marital status, this result revealed that there was no statistical significant relation between patients' illness perception and the marital status. This result is in agreement with **Janssen, De Gucht et al. (2013)**, who mentioned that there is no relation between the marital status and illness perception.

Regarding to the correlation between total knowledge of the studied patients and their perception illustrates, there is positive correlation between total knowledge of the studied patients and their total perception. This finding is line with **Comer, (2005)**, who stated that promoting patients' knowledge will facilitate compliance and suggested that increasing patients' education regarding disease and treatment modalities might enhance compliance. Another finding in the line with **Runciman, (2007)**, who stated that, the patient's belief about the value and benefit of a treatment may improve markedly when compared with the priority given to the same treatment by the nurse. In the researcher's point of view when the patients have knowledge about disease, this increase awareness and positive perception about illness.

## Conclusion

**Based on the findings of the current study**, it can be concluded that, more than two third of the studied patients were males, according to the age one third was above 50 years old, all of them were married, half had secondary educational level, one third were employee, two third lived in rural areas. The most of the studied patients had unsatisfactory level of knowledge regarding EV. Less than two thirds of the studied patients had unsatisfactory level of knowledge regarding aggravating factors of EVB. More than half of the studied patients had high score perception about EVB, less than of the studied patients had low score

perception about EVB. There is positive correlation between total knowledge of the studied patients and their total perception.

## Recommendations

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

- Continuous education for the studied patients with EVB should be provided, because it is a fundamental part of their treatment.
- Regular follow-ups for all the studied patients to evaluate their health conditions and detect the complications early.
- Developing a simplified and comprehensive booklet including basic information about esophageal varices bleeding as definition, causes, risk factors, complications and prevention.
- The study should be replicated on a large scale and in different hospital settings in order to generalize the benefits.
- Esophageal varices bleeding should be managed as a medical emergency, requiring intensive interdisciplinary team approach to avoid complication.
- All patients of EVB should have endoscopic therapy examination at least six month, those who risk factors require more frequent monitoring.

## References

- Abd El-Fatah, E.A. (2018):** Assessment of nutritional status of patient's with liver cirrhosis Minia University Hospital thesis of medical surgical nursing, Assiut University.
- Abd Elkader, A., El Sebaec, H. & El Sayed, Z. (2014):** Patients' knowledge assessment regarding factors aggravating esophageal variceal bleeding at a university hospital in Egypt, *Advances in Life Science and Technology*, Vol.23, ISSN 2224-7181 (Paper) ISSN 2225-062X.

- Abdulla, W.H. (2010):** Assessment of knowledge and perception of the patient with hepatic disorders. Unpublished Master Thesis, Faculty of Nursing, Ain Shams University.
- Abou El-Fadl, N. (2015):** Effect of discharge planning for patients with esophageal varices on compliance to therapeutic regimen. Banha thesis doctorate.
- Ahmed, B.A. (2010):** Factors affecting quality of life of patients with liver cirrhosis, Unpublished Master Thesis, Faculty of Nursing, Ain Shams University.
- Ammouri, A.A., Neuberger, G. & Mrayyan, M.T. (2011):** Perception of risk of coronary heart disease among Jordanians, *Journal of clinical nursing*, 20 (1-2), PP: 197–203.
- Blair, J., Angus, N.J., Lauder, W.J., Atherton, I., Evans, J. & Leslie, S.J. (2014):** The influence of non-modifiable illness perceptions on attendance at cardiac rehabilitation, *Eur J Cardiovasc Nurs*, 13(1), PP: 55–62.
- Che, Y., You, J., Chongsuvivatwong, V., LiL, Sriplung, H. and Yan, Y. (2014):** Dynamics and Liver Disease Specific Aspects of Quality of Among Patients with Chronic Liver Disease in China. *Asian Pacific Journal of Cancer Prevention*, Vol 15, available @: <https://journal.waocp.org/article> accessed at 18 october 2019.
- Comer, S. (2005):** Delmar's Critical Care, Nursing Care Plans. 2<sup>nd</sup> Ed., Canada. Thomson Company. PP. 196-205.
- Dewit, S., Dallred, H.S. & Vreeland, C. (2017):** Medical Surgical Nursing (Concepts and Practice), 3<sup>rd</sup> ed., Elsevier, Inc, United States of America, PP. 735-740.
- Groz, I, Acalovschi, Pasca, S, Andreica, V, Tantau, M, Matei (2017):** Factor Predictive of relapse in variceal upper gastrointestinal bleeding. *Human veterinary Medicine International Journal of the Bioflux society*, Vol: 9 PP 116- 123 available at <https://www.hum.bioflux.com> accessed at 19/9/2019.
- Hintze, J. (2011):** Pass 11. Ncss, LLC Kaysville, Utah, USA. [www.ncss.com](http://www.ncss.com).
- Hoglund, J. Stenestrand, U., Todt, T. and Johansson, I. (2011):** The effect of the early mobilization for patient undergoing coronary angiography: a pilot study with focus on vascular complications and back pain. *European Journal of cardiovascular nursing* 10, PP.130-136.
- Janssen, V., De Gucht, V., van Exel, H. & Maes, S. (2013):** Changes in illness perceptions and quality of life during participation in cardiac rehabilitation, *Int J Behav Me*, 20(4), PP: 582-589.
- Liao, W.C., Hou, M.C., Chang, C.J., Lee, F.Y., Lin, H.C. & Lee, S.D., (2011):** Potential Precipitating Factors of Esophageal Variceal Bleeding: A Case – Control Study, *The American Journal of Gastroenterology*, vol. 106: PP. 97, available at <https://www.ncbi.nlm.nih.gov/pubmed/208238362>, accessed on 30/4/2017 at 3.28 pm.
- Mahdy, N.E., Khorais, A.M. and Abdelhamid, R.S. (2018):** Effect of Secondary Prevention Educational Guidelines on Patients' Clinical Outcomes Post Endoscopic Ligation of Esophageal Varices, *Journal of Nursing and Health Science*, vol. 7, PP. 05-20.
- Mahmoud, E.A. (2013):** Assessment of Nurse's Knowledge and Practice Toward Caring of Patient with Gastrointestinal Bleeding at Benha University Hospital, Unpublished Master Thesis, Medical Surgical Nursing, Faculty of Nursing, Benha University, PP: 15-30.
- Moftaha, S.H.G., Kamala, S. and Hannab, A.T.K. (2014):** CT esophagography: Noninvasive screening and grading of esophageal varices in cirrhosis. *The Egyptian Journal of Radiology and Nuclear Medicine*; 45, (2):PP. 263–270.

- Morton, P.G. and Fontaine, D.K. (2013):** Essentials of Critical Care Nursing: A Holistic Approach, Wolters Kluwer Health, Lippincott Williams & Wilkins, China, PP. 361-365.
- Nassaji, H. (2015):** Qualitative and descriptive research: Data type versus data analysis, Vol. 19(2) 129 –132 available at [sagepub.co.uk/journalsPermissions.nav](http://sagepub.co.uk/journalsPermissions.nav) DOI: 10.1177/1362168815572747.
- Nettina, S. (2014):** Lippincott Manual of Nursing Practice, 10<sup>th</sup> ed., Wolters Kluwer Health & Lippincott Williams, Nettina. London, PP. 723-727.
- Ogilvie, J., Hicks, L.M. & Kalloo, A.N. (2015):** Manual of Gastrointestinal Endoscopic procedure. 3rd ed., PP.8 Slack Incorporated. USA.
- Owid, M.M. (2012):** Prevalence of portal hypertensive colopathy and its relevance to previous history of endoscopic esophageal variceal ligation or injection. Unpublished Master Thesis, Faculty of Medicine. Cairo University.
- Redmen, B.K. (2003):** Measurement tools in patient education 2<sup>nd</sup> ed, illness perception questionnaire, springer publishing company, USA, PP: 30-38.
- Runciman, L. (2007):** Subjectively Perceived Quality Of Life after Coronary Artery Bypass Surgery, American Journal of Critical Care, 10, PP. 1.
- Taha, A., Mahmoud, M. and Mohamed, E. (2017):** Factors Affecting Esophageal Varices Patients Compliance to Therapeutic Regimen and Suggested Guidelines, Journal of Nursing and Health Science, Volume 6, Issue 3, available at website: <https://www.iosrjournals.org>.
- The Statistical Records of Main Alexandria University 2016 (Elmery).**
- Triantos, C. and Kalafateli, M. (2015):** Primary prevention of bleeding from esophageal varices in patients with liver cirrhosis. World Journal of Hepatology available at: <https://www.ncbi.> at 30 june 2018.
- Wahl, A.K., Robinson, H.S., Langeland, E., Larsen, M.H., Krogstad, A. & Moum, T. (2014):** Clinical characteristics associated with illness perception in psoriasis, Acta Derm Venereol, 94(3), PP: 271–275.
- White, L., Can, G.D. & Baumle, W. (2013):** Medical Surgical Nursing (An Integrated Approach), 3rd ed., Delmar, Cengage Learning, United Status of America, PP. 696-698.