

Knowledge and Concerns of Patients with Esophageal Varices

Rehab Abd Elghany Mohamed ^{1*}, Alice Edward Reizian ², Anisa Ahmed Elkholy ³,
Hoda Abdou Abd El-Monem El-Deeb ⁴,

¹Demonstrator – Medical Surgical Nursing / Faculty of nursing, Alexandria University, Egypt.

²Professor of Medical - Surgical Nursing / Faculty of nursing, Alexandria University, Egypt.

³Assistant Professor of Medical - Surgical Nursing / Faculty of nursing, Alexandria University, Egypt.

⁴lecturer of Medical - Surgical Nursing / Faculty of nursing, Alexandria University, Egypt.

Corresponding author: Rehab Abd Elghany Mohamed – Email: nada.a7md555@gmail.com

Abstract: Esophageal varices (EV) are the most critical portosystemic shunts that develop secondary to portal hypertension which is considered a main complication of liver cirrhosis. The development of EV in cirrhotic patients can transform the disease from a pre-clinical to a clinical stage. Nursing assessment for EV patients' knowledge and concern act as a base to increase their awareness about the risk factors, signs and symptoms, self-diagnosis, preventive measures, active involvement in management, and importance of adherence to treatment and health behaviors to promote safe and high-quality patient care. **Objective:** Assess the knowledge and concerns among patients with esophageal varices. **Setting:** This study was conducted at the Gastrointestinal Endoscopy Unit at Alexandria Main University Hospital. **Subjects:** A convenience sample of 70 adult patients. **Tools:** Two tools were used. **Tool I:** Knowledge of Patients with Esophageal Varices Structured Interview Schedule. **Tool II:** Multidimensional Patient's Concerns Scale. **Results:** the study revealed that 47.1 % of the studied patients had poor knowledge level, while nearly one third (32.9%) of them had fair knowledge level and one fifth (20%) of them had good knowledge level. Whereas, it was found that more than three quarters of the studied patients (78.6%) had moderate concern, 12.9% of them had low concern, while only 8.6% of them had high concern. There was a statistical significant relation between overall knowledge and over all concerns ($p=0.005$) Also it was noticed that there was a statistical significant relation between patients' overall knowledge level and age ($p = 0.005$), educational level ($p = 0.001$), occupation ($p = 0.001$), residence area ($p = 0.001$). Moreover, it was noticed that there was no significant relation between patients' overall knowledge level and sex ($p = 0.250$), marital status ($p = 0.533$), income ($p = 0.128$). It was revealed that; there was no statistically significance relation between overall patients' concern level and age ($p = 0.954$), educational level ($p = 0.174$), sex ($p = 0.909$), occupation ($p = 0.255$), marital status ($p = 0.197$), residence area ($p = 1.000$), income ($p = 1.000$). **Conclusion:** Patients' knowledge and concerns regarding esophageal varices was noticed to be poor knowledge and moderate concerns. **Recommendations:** Develop of a health educational program for EV patients about EV knowledge about nature of disease, risk factors of esophageal varices bleeding and instructions after endoscopic band ligation for esophageal varices bleeding.

Keywords: knowledge, concern, esophageal varices.

I. INTRODUCTION

Esophageal varices (EV) are the most critical portosystemic shunts that develop secondary to portal hypertension which is considered a main complication of liver cirrhosis (Boregowda, Umopathy, Halim et al., 2019). The development of EV in cirrhotic patients can transform the disease from a pre-clinical to a clinical stage (Shaheen, Nguyen, Congly et al., 2019). EV is

one of the major causes of death in patients with cirrhosis especially if bleed. It defined as dilated tortuous veins usually found in the submucosal of the lower esophagus; they may develop higher in the esophagus or extend into the stomach. It is present in 50% of patients with portal hypertension. They occur in greater frequency in patients with more severe cirrhosis (Lesmana, Raharjo, & Gani (2020).

Esophageal varices may form in any location along the tubular gastrointestinal tract; they most often appear in the distal few centimeters of the esophagus. Approximately 50% of patients with cirrhosis develop gastroesophageal varices in comparison to gastric varices are present in 5–33% of patients with portal hypertension. The frequency of EV from 30% to 70% in patients with cirrhosis, and 9–36% of patients have what are known as “high-risk” varices (Greenon; 2019). EV develops in patients with cirrhosis at an annual rate of 5–8%, but the varices are large enough to pose a risk of bleeding in only 1–2% of cases. Approximately 4–30% of patients with small varices will develop large varices each year and will therefore be at risk of bleeding (LaBrecque, Khan, Sarin et al., 2014). Early mortality rate within 6 weeks is approximately 20% in esophageal varices after index bleeding (Reverter, Tandon, Augustin et al., 2014). Usually don't cause signs and symptoms unless they bleed.

Esophageal Variceal bleeding (EVB) is a life-threatening condition characterized by acute, massive bleeding and consider the commonest cause of acute upper gastrointestinal bleeding in Egypt (Mahdy, Khorais & Abdelhamid; 2018). It incorporates a disastrous outcome of portal hypertension due to high incidence of schistosomiasis and viral hepatitis with high prevalence of morbidity and mortality making a most important public health problem in Egypt. It represents for 75% of all upper gastrointestinal bleeding (UGIB) and accounts for 20% of deaths amongst Egyptian, while in the Western countries it represents for 30% of all upper gastrointestinal bleeding. It results in hypovolemic shock, initiation of the shock response, and development of multiple organ dysfunction syndromes if left untreated (Taha, Mahmoud & Mohamed; 2017).

Sometimes EV form when blood flow to the liver is blocked, most often by scar tissue in the liver caused by liver disease. The blood flow begins to back up, increasing pressure within the portal vein that carries blood to the liver. This pressure called portal hypertension forces the blood to seek other pathways through smaller veins, such as those in the lowest part of the esophagus. These thin-walled veins balloon with the added blood. Sometimes the veins can rupture and bleed (Jha, Mishra, Jha et al., 2018).The management and treatment option of varices and hemorrhage are effective in stopping bleeding. Endoscopic therapy is a key aspect, but pharmacological treatment with vasopressors and antibiotic treatment are also important components of successful patient care. The management of those patient focuses on hemodynamic stabilization, identification of the bleeding site, and initiation of definitive endoscopic intervention to control or stop the bleeding (Elkader, El Sebae & ELSayed; 2014).

The nurse has the most extensive contact with the patient and bears the primary responsibility for assisting them to verbalize their knowledge and concerns for identification of additional information needs implied in observable behavior (Gabbard; 2014). Therefore, it is very important to identify the knowledge and concerns of patients with esophageal varices. Identifying patient's informational needs and concerns considered a cornerstone for good patient education to be a key tool in disease management, providing significant benefit in knowledge and behavioral modifications. Adherence to medications, diet, follow-up appointments and appropriate self-care are all key factors in improving quality of life and preventing long-term complications in these patients (Pamungkas, Chamroonsawasdi & Vatanasomboon; 2017).

The nurse's role as a health educator has great impact on public perceptions of esophageal varices and its care. Patient education, defined as any set of planned educational activities designed to improve patients' health behaviors and health status. It is thought to be beneficial in helping patients to cope and co-operate with their disease and its management. Because of the chronicity of the disease, patients must learn to manage and cope with esophageal varices on a day-to-day basis (Cooper & Gosnell; 2018). Nursing assessment for EV patients' knowledge and concern act as a base to increase their awareness about the risk factors, signs and symptoms, self-diagnosis, preventive measures, active involvement in management, and importance of adherence to treatment and health behaviors to promote safe and high-quality patient care. Patient teaching is accepted as an integral part of nursing practice; the teaching process can be seen as parallel to the nursing process in that each has an assessment, diagnosis, goal, intervention and evaluation phase (Bussell, Cha, Grant, Schwartz & Young; 2017).

Esophageal varices continue to be a worldwide public health concern (Sanyal, Fontana, Di Bisceglie et al; 2006). Concerns can be defined as a psychological phenomenon, affected by the perception that consists of cognitive and emotional components. It may be known by patient's verbal expression, and it can arise from conditions and events in a patient's environment that affect biopsychosocial integrity (Leigh; 2013).Concerns mean the thought and feelings caused by traumatic experiences of health problem or stress. Concerns can be tentatively modified as a single or multiple events that usually consume one's cognitive

efforts, causes one's emotional responses and may further interfere with one's biophysiologic, psychological, spiritual, cognitive, social or global functional wellbeing (Kvarme;2011).

Nurse must identify the concerns of patients with EV to help them in putting the plan of care effectively based on their needs and helps the patients to be less worried, less stressed, feel somewhat more secure and comfortable and to help those patients to cope with the problems which might arise (Rollnick, Miller & Butler; 2008). Assessment should be done to investigate or identify the knowledge and concerns among patients with EV to specify their needs or concerns in order to plan care effectively. Also to help those patients to cope with their problems which may be raised. Therefore, assessment of these patients' knowledge and concerns are important to the nurse both in planning care and in establishing trusting relationship with the patients.

II. MATERIALS AND METHOD

MATERIALS

Research Design:

A descriptive research design was utilized for this study.

Setting:

- The study was conducted at the Gastrointestinal Endoscopy Unit at Alexandria Main University Hospital.

Subjects:

A convenience sample of 70 adults of both genders diagnosed with esophageal varices and admitted to the above mentioned settings for further evaluation and examination was included in the study. The study sample was estimated based on Epi info -7 program using the following parameters;

- Population size is 260 cases in (2018-2019)
- Expected frequency 50%
- Margin of errors 10%
- Confidence coefficient 99%
- Minimum sample size 70.

Inclusion criteria: Subjects were considered eligible to participate in the study if they met the following criteria:

- Adult patients of both genders from age 18 to 60 years.
- Patient who is conscious and able to communicate verbally.
- Patients who are free from active esophageal varices bleeding.
- Patients who have attended the gastro endoscopic unit for follow up only without intervention.
- Patients willing to participate in the study.

Study Tools:

Two tools were used for data collection:

Tool I:

Knowledge of Patients with Esophageal Varices Structured Interview Schedule.

This tool was developed by the researcher based on review of recent literature to identify the esophageal varices patient's knowledge (Pottage, 2012; William & Hoppert, 2013; Lewis et al 2016), **It consist of two parts:**

Part I: This part was divided into two sections:

1. Socio-demographic Characteristic

This was used to collect patient's personal data such as: sex, age, educational level, occupation, marital states, area of residence and income.

2. Clinical Data

It was utilized to obtain information about clinical history for patients and their families including esophageal varices bleeding warning sign, associated diseases, prescribed and over the counter medications, past medical, surgical history, previous hospitalization, previous banding session, and family history of esophageal varices.

Part II: This part addressed the knowledge of patients with esophageal varices. It was composed of three main sections. It was used to assess patient's knowledge in relation to the following items:

- Knowledge related to nature of the disease including definition, cause, risk factors and complications of esophageal varices.
- Knowledge related to Esophageal Varices Bleeding aggravating factors including medications, nutrition and high risk related activities.
- Knowledge for patients with Esophageal Varices Bleeding after Endoscopic Band Ligation including bed rest, eating pattern, medication timing, follow up schedule, lifestyle modification and complications after EBL.

Scoring system

- less than 50% (< 36 degree) was considered as poor.
- 50% to 64% (36 - < 46 degree) was considered as fair.
- More than or equal 65% (> 47) was considered as good.

Tool II: Multidimensional Patient's Concerns Scale:

This tool was adapted by the researcher from the Concern Model (Abd Ellateif, 2012), and used to assess concerns among patients with esophageal varices. It will be consisted four dimensions regarding physical, psychological, social and spiritual concerns.

- Physical Concerns: It was consisted of 40 items related to rest and sleep included five items, eating consisted of five items, follows up consisted of five items, body care consisted of four items, home management consisted of six items, work composed of four items, treatment consisted of eight items and sexual relation composed of three items.
- Psychological Concerns: it consisted of five items related to mode alterations "sad, anxiety, fear" quick anger and feeling badly, dealing nervously with others, feeling of tightness without cause, lack of satisfaction and self-confidence.
- Social Concerns: it composed of seven items related to decreased visits to friends and relatives decrease desire to talk with other, decrease participation in social activities, lack of initiation to help others, lack of fun and sense of humor with family members, lack of interest in family members and less attention to the children.
- Spiritual Concerns: it consisted of three items related disease is punishment from Allah, expiation of sins and test from Allah.

Scoring System

- Less than 33.3% (< 36) was considered as low concern.
- Equal to 33.3% and less than 66.7% (36 - < 73) was considered as moderate concern.
- From 66.7% to 100% (> 73 - 110) was considered as high concern.

Method

The study was accomplished as follows:

- Written Approval:

Approval from Ethical committee, Faculty of Nursing, Alexandria University was obtained.

An Official letter from Alexandria Faculty of Nursing was submitted to head of the department of gastrointestinal endoscopic unit. Permission to carry out the study was obtained after complete explanation of the study aim.

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- Tool development:

Knowledge of Patients tool (Tool I) were developed and Multidimensional Patient's Concerns Scale (Tool II) were adapted and translated into an Arabic language by the researcher after review of relevant literature. (Pottage, 2012; William & Hoppern, 2013; Lewis et al., 2016 & Abd Ellateif, 2012)

- content validity:

The two adapted tools were submitted to jury members of five experts in the field of Medical-Surgical Nursing, Faculty of Nursing, Alexandria University, to assure the content validity, completeness and clarity of items and appropriateness of translations. Every jury member was informed about the aim and method of the study. Comments and suggestions of jury were considered and carried out accordingly as duplication in some items were removed, some misunderstood items were written more clear and some items were added. Final format of the tools were developed.

- Reliability:

The reliability of the developed tool was tested by using Alpha Cronbach's statistical test. The tool for the study was applied to seven patients. Reliability coefficient value was 0.86 which is acceptable for knowledge tool and was 0.97 for concerns tool.

- Pilot study:

A pilot study was conducted on seven patients to test clarity, feasibility, and applicability of the study tool. It revealed that some items in the tool has no significance for the study sample, including part of exercise in physical concerns part in the multidimensional concerns scale which was excluded because all patients included in the pilot study didn't perform any type of exercise.

- Data collection:

- After securing the administrative approval, data collection was initiated covering a period of 5 months from October 2019 to February 2020.
- The total subjects consisted of 70 adult patients; every patient was interviewed during follow up visit on gastro endoscopic unit without intervention.
- The final draft of the structured tool was used to collect data in order to achieve the objective of this study. The data were collected by the researcher for each patient using individualized interview.
- The interview ranged from 30-45 minutes on individual session.
- Some patients were reviewed before endoscopic follow up and some of patients were reviewed after the end of endoscopic evaluation.
- The data was obtained in morning shift.

- INDENTATIONS AND EQUATIONS

- Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp).
- Qualitative data were described using number and percent.
- Quantitative data were described using range (minimum and maximum), mean, and standard deviation.
- Significance of the obtained results was judged at the 5% level.

The used tests were

1. Chi-square test

For categorical variables, to compare between different groups.

2. Monte Carlo correction

Correction for chi-square when more than 20% of the cells have expected count less than 5.

3. Pearson coefficient

To correlate between two normally distributed quantitative variables.

III. RESULTS

Table (1): Illustrates frequency distribution of the studied patients regarding their Sociodemographic characteristics. Regarding age, less than two thirds (64.3%) of the studied patients were in the age group (50≥60) years, while only 8.6% were in the age group (30>40) years. In relation to gender, it was found that more than half (52.9%) of the studied patients were females. Concerning the educational level, it was evident that illiterate patients formed 51.4% of the studied patients, while 2.9% had university education. In relation to occupation, 50.0% of the studied patients were house wives, while 27.1% had manual work, 8.6% were clerical workers, 8.6% were retired and 5.7% were not working. Also, the table revealed that nearly equal three quarters (74.3%) of the studied patients were married, and less than three quarters (72.9%) lived in rural area. Moreover; it was found that the majority (94.3%) of the studied patients had sufficient monthly income to fulfill the daily requirements.

Table (1): Frequency Distribution of the Studied Patients Regarding Their Socio demographic Characteristics (N = 70).

Socio-demographic data	No.	%
Age (years)		
30 < 40	6	8.6
40 < 50	19	27.1
50 ≤ 60	45	64.3
Sex		
Male	33	47.1
Female	37	52.8
Level of education		
Can't read and write	36	51.4
Read and write	16	22.8
Basic education	6	8.6
Secondary	10	14.3
University	2	2.9
Occupation		
Manual	19	27.1
Cleric work	6	8.6
House wife	35	50.0
Retirement	6	8.6
Not work	4	5.7
Marital status		
Married	52	74.3
Widow	18	25.7
Area of residence		
Urban	19	27.1
Rural	51	72.9
Monthly income (from the patient's point of view)		
Enough	66	94.3
Not enough	4	5.7

Table (2): Shows the frequency distribution of the studied patients according to overall knowledge of patients with esophageal varices (n = 70). The table showed that; less than three quarters (71.4%) of the studied patients had poor knowledge level about nature of the disease and 2.9% of them had good knowledge. Furthermore, more than half (51.4%) of the studied patients had poor knowledge level about esophageal varices bleeding aggravating factors but 11.4% of them had fair knowledge. More than two thirds (67.1%) of the studied patients had good knowledge level after endoscopic band

ligation (EBL), while 8.6% only of them had poor knowledge. As regard to overall knowledge level, 47.1 % of the studied patients had poor knowledge level, while nearly one third (32.9%) of them had fair knowledge level and one fifth (20%) of them had good knowledge level.

Table (2): Frequency Distribution of the Studied Patients According to Overall Knowledge of Patients with Esophageal Varices (N = 70)

Knowledge of patients with esophageal varices structured interview schedule	Poor		Fair		Good		Total score	% score
	No.	%	No.	%	No.	%	Mean ± SD	Mean ± SD
Knowledge related to nature of the disease	50	71.4	18	25.7	2	2.9	8.16 ± 3.0	41.02 ± 13.91
Knowledge related to esophageal varices bleeding aggravating factors	36	51.4	8	11.4	26	37.2	5.57 ± 4.39	46.05 ± 30.19
Knowledge for patients with esophageal varices bleeding after endoscopic band ligation (EBL).	6	8.6	17	24.3	47	67.1	7.79 ± 1.32	64.88 ± 10.98
Overall Knowledge	33	47.1	23	32.9	14	20.0	21.51 ± 7.66	50.35 ± 14.29

Table (3): Shows the frequency distribution of the studied patients according to overall concerns of patients with esophageal varices. The table showed that; all of the studied patients (100%) had moderate physical concerns, 47.1% of them had low psychological concerns and three fifths (60%) had low social concerns, while more than half (51.4%) had moderate spiritual concerns. As regard for overall concerns, from the same table, it was found that more than three quarters of the studied patients (78.6%) had moderate concern to esophageal varices bleeding, 12.9% of them had low concern, while only 8.6% of them had high concern.

Table (3): Frequency Distribution of the Studied Patients According to Overall Concerns of Patients with Esophageal Varices. (N = 70)

Patient's Concerns	Low concern		Moderate concern		High concern		Total score	% score
	No.	%	No.	%	No.	%	Mean ± SD	Mean ± SD
I. Physical concerns	0	0.0	70	100.0	0	0.0	43.49 ± 6.91	51.22 ± 8.18
Rest and sleep	12	17.1	49	70.0	9	12.9	5.51 ± 2.33	45.95 ± 19.39
Eating	5	7.2	61	87.1	4	5.7	5.57 ± 1.70	46.43 ± 14.16
Follow up	10	14.3	24	34.3	36	51.4	7.31 ± 3.20	60.95 ± 26.68
Body care	0	0.0	43	61.4	27	38.6	6.17 ± 1.30	61.71 ± 12.96
Home management: (n = 28)	14	50.0	12	42.9	2	7.1	5.93 ± 3.86	37.05 ± 24.11
Work (n = 25)	8	32.0	17	68.0	0	0.0	5.28 ± 2.85	44.0 ± 23.76
Treatment:	0	0.0	70	100.0	0	0.0	9.06 ± 1.61	50.32 ± 8.97
Sexual relation (n = 32)	12	37.5	16	50.0	4	12.5	2.81 ± 1.77	35.16 ± 22.10
II. Psychological concerns	33	47.1	31	44.3	6	8.6	4.03 ± 3.11	33.57 ± 25.89
III. Social concerns	42	60.0	13	18.6	15	21.4	5.10 ± 5.04	31.88 ± 31.51
IV. Spiritual concerns	28	40.0	36	51.4	6	8.6	3.14 ± 1.98	39.29 ± 24.75
Overall concerns	9	12.8	55	78.6	6	8.6	55.76 ± 10.89	46.27 ± 10.45

Table (4): Shows the relation between patient's socio-demographic characteristics and overall knowledge regarding EV. The table showed that; there was a statistical significant relation between patients' age ($p = 0.005$), educational level ($p = 0.001$), occupation ($p = 0.001$), residence area ($p = 0.001$) and overall knowledge level. Moreover, it was noticed that there was no significant relation between patients' sex ($p = 0.250$), marital status ($p = 0.533$), income ($p = 0.128$) and overall knowledge level.

Table (4): Relation between Socio-Demographic Characteristics and Overall Knowledge; (n = 70)

Socio-demographic characteristics	Overall knowledge						χ^2	P
	Poor (n = 33)		Fair (n = 23)		Good (n = 14)			
	No.	%	No.	%	No.	%		
Sex								
Male	16	48.5	13	39.4	4	12.1	2.774	0.250
Female	17	45.9	10	27.0	10	27.1		
Age (years)							13.205*	MC p= 0.005*
30 < 40	0	.0	2	33.3	4	66.7		
40 < 50	6	31.6	9	47.4	4	21.0		
50 ≤ 60	27	60.0	12	26.7	6	13.3		
Level of education							21.776*	MC p= 0.001*
Can't read and write	19	52.8	13	36.1	4	11.1		
Read and write	10	62.5	4	25.0	2	12.5		
Basic education	4	66.7	2	33.3	0	0.0		
Secondary	0	0.0	4	40.0	6	60.0		
University	0	0.0	0	0.0	2	100.0		
Occupation							22.894*	MC p= 0.001*
Manual	12	75.0	4	25.0	0	0.0		
Cleric work	2	25.0	4	50.0	2	25.0		
House wife	17	48.6	10	28.6	8	22.8		
Retirement	2	33.3	0	0.0	4	66.7		
Not work	0	0.0	5	100.0	0	0.0		
Marital status							1.258	0.533
Married	23	44.2	19	36.5	10	19.3		
Widow	10	55.6	4	22.2	4	22.2		
Area of residence							14.141*	0.001*
Urban	2	10.5	11	57.9	6	31.6		
Rural	31	60.8	12	23.5	8	15.7		
Monthly income (from the patient's point of view)							3.363	MC p= 0.128
Enough	29	43.9	23	34.8	14	21.3		
Not enough	4	100.0	0	0.0	0	0.0		

χ^2 : Chi square test MC: Monte Carlo p: p value for association between different categories

*: Statistically significant at $p \leq 0.05$

Table (5): Shows the relation between socio-demographic characteristics and overall concerns (N = 70). The table revealed that; there was no statistically significance relation between age ($p = 0.954$), educational level ($p = 0.174$), sex ($p = 0.909$), occupation ($p = 0.255$), marital status ($p = 0.197$), residence area ($p = 1.000$), income ($p = 1.000$) and overall concerns level.

Table (5): Relation between Patients Socio-Demographic Characteristics and Overall Concerns of EV Patients (N = 70)

Socio-demographic characteristics	Overall concerns						χ^2	P
	Low (n = 9)		Moderate (n = 55)		High (n = 6)			
	No.	%	No.	%	No.	%		
Age (years)								
30 < 40	1	16.7	5	83.3	0	0.0	1.231	MC p=0.954
40 < 50	3	15.8	14	73.7	2	10.5		
50 ≤ 60	5	11.1	36	80.0	4	8.9		
Sex								
Male	5	15.2	25	75.8	3	9.0	0.468	MC p=0.909
Female	4	10.8	30	81.1	3	8.1		
Level of education								
Can't read and write	5	13.9	27	75.0	4	11.1	9.877	MC p=0.174
Read and write	0	0.0	16	100.0	0	0.0		
Basic education	2	33.3	4	66.7	0	0.0		
Secondary	2	20.0	6	60.0	2	20.0		
University	0	0.0	2	100.0	0	0.0		
Occupation								
Manual	2	12.5	13	81.3	1	6.2	8.572	MC p=0.255
Cleric work	3	37.5	3	37.5	2	25.0		
House wife	4	11.4	28	80.0	3	8.6		
Retirement	0	0.0	6	100.0	0	0.0		
Not work	0	0.0	5	100.0	0	0.0		
Marital status								
Married	8	15.4	38	73.1	6	11.5	3.150	MC p=0.197
Widow	1	5.6	17	94.4	0	0.0		
Area of residence								
Urban	2	10.5	15	79.0	2	10.5	0.399	MC p=1.000
Rural	7	13.7	40	78.3	4	7.8		
Monthly income (from the patient's point of view)								
Enough	9	13.6	51	77.3	6	9.1	0.396	MC p=1.000
Not enough	0	0.0	4	100.0	0	0.0		

χ^2 : Chi square test

MC: Monte Carlo

p: p value for association between different categories

*: Statistically significant at $p \leq 0.05$

Table (6): Show the relation between concerns and knowledge of patients with esophageal varices (N = 70). As regards the physical concerns; there was a statistical significant relation between physical concerns and nature of disease ($p=0.010$), EVB aggravating factors ($p<0.001$) and knowledge of patients with esophageal varices bleeding after endoscopic band ligation ($p=0.038$). As for Psychological concerns; there was statistical significant relation between patients psychological concerns and nature of disease ($p=0.035$, while there was no statistical significant relation between patients psychological concerns and knowledge of patients with esophageal varices bleeding aggravating factors ($p=0.080$), and after endoscopic band ligation ($p=0.130$).

In relation to social concerns; there was a statistical significant relation between social concerns and nature of disease ($p<0.001$), EVB aggravating factors ($p=0.005$). Concerning spiritual concerns; there was no a statistical significant relation between spiritual concerns and nature of disease ($p=0.122$), knowledge of patients with esophageal varices bleeding after endoscopic band ligation ($p=0.850$), while there was a statistical significant relation with EVB aggravating factors ($p=0.001$). In addition to overall concerns; there was the statistically significant relation between overall concerns and overall knowledge ($p=0.005$).

Table (6): Relation between Concerns and Knowledge of Patients with Esophageal Varices. (N = 70)

Patient's Concerns	Knowledge							
	Nature of the disease		Esophageal Varices Bleeding Aggravating Factors		of Patients with Esophageal Varices Bleeding after Endoscopic Band Ligation (EBL).		Overall Knowledge	
	R	P	R	p	R	p	R	P
I. Physical concerns	-0.307*	0.010*	-0.486*	<0.001*	-0.248*	0.038*	-0.423*	<0.001*
Rest and sleep	-0.555*	<0.001*	-0.309*	0.009*	-0.512*	<0.001*	-0.499*	<0.001*
Eating	-0.238*	0.048*	-0.407*	<0.001*	-0.158	0.191	-0.354*	0.003*
Follow up	0.205	0.089	0.164	0.176	0.185	0.126	0.220	0.067
Body care	0.391*	0.001*	0.373*	0.001*	0.327*	0.006*	0.424*	<0.001*
Home management: "for female" (n = 28)	-0.301	0.120	-0.592*	0.001*	-0.265	0.173	-0.483*	0.009*
Work (n = 25)	0.158	0.450	-0.335	0.102	0.247	0.233	-0.045	0.832
Treatment:	-0.154	0.204	-0.203	0.091	-0.260*	0.030*	-0.201	0.096
Sexual relation(n = 32)	0.308	0.087	0.127	0.487	0.050	0.785	0.204	0.263
II. Psychological concerns	-0.252*	0.035*	-0.211	0.080	-0.183	0.130	-0.252*	0.036*
III. Social concerns	-0.415*	<0.001*	-0.329*	0.005*	-0.226	0.060	-0.396*	0.001*
IV. Spiritual concerns	-0.187	0.122	-0.398*	0.001*	0.023	0.850	-0.264*	0.027*
Overall concerns	-0.276*	0.021*	-0.413*	<0.001*	-0.093	0.442	-0.335*	0.005*

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

IV. DISCUSSION

Esophageal varices are extremely dilated sub-mucosal veins in the lower third of the esophagus. They are most often a consequence of portal hypertension, commonly due to cirrhosis; people with esophageal varices have a strong tendency to develop severe bleeding which left untreated can be fatal. (Elbadawi; 2015). Assessment of knowledge and concerns among patients with EV should be done to investigate, identify and specify their needs or concerns in order to plan care effectively and to help those patients to cope with their problems which may be raised.

Therefore, assessment of these patients' knowledge and concerns are very important for increasing patients' awareness of self-care and management and prevention or minimizing complications. Furthermore, it is important to the nurse both in planning care and in establishing trusting relationship with the patients (Mosleh, Eshah, Almalik; 2017). Thus, the present study was carried out in order to assess the knowledge and concerns of patients diagnosed with esophageal varices.

Concerning demographic characteristic of the studied patients, the results of the present study revealed that more than half of the studied subjects were in the age group between 50<60years. This finding may be attributed to the fact that the incidence of EV increases with advanced age as a complication to chronic liver diseases (CLD). It is in the same line with other studies done in Egypt by Ahmed,Taha, El-khashab & Hussein; (2018) who reported that most of participants were in fifties with a mean age (53.4 ±9.3) and Abdel Reham & Mohamed (2017) reported that the mean age was (52.4 ±12.7) years. In contrast, Al-Johani, Aljehani, Alzahrani; (2018) reported that About 41.5% of participants aged from 20-35 years, 33.8% were 36-50 years old and 24.7% were older than 50.

Regarding gender, the study result revealed that more than half of the studied patients were female. This result is in accordance with Khalil, Youssef, Mekawy; (2015) who reported that the majority of the studied patients were females. Also, Chen et al., (2017) stated that more than half of participants were females. This result is inconsistent with Taha et al., (2017) who reported that less than three quarters of participants were males. This difference may be due to variation in sample size of participants.

Concerning level of education, the result clarified that more than half of the studied patients weren't read and write. This result supported by Taha et al., (2017) who mentioned that nearly three quarters of the studied subjects were illiterate. In contrast, Al Ghamdi & Shah; (2018) reported that about half of patients had completed a formal college. The level of

education contributes to increase awareness about diseases and its consequences; also it is an important factor in the use of available medical facilities.

As regards occupation, the study revealed that half of the studied patients were housewives. This study finding was in line with a study conducted at internal medical department in Minia University Hospital by Taha, Mohamed, Bukhary et al., (2015) which revealed that the majority of both study and control group patients were housewives.

As regards to the place of residence, results from data collected in this study showed that less than three quarters of patients were residents in rural areas. These finding was supported by Khalil et al., (2015) who reported that highest percentage of their studied patients lived in rural area. Also, they clarify these results that patients from rural area are more prone to schistosomal infection and its subsequent liver dysfunction and bleeding esophageal varices. This finding may be due to that people living in rural areas have poorer health status and face greater health risk factors than people living in urban areas. Moreover, many rural hospitals lack resources; as a result, care in rural areas is not available for most people.

In relation to marital status, the present study found that nearly three quarters of the studied patients were married. This finding is in line with Abd Elkader et al., (2014) who reported that the majority of the studied subjects with esophageal varices were married. This may be due to the same age group of the studied sample.

Regarding family income, it was noticed that the majority of the studied subjects had sufficient income. It is in the same line with Elshamy, Mohammed, Mohammed; (2019) who reported that more than half of patients had sufficient income. In contrast, Taha et al., (2017) who clarified that the majority of the studied sample had little financial resources, which indicate that they not have the expenses of medical treatment.

The results of the present study revealed that the majority of patients had been diagnosed with liver disease. This result agrees with a study conducted by Mahdy et al., (2018) who reported that the most common cause of esophageal varices in their studies population was portal hypertension and liver cirrhosis.

It was noticed that more than half of the studied patients had previous hospitalization and suffering from liver disease and recurrence of bleeding. These results agree with Rizk; (2015) who clarified that more than two fifths of the study and control group were previously hospitalized. This may be due to chronic disease, which needs to seek medical care and sometimes require hospitalization. Accordingly, Acute Variceal Hemorrhage (AVH) needs prompt endoscopic management in hospital.

Furthermore, the current study showed that the majority of studied patient had previous banding session. This finding is in the same line with Alvi, Zuberi, Rasheed et al., (2020) who reported that the majority of patients required 3-4 banding sessions to obliterate the esophageal varices. Moreover, this result supported by the study of Boregowda et al., (2019) who revealed that esophageal variceal ligation (EVL) is considered to be the first line of endoscopic treatment for the management of bleeding esophageal varices.

The result of the present study also revealed that more than half had previous surgery, more than two thirds of them related to splenoectomy, the results were justified by the fact that splenomegaly and esophageal varices are commonly associated by portal hypertension, this result agrees with Rasheid, Hafez, Alkady; (2013), who reported that splenoectomy and splenic embolization have been advocated as definitive therapy in cirrhotic patients from variceal bleeding.

The current study demonstrated that a high percent of the studied subjects were lacking knowledge about EV nature regarding definition, causes, risk factors and complications. This may be due to lower educational level of the studied patients (more than half of the studied patients were illiterate) in which there is lack of knowledge of the importance of the education. Moreover, level of education contributes to lack awareness about diseases and its consequences. Therefore, patients with low educational level tend to have poor awareness and knowledge about health-related issues which lead to increase occurrence of complications, cost of care, morbidity and mortality rate.

This result supported by Samad, Nasim, Razzaq et al., (2018) who mentioned that most of their studied patients were had low educational level which result in lack of knowledge related to the disease nature. Also this study agrees with Mahdy, Khorais, Abdelhamid; (2018) who stated that no one of the control and the study group had satisfactory level of knowledge about definition and causes of esophageal varices.

In addition to the finding, this study detected that the studied patients had an unsatisfactory level of knowledge about different methods of diagnosis and their preparation. This finding agrees with Huang, Chioventa, Shao et al., (2018) who reported that there was lack of knowledge regarding diagnosis and treatment among those patients. This may be due to lack of instructions to guide those patients before procedures from the nurses which noticed during period of data collection.

Additionally, there was none of studied patients had complete knowledge regarding health practices for EV as treatment adherence, reduce roughage, spicy, hot foods, colas, fat intake, and reduce cough, constipation and avoidance of NSAID. This is supported with the study results of Abd Elkader et al., (2014) which aimed to assess factors aggravating esophageal variceal bleeding at a university hospital in Egypt who found that the majority of study subject had low total knowledge level in relation to esophageal varices health practices and risk factors of disease. Furthermore, This findings supported by Boregowda et al., (2019) as they highlighted that participants who had EV had limited prevention modalities and health practices about their diseases and condition.

In relation to knowledge of the studied subjects regarding aggravating factors; the findings of the present study revealed that more than half of the studied patients mentioned incorrect or did not know medications increase risk to EVB. It is 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 this issue. This would be attributed to the fact that consumption of medications like (NSAIDs) predispose to EVB is high in our population (Seo; 2018).

The result of the current study clarified that more than three quarters of the studied patients had incomplete answer regarding nutrition increase risk for EVB, that result is agrees with the study of Abd Elkader et al., (2014) who reported that three quarters of the study subjects had low total knowledge score about high risk related nutrition. This finding indicates that patients with EV are in need of health education to enhance their knowledge about their physiological needs for therapeutic diet.

Regarding high risk related activities and other factors aggravating EVB including constipation, cough and lifting heavy objects; it was showed that more than two thirds of the studied patients had low knowledge score level. In this context, this study supported by Abd Elkader et al., (2014) who reported that the study subjects' knowledge about activity and other factors aggravating EVB such as constipation, cough and lifting heavy objects represent (40.9%, 36.4% & 22.7%) respectively. In addition, this finding indicates that patients with EV are in need of health education and improving quality of care to enhance their knowledge about esophageal varices bleeding risk factors.

In related to knowledge of studied subject after Endoscopic Band Ligation (EBL) for Esophageal Varices Bleeding, it was found that the study subjects had good level of knowledge regarding the instructions after EBL. This is contradict with the research study done by Mahdy et al., (2018) which entitled "Effect of secondary prevention educational guidelines on patients' clinical outcomes post endoscopic ligation of esophageal varies" who stated that more than one third of the study subjects readmitted after three month of educational guidelines implementation complaining hematemesis, melena, syncope due to re-bleeding that needed ligation for the most of cases. This may be related to lack of awareness and knowledge about diseases and its consequences.

As regard patients physical concerns, in relation to rest and sleep, the present study illustrated that the majority of patients sometimes reported their concerns and worries about having difficulty to sleep at night, changing position frequently to get a comfort position during sleep, sleep few hours at night and right hypochondriac pain interfere rest and sleep. This agreed with Zhao & Wong; (2016) who mentioned that patients with EV report significantly more sleep disturbances than healthy individuals and also state that the pathophysiology of these disturbances is not fully understood but is believed to be linked to impaired hepatic melatonin metabolism (Montagnese, et al; 2009).

The results of the present study denoted that the majority of studied patients always concerned about following low fat and salt diet. This result disagrees with Abd Elkader et al., (2014) who reported that patients with EV are in need of health education to enhance their knowledge about their healthy nutrition and physiological need as they aren't following therapeutic diet which contribute to bleeding esophageal varices as irritating foods or fluids; ingestion of foods high in roughage; and reflux of stomach contents.

Also more than half reported that they are never unable to continue to follow the proper diet. This result supported by Abd Elkader, et al., (2014) who mentioned that patients having esophageal varices always need frequent follow up and adherence to instructions given by doctors and nurses regarding their diet to prevent life threatening re-bleeding.

Participants of the present study had alteration to accomplish the house work as they would like. This finding may be related to that the majority of the studied patients had some factors which lead to home management alteration including patient's age between 50-60 years old, chronic diseases and sleep disturbance and fatigability. This finding is consistent with Golabi, Sayiner, Bush et al., (2017) who reported that fatigue and sleep disturbance are the most commonly encountered symptom in patients with esophageal varices and liver cirrhosis and negatively impacts patients' quality of life, cognitive functions and increases mortality.

In relation to work alteration concern; it was revealed that more than two thirds of the studied patients were not applicable to work. This finding may be related to that the majority of the studied patients in this study were female, house wife, illiterate, older age and having lack of knowledge about the disease and its prognosis mainly affect the residual functional ability. Drossman; (2016) stressed that work disability is dependent on disease characteristics, on the educational level of the patient and type of work.

Otherwise, that may be due to the fatigue, weakness, side effect of medications, aging process, chronicity of disease, less information and lack of awareness about dealing with chronic illness and lifestyle changes. In this aspect Singh, Klapper, Jia et al., (2014) who reported that mobility alterations has been associated with demographic factors as lower level education, female gender, older age, disease activity and clinical features as fatigue, weakness and side effect of medication affect mobility and work.

Regarding the sexual aspect, more than one quarter of married patients expressed that they sometimes concerned about difficulty to be aroused sexually and lack of desire in having sex. The main reasons cited by the patients were pain, fatigue, and positioning difficulty from ascites. This was supported by Magro, Mendes, Galvão; (2018) who mentioned that symptoms of EV and liver cirrhosis have an effect on patients' sexual lives.

The results of the present study showed that patients with EV were concerned about psychological status. It was found that more than half of studied patients reported their concerns EV and worries about mood alterations "sad, anxiety and fear", dealing nervously with others, quick anger and feeling badly and feeling of tightness without cause. Poorer psychological health may be related to the unpredictability of the disease course, fear from occurrence of complications and possible adverse reactions to drugs. These inconsistent patterns cause anxiety and uncertainty in planning for the future. This was stressed by Le Strat, Le Foll, Dubertret; (2015) who stated that an impairment of both the physical and psychological dimensions of quality of life in patients with cirrhosis and esophageal varices.

As for social concerns, this current study showed that patient's social concerns were expressed as lack of fun and sense of humor with family members, less attention to the children and family members, decrease the number of visits for relatives and friends, and decrease the desire to talk with others. These alterations could be clarified by the physical fatigability and psychological distress as a result of disease activity. This was in agreement with Zacks, Beavers, Theodore et al., (2006) who mentioned that the long term prognosis of chronic disease impact on quality of life and cause social stigmatization.

As regards spiritual concerns, the present study showed that the majority of patients believe that the disease is a test from God have a moderate concern score. This is considered as an indicator for the coping of patients with the disease. In this aspect Roger & Hatala; (2018) reported that spirituality is one of several known psychosocial variables that influence the course of health over an individual's lifetime. Spirituality may increase psychological and physiological resilience in the face of illness. Megari; (2013) added that quality of life reflects a patient's spiritual well-being and can be used as an important indicator of adaptation to chronic disease.

Regarding total patients concerns score, the findings of the current study revealed that more than three quarters of the studied patients had moderate concern, these findings may be due to that most of the studied patients were feeling fear and anxious from unexpected and increasing psychological and physiological resilience in the face of illness.

Regarding the relation between patient's socio-demographic characteristics and level of knowledge for EV. The result revealed that there was statistically significant relation between patients' knowledge level and age, educational level. This relation in the present study may be related to the fact that educational level increase people's alertness about importance of following the prescribed regimen and what should be done to maintain or enhance their compliance.

This finding agrees with Abou-El-Fadl; (2015) who studied research entitled the "Effect of discharge planning for patients with esophageal varices on compliance to therapeutic regimen"; revealed that there was a statistical significant association between patients' total compliance, educational level and age and socio-demographic characteristics.

Otherwise, during findings of the present study detected that there was no relation between the patients' level of knowledge and their gender as well as their occupation. This finding agrees with Almodaimagh et al., (2017) who reported that demographic characteristics had no impact on awareness of EV. Also, this finding supported by Boulton, Fenton, Loka et al., (2015) who mentioned that females consistently showed greater knowledge than males and thus appear to be more informed about EV. Moreover, knowledge of EV decreased in a trend-like manner for occupational class, with "Unemployed and Retired" participants scoring the lowest.

Furthermore, marital status of the patients in this study was shown to be not associated with the knowledge of the patients towards EV. Ever single patients had better knowledge compared to married. This findings agrees with previous study that reported marital status having no significant influence on knowledge of patients towards EV (Ghanaei, Joukar, Souti et al., 2013).

Also it was found that there was no relation between the patients' level of knowledge and income, this result is contradict with Obirikorang, Obirikorang, Anto et al., (2016) who mentioned that a higher household income has been found to be associated with adequate knowledge and there is a significant association between socio-economic income and the level of knowledge.

Also contradict with Mohammed; (2011) and El Jackie, Rowaisha, Waked et al., (2008) who studied Octreotide versus sclerotherapy in the control of acute variceal bleeding in schistosomal portal hypertension and reported that variceal bleeding still carries a high mortality especially in rural setting where schistosomal portal hypertension is prevalent.

As concerning with the relation between socio-demographic characteristics and overall concerns of EV patients, it was revealed that there was no relation between patients' concerns level and age, this finding contradict with Abd Ellateif; (2012) who illustrated that there was highly significant difference between patients age and concerns.

Regarding relation between level of education and overall concerns, the present study revealed that there was no relation between educational level and patients concerns, This finding is disagree with Mielck, Reitmeir, Vogelmann et al., (2013) who reported that there was statistical relation between educational level and physical, psychological, spiritual concerns. In addition Javed, Javed, khan; (2016) revealed that educated females patients reported better physical health as compared to uneducated females. The present study findings may be related to the fact that education builds knowledge, skills and provide positive attitudes about health.

Also when level of education is high it helps patients to understand well and lead to better health outcome. On the other hand patients with low educational level usually report lower levels of physical health.

Concerning the relation between patients' gender and overall concerns. The findings of the present study revealed that there was no statistical significant relation between sex and overall concerns. This finding contradicts with Kamran, Samaei, Asghari, et al., (2016) who concluded that there was a significant relationship between gender and functional assessment domains (physical, psychological, social and spiritual).

As regards relation between occupation and overall concerns, the present study revealed that there was no statistical significant relation between studies subjects overall concerns and occupation. This finding is inconsistent with Miller & Dishon (2006) & Pfaffenberger et al., (2007) who revealed that there was significant relation between employed patients and their overall concerns domain as it was found that employed patients have higher concerns level than those with no employment.

Also, in this study it was found that there was no relation between patients overall concerns and residence area. These finding is inconsistency with the results of Abd Ellateif; (2012) who stated that there were significant relation between patients concerns and residence area.

The results of the current study revealed that there was a statistical significant relation between patients' over all knowledge and overall concern, this result is agrees with the study of Tsou; (2017) who mentioned that there is relation between patients education, health behavior, concern and knowledge.

The results of the current study illustrate the importance of understanding knowledge and concerns of patients with EV. The Hepatology nurses should plan educational programs based on patient's knowledge, concerns and needs not according to their own health care considerations.

V. CONCLUSION

Based on the study findings, it can be concluded that patients knowledge and concerns regarding esophageal varices was noticed to be poor knowledge and moderate concerns.

VI. RECOMMENDATIONS

Based on the findings of the present study the following recommendation are derived and suggested:

Recommendations for patients:

- Patient's education is very important element in the treatment process so; it must be emphasized.
- Patients should be provided with simple, illustrated guide booklet to provide them with the needed information regarding esophageal varices, its complication and potential precipitating factors for variceal bleeding and the importance of virus C and virus B vaccination.

Recommendations for nurses:

- Nurses should receive updated educational program about the learning needs for patients with EV.
- Periodic scientific meetings among physicians and nurses must be conducted to discuss patient's problems and establish a comprehensive plan to meet EV patients' needs.

Recommendations for further researchers:

- Develop of a health educational program for EV patients about EV managements and prevention of bleeding recurrence.
- Assessment of factors affecting EV patient's compliance with treatment.
- Health education through mass media concerning esophageal varices and its prevention.
- Further studies have to be carried out in order to assess nurses' knowledge and practices regarding care of patients with esophageal varices.

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