

## Knowledge of Patient with Liver Cirrhosis Regarding Ascites Self-Management: Instructions Nursing Guideline

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### Abstract:

**Background** There are limited of knowledge regarding ascites self-management among liver cirrhosis patients.

**Aim of the study:** To assess level of patient knowledge with liver cirrhosis regarding ascites management and providing them with instructions nursing guideline.

**Setting:** This study was conducted in internal medicine department and intermediate critical care unit at Minia University hospital, and internal medicine department at Minia General Hospital.

**Subjects:** A convenient sample of (60) sixty adult patients (male and female) have ascites as a result of liver cirrhosis, their age between (18 -65) years old, have any degree of ascites as a result of liver cirrhosis.

**Tools:** An interview questionnaire sheet was utilized in this study.

**Results:** The majority of cirrhotic ascites highest at age  $\geq 60$  years, and the most of them male, married, workers, from rural areas, does not have any health education, study sample were had unsatisfactory level of knowledge and poor of practices regarding ascites management and its complications.

**Conclusion:** Majority of patients with liver cirrhosis having ascites had many complications easily, had unsatisfactory level of knowledge and poor of practices regarding ascites management.

**Recommendation:** Provide ascites care guidelines hand book for each patient in simplified term and distributed among cirrhotic ascites to prevent and minimize the complications of ascites; counseling for repeating the` study on large number of patients with cirrhotic ascites from different geographical areas in Egypt to figure out the main aspect of this problem .

**Keywords:** Knowledge , Ascites, Liver cirrhosis, Patients

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### I. Introduction:

Liver cirrhosis is a chronic, progressive disease of the liver , it is characterized by degeneration and destruction of liver cells. Fibrotic bands of connective tissues impair the flow of blood and lymph and distort the normal liver structure (Lois et al., 2013). liver cirrhosis and results from a variety of disorders and is a major cause of morbidity and mortality worldwide, Patients with liver cirrhosis experienced a variety of clinical manifestations depending on the duration and severity of the liver disease rather than underlying diagnosis .Nurses in their day to day contact with patients have the best opportunity to asses potential problems, discuss medical regimens and give teaching about all aspects of care, these include maintaining physical activity, recognizing activity limitations, conserving energy, following dietary modification and adhering to medication schedule, in addition to maintaining life style changes that best suit those patients (Brooker and Nicol, 2003).

The highest incidence of liver cirrhosis is in people between the ages 40 and 60. It is the fifth leading cause of death for people in that age range in the United States. It is more common in men than women. The pathology is most often related to alcoholic – induced liver disease or chronic viral hepatitis (Linton, 2012).

In Egypt about 85% of those infected with hepatitis C virus (HCV) will develop chronic hepatitis of varying severity. Nearly 20% of patients develop cirrhosis in 10-20 years and the incidence of hepatocellular carcinoma is 1- 4% per year in patients with cirrhosis. The prevalence of patients admission with HCV infection in National Liver Institute Hospital has been increasing at a very high rate over the past years. In 2002, more than 90,000 patients received treatment in the National Liver Institute Hospital in out-patient clinics and inpatient services, double the number for 1999) In addition, approximately 76.92% of patients admitted to the National Liver Institute Hospital for treatment at in-patient department had liver cirrhosis (Statistical Records of National Liver Institute Hospital, 2008). The

rate of the flow of cirrhotic ascetic patients between (2010-2011) was nearly about 300 patients in Minia university hospital at Minia city (**Statistical record of Minia university hospital, 2011**).

The term ascites refer to marked increase in the volume of fluid in the peritoneal cavity. This is usually due to underlying disease in which the total body fluid is increased. (**Nicole et al., 2011**). Ascites is major complication of cirrhosis, occurring in 50% of patients over 10 years of follow up, (**Planas, 2006**). The development of ascites is landmark in the natural history of cirrhosis as it associated with 50% mortality over 2 years. The need to consider liver transplantation as a therapeutic option. The majority (75%) of patients who present with ascites have underlying cirrhosis, with the remainder being due to malignancy (10%), heart failure (3%), tuberculosis (2%), pancreatitis (2%), and other rare causes (**Department of health western Australia, 2007**).

Ascites is the most common complications of cirrhosis that leads to hospital admission, approximately 15% patients with ascites succumb in 1 year and 44% succumb in 5 years. Many patients are referred for liver transplantation after development of ascites (**Planas, 2006**). Ascites is a result from a combination of the following factors raised in blood pressure, increased lymphatic pressure in the liver, low plasma protein, albumin and sodium retention, and hepatic cirrhosis account for over 80% of ascites patients. The presence of ascites in liver disease is a poor diagnostic signs. Severe ascites can cause great discomfort: dyspnea, anorexia, and the ability to eat only small meals, inhibit the mobility and discomfort when lying in bed or sitting upright in a chair, if pain occurs, it's often felt in the back. Increased intra abdominal pressure also leads to hernias at the umbilicus. Ascetic fluids are usually straw-coloured, blood stained ascites indicate malignant disease, bile stained indicates a communication with the biliary system and cloudy fluids denotes infection. Chylous ascites, which has a milky appearance, is caused by lymphatic obstruction, is caused by lymphatic obstruction (**Nicole, 2011**).

Nursing assessment and intervention for ascites directed toward restoring normal fluid volume, improving gas exchange, maintaining skin integrity, measuring neurological state, improving nutritional state, infection prevention, improving self-concept and restoring normal vital signs (**Black and Hawks, 2009**). Measure the patient's abdominal girth to evaluate the progression of ascites. To measure abdominal girth, the patient lies flat while the nurse or other examiner pulls a tape measure around the largest diameter (usually over the umbilicus) of the abdomen. The girth is measured at the end of exhalation. Mark the abdominal skin and flanks to ensure the same tape measure placement on subsequent reading. Taking daily weights, however, is the most reliable indicator of fluid retention (**Ignatavicius, 2010**).

## **II. Aim of the study**

To assess level of patient knowledge with liver cirrhosis regarding ascites management and providing them with instructions nursing guideline.

### **Research Questions**

What is the level of knowledge among patient with liver cirrhosis regarding ascites management?

## **III. Methodology**

This descriptive research design was utilized to assess level of knowledge among patient with liver cirrhosis regarding ascites management. Eligibility criteria a convenient sample of (60) sixty adult patients (male and female) have ascites as a result of liver cirrhosis were included in this study, their age between (18 - 65) years old, have any degree of ascites as a result of liver cirrhosis. The sample free from other chronic diseases such as (renal failure, heart failure, cancers) because these diseases can causes ascites. This study was conducted in internal medicine department and intermediate critical care unit at Minia University hospital, and internal medicine department at Minia General Hospital. The study assessed patient knowledge regarding management of ascites using an interview questionnaire. It was constructed by the researcher based on current literature, was exact knowledge level regarding liver cirrhosis ascites management Data collection carried out in the period between April 2015 and July 2016. Ethical approval was obtained from head of department of selected hospitals as well as from the hospital administrator. Participants' consent was obtained at the early stage of the study including the steps of ensuring confidentiality and anonymity. Each patient interviewed and asked about knowledge regarding management of ascites to fulfill the interview sheet. After that each patient obtained and instructions about management of ascites as well as providing them illustrated booklet. A pilot study was carried out on ten patients prior to data collection to assess the clarity of the study instruments.

### Instruments

An Interview questionnaire was designed to include the following elements:

- Socio demographic Data for patient as age, sex, level of education, occupation, marital status, address, duration of the disease, and residence.
- Assessment of patient's physical condition includes; the patient's medical diagnosis, weight, abdominal circumference or girth, degree of ascites, activity level , diet and fluid intake, skin condition, level of consciousness.
- Assessment of patient knowledge included, fluid and dietary management, diuretics, smoking, shin care .... ect

**Scoring System:** Each right answer was given one score. Those who obtained less than 60% were considered as having an unsatisfactory knowledge level, equal to or more than 60% were considered having satisfactory level.

**Barthel Index of activities of daily living Scale.** It was adopted from (Collin et al, 1988) to assess the patient's level of abilities to perform their daily living activities. it includes 10 items (bowels, bladder, grooming, toilet use, feeding, transfer, mobility, dressing, stairs, and bathing)

**Scoring System:** Sum the patient's scores for each item in this item. Total possible scores range from 0-20 with lower scores indicating increased disability. If used to measure the improvement in the level of activities of daily living, changes of more than tow points in the total score reflect a probable genuine change.

### Ascites guidelines Booklet:

A designed manual developed by the researchers in simple Arabic language was disseminated to every participant patient as teaching aid regarding ascites and self-care health practices. The purpose of this developed instructional guidelines is to help patients with ascites to have better dealing with their illness ,to meet their needs, interests as well as to raise their awareness and so encourage them to change their health behavior from negative to positive one regarding ascites. This manual includes the following aspects: definition, and complications and management of ascites. Also this manual offers patient's with ascites the ideal self-care practices according to their information backgrounds and at their levels of their understanding. Pictures illustrating the important points were included for illiterate patients. Booklets were disseminated during data collection. Elaborations were completed by giving examples about proper self-care management, and when to seek medical advice. The time spent to disseminate and illustrate this manual content for each patient ranged from 20– 25 minutes either for patient in medical ward or outpatient clinics.

## IV. Results

**Table (1):** Socio-demographic characteristics of study sample (n=60):

Socio-demographic	N	%
<b>1. Age: (years):</b>		
- < 50	13	21.7
- 50 - < 60	20	33.3
- ≥ 60	27	45
Mean ± SD	52.4 ± 12.7 year	
<b>2. Sex:</b>		
- Male	38	63.3
- Female	22	36.7
<b>3. Marital status:</b>		
- Married	57	95
- Single	2	3.3
- Divorced	1	1.7
<b>4. Level of education:</b>		
- Illiterate	57	95
- Read and write	2	3.3
- Secondary/ diploma	1	1.7
<b>5. Occupation:</b>		
- Not working	32	53.3
- Worker	27	45
- Employee	1	1.7
<b>6. Residence:</b>		
- Urban	3	5
- Rural	57	95
<b>7. Duration of ascites:</b>		
- < 5 years	60	100
Mean ± SD	3.75 ± 1.98 yrs	
<b>8. Having health education:</b>		
- Yes	10	16.7

- No	50	83.3
<b>9. By whom:</b>		
- Health team	10	100
<b>Total</b>	60	100

**Table (1):** Shows that, around half from study sample were aged equal and less than 60years Mean  $\pm$  SD52.4  $\pm$  12.7 year and were married& illiterate male constituted (95%,95% 63.3%)respectively. As .regarding occupation and residence of study sample, results shows that highest percentage from them were hadn't work and lived in rural area while the lowest percentage from them were employee and housing in urban area .on the other hand ,the total study sample were had ascites from more than 5 years (100%) and (83.3%) from them not attend or receiving any health teaching methods regarding management of ascites and its complications.

**Table (2):** Distribution of study sample related to their ascites degree (n=60).

Ascites degree	n	%
- Mild	2	3.3
- Moderate	36	60
- Severe or massive	22	36.7
<b>Total</b>	60	100

**Table (2):** illustrated the distribution of study regarding their ascites degree in, the table shows that the majority of the study group was had moderate degree of ascites (60%) while the minority from them was had mild degree of ascites.

**Table (3):** Distribution of the study sample related to their abilities to perform activity of daily living with ascites (by using Barthel scale) (n=60).

Activity daily living	Sample study					
	Able		Need assist		Not able	
	N	%	n	%	N	%
- Bladder control	58	96.7	2	3.3	0	.0
- Bowels control	58	96.7	2	3.3	0	.0
- Grooming	28	46.7	32	53.3	0	.0
- Personal toilet	24	40	35	58.3	1	1.7
- Bathing	11	18.3	47	78.4	2	3.3
- Feeding	28	46.7	31	51.6	1	1.7
- Transferring	1	1.7	37	61.7	22	36.6
- Mobility	3	5	38	63.3	19	31.7
- Use of stairs	0	.0	35	58.3	25	41.7
- Dressing	5	8.4	46	76.6	9	15

**Table (3):** This table illustrated that, activity of daily living for study group, it found that, they were had abilities to perform both bladder and bowel control only constituted (96.7%). While others their activity of daily living , they were need assistance from their caregiver to perform it .

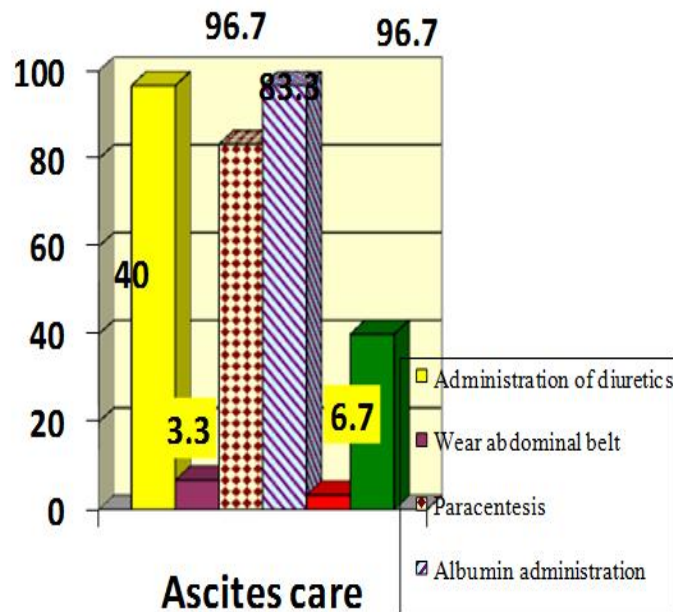
**Table (4):** Distribution of the study sample related to their measure used for dyspnea, skin care, & nutritional (n=60).

Nutritional and fluids management	N	%
<b>Dyspnea care:</b>		
- Elevated the head of the bed 30 degree	2	3.4
- Change position frequently	44	73.3
- None	14	23.3
<b>skin care:</b>		
- Massage on affected parts	2	3.4
- None	58	96.7
<b>Therapeutic diet:</b>		
- Yes	4	6.7
- No	56	93.3
<b>Having excessive protein?</b>		
- Yes	43	71.7
- No	17	28.3
<b>Having excessive salt in food:</b>		
- Yes	13	21.7
- No	47	78.3

<b>Source of salt:</b>		
- Food salt	9	69.2
- Lemon instead of the salt	4	30.8
<b>No. of meals/ day:</b>		
- Two	37	61.7
- Three	11	18.3
- Four	12	20

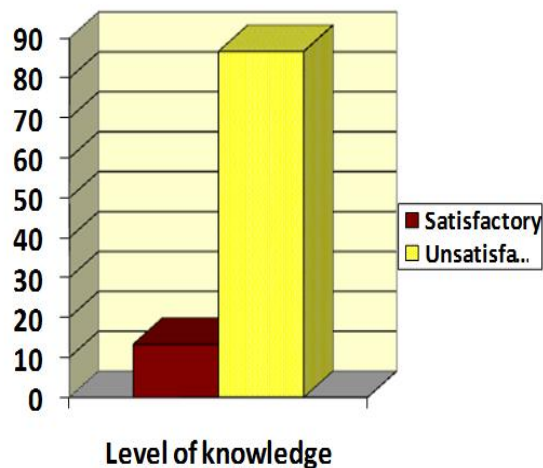
**Table (4):** Shows that, nearly three quarter (73.3) from study sample using change their position as measure to relieve their dyspnea. As regards skin care, it is found that, most from study sample were not using any measure for skin care (96.7%). depicts that, most from study sample were not intake therapeutic diet constituted (93.3%)such as excessive protein and salt food intake (71.7 &78.3 & 69.2 %).While the results shows more than two third their meals number daily were two (61.7).

**Figure (1):** Distribution of the study sample in relation to their measures care with ascites (n=60).



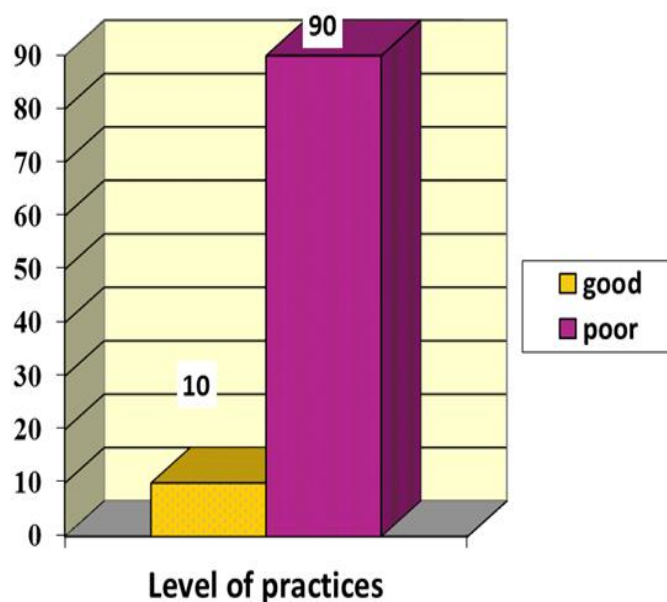
**Figure (1)** illustrate that, majority from study sample were received diuretics & Albumin medications and Perform paracentesis as doctor ordered constituted (96.7& 83.3%) while minority from them were not avoid spicy food.

**Figure (2):** Distribution of the study sample related to level of knowledge regarding ascites management and its complications (n=60).



**Figure (2)** shows that, most from study group were had unsatisfactory level of knowledge regarding ascites management and its complications (86.7%).

**Figure (3):** Distribution of the study sample related to level of practices regarding ascites management and its complications (n=60).



**Figure (4)** shows that, most from study group were had poor level of practice regarding ascites management and its complications (90%).

## V. Discussion

Based on the results of present study; the majority of the patients were males in middle adulthood, that is characteristically a life stage of work and productions. This finding supported by **Abd el Ghaffar, (2004)**, who reported that the percentage of liver cirrhosis is higher among male patients than female patients in Egypt. In the same line with the current study finding which, mentioned that; liver cirrhosis is as twice as common in men than in women and is especially prevalent among malnourished patients over age 50 years of age **Gines, (2005), linton, (2012)**.

The results of the current study represented that; about more than half of the study patients were illiterates, this would be attributed to the fact that the majority of the study patients was residing in rural areas. These finding are consistent with **Sallam, ( 2007)** who reported that; most of the study patients were illiterate. According to the study which was carried out by **Vanderplas et al.,( 2003)**, on a number of cirrhotic liver patients, it revealed that the majority of the sample had secondary education, this result disagree with the present study which may be due to the different nature of the study population. In relation to patient's residence, The results of the present study agrees with study by **Rao et al., (2002)**, who reported that; in Egypt, liver cirrhosis and ascites is more common in rural than urban regions because rural regions present a suitable environment for developing a schistosomal infection due to exposure to canal water that may be polluted by snails that harbor the schistosoma parasite. Also **Abd el Ghaffar, (2004)** stated that in Egypt, liver cirrhosis with or without chronic active hepatitis constituted about 50% of all chronic liver diseases that met within Egypt and even higher percentage in rural Egypt. This means that cirrhosis is the commonest chronic liver disease in the country. In relation to marital status, and occupation, the present study revealed that, the majority of male patients were married and work as employers and farmers (workers). While most of the female patients were married and housewives., this result supported by **Vanderplas et al., (2003)** finding, according to the study which was carried out on a number of cirrhotic liver patients in Egypt by it was reported that the majority of the sample were working as farmers which put them at high risk for developing schistosomal infection and the majority of the patient were married.

Study results shows that, around half from study sample were aged equal and less than 60 years, this agree with **(Lewis et al., 2011)** who stated that, consider the third leading etiology for dying is liver cirrhosis with individuals have 35 and 65 years of age. and were illiterate male because lack of education play a vital role about controlling of risk factors for any health problems specifically a common disease in Egypt which is hepatitis, developing of liver cirrhosis occur due to chronic reaction to hepatic inflammation and necrosis, this congruent with **(Ignatavicius, 2010) & (Choudhury & Sanyal, 2006)**. As regarding occupation and residence of study sample, results shows that highest percentage from them were hadn't work because their age and lived in rural area in which individuals have a various life style factors such as nutrition and water intake, contact with

pollutions , infection exposure, can one precipitating risk for liver cirrhosis development (**Walsh and Crumbie, 2007**).

On the other hand, the total study sample were had ascites from more than 5 years and they were not attend or receiving any health teaching methods regarding management of ascites and its complications this related to their residence in rural areas, that hasn't or inadequate of health care services, in addition lack of patient's interest to be knowledgeable about their disease because they were illiterate. Study results represented that, the majority of the study group was had moderate degree of ascites this not similar with (**Brooker and Nicole, 2012**) who said that, measures for detection of ascites cases through abdominal percussion and sometimes patients complains from difficulty in breathing.

According to **Cesario et al., (2011)** reported that ascites is the most common major complication of cirrhosis and it is an important landmark in the natural history of chronic liver disease. If observed for 10 years, more than half of patient with cirrhosis develop ascites requiring therapy. The development of ascites is associated with a poor prognosis, less than quarter of sample a mortality at one-year and more than one third at five years follow-up, respectively. Therefore patients with ascites should be considered for liver transplantation, preferably before the development of renal dysfunction (**Planas, et al., 2006**). The study findings found that, most among them were had abilities to perform both bladder and bowel control only, this regarding of culture and attitudes of participants which induce feeling of shame when any one assistance during defecation and urination if they feel tired. While others activity of daily living, of participants weren't had the same feeling and asking assistance from their caregiver to perform it.

As regards skin care, it is found that, the majority of study sample were not using any measure for skin care. In the current study the result revealed that there were poor level of knowledge and practice regarding ascites management and its complications in relation to management of itching and this supported (**Linton, 2012**), who stated that the patient with liver cirrhosis and edema in form of ascites risk for skin breakdown for several reasons. Such as deposition of bile salts under the skin causing itching and nursing measures to relieve the itching include gentle bathing , mild soap and warm water, thorough rising, application of moisturizing lotions. And patient nails should be kept short to reduce scratches, put soft gloves on the patient's hands.

## VI. Conclusion

The majority of patients with liver cirrhosis with ascites have many complications easily, the study sample were had unsatisfactory level of knowledge and poor of practices regarding ascites management and its complications.

## VII. Recommendations

From the results of the present study it can be recommended that to provide ascites care guidelines hand book for each patient in simplified term and distributed among cirrhotic ascites to prevent and minimize the complications of ascites; counseling for repeating the` study on large number of patients with cirrhotic ascites from different geographical areas in Egypt to figure out the main aspect of this problem .

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