

Impact of a Designed Nursing Intervention Protocol on quality of life for liver cirrhosis patients in Minia University Hospital

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Abstract:

Back ground: Liver cirrhosis is a serious chronic and irreversible disease which affects most of the body organs and systems and reduce the quality of life of patients. It needs a nursing guidelines to be developed according to patient's needs.

Aim of the study is to investigate the impact of a designed nursing intervention protocol on quality of life for patients with liver cirrhosis at Internal Medical Department in Minia University Hospital, as indicated by knowledge related to liver cirrhosis, health problems relieve, prevention of complications and improving quality of life. To fulfill the aim of this study three research hypotheses were formulated.

Quasi-experimental research design was utilized to fulfill the aim of this study.

Patients and methods: The study sample included 50 male and female adult patients with liver cirrhosis. They were matched and allocated randomly into two groups, study and control (25 patients each).

Setting: internal medical department, Minia University Hospital.

Three tools were utilized for data collection; socio-demographic and medical data sheet, pre/post knowledge assessment questionnaire, Chronic Liver Disease Questionnaire. Structured interview was utilized for data collection. An immediate post- test, and after three months post-test were performed.

Results of the study documented a significant improvement in knowledge after implementation of the nursing intervention protocol. The study hypothesis of participation in the nursing intervention protocol will demonstrate an improvement in their quality of life scores as compared to prior participation was approved. In conclusion, continuous education and follow up of liver cirrhosis patients is needed to prevent the complications of cirrhosis and improvement of health related quality of life of cirrhotic patients. Replication of this study on larger probability sample is highly recommended.

Key wards: Designed Nursing Intervention Protocol- Liver Cirrhosis- Quality of Life

I. Introduction

Liver cirrhosis is considered the end stage of a variety of chronic liver diseases, and is irreversible in its advanced stages. Liver cirrhosis carries the risk of life-threatening complications, partly due to a number of comorbidities. Medical treatments that may halt the progression of compensated cirrhosis to decompensated cirrhosis are currently being developed (Schuppan and Afdhal, 2008).

Cirrhosis is one of the most important causes of death in the world and therefore, is considered as one of the major health issues (Minakari et al, 2011).

(Tan, et al, 2009) stated that cirrhosis is a chronic disease. The patient is affected not only physically but also psychologically, socially, and economically. Major adjustments may be required to make lifestyle changes, especially if alcohol abuse is the primary etiologic factor. Provide information regarding community support programs, such as alcoholics Anonymous, for help with alcohol abuse.

(Ignazio et al, 2011) found that life expectancy and quality of life in patients with advanced cirrhosis remains poor, despite diagnostic advancement. Patients experience fatigue, pruritus, ascites, bleeding and encephalopathy. Dyspepsia and malnutrition are common. Whereas liver transplantation has changed life expectation for a number of patients, many transplantable patients still die due to long waiting lists. Targeted therapy is crucial in slowing or even halting disease progression and to provide standard medical care. Attention should be given to active immunization, nutrition, and general healthcare.

During recent years, assessment of utility and health-related quality of life (HR-QoL) of patients with chronic diseases has become a goal (Wan et al, 2011) and their application, especially in the field of

gastroenterology, has attracted the attention of many researchers. Researches show that health-related quality of life (HR-QoL) is damaged in patients with cirrhosis (**Kalaitzakis et al, 2008**).

Liver cirrhosis is one of the illnesses that can change many aspects of life of not only the individual but also their family and affects society. Study shows that when one member of the family is ill, all members are affected by that illness (**Pashaee et al, 2010**).

The educational and self care programs had a positive effects on the QoL of cirrhotic patients. The excessive aspiration of patients for educational programs was confirmed. Unfortunately no systematic and organized educational program is now existed for these chronic patients. Extensive educational and self-care programs along with long-term follow up are suggested (**Ries, 1995 and Van der Plas, 2003**).

Planning short and simple educational programs has a significant effect on the patient's control of his disease and its side effects; and can improve quality of life, life satisfaction, and mechanisms of coping with treatment (**Noghabi et al, 2010**).

Therefore, the present study has carried out in an attempt to investigate the impact of implementing a designed nursing intervention protocol on quality of life of patients with liver cirrhosis at minia university hospital as indicated by improvement of patients knowledge and practices , related to liver cirrhosis , relieve of some liver cirrhosis health problems, healthy diet, prevention of complications, and reduction of frequency of readmissions

Significance of the study

Liver cirrhosis is considered a health problem in various countries and regions, in the USA every year, complications from cirrhosis lead to over 400,000 hospitalizations and 27,000 deaths. In Egypt, 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**). It has been found from clinical experience as a clinical instructor teaching medical-surgical students for three years in Minia university hospital that liver cirrhosis patients have many physical, social and mental problems and affecting greatly on their quality of life and it has been found from the hospital records 2008-2012 that about 3000 patients diagnosed with liver cirrhosis were admitted to general medical department. As Liver cirrhosis is one of the medical problems that substantially reduce the quality of life of patients. Because of the chronic and irreversible nature of the disease, it needs a nursing guidelines to be developed according to patient's needs and to maintain their independence and sense of well being.

II. Subjects and Methods

Research design;

Quasi-experimental research design has been utilized in this study to examine causal relationships, Quasi-experimental design have insufficient control when compared with experimental design. Thus, nurse researchers conduct more quasi-experimental studies (**Polit et al., 2001**).

Study variables:

1. Independent variable : The designed nursing intervention protocol
2. Dependent variable: includes patient's knowledge about liver cirrhosis (causes, complications, diet, medications) , and QOL domains (abdominal symptoms, systemic symptoms, fatigue, activity, emotional function and worry).

Technical design

Setting of the study:

The study was carried out at Internal Medical Department in Minia University Hospital .

Study subjects:

Fifty adult patients (males and females), divided equally into two groups ;study and control groups (twenty five patients each group).

Inclusion criteria:

The subjects were recruited based on the following criteria:

- Patients diagnosed with liver cirrhosis according to child's pugh classification (Pugh et al, 1973 and Lucey et al, 1997) - class B which indicates a moderate hepatic impairment
- Age eligible for study: 20 to 60 years
- Male and female patients

Exclusion Criteria

- Patients with Diabetes
- Patients with chronic renal failure
- Patients with stroke
- Patients with malignancy

Study Tools: Data pertinent to the study were collected, utilizing three tools:

Tool I: A Socio-demographic and Medical Back Ground Data Sheet , It includes two main parts :

-**First Part:** personal data including patient's name, age, sex, place of residence, telephone number, marital status, level of education, and occupation,

-**Second Part:** medical data including medical diagnosis, child's class of cirrhosis, and laboratory investigations.

Tool II: Pre/Post Knowledge Assessment Questionnaire:

It was constructed by the researcher based on current literature, was used prior to an implementation of the nursing protocol to assess the exact knowledge level, the same tool was used immediately (immediate post test) and after 2 months later to evaluate the gain in knowledge after implementation of the program it consists of assessment of patient's knowledge regarding liver cirrhosis and its management

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.

Tool III : Chronic Liver Disease Questionnaire to Measure Quality Of Life:

It includes Chronic liver disease questionnaire (CLDQ) used to measure patient's quality of life in chronic liver disease patients developed by (Younnosi et al., 1999). The CLDQ include 29 items in the following six domains: (abdominal symptoms, fatigue, systemic symptoms, activity, emotional function and worry) and it has 7 likert scale. It was modified by the researcher to 25 items and 5 likert scale after pilot study. Each domain including items: abdominal symptoms including 2 items, fatigue including 5 items, systemic symptoms including 5 items, activity including 3 items, emotional function including 8 items and worry including 2 items.

Scoring System:

The scores for each item were summed to create a total score from 25 to 125. from worst to best QOL. Type of answers ranging from "all of the time" to "none of the time".

Operational Design:

Tools Testing and Pilot Study:

A pilot study was implemented on 10 patients to test clarity of the tools, estimate the time needed for data collection, and test the feasibility of conducting the research, minimal modifications were done and those patients were included on the study.

Technique for data collection:

A structured interview was utilized to fill out the three tools.

Procedure:

The present study was carried out on two phases:

Phase I: (preparatory phase)

Was concerning formulation of the study tools and proposed an educational program by the researcher based upon extensive review of related literature, educational program was developed according to the patient's needs, then the content validity of the tools & program was checked and revised by 5 nursing and 3 medical experts

Phase II: (Implementation and evaluation phase)

- An official permission to conduct the proposed study was obtained by the researcher from the head of the department.
- Researcher interviewed patients individually.
- All patients were interviewed individually to fulfill socio demographic, medical data, Pre-Knowledge test and CLDQ, then patients were assigned randomly into study and control groups(25 patients in each group).

- At initial interview, the researcher introduce her self to initiate line of communication, explain the nature, purpose of the protocol, fill out the three tools of the study and scheduled with them the educational sessions.
- The study group was exposed to the content of the designed protocol on an individual basis in the form of small teaching sessions , 3 sessions in addition to preliminary session, these sessions were repeated to each patient, the duration of each session ranged from 30 - 45 minutes, including 15 minutes for discussion and feedback, each session usually started by a summary of what had been taught in the previous session and the objectives of the new session.
 - The first 2 sessions started by theoretical part about knowledge related to liver anatomy, functions, types of viral hepatitis viruses, liver cirrhosis, causes, signs and symptoms, and its complications.
 - The later 2 sessions concerning teaching the patient about healthy and restricted diet for different types of liver cirrhosis, types of healthy diet including, fruits, vegetables and drinks, teaching the patient measures to relieve 's health problems for example, how to control fatigue, pruritus, how to decrease muscular cramps, dry mouth, medications that can be taken to relieve some health problems and contraindicated medications.
- The sessions were conducted by the researcher in a simple Arabic language using discussion, posters and handout as a teaching methods.
- **N.B:** Duration of sessions would be variable from patient to patient according to level of understanding.
- Each patient obtained a copy of the designed nursing protocol booklet included all theoretical content.
- The last phase was the evaluation immediately after protocol implementation as well as after 2 months of using the three study tools (I,II,III).
- An open channel communication was achieved between the researcher and patients to assure understanding, answer any question and to verify information.
- A whole period for the nursing protocol was 2 years. The collection of data began in January 2011 and ended in January 2013.
- Evaluation phase was done for only 50 patients (25 study and 25 control) the number of patients decline was due to, some patients died and can not reach to others for follow up; also it takes long period for implementation of the program.

Ethical and legal consideration:

The patient were informed about the purpose and nature of the study. The researcher emphasized that the participation is voluntary, confidentiality and anonymity of the subjects were assured through coding of all data. Each patient has the right to withdraw from the study at any time without any rational and this data will not be reused without a second permission from them.

III. Results

The aim of the present study was to evaluate the impact of a designed nursing intervention protocol on quality of life for patients with liver cirrhosis at Internal Medical Department in El-Minia University Hospital. As indicated by knowledge related to liver cirrhosis, relieve or prevention of liver cirrhosis health problems & complications and improving patient's health- related quality of life .

Research hypotheses

To fulfill the aim of the study, the following research hypotheses were formulated:

1. The post mean knowledge scores of studied patients post implementation of the nursing intervention protocol will be higher than their pre mean knowledge scores as compared to control group.
2. The studied participants will have an improvement in physical well being as compared to prior implementation of the nursing intervention protocol.
3. The studied participants will have an improvement in mental well being as compared to prior implementation of the nursing intervention protocol.
4. Participants will have less disease symptoms or problems as compared to prior implementation of nursing intervention protocol.

The first part:

Table (1): Frequency and Percentage Distribution of Socio-demographic Characteristics for Both Study and Control Group.

Variables	Study (n= 25)		Control (n=25)	
	No.	%	No.	%
Sex:				
• Male	11	44	14	56
• Female	14	56	11	44
Age: (years)				
• 20- 29 years	1	4	0	0
• 30- 39 years	3	12	1	4
• 40- 49 years	7	28	3	12
• 50- 59 years	11	44	15	60
• 60 years	3	12	6	24
Mean ± SD	49.520 ± 9.933		53.680 ± 5.900	
Marital status:				
• Married	22	88	19	76
• Divorced	0	0	1	4
• Widow	3	12	5	20
Residence:				
• Urban	5	20	1	4
• Rural	20	80	24	96
Occupation:				
• Housewife	14	56	11	44
• Laborer	0	0	3	12
• Government Employees	1	4	2	8
• Private work	1	4	6	24
• Not work	9	36	3	12
Level of education:				
• Illiterate	18	72	22	88
• Read and write	3	12	2	8
• Secondary education	1	4	1	4
• University education	3	12	0	0

Table (1) show that; the majority of both study and control group patients were married, housewives, illiterate, and come from rural areas (88%, 76%,56%,44%,72%,88%, 80% ,96%, respectively) and their age ranged between 50 and 59 years, with Mean ± SD 53.68± 5.9 as compared to 49.52± 9.93 for the study group. The highest percentage of the study group was females 56%and control group was males 56%.

The second section related to hypotheses testing

The post mean knowledge scores of studied patients post implementation of the nursing intervention protocol will be higher than their pre mean knowledge scores as compared to control group.

Table (2): One-way ANOVA Test for the Mean of Total and Subtotal Knowledge Scores Obtained by Study and Control Patients' Pre, Post, and Follow up After 2 Months After Implementation of the nursing intervention protocol

Groups	Study Group	Control Group	P- value
	Mean ± SD	Mean ± SD	
Knowledge about the disease			
Pre program	32.840 ± 4.598	33.480±4.597	0.725 NS
Immediate after program	37.920± 4.082	33.480±4.053	0.04*
After 2 months of program	35.640± 5.399	32.520± 4.655	0.05*
Knowledge about Liver cirrhosis complications & Health problems			
Pre program	18.720± 4.798	20.580± 47.756	0.125 NS
Immediate after program	25.620 ± 5.254	19.520± 4.034	0.05*
After 2 months of program	22.000± 4.059	19.200 ± 3.868	0.05*
Knowledge about Nutrition and eating habits			
Pre program	50.160±3.705	44.920± 3.616	0.245 NS
Immediate after program	80.200± 7.136	40.720± 5.004	0.001**
After 2 months of program	70.560± 3.675	40.000± 3.905	0.05*
Knowledge about exercise			
Pre program	3.640± 0.86023	3.600± 0.500	0.905 NS
Immediate after program	6.520 ± 0.509	3.600± 0.500	0.002**
After 2 months of program	5.640± 0.700	3.720± 0.458	0.05*
Total knowledge score			
Pre program	105.360 ± 13.961	102.580± 56.469	0.122 NS

Immediate after program	155.900±16.472	97.320 ± 13.591	0.005**
After 2 months of program	133.840 ± 13.833	95.440± 12.886	0.05*

NS= Non significant * = Statistical significant ** = highly Statistical significant

Table (2) show that, the highest mean knowledge score was after implementation of the nursing intervention protocol in study group compared to control group and show high statistical significant differences in the study group.

Table (3): Frequency and Percentage Distribution of Patients Responses to CLDQ Related to the Abdominal Symptoms Domain

CLDQ	Study Group (n= 25)						Control Group (n= 25)					
	Pre		Post		Follow-up		Pre		Post		Follow-up	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abdominal symptoms (AS)												
How much of the time during the last two weeks have you experienced abdominal pain?												
All of the time	1	4	0	0	0	0	0	0	0	0	1	4
Most of the time	10	40	0	0	1	4	11	44	8	32	10	40
A little of the time	5	20	10	40	12	48	8	32	10	40	7	28
None of the time	9	36	15	60	12	48	6	24	7	32	7	28
p – value	0.01*						0.738 NS					

NS= Non significant * = Statistical significant

Table (3) Show that, the majority of study group were feeling abdominal pain most of the time pre implementation of nursing intervention protocol with percentage 40% and after implementation, the majority with statistical significant differences were feeling abdominal pain non of the time with percentage 60% and $p < 0.01$. While no statistical significant with control group.

Table (4): Frequency and Percentage Distribution of the Study and Control Groups Responses to CLDQ Related to the Fatigue Domain

CLDQ	Study Group(n= 25)						Control Group(n= 25)					
	Pre		Post		Follow-up		Pre		Post		Follow-up	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2- Fatigue (FA)												
How much of the time have you been tired or fatigued during the last two weeks?												
All of the time	5	20	2	8	3	12	7	28	6	24	7	28
Most of the time	11	44	3	12	10	40	10	40	10	40	9	36
A little of the time	9	36	16	64	8	32	7	28	7	28	8	32
None of the time	0	0	4	16	4	16	1	4	2	8	1	4
p – value	0.008**						0.982 NS					
How much of the time in the last two weeks have you been bothered by having decreased strength?												
All of the time	7	28	0	0	0	0	4	16	5	20	3	12
Most of the time	13	52	3	12	5	20	14	56	14	56	16	64
A little of the time	5	20	7	28	10	40	5	20	2	8	5	20
None of the time	0	0	15	60	10	40	2	8	4	16	1	4
p – value	0.006**						0.993 NS					
How often during the last two weeks have you felt a decreased level of energy?												
All of the time	3	12	0	0	0	0	4	16	4	16	4	16
Most of the time	15	60	5	20	5	20	10	40	11	44	13	52
A little of the time	6	24	2	8	4	16	10	40	8	32	7	28
Hardly any of the time	0	0	0	0	1	4	0	0	1	4	0	0
None of the time	1	4	18	72	15	60	1	4	1	4	1	4
p – value	0.01*						0.976 NS					

NS= Non significant * = Statistical significant ** = highly Statistical significant

Table (4): Show that, the majority of study group were fatigued, felt with decreased level of energy and were bothered by decreased strength during the last two weeks most of the time pre the nursing intervention protocol with percentage 44%, 52%, 60% respectively and after nursing intervention protocol implementation, the majority of study group with highly statistical significant differences were fatigued and bothered by decreased strength a little of the time with percentage 64%, 60% respectively, $p < 0.008$ and < 0.006 respectively. Also, feeling with decreased level of energy none of the time with percentage 72% with statistically significant differences $p < 0.01$. While no statistical significant with control group.

Table (5): Frequency and Percentage Distribution of Study and Control Groups Responses to CLDQ Related to the Systemic Symptoms

CLDQ	Study Group (n= 25)						Control Group (n= 25)					
	Pre		Post		Follow-up		Pre		Post		Follow-up	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3- Systemic Symptoms (SS)												
How much of the time during the last two weeks have you had a dry mouth?												
All of the time	5	20	0	0	0	0	4	16	4	16	6	2
Most of the time	8	32	2	8	3	12	14	56	13	52	11	44
A little of the time	4	16	2	8	5	20	3	12	4	16	5	20
Hardly any of the time	1	4	3	12	2	8	0	0	1	4	0	0
None of the time	7	28	18	72	15	60	4	16	3	12	3	12
p – value	0.001**						0.925 NS					

Table (5) shows that, the majority of study group were complaining from dry mouth most of the time before implementation of nursing intervention protocol with percentage 32% and after implementation of the protocol, the most of study group were complaining from dry mouth none of the time with percentage 72% with statistically significant differences $p < 0.001$ respectively. While no statistical significant with control group.

Table (6): Frequency and Percentage Distribution of Patients Responses to CLDQ Related to Activity Domain

CLDQ	Study Group (n= 25)						Control Group (n= 25)					
	Pre		Post		Follow-up		Pre		Post		Follow-up	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4- Activity (AC)												
How often during the last two weeks have you had trouble lifting or carrying heavy objects?												
All of the time	13	52	2	8	3	12	8	32	10	40	12	48
Most of the time	7	28	1	4	12	48	14	56	13	52	11	44
A little of the time	4	16	10	40	5	20	2	8	1	4	1	4
Hardly any of the time	0	0	4	16	1	4	0	0	1	4	0	0
None of the time	1	4	8	32	7	28	1	4	0	0	1	4
p – value	0.05*						0.919 NS					

NS= Non significant * = Statistical significant ** = highly Statistical significant

Table (6) shows that the majority of study group had troubled all of the time when lifting or carrying heavy objects before implementation of nursing intervention protocol with a percentage 52%. While 2 month after implementation of the nursing intervention protocol the majority of the study group had troubled a little of the time when lifting or carrying heavy objects with percentage 40% with statistically significant differences $p < 0.05$. With no statistical significant with control group.

Table (7): Comparison of Mean Scores of CLDQ Domains and Total QOL Scores in the Study and Control Group Before, Immediate, and 2 Months After the Nursing Intervention Protocol

Scores	Study Group					P - value	Control Group				p- value
	Min-max	Before		After			Before		After		
		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
Abdominal symptoms	2- 10	6.600	1.915	8.200	1.803	0.003**	6.240	2.241	6.480	2.434	0.914
Fatigue	5-25	12.600	2.345	20.960	4.494	0.00001**	12.840	3.912	12.680	3.448	0.985
Systemic symptoms	5-25	18.440	3.709	22.440	5.765	0.02*	16.760	4.146	16.280	3.600	0.867
Activity	3- 15	7.560	1.873	12.640	3.234	0.0001**	7.600	2.255	7.440	1.873	0.879
Emotional	8 – 40	24.800	3.862	35.720	4.364	0.02*	23.600	5.155	24.880	5.946	0.631
Worry	2- 10	6.120	1.053	6.560	1.583	0.05*	5.800	1.779	5.800	1.732	0.820
Total score of QOL	25 - 125	76.120	10.211	106.520	18.769	0.00001**	72.840	13.215	73.560	13.212	0.869

CLDQ (Chronic Liver Disease Questionnaire),

QOL (Quality Of Life)

Table (7) showed that, most of the CLDQ domains mean scores and the total QOL scores for the study group after follow up of the nursing intervention protocol were higher than before implementation of the nursing intervention protocol with highly statistical significant differences with total QOL scores and with (abdominal symptoms, fatigue, activity domain), and statistical significant with the remaining domains while no statistical significant differences with the control group.

IV. Discussion

The current study revealed a great lack of patient's knowledge as regard to liver cirrhosis pre implementation of the nursing intervention protocol either in both study and control group. The majority of patients (70%, 76%) of study and control groups, were having an unsatisfactory knowledge score levels. This finding could be attributed to lack of patients education about liver cirrhosis and the majority of study and control groups were illiterate.

Results of the current study showed that mean score of knowledge about liver cirrhosis among the control group subjects were lower than study group subjects post implementation of the nursing intervention protocol. This may be attributed to theoretical sessions that were provided to study group which cover all aspects of liver cirrhosis. (Canobbio, 2000) emphasized that patients with liver cirrhosis need education, counseling and support to enable them to adjust to their chronic illness.

The result of the present study revealed that, the majority of study group patients after implementation of the nursing intervention protocol were following the instructions given to them about therapeutic regimen, the food allowed and avoided food, and instructions about indicated and contraindicated medications. These results were in line with (Weheida et al, 2009) who found that, after protocol of care implementation there was an improvement in compliance of study group patients to therapeutic regimen, this could be explained by the fact that patients were given instructions about medication, also instructions given about food allowed and food that should be avoided to avoid further threatening complications

This result also, was in line with (Mohamed, 2005) who recorded that cirrhotic patients with ascites had great learning needs due to the poor knowledge about their condition and a low level of performing self care and prevention of life threatening hazards of liver cirrhosis.

In the current study after implementation of the nursing intervention protocol, patient's knowledge level and quality of life were significantly improved. This findings supported by (Hairon, 2008) and (Joyce and Jane, 2009) who reported that, education is the key to successful treatment of the disease, and the nurse plays a major role as patient educator. Patients and their families need accurate information about the disease and about the strategies to minimize its impact.

The result of the present study revealed that, participation in the nursing intervention protocol demonstrated an improvement in study group quality of life scores as compared to prior participation of study and control groups in the nursing intervention protocol. There was no statistically significant differences in all domains of QOL, while after intervention the current study revealed a highly statistically significant differences in all domains of QOL in the study group but in worry domain there was no statistically significant differences were observed. This coincides with (Zandi et al, 2005) who stated that, for patients with chronic conditions, health related quality of life can improve significantly when they are trained in self management techniques and empowered with education.

The results of the present study revealed that most of the CLDQ domains (Activity, Emotional, and worry) mean scores for the study group were high after the nursing intervention protocol than before implementation of the nursing intervention protocol, and the mean scores for other domains (abdominal symptoms, fatigue, systemic symptoms) were high after 2 months of the nursing intervention protocol. This was agreed with that of (Sharif et al, 2005) who found that, the intervention was effective in all aspects of QOL after 2 months in the experimental group. The inability of the intervention program to provide evidence of significant changes in all aspects of QOL from pre to one day after the intervention may be due to the various reasons. One may be that, four sessions may not have provided sufficient time for patients to effectively learn and develop the necessary skills regarding QOL. Besides receiving knowledge and information about disease to keep their good QOL and relief their anxiety, long term behavioral and attitude changes need to take place which can occur only over a longer period of time.

Findings may be informing for nurses to understand that, patient and family teaching is an important nursing role that may make the difference in the ability of the patient and family to adapt to chronic conditions .Well-informed ,educated patients are more likely than uninformed patients to be concerned about their health and to do what is necessary to maintain it. They are also more likely to manage symptoms, recognize the onset of complications and seek health care early. Knowledge is the key to making informed choices and decisions during all phases of the chronic illness trajectory (Kocaman et al, 2007).

V. Conclusion

Based on the results of the present study; the researcher can conclude that

- Patient's knowledge regarding liver cirrhosis and it's management were unsatisfactory.
- Application of the nursing intervention protocol for patients with liver cirrhosis showed an improvement in patient's knowledge. An improvement of patient's knowledge could reflect an improvement on patient's quality of life.

- The nursing intervention protocol had a beneficial effects on the health related quality of life of cirrhotic patients and there was an improvement in patients quality of life after the nursing intervention protocol.

VI. Recommendations

Based on results of the present study the following can be recommended:

- A continuous educational programs to improve patients awareness about liver cirrhosis, it's prevention, and early detection especially high risk patients.
- Education of nurses to Prevent HCV infection in health care settings.
- Continuous education and follow up in chronic hepatitis B&C patients to decrease it's complications.
- Increase awareness of population at risk and general population about hepatitis B&C viruses, encourage people to take a more active role in preventing exposure to these viruses and/or modifying their behavior that permit transmission to reduce the burden on HRQOL of infected patients.
- Replication of the study on a large sample and in different hospital settings is recommended for generalization of results.

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