A Prospective Observational Study on Evaluation of Effect of Patient Counselling by Clinical Pharmacist in Improving Knowledge, Attitude and Practice in Patients with Cirrhosis at a Tertiary Care Hospital

Athira Suresh[*], Majun A S[1], Aparna V Kumar[1], Ayilya B[1], Nithin Manohar[2]

[1] Doctor of Pharmacy, (Pharm-D) Student,

[2]M Pharm Pharmacy Practice, Assistant Professor, Department Of Pharmacy Practice, Sree Krishna College Of Pharmacy And Research Centre, Thiruvananthapuram, 695502,, India-625020.

ABSTRACT

Objective: To study the effectiveness of counseling in improving the knowledge, attitude and practice among cirrhosis patients based on disease severity. **Method**: A total of 100 patients with clinically diagnosed liver cirrhosis who had visited gastroenterology clinic during the study period and meeting the inclusion criteria were included in the study. KAP questionnaire was developed and validated. Patients were educated for a period of 6 months. Patients KAP score was observed on baseline and end visit. Parametric and non-parametric tests were used. **Result:** Patient education resulted in better improvement in knowledge, attitude and practice of liver cirrhosis patients. KAP score was found to be increased significantly (p < 0.000). **Conclusion:** Patient counseling improved patient's knowledge, attitude and practice towards the management of cirrhosis.

INTRODUCTION

AIM

The aim of this study is to assess patient awareness about disease and drugs both before and after patient counseling in cirrhosis patients.

LITERATURE REVIEWS

Khan R *et al.* [42] conducted a cross-sectional observational study to determine patients perception and knowledge regarding diet in cirrhosis and its relationship with the level of patients education. The study was conducted at gastroenterology outpatient clinics at the Aga khan university hospital Karachi. Consecutive adult patients with compensated cirrhosis were enrolled. Demographic data, level of education, type and reason of food restriction as well as the source of dietary information were asked. Baseline laboratory test was performed and nutritional status was assessed by BMI nomogram. From the study, it was concluded that both educated & uneducated classes of patients have improper knowledge & perception of diet in liver cirrhosis [5].

OBJECTIVE

➢ To study the effectiveness of counseling in improving the knowledge, attitude and practice among cirrhosis patients based on disease severity.

Cirrhosis" derives from the Greek word κίρρος, meaning gross (tawny, nodular, and firm) describes microscopic appearance of the chronically diseased and physiologically burned out and dysfunctional liver. [1]In contrast cirrhosis (end-stage liver disease) is a chronic, ongoing, long-term disease of the liver [1, 2]. Centers for disease control and prevention's National Center for Health Statistics estimates cirrhosis as the 12th leading cause of death overall and the fifth leading cause of death for patients aged 45 to 54yrs[3.] Cirrhosis is a condition that results from damage to liver tissue with scarring of the liver (fibrosis -nodular regeneration) causing progressive decrease in liver function, excessive fluid in the abdomen (ascites), bleeding disorders (coagulopathy), increased pressure in the blood vessels (portal hypertension), and brain function disorders (hepatic encephalopathy)[4,5.]

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

117

Several processes can lead to cirrhosis:

Alcoholism, Chronic Viral Hepatitis, Autoimmune Hepatitis, Bile duct disorders, Non-alcoholic Fatty Liver Disease (NAFLD), obesity and type 2 diabetes are the two main causes of NAFLD, Non-alcoholic Steatohepatitis (NASH). Hereditary Disorders: *Hemochromatosis,* Wilson's disease, alpha-1 antitrypsin deficiency, and glycogen storage diseases. Other Causes: Schistosomiasis, a disease caused by a parasite. Long-term or high-level exposure to certain chemicals and drugs, including arsenic, methotrexate, toxic doses of vitamin A, and certain prescription medications [7, 9].

Compared with the general population, people with cirrhosis tended to be older. Men were more at risk for cirrhosis than women. Prevalence was higher among poor people and declines with increasing levels of education [6, 8]. The pathological hallmark of cirrhosis is the development of scar tissue that replaces normal parenchyma. This scar tissue blocks the portal flow of blood through the organ, therefore, disturbing normal function. Recent research shows the pivotal role of the stellate cell, a cell type that normally stores vitamin A, in the development of cirrhosis. Damage to the hepatic parenchyma (due to inflammation) leads to activation of the stellate cell, which increases fibrosis (through production of myofibroblasts) and obstructs blood flow in the circulation [9, 10].

The most serious complications associated with cirrhosis are:

Ascites, portal hypertension, variceal hemorrhage, spontaneous bacterial peritonitis is a form of peritonitis (inflammation of the membrane that lines the abdomen), which is associated with ascites.

- Hepatic encephalopathy (impaired brain function)

- Hepatorenal syndrome.

- Spontaneous Bacterial Peritonitis.

- Hepatocellular carcinoma [11].

The child pugh score is a scoring system to measure the severity of chronic liver disease inclusive of cirrhosis. The intention is to provide a system with which clinicians can objectively communicate about liver function. The point scores are added up and classified

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

118

as, Grade–A (mild): 5-6 points, Grade–B(moderate): 7-9 points, Grade–C(severe): 10-15. *Patient counseling is defined as "providing medication information orally or in written form to the patients or their representatives on directions of use, advice on side effects, precautions, storage, diet and lifestyle modifications*"[12]. It is the responsibility of the pharmacist to counsel the patient, before dispensing the medication, during the consultation; the clinical pharmacist should provide him with sufficient information. To ensure that the patient will use safely and appropriately the medication, indeed it would be foolhardy to believe that the patient will remember everything [7, 12].

MATERIALS AND METHODS

STUDY DESIGN

Single-centre, open labeled, randomized, prospective, observational and Interventional study.

STUDY PERIOD

October 2014 - March 2015

STUDY POPULATION

A total of 100 patients with clinically diagnosed liver cirrhosis who had visited gastroenterology clinic during the study period and meeting the inclusion criteria were selected as the study population.

INCLUSION CRITERIA

- All the patients visited in the gastroenterology department with liver cirrhosis during the study period after obtaining informed consent.
- All patients aged above18yrs.

EXCLUSION CRITERIA

- Patients those who are not cooperative.
- Patients with liver transplantation.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

119

The patients with cirrhosis attending the Department of gastroenterology, COSMOPOLITAN HOSPITAL, Trivandrum were enrolled in this study. The patient's awareness was assessed during the first month. After that patient counseling was done according to the requirements of patients. During the second month follow up subjects were again assessed for knowledge, attitude and practice.

- **Data collection**: Interview method.

- **Data analysis**: The relevant data were collected while accompanying the clinician 6 days in a week and also from inpatient medical records. All the case records were reviewed and the details were collected during the particular hospital stay. A proforma were designed for obtaining and evaluating knowledge, attitude, practice and severity of the liver cirrhosis. The proforma contains relevant details such as demographics, past medical history, past medication history, diagnosis, severity score, social history, laboratory investigations, therapeutic plan.

- **Statistical technique:**

The data were entered in Microsoft Excel format and the statistical analysis was done using Statistical Package for the Social Sciences (SPSS). Chi-square test, Wilcoxon Signed Rank test are the statistical techniques used. It was found to be significant at (0.01 level).

- Ethical approval was obtained from the concerned authority.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

120

RESULTS AND DISCUSSION

KNOWLEDGE

Table 1: Effectiveness of counseling on knowledge based on severity

Severity	Knowledge	Before counseling		After counseling		Z#	P
		No: of patients	Perce nt-age	No: of patients	Percent -age		
A	Good	0	0.0	47	90.4	6.57**	0.000
	Fair	1	1.9	5	9.6		
	Poor	51	98.1	0	0.0		
	Median	1		4			
B	Good	0	0.0	28	77.8	5.34**	0.000
	Fair	13	36.1	7	19.4		
	Poor	23	63.9	1	2.8		
	Median	1		4			
C	Good	0	0.0	11	91.7	3.14**	0.002
	Fair	8	66.7	1	8.3		
	Poor	4	33.3	0	0.0		
	Median	1.5		4			
Total	Good	0	0.0	86	86.0	8.91**	0.000
	Fair	22	22.0	13	13.0		
	Poor	78	78.0	1	1.0		
	Median	1		4			

**: - Significant at 0.01 level   #: - Wilcoxon Signed Ranks Test

Fig. 1: Effectiveness of counseling on knowledge based on severity

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

121
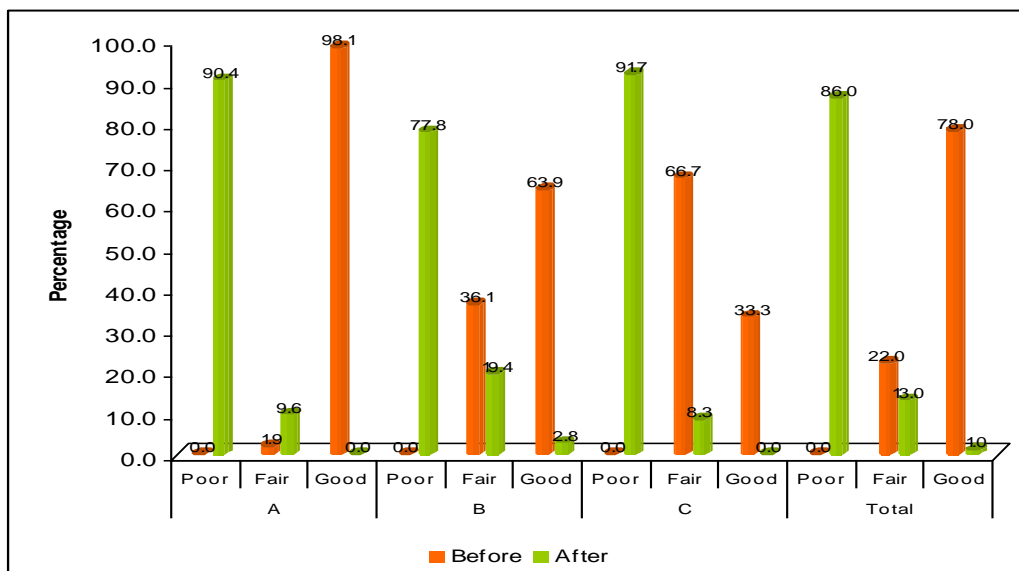
The knowledge of patients about disease and its management was found to be increased after counseling and is significant (p<0.000).

KNOWLEDGE

- Knowledge was found to be significantly increased from patient counseling. It improved the patient knowledge about disease & its management.

- On comparing change in score regarding knowledge, grade A patients was found to have greater improvement in knowledge than grade B and C patients.

ATTITUDE

Table 2: Effectiveness of counseling on attitude based on severity

Severity	Attitude	Before counseling		After counseling		Z#	P
		No: of patients	Percent -age	No: of patients	Percen t-age		
A	Good	0	0.0	48	92.3	6.39**	0.000
	Fair	14	26.9	4	7.7		
	Poor	38	73.1	0	0.0		
	Median	1.0		3.0			
B	Good	0	0.0	30	83.3	5.27**	0.000
	Fair	21	58.3	5	13.9		
	Poor	15	41.7	1	2.8		
	Median	1.5		3.0			
C	Good	3	25.0	11	91.7	3.13**	0.002
	Fair	7	58.3	1	8.3		
	Poor	2	16.7	0	0.0		
	Median	1.5		3.0			
Total	Good	3	3.0	89	89.0	8.79**	0.000
	Fair	42	42.0	10	10.0		
	Poor	55	55.0	1	1.0		
	Median	1.0		3.0			

**: - Significant at 0.01 level #: Wilcoxon Signed Ranks Test

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.
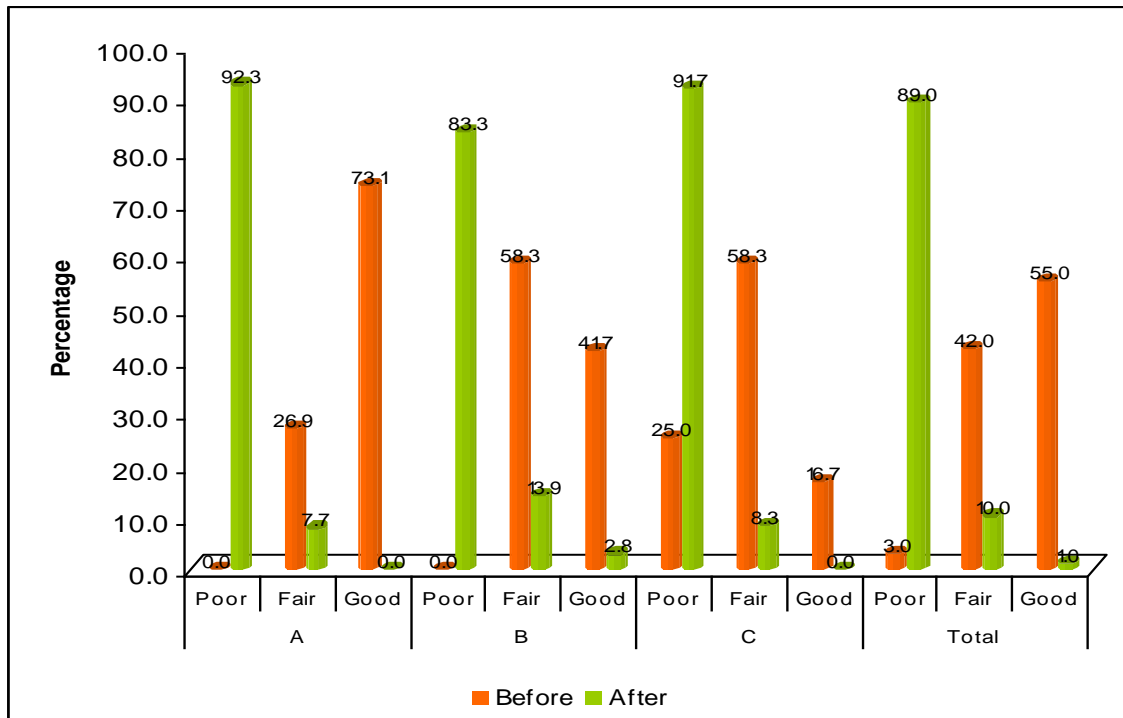
122

Fig.2: Effectiveness of counseling on attitude based on severity

The attitude of patients towards diet and habits was found to be changed after counseling and is significant (p<0.000).

ATTITUDE

• Attitude was found to be significantly increased after patient counseling. Patient's social commitment & behavior was improved after counseling.

• On comparing change in score regarding attitude, grade A patients are found to have greater improvement in attitude than grade B and C patients.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

123

PRACTICE

Table 3: Effectiveness of counseling on practice based on severity

Severity	Practice	Before counseling		After counseling		Z#	P
		No. of patients	Percent-age	No. of patients	Percent-age		
A	Good	0	0.0	50	96.2	6.54**	0.000
	Fair	10	19.2	2	3.8		
	Poor	42	80.8	0	0.0		
	Median	0.0		2.0			
B	Good	2	5.6	31	86.1	5.17**	0.000
	Fair	15	41.7	5	13.9		
	Poor	19	52.8	0	0.0		
	Median	0.0		2.0			
C	Good	0	0.0	12	100.0	3.18**	0.001
	Fair	8	66.7	0	0.0		
	Poor	4	33.3	0	0.0		
	Median	1.0		2.0			
Total	Good	2	2.0	93	93.0	8.8**	0.000
	Fair	33	33.0	7	7.0		
	Poor	65	65.0	0	0.0		
	Median	0.0		2.0			

**: - Significant at 0.01 level   #: Wilcoxon Signed Ranks Test

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

124
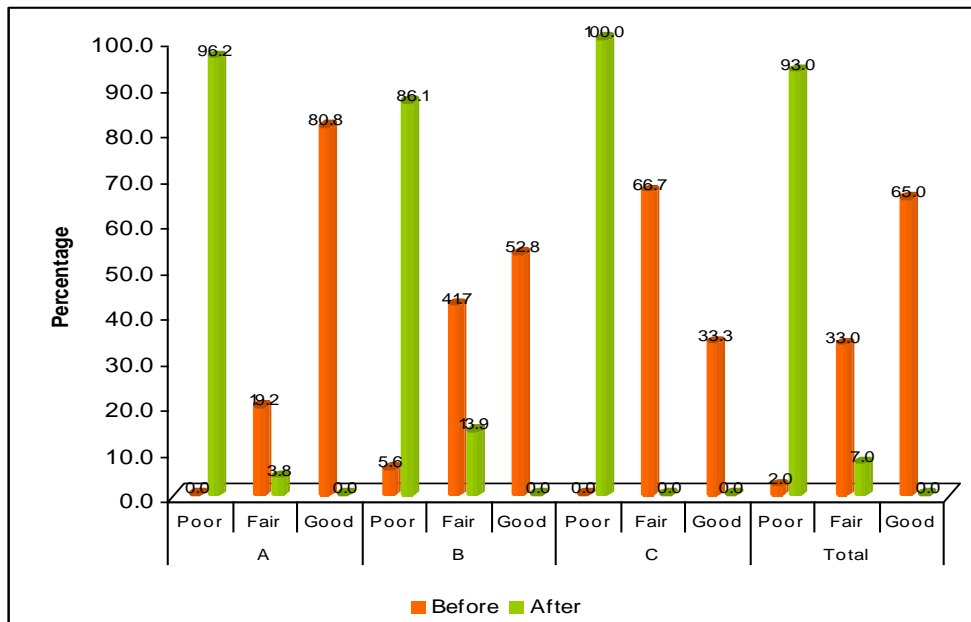
Fig.3: Effectiveness of counseling on practice based on severity

The practice of patients towards medication is found to be increased after counseling and is significant (p< 0.000).

PRACTICE

• After counseling adherence to medicine & regularity of medical checkups in patients were found to be significantly increased.

CONCLUSION

The results of this study can be concluded as follows;

• Patient knowledge about disease & its management was very less at first counseling. After counseling the patient is well aware about their disease its severity & their importance in adhering to treatment regimen for achieving better treatment outcomes.

• Awareness of medicines and usage make them more adherent.

• After counseling, abstinence from alcohol, smoking and dietary restriction was found to be increased. Patient's interest to understand the causes of diseases and uses of medicines is also appreciable.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

125

- The counseling was more useful for illiterate patients.

- *The role of clinical pharmacist* in providing information to patients is significant, especially in Indian population.

- The clinical pharmacist acts as a bridge between physician and patients. It is very clear from the reports of this study; patient counseling provided was very effective in increasing the knowledge, attitude and practice.

- Patient knowledge and perception of facts on different aspects also were found to be improved.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

126

REFERENCES

1. Beyond "Cirrhosis" A Proposal From the International Liver Pathology Study Group Prodromos Hytiroglou, MD, Dale C. Snover, MD VenancioAlves, MD.
2. Pathologic aspects of cirrhosis. Am J Med 1958; 24:593–619.
3. National Vital Statistics reports, U.S. Department of health and human services, Centers for Disease Control and Prevention by Jiaquanxu, M.D.; Kenneth D. Kochanek, M.A.; Sherry L. Murphy, B.S.; and BetzaidaTejada-Vera, B.S.; Division of Vital Statistics. Lindor KD, Gershwin ME, Poupon R, Kaplan M, Bergasa NV, Heathcote EJ; American Association for Study of Liver Diseases. Primary biliary cirrhosis. Hepatology. 2009 Jul; 50(1):291-308.
4. Lindor KD, Gershwin ME, Poupon R, Kaplan M, Bergasa NV, Heathcote EJ; American Association for Study of Liver Diseases. Primary biliary cirrhosis. Hepatology. 2009 Jul; 50(1):291-308.
5. Textbook of therapeutics, drugs and disease management 8th edition. Eric. T. Herfindal, Dick.R.gourley 8th edition 1346-1361.
6. Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs, 10th edition Brian K. Alldredge, Robin L. Corelli, Michael E. Ernst 720-742.
7. Guide To Patient Counseling By: Eugene Tsang March 2008.
8. Clinical pharmacy and therapeutics 5th edition Rogerwalker, Cate whittlesa 238-254.
9. Ali A Mokdad[*], Alan D Lopez, Saied ShahraRafael Lozano, Ali H Mokdad,JeffStanaway, Christopher JL Murray and Mohsen Naghavi Liver cirrhosis mortality in 187 countries between 1980 and 2010: a systematic analysis.
10. Arroyo V. *et al*. Pathogenesis and treatment of hepatorenal syndrome: in liver 28:81, 2008.
11. Krowka MJ *et al.* Hepatopulmonary syndrome and portopulmonary hypertension: A report of the multicentre liver transplant database.liver transpl 10:174, 2010.
12. Lesley Fallowfield. What is quality of life? Second edition health economics.

Citation: Athira Suresh et al. Ijppr.Human, 2016; Vol. 8 (1): 116-127.

127