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Research Article

IMPACT OF PHARMACEUTICAL CARE ON QUALITY OF LIFE OF PATIENTS WITH ALCOHOLIC LIVER DISEASE

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ABSTRACT

Aim: The study aims to assess impact of pharmaceutical care on related quality of life patients with alcoholic liver disease
Methods: A prospective single centered randomized study was carried out to determine the impact of pharmaceutical care on related quality of life of patients with alcoholic liver disease for a period of six months. The study included in-patients as well as out-patients treated in the General Medicine and psychiatry department who were suffering from alcoholic liver disease. While using self-questionnaires: socio demographic questionnaires of the competence network bowel disease, morbidity list of the German pain questionnaire the German version of the medical outcome study 36 item short form health survey SF(Short Form)-36. The study revealed that out of 104 patients, who were divided as study group and control group the study group (52patients) with alcoholic liver disease who were given pharmaceutical care are beneficiated in improving related quality of life. Results: The study showed that there is statistical significance in overall health-related quality of life of alcoholic liver disease patients. The QOL (Quality Of Life) of ALD (Alcoholic Liver Disease) patients was improved on the parts of physical functioning, role of physical functioning, body pain, general health, social functioning, role in emotion and mental health. This study recommended that emphasize the importance of pharmaceutical care which enhances quality of life.

Keywords :- Alcoholic Liver Disease, Pharmaceutical care.

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Home page: www.mcmed.us/journal/abs DOI: http://dx.doi.org/10.21276/abs.2018.6.1.4		**Quick Response code**
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INTRODUCTION

Liver disease is there are more than a hundred types of liver diseases and the most common are listed as following: Alagille syndrome, alpha1-antitrypsin deficiency, autoimmune hepatitis, biliary atresia, cirrhosis, cystic disease of liver, fatty liver, galactoseuria, gallstones, hemochromatosis, liver cancer, neonatal hepatitis, viral hepatitis A,B,C, Wilson disease, alcoholic liver disease. While some liver diseases are been genetic and others are been caused by virus or toxins like excessive alcohol, drugs or poisons [1]. Alcohol is a developing health related problems like mental and psychoactive substance with dependence producing properties. Drinking alcohol leads to the risk of behavioral abnormalities diseases as liver cirrhosis, cancers, cardio vascular disorders [2]. Alcoholic liver disease is damage to liver and its functioning process due to alcohol abuse. Alcohol liver disease is a major cause of alcoholic related mortality and morbidity it ranges from fatty liver to alcoholic hepatitis cirrhosis and hepatocellular carcinoma. Continuation of alcohol consumption will be a major factor that influences the survival of the patient with AH [3]. Alcoholic disorder accounts for a cause of disease which is preventable

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worldwide. ALD which leads to liver related morbidity and mortality among the adults with prolonged alcohol consumption. ALD results half of the case of cirrhosis so this is concluded as the most dominant reason for advanced liver disease globally. Detection in early stages of ALD is associated with primary care setting and subsequent behavioral interventions and the advanced stage of the disease is diagnosed with high complication and mortality rate. However there is lack of detection of ALD in early stages [4].

Pharmaceutical care is a constituent of pharmacy practice (hospital clinical and community pharmacy) which deals with direct interaction of pharmacist with patient regarding medication related needs to achieve definite outcomes of pharmaceutical care includes: Cure of disease, Elimination of symptoms, preventing disease symptoms

The primary benefit of pharmaceutical care by a pharmacist is patient's betterment and focus on the drug therapy with a goal of achieving therapeutic outcomes to a patient quality of life [5].

MATERIALS AND METHODS

This is a Prospective, single-centered randomized trial study conducted in the oxford medical college and research centre, Bangalore. This study protocol was reviewed and approved by the members of Institutional Ethics Committee of the Oxford medical college hospital and research centre, and approval was obtained. A total of 106 patients were included and studied with a pre designed set of questionnaires (SF-36 Questionnaire). Participants were chosen as per the inclusion criteria and a written consent was obtained before the administration of the questionnaire from Individual patients. Only those who were able to communicate and were willing to participate were included in the study. Confidentiality of the participant's personal and clinical datas are maintained. If the Participants couldn't understand the questionnaires, due to language problem he/she are questioned in their preferred languages (English, Hindi and Kannada).

Alcoholic liver disease (ALD) patients admitted in general medicine ward were collected with the details of age, gender, present and past medication history and the results were given in Table(1,2,3,4).

Patients were divided into two groups i.e. control groups (Group I) and study group (Group II), and where the study group receive pharmaceutical care and the other group with normal health care. Both the groups were classified based on smoking habit (Table 5) and alcohol consumption (Table 6). Both groups were compared with occupational status (Table 7 and economical status (Table8). Assessment of knowledge of patients regarding the quality of life by using SF-36 Patients health survey questionnaire and patients were counseled different means regarding quality of life and lifestyle modifications with pharmaceutical care and results were presented in Table (9, 10).

Table 1. Gender wise distribution of Alcoholic liver disease patients.

Gender	Group I	Group II	Total
Female	4(7.7%)	6(11.5%)	10(9.6%)
Male	48(92.3%)	46(88.5%)	94(90.4%)
Total	52(100%)	52(100%)	104(100%)

Samples are gender matched with P=0.506, chi-Square test

Table 2. Age wise distribution of patients

Age in years	Group I	Group II	Total
21-30	7(13.5%)	8(15.4%)	15(14.4%)
31-40	10(19.2%)	13(25%)	23(22.1%)
41-50	17(32.7%)	15(28.8%)	32(30.8%)
51-60	11(21.2%)	9(17.3%)	20(19.2%)
61-70	6(11.5%)	6(11.5%)	12(11.5%)
>70	1(1.9%)	1(1.9%)	2(1.9%)
Total	52(100%)	52(100%)	104(100%)
Mean ± SD	47.40±12.43	45.35±12.83	46.38±12.61

Samples are age matched with P=0.408, student t test

Table 3. Educational status distribution of patients in number and in percentage

Education	Group I	Group II	Total
Illiterate	23(44.2%)	19(36.5%)	42(40.4%)
Literate	29(55.8%)	33(63.5%)	62(59.6%)
Total	52(100%)	52(100%)	104(100%)

P=0.424, Not Significant, Chi-Square Test

Table 4. Distribution of patients based on domicile

Domicile	Group I	Group II	Total
Rural	30(57.7%)	35(67.3%)	65(62.5%)
Urban	22(42.3%)	17(32.7%)	39(37.5%)
Total	52(100%)	52(100%)	104(100%)

P=0.311, Not Significant, Chi-Square Test.

Table 5. Distribution based on time period of smoking

Smoker	Group I(n=52)	Group II (n=52)	Total (n=104)
No	16(30.8%)	21(40.4%)	37(35.6%)
Yes	36(69.2%)	31(59.6%)	67(64.4%)
<10	10(19.2%)	13(25%)	23(22.1%)
10-20	16(30.8%)	9(17.3%)	25(24%)
>20	10(19.2%)	9(17.3%)	19(18.3%)

P=0.306, Not Significant, Chi-Square Test.

Table 6. Distribution based on alcoholic consumption in the population

Alcoholic	Group I(n=52)	Group II(n=52)	Total(n=104)
No	0(0%)	0(0%)	0(0%)
Yes	52(100%)	52(100%)	104(100%)
<10	11(21.2%)	15(28.8%)	26(25%)
10-30	37(71.2%)	31(59.6%)	68(65.4%)
>30	4(7.7%)	6(11.5%)	10(9.6%)

P=1.000, Not Significant, Chi-Square Test

Table 7. Distribution based on occupational status

Occupational Status	Group I	Group II	Total
Unemployed	0(0%)	2(3.8%)	2(1.9%)
Employed	18(34.6%)	16(30.8%)	34(32.7%)
Farmer	12(23.1%)	19(36.5%)	31(29.8%)
Labor	15(28.8%)	14(26.9%)	29(27.9%)
Govt. job	2(3.8%)	1(1.9%)	3(2.9%)
Student	3(5.8%)	0(0%)	3(2.9%)
Retired	2(3.8%)	0(0%)	2(1.9%)
Total	52(100%)	52(100%)	104(100%)

P=0.170, Not Significant, Fisher Exact Test.

Table 8. Distribution based on economical status

Economical Status	Group I	Group II	Total
Poor	21(40.4%)	21(40.4%)	42(40.4%)
Low	0(0%)	10(19.2%)	10(9.6%)
Medium	25(48.1%)	17(32.7%)	42(40.4%)
High	6(11.5%)	4(7.7%)	10(9.6%)
Total	52(100%)	52(100%)	104(100%)

P=0.008**, Significant, Chi-Square Test

Table 9. Distribution based on comparison of variables in both study and control group

Variables	Group I	Group II	Total	P value
Physical Functioning	42.19±23.79	71.96±11.18	56.93±23.83	<0.001**
Role in physical functioning	19.13±23.53	71.57±28.29	45.10±36.92	<0.001**
Body Pain	41.35±26.05	60.00±12.17	50.58±22.35	<0.001**

General health	34.33±19.25	72.84±13.43	53.40±25.46	<0.001**
Vitality	47.02±12.50	50.10±12.06	48.54±12.32	0.206
Social functioning	45.38±20.53	64.75±14.29	54.98±20.14	<0.001**
Role in emotion	41.66±27.11	67.16±36.69	54.29±34.52	<0.001**
Mental health	47.35±16.15	67.13±11.00	57.14±16.99	<0.001**
General health2	46.15±32.98	72.65±23.29	59.27±31.42	<0.001**

P<0.001**, Significant, Student t test.

Table 10. Distribution based on total scores

Total Score	Group I	Group II	Total
<500	46(88.5%)	7(13.5%)	53(51%)
500-700	6(11.5%)	39(75%)	45(43.3%)
>700	0(0%)	6(11.5%)	6(5.8%)
Total	52(100%)	52(100%)	104(100%)
Mean ± SD	364.57±122.07	595.02±87.74	479.79±156.83

P<0.001**, Significant, Student t test.

Fig 1. Gender wise distribution of Alcoholic liver disease patients.

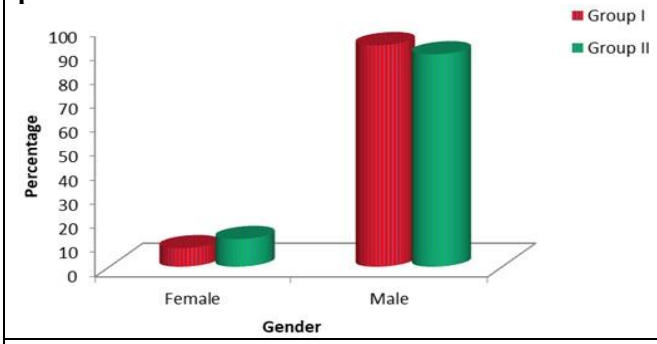


Fig 2. Age wise distribution of patients

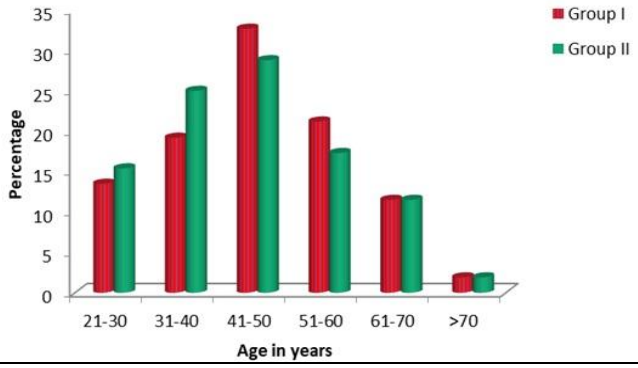


Fig 3. Educational status distribution of patients in number and in percentage.

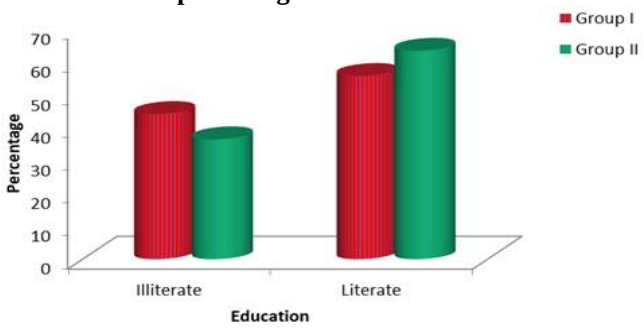


Fig 4. Distribution of patients based on domicile

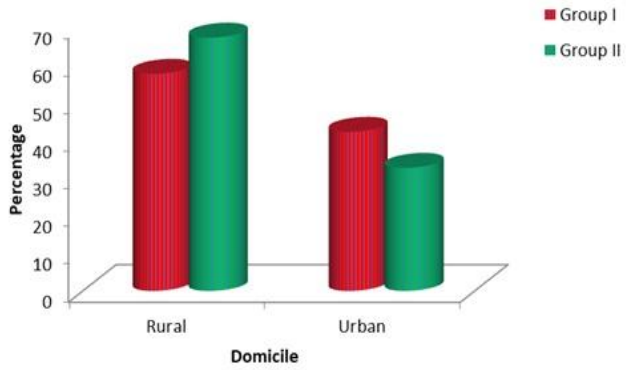


Fig 5. Age wise distribution of smokers with ALD

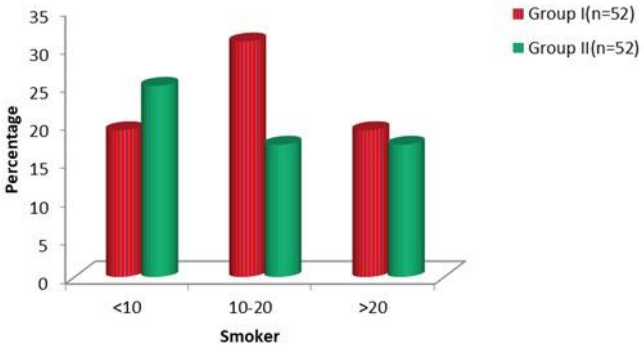


Fig 5.1 Ratio of smokers and non smokers with ALD

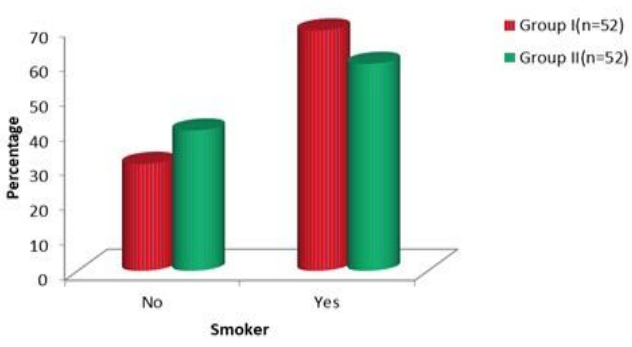


Fig 6. Ratio of alcohol consumers and non alcohol consumers with ALD

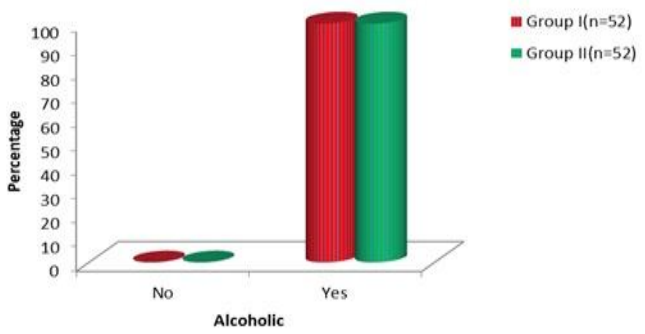


Fig 6.1. Age wise distribution of alcohol consumers with ALD

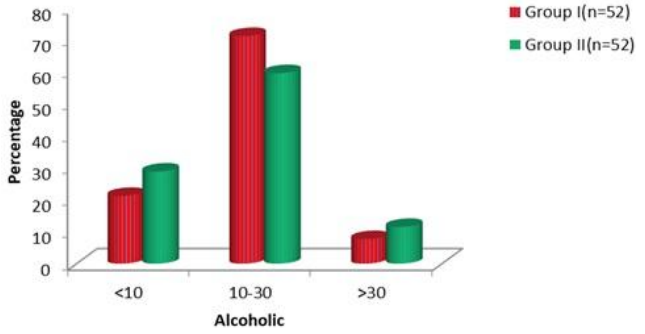


Fig 7. Distribution based on occupational status

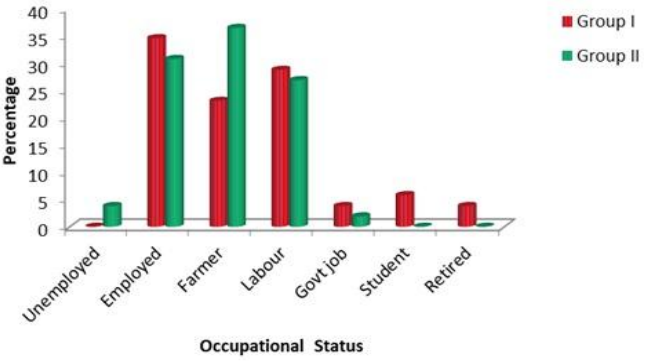
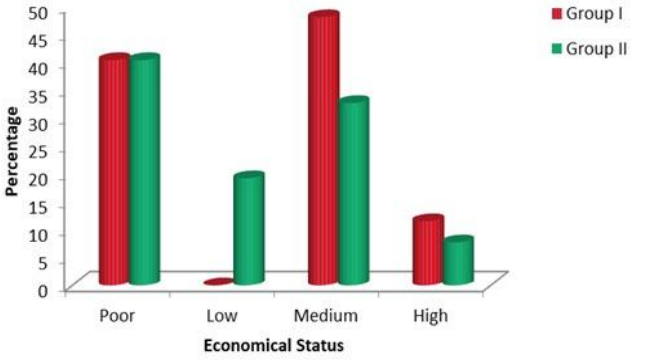


Fig 8. Distribution based on economical status



RESULTS AND DISCUSSION

A total of 104 patients who fulfilled the inclusion criteria were included in the study and are divided into study group and control group with 52 participants in each group whose ages ranged above 18 years.

The gender wise analysis majority of patients of alcoholic liver disease of this study population were males (94- 90.4%) and mostly of age group between of 31-50yrs. Out of the 104 patients enrolled 59.6% were literates, 62.5% are from rural areas.

Distribution based on physical functioning on scale 1-100 showed that study group which receive pharmaceutical care (group – II) is strongly significant than compared to control group (group I). Group II on scale 0-20:0%, 21-40:1.9%, 41-60:7.7%, 61-80:78.8%, 81-100:9.6% whereas group I on scale 0-20: 25%, 21-40:26.9%, 41-60: 28.8%, 61-80:13.5%, 81-100:5.8%

Distribution based on body pain on scale 1-100 showed that study group which receive pharmaceutical care (Group II) is strongly significant than Group I. Group II on scale 1-100 <30:0%, 30-80:94.2%, >80:3.8%Group I on scale 1-100 <30:23.1%, 30-80: 67.3%, >80:9.6%

Distribution based on social functioning on scale 1-100 showed that study group which receive pharmaceutical care (group II) had higher rate of social functioning of 86.5% than compared to group I and group II is strongly significant.

Distribution based on role in emotion showed that study group which receive pharmaceutical care (group II) had highest scale 44.2% than compared to group I and group II is strongly significant than compared to group I

Distribution based on mental health showed that higher rate of 84.6% is seen in group II than compared to group I and group II is strongly significant than compared to group I

Results indicated that study group is strongly significant than the control group in most of the variables from SF-36 questionnaires and patient demographic details and it indicates the positive effect of receiving pharmaceutical care.

Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean ± SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance.

The following assumptions on data is made, **1.**Dependent variables normally distributed, 2.Samples drawn from the population randomly, Cases of the samples collected independent

Student t test (two tailed, independent) has been used to find the significance of study parameters on continuous scale between two groups (Inter group analysis) on metric parameters. Leven1s test for homogeneity of variance has been performed to assess

the homogeneity of variance.

Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups, Non-parametric setting for Qualitative data analysis. Fisher exact test used when cell samples are very small.

Significant figures

+ Suggestive significance (P value: $0.05<P<0.10$)

* Moderately significant (P value: $0.01<P \leq 0.05$)

** Strongly significant (P value: $P \leq 0.01$)

CONCLUSION

Comparison of quality of life of study group with control group resulted high statistical significance in alcoholic liver disease patients. Percentage of total scores of study group <500(13.5%), 500-700(75%), >700(11.5%) with pharmaceutical care was higher as compared to control group <500(88.5%), 500-700(11.5%), >700(0%) i.e. comparison of impact of pharmaceutical care showed that study group was associated with maximum improved quality of life in alcoholic liver disease patients. SF-36 questionnaire scores of the patients revealed that out of 104 patients, who were divided as study group and control group the study group (52patients) with alcoholic liver disease who were given pharmaceutical care are beneficiated in improving quality of life. The study showed that there is statistical significance in overall quality of life of alcoholic liver disease patients. The QOL of ALD patients was improved on the parts of physical functioning, role of physical functioning, body pain, general health, social functioning, role in emotion and mental health. This study recommended that emphasize the importance of pharmaceutical care which enhances health-related quality of life.

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