



IMPACT OF LIFESTYLE COUNSELLING ON ALCOHOLIC LIVER DISEASE

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ABSTRACT:

According to a multi-centric study, alcohol is one of the more prominent causes of liver diseases in India. An alcoholic liver disease not only accounts for mortality but also affects quality of life and productivity. There are quite a few lifestyle-related issues that also cause liver disease added with the consumption of liquor. To manage alcoholic liver disease many therapeutic methods are suggested and one of them is lifestyle modification. This study addresses this issue by investigating the impact of lifestyle modification counselling for the betterment of alcoholic liver disease patients. To conduct the study 50 newly diagnosed male liver disease patients were selected as samples. The study area of this study was the Raipur district of Chhattisgarh. The standard pathological test was used to assess SGPT and SGOT which is a part of liver profile assessment. A three months counselling program was prepared based on the Fantastic Lifestyle Assessment Checklist. Paired 't' test and Pearson Correlation Coefficient was used as a statistical tool. Results reveal the significant role of lifestyle counselling in decreasing the SGOT and SGPT values in alcoholic liver disease patients. It was concluded that lifestyle modification counselling can be incorporated along with other treatment modalities to take a step ahead in curing and managing alcoholic fatty liver disease.

Keywords: Lifestyle modification counselling, liver disease, alcoholics.

INTRODUCTION:

There has been a widespread consensus that after diabetes and blood pressure the next disease due to lifestyle changes may be disease related to liver. The major health issue that looms large in India is the increasing trend of liver diseases. According to WHO, liver diseases are ranked 10th in the list of common causes of death in India. Data published by WHO (2018) suggest that out of total deaths, 3% are due to liver diseases & according to deaths due to liver disease, India is ranked 23rd in the world. Liver disease related to alcohol abuse is also known as ARLD which occurs due to excessive intake of alcohol and there are various stages of ARLD with a wide range of symptoms. In the human body liver is an extremely complex organ and its main function is to eliminate toxins from the blood. The other functions include digestion of food we

eat and managing blood sugar levels. The liver can regenerate itself over time. Filtering alcohol takes a toll on the liver because during this process some of the liver cells die and these cells are regenerated but to a certain extent because long term alcohol intake reduces the capability of the liver to regenerate new cells. Throughout long term alcohol use, the liver is damaged permanently and can no longer have the capacity to generate new cells. The first stage is alcoholic fatty liver, the second stage is alcoholic hepatitis and cirrhosis. Lieber (2004) reported that hepatic lesions are produced by high alcohol/ethanol consumptions in which steatosis is the first symptom that develops after consuming standard drinks over a long period. High alcohol abuse is a very common factor towards liver diseases but the screening for liver disease is very simple and a biochemical test comprising of SGPT and SGOT can identify it. These tests liver enzymes present in the blood. When the liver is scarred or its cells are damaged it causes these enzymes to leak into the blood. This causes an elevated level of enzymes such as serum glutamic-oxaloacetic transaminase in the blood. Although liver disease can also be medically treated, it has been observed that lifestyle changes may improve the condition of alcoholic fatty liver disease patients. It has been suggested that the risk factors for morbidity and mortality related to liver disease are caused by the lifestyle pattern of an individual. Lifestyle modification can be termed as changing or modifying long-term habits which may be behavioural, physical or dietary. But it is not completely known that whether these lifestyle changes can be achieved through lifestyle counselling. Hence the present study was planned to assess the impact of three months of lifestyle modification counselling in controlling the condition of alcoholic fatty liver disease patients.

REVIEW OF LITERATURE

Sarin et al. (1988) conducted a study on ALD profile in Indian hospitals and they reported that the quality of liquor consumed had no association with liver injury.

Breitling et al. (2009) reported that the enzyme activities in the liver may be affected in an individual with obesity or habit of smoking even more despite consuming moderate amount of alcohol.

Lim et al. (2012) carried a systemic analysis and reported that interventions based on lifestyle modification may be used to decrease the rate of mortality due to hepatic causes.

Ray et al. (2014) correlated the biochemical results of patients with alcoholic liver disease with their histological data. It was found that the severity of alcoholic liver disease is strongly correlated with the duration and quality of alcohol consumed.

Manuel et al. (2016) reported that the incidence of fatty liver is 25 to 30% in affluent countries and they also reported that the major cause of fatty liver was either obesity or diabetes.

Niemela et al. (2017) in their study reported that an increased level of ALT i.e. alanine aminotransferase is commonly seen in obese patients with even mild levels of alcohol intake.

Li et al. (2018) reported that excessive alcohol consumption, sedentary lifestyle and smoking are some of the lifestyle-related risk factors that cause fatty liver as well as a significant increase in mortality.

Wong et al. (2019) reported that the prevalence of alcoholic fatty liver disease in US adults was 4.%. .

Nivukoski et al. (2020) investigated the impact of lifestyle on the fatty liver index while taking 12368 participants between the age group of 25 to 74 years. It was found that an unhealthy lifestyle is positively correlated with fatty liver index. The authors concluded that unhealthier lifestyles such as sedentary lifestyle

and alcohol consumption are the two major lifestyle-related factors that contribute towards the development of fatty liver disease.

OBJECTIVES OF THE STUDY

1. To evaluate the impact of individual counselling on selected biochemical markers among alcoholic liver disease patients.
2. To evaluate the impact of individual counselling on lifestyle modifications among alcoholic liver disease patients.
3. To assess the association between lifestyle modification and selected biochemical markers in alcoholic liver disease patients.

HYPOTHESIS

1. It was hypothesized that the three months lifestyle modification counselling will yield significantly reduced levels of biochemical markers namely SGOT and SGPT among alcoholic liver disease patients.
2. It was hypothesized that individual counselling will educate alcoholic liver disease patients to include health behaviour in their daily routine.
3. It was hypothesized that there will be a significant relationship between lifestyle changes and biochemical markers in a group of alcoholic liver disease patients.

TOOLS

Sample:

To conduct the study 50 newly diagnosed male alcoholic liver disease patients undergoing treatment at tertiary hospitals in Raipur Chhattisgarh were selected purposively. The age range of subjects was 26 to 50 years. The sample comprises alcoholic liver disease patients with the level of education ranging from postgraduates to illiterate with most of the subjects falling in middle to low socioeconomic status.

Tools:

Standard laboratory methods were used to measure SGOT and SGPT. A blood sample was collected by a trained technician and analysed with the help of the Spectrometry method.

An assessment tool designed by Dr. Douglas Wilson Department of Family Medicine was used to assess lifestyle-related parameters of newly diagnosed alcoholic liver disease patients. This checklist is called a FANTASTIC lifestyle assessment checklist. In this checklist F stands for Family/friends, A stands for Activity, N stands for Nutrition, T stands for Tobacco, A stands for Alcohol, S stands for Sleep, T stands for Temperament/personality, I stand for Insight and C stands for Career. A higher score on this checklist indicates better lifestyle choices.

Individual Counselling:

A three-month individual counselling schedule based on a FANTASTIC lifestyle checklist was formulated in which newly diagnosed alcoholic liver disease patients were educated regarding diet, physical activity and other healthy behaviour while motivating them to give up alcohol consumption. Regular follow-up of patients was included in this counselling.

Design:

A Single Group Pre-Post Experimental Design

Procedure:

50 newly diagnosed male patients undergoing treatment at tertiary hospitals in Raipur Chhattisgarh were selected purposively. Prior written permission was obtained from each subject regarding their voluntary participation in this study. Standard laboratory methods were used to measure SGOT and SGPT before the start of the three months counselling session and after the end of the counselling session. The relevant statistics were used to analyse the data.

DATA ANALYSIS:

Table 1
Pre-Post Scores on SGOT, SGPT Biochemical Measures of
Newly Diagnosed Alcoholic Fatty Liver Disease Patients

Biochemical Markers (Liver Profile Test)	N	Pre-Test		Post Test		Mean Difference	't'
		Mean	S.D.	Mean	S.D.		
SGOT (Units/litre of serum)	50	212.26	83.43	37.25	14.25	175.01	14.95**
SGPT (Units/litre of serum)	50	194.36	63.32	32.87	9.80	161.49	18.17**

** Significant at .01 level; $t(df=49)$ at 0.05 = 1.67, $t(df=149)$ at 0.01 = 2.67

Table 1 shows that the pre-test mean value on SGOT was 212.26 units/litre of serum and the standard deviation was 83.43 while the post-test mean value on SGOT was 37.25 units/litre of serum and the standard deviation was 14.25. The mean decrease in SGOT after three months of lifestyle counselling was 175.01 units/litre serum which was significant at .01 level ($t=14.95$, $p<.01$).

Table 1 also shows that the pre-test mean value on SGPT was 194.36 units/litre of serum and the standard deviation was 63.32 while the post-test mean value on SGPT was 32.87 units/litre of serum and the standard deviation was 9.80. The mean decrease in SGOT after three months of lifestyle counselling was 161.49 units/litre serum which was significant at .01 level ($t=18.17$, $p<.01$).

Table 2
Comparison of Pre-Post Mean Scores on Lifestyle Modification Scores
of Newly Diagnosed Alcoholic Fatty Liver Disease Patients

N	Lifestyle				Mean Difference	't'
	Pre-Test		Post Test			
	Mean	S.D.	Mean	S.D.		
50	52.82	6.01	77.96	6.85	25.14	34.43**

** Significant at .01 level; $t(df=149)$ at 0.05 = 1.98, $t(df=149)$ at 0.01 = 2.60

Table 2 shows that the pre-test mean value on the FANTASTIC lifestyle assessment checklist was 52.82 and the standard deviation was 6.01 while the post-test mean value on FANTASTIC lifestyle assessment checklist was 77.96 and the standard deviation was 6.85. The mean increase in this checklist after three months of lifestyle counselling was 25.14 which was significant at .01 level ($t=34.43$, $p<.01$).

Table 3

Value of Correlation (r) between Post-test Biochemical Markers namely SGOT and SGPT with Lifestyle Modifications (N=50)

Biochemical Markers	Lifestyle Modifications
SGOT	-0.278**
SGPT	-0.312**

** Significant at .01 level

As shown in table 3, a significant but negative relationship was observed between biochemical markers namely SGOT and SGPT values with lifestyle modifications in a group of newly diagnosed alcoholic liver disease patients. The correlation was suggestive of the fact that improved lifestyle behaviours result in decreased values of biochemical markers in newly diagnosed alcoholic liver disease.

RESULTS:

1. The amount of serum glutamic-oxaloacetic transaminase (SGOT) enzyme in blood was decreased significantly in alcoholic liver disease patients after three months of lifestyle modification counselling when compared with pre-test values.
2. The amount of Serum glutamic pyruvic transaminase (SGPT) enzyme in blood was decreased significantly in alcoholic liver disease patients after three months of lifestyle modification counselling when compared with pre-test values.
3. Three months of individual counselling has resulted in better lifestyle choices by alcoholic liver disease patients when compared with their pre-test lifestyle choices.

DISCUSSION:

To prevent or treat disease lifestyle modifications are often advocated. Piepoli and Villani (2017) reported that lifestyle promotional activities are important in the management of various health issues apart from their proper medical treatment. They also opined those interventions need to be framed in such a way that they educate an individual about the risk of smoking, tobacco and alcohol abuse, disordered eating habits, benefits of physical activities etc. Hence the result of the present study is consistent with previous theories that appropriate lifestyle behaviour may lead to decreased leakage of two liver main enzymes into the bloodstream.

CONCLUSION:

Based on data analysis, results and discussion it may be concluded that three months of lifestyle counselling along with medical treatment can be used to manage alcoholic fatty liver disease. It may also be concluded that a healthy lifestyle may contribute immensely towards the recovery of alcoholic liver disease patients when followed with prescribed medical treatment.

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