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## RESEARCH ARTICLE

# A STUDY TO ASSESS THE EFFECTIVENESS OF A PEDAGOGICAL PROGRAM REGARDING PREVENTION AND MANAGEMENT OF CHRONIC LIVER DISEASE AMONG THE POLICE PERSONNEL IN MYSURU CITY

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### ABSTRACT

**Background of the study:** Chronic liver disease (CLD) represents a major public health problem worldwide. It is a progressive deterioration of liver functions for more than six months characterized by a process of inflammation, destruction, and regeneration of liver parenchyma, which leads to fibrosis and cirrhosis. The cultural–lifestyle transition that India is passing through currently with progressive adoption of a western diet and sedentary habits, create grounds for a spectrum of liver diseases in India. The expanding size of the population and an increasing life expectancy in the country are important demographic determinants of this change. Literature has documented that strenuous working environment and tight work schedules that the policemen face in their day to day job activities have contributed to an increased incidence of chronic diseases among them. Education is a key tool in the prevention and disease management, contributing to appropriate behavioural modifications. **Aim:** The aim of the study was to assess the effectiveness of pedagogical program regarding prevention and management of chronic liver disease among police personnel. **Methods:** Study has used an evaluative approach with Pre experimental, one group pre test-post test design. Purposive sampling technique was used to select 100 police personnel for the study. Data was collected using structured knowledge questionnaire. **Results:** The results of the study revealed that majority of police personnel (53%) were having poor knowledge regarding prevention and management of chronic liver disease. Findings also revealed that pedagogical program on prevention and management of chronic liver disease was effective in enhancing the knowledge of police personnel as indicated by the “t” value which was statistically significant at 0.05 level of significance ( $t=11.56; p<0.05$ ). Statistically significant association was observed between the personal variables of police personnel viz. age, educational status, duration of working experience and dietary pattern with their level of knowledge regarding prevention and management of chronic liver disease. **Conclusion:** Pedagogical program was effective in increasing the knowledge of police personnel regarding prevention and management of chronic liver disease.

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## INTRODUCTION

Chronic liver disease is one of the frequent causes of death, especially in the developing world. It encompasses a series of single or multifactorial insults to the liver, most common of which are alcoholic liver disease, non-alcoholic fatty liver disease and chronic viral hepatitis, including hepatitis B and C.<sup>1</sup> Accumulation of excessive fat in the liver is the common denominator underlying the two most common and emerging causes of chronic liver disease, alcoholic liver disease (ALD) and non-alcoholic fatty liver disease (NAFLD), that are emerging public health issues globally.<sup>2</sup>

Liver disease accounts for approximately 2 million deaths per year worldwide, 1 million due to complications of cirrhosis and 1 million due to viral hepatitis and hepatocellular carcinoma.<sup>3</sup> Police personnel constitute a special occupational group with exposure to violence and constant stress at work place which directly or indirectly affect their health. They are responsible for public security and provide round the clock service to ensure law and order to civilians<sup>6</sup>. A police officer is always subjected to a lot of pressure from the department due to their work nature which requires them to be on their toes all through the day. They do not enjoy regular holidays that other workforce in a lot of other departments enjoy. As a result of this, they are put under tremendous load and are always keyed up. Consequently, the brunt of the condition worsens their personal health in terms of mental, physical, or emotional

health.<sup>4</sup>Unhealthy lifestyle and challenging work environment predispose them to various chronic health conditions. Literature review suggests a high prevalence of various morbidities among policemen ranging from physical to psychological and behavioural problems.<sup>5</sup> Knowledge about the risk factors is an important prerequisite for an individual to implement behavioural changes towards the prevention of chronic diseases. Literature has documented those preventive strategies such as creating awareness about liver health among population at high risk can reduce the morbidity and mortality associated with chronic liver diseases. The challenges to manage patients with advanced liver disease in India are illiteracy, faith in traditional medicine, lack of health care facilities in rural areas, the absence of universal health care and a high prevalence of underlying malnutrition.<sup>7</sup>Being the integral part of health care provider system, nurses have the responsibility to implement education strategies focused on individuals at high-risk categories.

## OBJECTIVES

- To assess the knowledge regarding prevention and management of Chronic Liver disease among police personnel before and after the Pedagogical Program
- To determine the effectiveness of Pedagogical Program on knowledge regarding prevention and management of Chronic Liver disease of in terms of gain in knowledge scores of police personnel
- To determine the association between the knowledge of police personnel regarding prevention and management of Chronic Liver disease and their selected personal variables.

## HYPOTHESES

The following hypotheses are formulated for the study:

**H<sub>1</sub>:** Mean posttest knowledge scores of police personnel regarding prevention and management of chronic liver disease will be significantly higher than their mean pre test knowledge scores.

**H<sub>2</sub>:** There will be statistically significant association between the knowledge of police personnel regarding prevention and management of chronic liver disease and their selected personal variables.

## RESEARCH AND METHODOLOGY

Research design adopted for the study was Pre experimental, one group, Pretest- Posttest design. Purposive sampling was used to select 100 police personnel for the study. Data collection tools included; proforma for selected personal variables and Structured knowledge Questionnaire to assess the knowledge of Police personnel regarding prevention and management of Chronic Liver disease. Pedagogical program regarding prevention and management of chronic liver disease was developed by the investigator. Data analysis was done using descriptive and inferential statistics.

## RESULTS

### SECTION 1

**Description of selected personal variables of study subjects:** The study sample comprised of 100 police personnel working at Karnataka State Reserve Police (KSRP) in Mysuru city.

**AGE:** Data presented in table 1 reveals that 45% of police personnel were in the age group of 30-45 years and 55% were in the age group of 46-60 years.

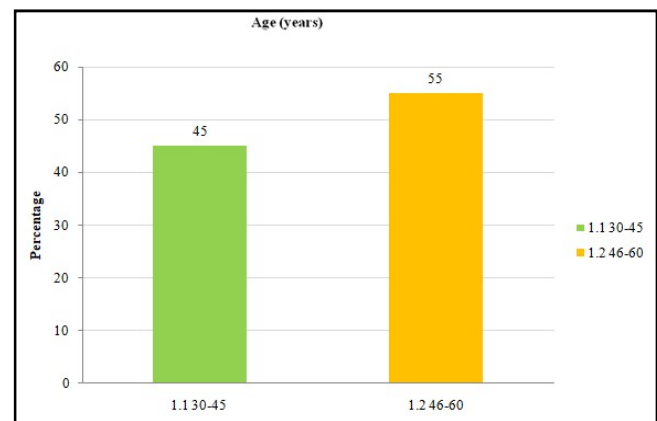


Figure 1. Frequency and percentage distribution of police personnel according to their age

**EDUCATIONAL QUALIFICATION:** Data related to the educational status of police personnel reveals that majority (45%) have completed SSLC, 43% were having the educational qualification of degree and above and 12% have completed PUC.

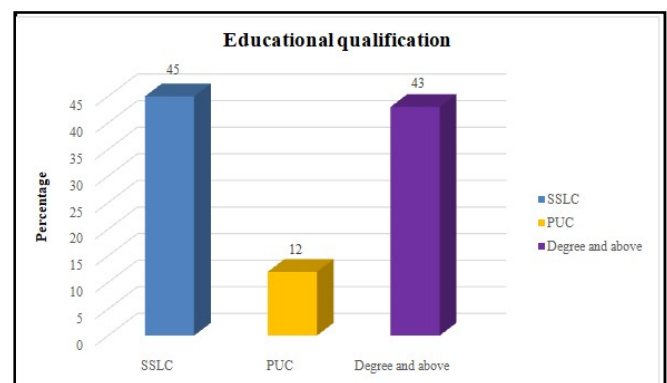


Figure 2. Frequency and percentage distribution of police personnel according to their educational qualification

**DURATION OF WORKING EXPERIENCE:** Data related to the duration of work experience of police personnel reveals that majority (60%) were having more than 10 years experiences, 38% of them had 5 years of experience and 2% of them had 5-10 years of experience.

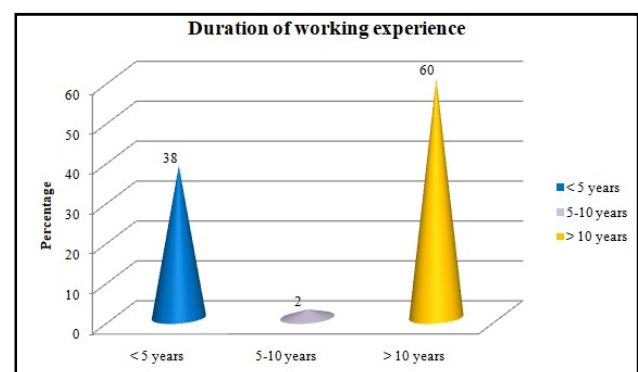


Figure 3. Frequency and percentage distribution of police personnel according to their working experience

**Dietary pattern:** Data related to the dietary pattern of police personnel reveals that 71% were consuming mixed diet and 29% were vegetarians.

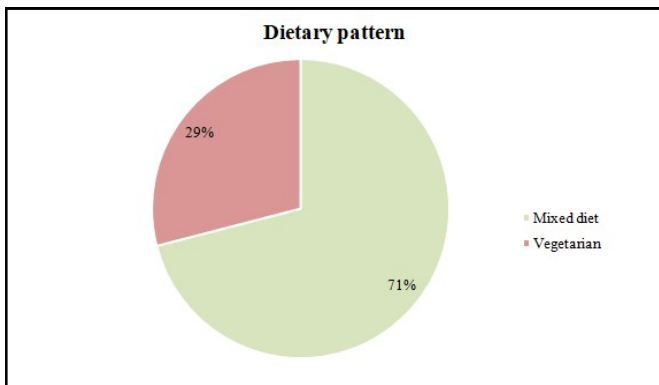


Figure 5. Frequency and percentage distribution of police personnel according to their dietary pattern

**Frequency and Percentage distribution of knowledge scores of police personnel according to their pre-test and post-test scores**

Sl.No.	Personal variables	Frequency (f)	Percentage (%)
1.	<b>Marital Status</b>		
	4.1 Single	32	32
	4.2 Married	68	68
2.	<b>Monthly income in rupees</b>		
	5.1 20,000-30,000	26	26
	5.2 > 30,001	74	74
3.	<b>Blood pressure</b>		
	7.1 < 120/80 mm Hg (Normal)	50	50
	7.2 121-139/81-90 mm Hg (Pre Hypertension)	23	23
	7.3 >140/91 mm Hg (Hypertension)	27	27
4.	<b>Body Mass Index</b>		
	8.1 <18.6-24.9 (Normal)	55	55
	8.2 >25(Overweight and Obesity)	45	45
5.	<b>Personal/ family history of chronic liver disease</b>		
	9.1 Yes	0	0
	9.2 No	100	100
6.	<b>Habits of smoking and alcohol</b>		
	10.1 Yes	0	0
	10.2 No	100	100
7.	<b>Previous exposure to any awareness programs on chronic liver disease</b>		
	11.1 Yes	0	0
	11.2 No	100	100

**Frequency and Percentage distribution of knowledge scores of police personnel according to their pre-test and post-test scores.**

The Pre-test and Post-test knowledge scores obtained from the subjects were tabulated to the master sheet. The findings are presented in Table 2.

Table 2. Frequency and Percentage distribution of knowledge scores of police personnel according to their pre-test and post-test scores

Knowledge scores	Pre-test f (%)	Post-test f (%)
Good	01	49
Average	46	34
Poor knowledge	53	17

**Mean, median, range and standard deviation of knowledge scores**

Table 3. Mean, median, range and standard deviation of pre-test and Post-test knowledge of Police personnel

n = 100

Knowledge	Mean	Median	Range	Standard deviation
Pre-test	14.04	14	06-23	±3.95
Post-test	19.84	20.5	08-28	±4.75

It is evident from Table 2 that, in the pre test majority of police personnel (53%) had Poor knowledge, 46% had average knowledge and only 1% had good knowledge regarding the prevention and management of CLD. Data also revealed that in the post-test, there was an increase in the knowledge level of police personnel i.e. 49% of them have scored good knowledge and 34% have had average knowledge. These results are consistent with the findings of another study conducted in Bengaluru, which also stated that 55% of subjects were having inadequate knowledge regarding cirrhosis of liver. Findings of another study conducted in Karachi among patients with liver disease also reported that 68% of the subjects had poor knowledge regarding the disease. Study findings are supported by another study among patients with liver cirrhosis in Egypt, which reported that 86.7% had unsatisfactory level of knowledge regarding ascites management and its complications. A qualitative study which has analyzed the knowledge, attitudes, and beliefs of patients with chronic liver disease in Washington also stressed the importance of interventions for improving the awareness among young people about the benefits of a healthy lifestyle for preventing CLD in their future life.

**Significance of difference between the mean pre-test and post-test knowledge scores of police personnel regarding prevention and management of chronic liver disease:** To find the significance of the difference between the mean pre-test and post-test knowledge scores of police personnel regarding Prevention and management of chronic liver disease, paired 't' test was computed and the findings are presented in Table 4.

Table 4. Mean, Mean difference, Standard deviation difference, Standard error and paired 't' value between the mean pre-test and post-test knowledge scores of police personnel

n = 100

Knowledge scores	Mean	Mean difference	S.D difference	Standard error	Paired 't' test value
Pre-test	14.04				
		5.8	±0.8	0.08	11.56*
Post-test	19.84				

t<sub>(99)</sub>=1.96; p<0.05 \*significant

The data presented in Table 4 shows that the mean difference between pre-test knowledge score and post-test knowledge score is 5.8. To find the significance of the difference between the mean knowledge scores, paired 't' test was computed and obtained value of paired t = 11.56 was found to be significant at 0.05 level of significance. Hence it is inferred that the pedagogical program on the prevention and management of chronic liver disease was effective in improving the knowledge of police personnel. Similar findings are observed in a study conducted to evaluate the effectiveness of planned teaching program regarding cirrhosis of liver among alcoholic adult males which reported that Planned teaching program was effective in improving knowledge regarding cirrhosis of liver among the subjects (P<0.05). Results are consistent with the findings of another study conducted to evaluate the effectiveness of liver disease education program for providing information to patients and their families in Japan which reported that the knowledge level of participants increased after the educational intervention (P=0.03). The data presented in Table 5 shows that there was statistically significant association between the personal variables of police personnel viz. age, educational status, duration of working experience and dietary pattern with their level of knowledge regarding prevention and management of chronic liver disease.

**Table 5. Chi square values between the knowledge of police personnel regarding the prevention and management of chronic liver disease and their selected personal variables**

Sl. no.	Personal variables	Poor knowledge	Average knowledge and above	Chi square
1.	<b>Age in years</b>			
	1.1 30-45	15	30	#12.70*
	1.2 46-60	38	17	
2.	<b>Educational Qualification</b>			
	2.1 < SSLC	30	15	#19.2*
	2.2 PUC	11	01	
	2.3 Degree and Above	12	31	
3.	<b>Duration of working experience</b>			
	3.1 < 5 years	13	25	#9.3*
	3.2 5-10 years	01	01	
	3.3 > 10 years	39	21	
4.	<b>Dietary Pattern</b>			
	5.1 Vegetarian	10	19	#5.62*
	5.2 Mixed	43	28	

$\chi^2_{(1)}=3.84$ ,  $\chi^2_{(2)}=5.99$ ,  $p<0.05$ , \*-significant

Similar results are observed in a study conducted among alcoholic adult males which reported that statistically significant association was found between the age, marital status, areas of residence and monthly family income of subjects with their knowledge regarding cirrhosis of liver. Study findings are consistent with the findings of another study which analyzed the knowledge, attitude and practices among people with chronic hepatitis B in Malaysia. Study reported that age, educational level and duration of diagnosis were significant predictors of knowledge scores of the subjects

## CONCLUSION

The present study was focused to determine the effectiveness of pedagogical program regarding prevention and management of chronic liver disease among police personnel in Mysuru city. Study revealed that 53% of police personnel had poor knowledge regarding prevention and management of chronic liver disease. Pedagogical program was effective in increasing the knowledge of police personnel regarding prevention and management of chronic liver disease as evidenced by computed “t” test which was significant at 0.05 level of significance.

The study findings stresses the increasing responsibility of health professionals in planning and implementing various educational strategies to improve the knowledge of general public and different cadres of workers regarding promotion of liver health . Adequate information in time can help the people to prevent the development of this chronic problem later in their life with necessary life style modifications.

**Conflict of Interest:** Nil

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