

Effectiveness of Health Education Programme on Knowledge Regarding Hepatitis A and E among Adults

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Abstract: *Hepatitis A and E are highly prevalent epidemic diseases in India which occur due to the faecal contamination of drinking water. The disease has great burden over the society. The only preventive method is boiling the water, use of hygienic measures practices, proper disposal of excreta, early diagnosis and treatment. Hence people must be aware about the disease its prevention and treatment. In the present study the researcher chose samples using non randomized control group pre-test post-test design. Samples were selected by using non probability convenience sampling technique. The sample size was (60) 30 in experimental and 30 in control group the adults were selected by using non probability convenience sampling technique. Each participant was interviewed for 30 minutes for filling the structured knowledge questionnaires regarding Hepatitis A and E. The findings revealed significant difference in the between pre-test and post-test knowledge scores in experimental group only ($t=18.58, p<0.001$) Hence the present study findings revealed that the health education programme was effective in improving knowledge. So it is recommended that awareness raising programs could be beneficial for prevention of hepatitis A and E.*

Keywords: Hepatitis A and E, Knowledge, Health Education Programme.

1. Introduction

Hepatitis A and E viruses are reported to be most common causes of infectious hepatitis epidemic outbreaks transmitted through water. The control and prevention of enterically transmitted viral hepatitis remains a major public health challenge. Proper household water and sanitation practices include sanitary sewage disposal, safe water piping materials and storage, and education on hygienic behaviors can increase resilience to disease risks. Hepatitis is a broad term that means inflammation of liver. There are 5 main hepatitis viruses, referred to as types A, B, C, D and E. Hepatitis A Virus (HAV) is a small, unenveloped symmetrical RNA virus which shares many of the characteristics of the picornavirus family. It is 27-30 nm in diameter. A is highly endemic and large population acquires immunity through asymptomatic infection early in life. The average incubation period is 25-30 days. The hepatitis E Virus (HEV) is a small virus, with a positive-sense, single-stranded ribonucleic acid (RNA) genome. Usually the infection is self-limiting and resolves within 2-6 weeks. The mode of transmission is faecal contaminated food and water. According to WHO about 10-50 people per 100,000 are affected with the hepatitis A virus annually. There are an estimated of 20 million HEV infections worldwide, leading to an estimated 3.3 million symptomatic cases of hepatitis E, and 56 600 hepatitis E-related deaths. National Integrated Disease Surveillance Programme (IDSP) conducted on viral hepatitis in India. Information on outbreaks of all forms of viral hepatitis (A, B, C, and E) was collected. During this period 804,782 hepatitis cases and 291 outbreaks were reported the virus type was unspecified in 92% of cases. Total 599,605 cases tested for hepatitis A, 44,663 (7.4%) were positive, and among 187,040 tested for hepatitis E, 19,508 (10.4%) were positive. Two-thirds of outbreaks were reported from rural areas. Among 163 (56%) outbreaks with known

etiology, 78 (48%) were caused by hepatitis E, 54 (33%) by hepatitis A, 19 (12%) by both hepatitis A and E, and 12 (7%) by hepatitis B or hepatitis C. Contaminated drinking water was the source of most outbreaks.

2. Review of Literature

To assess seroprevalence of hepatitis A and E virus among the young healthy adults in India. Multistage random sampling technique was used to select sample. The multi-centric cross sectional survey was done on 4175 healthy trainee. Results showed that seroprevalence for HAV and HEV were 92.68% and 17.05% respectively. Logistic regression showed that hand washing without soap, regular close contact with domestic animals, consumption of unpasteurized milk and regular consumption of food outside home were risk factors for HAV ($p < 0.05$). For HEV, irregular hand washing, consumption of unpasteurized milk and irregular consumption of freshly prepared food were risk factors ($p < 0.05$). The study concluded that there is requirement of preventive strategies in the form of safe drinking water supply, hygiene, sanitation, increasing awareness and behavior change related to hand and food hygiene.

Problem definition: A quasi experimental study to assess the effectiveness of health education programme on knowledge regarding hepatitis A and E among adults residing in selected areas of district Sirmour H.P.

Research approach: In this study, experimental research approach was used. The purpose behind choosing this approach was to measure the effect of independent variable on dependent variable.

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Research design: The research design for the study was non randomized control group pre-test post-test design.

Research setting: The research study was conducted in the selected areas of Shalana and Sayana in district Sirmour, (H.P).

Population

Target population: Adults who were residing in selected areas of district Sirmour, Himachal Pradesh.

Accessible population: Adults in the age range of 18-60 years residing in selected areas of Shalana and Sayana in district Sirmour, (H.P) who were available at the time of data collection.

Sample: Adults in the age range of 18-60 years residing in selected areas of Shalana and Sayana in district Sirmour, (H.P) who fulfilled the inclusion criteria.

Sampling technique: In this study, non-probability convenience sampling technique was used for selection of samples.

Criteria for sample selection

Inclusion criteria

- 1) Adults in the age range of 18-60 years
- 2) Adults who were willing to participate in the study
- 3) Adults who could understand Hindi or English

Exclusion criteria

- 1) Adults who were suffering from any form of mental illness.
- 2) Adults who had attended similar health education programme one week prior.

Data collection instruments

Tool: It consists of structured interview schedule which has two sections:

Section-A: Questions related to socio-demographic variables of the adults developed by the researcher.

Section-B: Questions related to knowledge regarding hepatitis A and E.

3. Results

Section A: Frequency and percentage distribution of socio-demographic variables of the adults

Table 1: Frequency and percentage distribution of socio demographic variables, N=60

Variables	Experimental group		Control Group	
	F	%	f	%
Age in years				
18-30	17	56.7	6	20
31-40	7	23.3	11	36.7
41-50	3	10	4	13.3
51-60	3	10	9	30
Gender				
Male	9	30	10	33.3
Female	21	70	120	66.7
Family monthly income in rupees				
<5000	10	33.3	12	40
5001-10000	5	16.6	13	43.3

10001-15000	6	20	1	3.3
>15000	9	30	4	13.4
Occupation				
Govt. employee	1	3.3	3	10
Private employee	1	3.3	3	10
Self employee	19	63.3	10	33.3
Unemployed	9	30	14	46.7
Education				
No formal education	2	6.7	2	6.7
Primary	9	30	9	30
Middle	6	20	8	26.7
High school	5	16.7	7	2.3
Senior secondary	3	10	2	6.7
Graduate and above	5	16.7	2	6.7
Type of family				
Joint family	25	83.3	23	76.7
Nuclear family	5	16.7	7	23.3
Source of drinking water				
Pipe water (IPH)	28	93.3	29	96.7
Hand pump	2	6.7	1	3.3
Use of water purification method at home				
Yes	5	16.7	2	6.7
No	25	83.3	28	93.3
Family history of hepatitis A and E				
Yes	0	10	0	
No	30	0	30	100

Table 2: Mean and standard deviation and mean percentage of specific areas of knowledge questionnaire regarding hepatitis A and E, N=60

Knowledge variables	Number of questions	Mean ± SD	Mean percentage (%)
General awareness	4	0.78±0.94	19.5
Risk factors	3	0.78±0.73	26
Sign and symptoms	3	0.55±0.67	18.3
Diagnosis	1	0.36±0.48	36
Prevention	9	3±1.69	33.3
Treatment	2	0.56±0.62	28
Total	22		100

Table No. 2 has shown that the mean standard deviation and mean percentage of knowledge variables. Adults have low knowledge in areas like general awareness (mean±SD 0.78±0.94 and percentage 19.5%), signs and symptoms (mean±SD 0.55±0.67 and mean percentage was 18.3%), risk factors (0.78±0.73 and 26%), treatment (0.56±0.62 and 28%) as compared to the prevention (3±1.69 and 33.3%) and diagnosis (0.36±0.48 and 36%) aspect.

Section B: Comparison of pre-test and post-test knowledge scores of adults in experimental and control group

Table 3: Comparison of knowledge scores between experimental and control group N=60

Level of knowledge	Experimental group	Control group	t-value	df	p-value
	Mean ± SD	Mean ± SD			
Pre-test	6.40 ± 3.38	5.70 ± 2.65	.89	58	0.377
Post-test	18.27 ± 1.76	6.63 ± 2.82	19.16	58	<0.001**
Mean difference	11.87 ± 1.62	0.93 ± 0.17	18.58	58	<0.001**

**Highly significant at < 0.001 level of significance

Table number 3 depicts the comparison between the pretest and post test knowledge score of the experimental and control group. The mean pretest score of experimental group

was 6.4 ± 3.38 SD and control group was 5.7 ± 2.65 SD ($t=8.91$ $df=58$). The posttest mean score of experimental group was 18.2 ± 1.76 SD and control group was 6.63 ± 2.82 SD ($t= 19.15$ $df=58$). The mean difference in knowledge after the implementation of health education programme was 11.87 ± 1.62 SD, whereas in control group there was no significant difference (mean gain in knowledge = 0.93 ± 0.17) found in the knowledge level. The calculated p value ($p < 0.001^{**}$) is less than 0.05 level of significance which has shown that research hypothesis is accepted.

Distribution of pre-test and post-test knowledge scores regarding hepatitis A and E among adults in experimental and control group

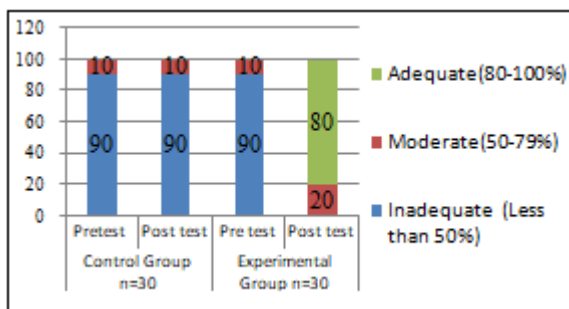


Figure 1: Distribution of pre-test and post-test knowledge scores regarding hepatitis A and E among adults in experimental and control group

Section C: Association between knowledge and selected socio demographic variables

Table 4: Association between knowledge and selected socio demographic variables, N=60

Variable	χ^2 calculated	χ^2 tabulated	df	p value
Age	3.53	7.82	3	.317
Gender	0.009	3.84	1	.378
Family monthly income	1.76	7.82	3	.623
Occupation	5.01	7.82	3	.12
Education	27.61	11.07	5	.000 ^{**}

* Significant at 0.05 level of significance

Table 4 depicts that the p value for age, gender, family monthly income, occupation is more than 0.05 and calculated chi-square value is less than tabulated value which indicates that there is no association between age, gender, family monthly income and occupation with the level of knowledge at 0.05 level of significance. p value for education is less than 0.05 and calculated chi square value is more than tabulated value which shows that there is association between level of knowledge with education level at <0.01 level of significance.

4. Discussion

Findings related to the pre-test knowledge of the adults regarding hepatitis A and E

This study was consistent with the findings of Similar study was conducted by Asma Ali, Saira Akhtar and Samina Kausar Saqi on awareness of viral hepatitis among people of rural area of Faisalabad Pakistan. The results showed that, majority of the respondents i.e 78.8% were unaware of the disease. The study findings were consistent with the present

study findings which showed that, majority of study participants had inadequate knowledge regarding hepatitis A and E.

Findings related to the comparison between pre-test and post-test knowledge scores

The present study findings is supported by a study of Hemavathy, V. J. Bini Paul, Meena R results showed that pre test knowledge score was 16.0 and the post test knowledge score was 24.9 the obtained 't' value 12.2 statistically significant at 0.001^{***}. This indicates that the mean difference of 8.9 which has shown that health education programme was effective in improving knowledge of mothers.

Findings related to association between knowledge and selected socio demographic variables

The present study findings are supported by a study of H Ansari, G.R.Mosoudi, F. Rakhshani, F.Kord-Mostafapour and A.Arbabi-Sarjo on viral hepatitis infection and related factors. The association of sociodemographic variable with knowledge of student has shown statistically significant relationship between the knowledge of student and average, field, semester and graduate level ($p < 0.05$).

5. Conclusion

The findings concluded that significant percentage of respondents had inadequate knowledge regarding hepatitis A and E. The pre test results have shown that the adults had inadequate level of knowledge regarding hepatitis A and E. After the implementation of health education programme to the experimental group, post test results shown that majority of adults acquired adequate level of knowledge where as in control group, majority of adults had inadequate level of knowledge. The mean post – test knowledge score was found to be significantly higher than the pre test score in the experimental group only. So it is recommended that awareness raising programs could be beneficial for improving the knowledge and prevention of the hepatitis A and E.

6. Future Scope

A study can be replicated to assess the prevalence of hepatitis A and E in rural areas on a wider sample thereby findings can be generalized for a larger population. A longitudinal study may be conducted to determine the effect of health education teaching programme on the knowledge, risk status and on the preventive health behavior of the adults.

A similar study can be conducted in different settings i.e. industries, hospitals, schools and other institutions. A study may be conducted to evaluate the experience of the people affected with hepatitis A and E. A Study can be done to assess the practices of adults for prevention of hepatitis A and E.

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