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Research Article

Effectiveness of Self-Instructional Module on Knowledge and Attitude Regarding Hepatitis B Infection of Schoolchildren among Primary School Teachers in Selected Schools at Holenarasipura, Karnataka

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Abstract

Aim: The aim of this study was to assess the effectiveness of self-instructional module on knowledge and attitude regarding hepatitis B infection among primary school teachers.

Background: Hepatitis B is a viral disease caused by hepatitis B virus which leads to inflammation of liver, cirrhosis, and cancer of liver if the disease is progress the infected person will die. It is mainly transmitted through blood contact, in school environment, there is chance to spread from infected child to healthy child during contact with body fluid. More than 2 billion people worldwide have evidence of past current HBV infection. India has estimated endemicity of hepatitis B every year over 1,00,000 Indians die due to illness related to HBV. This study attempts to evaluate the effectiveness of self-instructional module on knowledge and attitude regarding hepatitis B infection of schoolchildren among primary schoolteachers in selected schools at Holenarasipura.

Methods: The study involved pre-experimental one group pre-test post-test design. Non-randomized convenient technique was used. Data were collected from 60 samples.

Results: The study shows that knowledge score of school teachers in pre-test was 44%, in post test 78.5%. And pre-test attitude score 47.1%, post test attitude 78.8%. Hence, they gained 34.5% of more knowledge and 31.7% of attitude after the administration of self-instructional module. There was a moderately positive correlation between knowledge and attitude among the primary school teachers. (r + 0.657 in pre-test and +0.497.

Keywords: Knowledge, attitude, SIM, hepatitis B, infection, primary school teachers

Introduction

Infection is an invasion by and multiplication of pathogenic organisms in a bodily part or tissue, which may produce subsequent tissue injury and progress to overt disease through a variety of cellular or toxic mechanisms. A disease caused by a micro-organism or other agent such as a bacteria or virus that enters the body of organism.[1]

Infection among schoolchildren is very common problem. Some are acute and some are even that might be threat to child life. Some minor infections may result in school absenteeism which may have a negative impact on child welfare.[2] Some infection although relatively innocuous in children are more serious in adults and others pose a specific threat to pregnant women. Some of the more serious chronic infection in children, for example, hepatitis

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B and human immunodeficiency virus can give rise to a lot of anxiety.[3]

There are five types of Hepatitis – A, B, C, D, and E – each caused by A different hepatitis virus. Hepatitis B is caused by the virus HBV. It is spread by contact with an infected person blood, semen, or other body fluid and it is sexually transmitted disease. Hepatitis B is a major health problem in India. Based on the prevalence of hepatitis B carrier state in the general population, countries are classified as having high (8% or more), intermediate (2–7), or low (less that 2%) HBV endemicity.[4]

Objectives of the study

The objectives of this study were as follows:

- To assess the pre-test knowledge and attitude hepatitis B infection among primary school teachers.
- To assess the post-test knowledge and attitude regarding hepatitis B infection among primary school teachers
- To determine the correlation between knowledge and attitude regarding hepatitis B infection among primary school teachers.
- To find out the association between level of knowledge and attitude wit selected demographic variables among primary school teachers.

Hypothesis of the study

$H_{1:}$ There will be significant difference between the pre-test and post-test knowledge and attitude scores regarding hepatitis B infection among primary school teachers.

$H_{2:}$ There will be significant relationship between knowledge and attitude scores regarding hepatitis B infection among primary school teachers.

H_3: There will be significant association in the knowledge and attitude scores regarding hepatitis B infection with demographic variables.

Assumption

The primary school teachers have some knowledge on hepatitis B

- The assessment of level of knowledge and attitude on hepatitis B will help the school teachers for further educational program to the students.
- Self-instructional module enhances the knowledge and attitude of school teachers regarding hepatitis B infection.

Delimitation of the Study

- This study was de-limited to primary school teachers
- This study was de-limited to only 60 primary school teachers at selected schools of Holenarasipura.

Research Methodology

Research approach

The research approach adopted for this study was an evaluate approach. Evaluate approach helps to explain the effect of independent variables on the dependent variables.

Research design

The research study used for the present study is pre-experimental one group pre-test and post-test design

Population

The population for the study was primary school teachers

Sample size

The total size of the study consists of 60 primary school teachers.

Sample technique

This study was non-probability convenient sampling technique.

Sampling criteria

Inclusive criteria

Who all are available at the time of data collection.

Exclusive criteria

The study excludes those who were not willing to participate in the study.

Development of tool

The tool was developed that foe study was knowledge questionnaire to assess the knowledge of primary school teachers on hepatitis B. The tool was developed on:

- Knowledge on past experience of the investigator
- Related review literature

Description of the study

The tool used in this study was structured knowledge questionnaires and structured attitude scales.

Section-A: Part I: sociodemographic data

Section – B sociodemographic data

Part I: Structured questionnaires on anatomy and physiology of liver

Part II: Structured questionnaires on prevention and treatment of hepatitis B

Part III: Structured questionnaires on prevention and treatment of hepatitis B

Section – C Structured Attitude scales on hepatitis B infection.

Section A deals with demographic variables data which were used to collect the characteristics of the samples with an instruction to participants to tick. It consists of 11 items such as age, sex, religion, educational qualification, marital status, type of family, teaching experience, residence, sources of information, previous knowledge, and type of school.

Section B consists of three parts: It includes 30 knowledge questionnaires and 20 items for attitude of primary school teachers on hepatitis B

Section C consists of structured attitude scales (Likert scale) on hepatitis B from 1 to 20 statements. The attitude scale consists of 20 statements each statement having five options

and score is ranging between 5 and 1. Maximum score is 100 and minimum score is 20.

Pilot study findings

- Pre-test knowledge score: 47.2%
- Post-test score: 83.9%
- Pre-test attitude score 64.2%
- Post-test score: 90.2%.

Data collection analysis

The data obtained were analyzed in terms of objective of the study using descriptive and analytical statistics.

Results

Section A: Demographic characteristics:
The data were presented under the following headings.

Section A (Table 1) demographic characteristics, the majority of age groups were belongs to 21–30 years (51.7%), majority were male (53.3%), majority were D.Ed. (66.7%), majority were married (70%), majority were urban area (75%), majority were Hindus (73%), and majority were nuclear family (58.3%).

The above Table 2 depicts the pre-test knowledge scores of respondents on hepatitis B infection of schoolchildren before administering self-instructional module. They were having 75.0% of inadequate (50% score) knowledge, 25.0% of teachers were having moderate (51–75% score), and no one having the adequate (>75% score) knowledge. The respondents of pre-test attitude level 76.7 were unfavorable and remaining 23.3% were moderate.

Table 3 explains the post-test knowledge level of teachers found that 71.7% were have the adequate (>75% score) knowledge and 28.3% were having the moderate (51–75%) knowledge; none of them were having inadequate knowledge. The post-test attitude level on Hepatitis B 75% was favorable to the statements and 25% were moderate to the statements.

Table 4 depicts the overall pre-test mean knowledge. The mean pre-test was 44% with the 11.5% of standard deviation. The mean post-test was found 78.5% with the 9.3% of standard deviation. The total enhancement is 34.5% with SD with 9% of standard deviation.

The above table depicts Table 5 the mean knowledge and attitude score of anatomy and physiology and preventive measures. Here, the aspects wise t-test value is found greater than table value; hence, research hypothesis accepted.

Table 6 depicts the pre-test mean attitude level was found 47.1% and post-test mean attitude was found 78.8% with 6.0% standard deviation. The t-test vale found 32.74 with 5 degree of freedom.

Table 7 depicts the pre & post test attitude level by the respondent. In this 76.7% was unfavourable. Moreover, post-test attitude level was 75.0% which were favorable with two degree of freedom at 5% significant level.

This table 8 depicts that the corelation between the knowledge and attitude scores of primary school teachers was 44.0% with 11.5% of standard deviation. The pre test mean attitude score was 47.1% with SD of 7.6% with r=0.57 hence it is positive correlation. The post-test mean knowledge score was 78.5% with the 9.3% of standard deviation. The post-test mean attitude was 78% with the 6.0% of standard deviation. The r + 0.497; hence, there was positive correlation.

Discussion

The study was conducted to the effectiveness of self-instructional module regarding hepatitis B infection of schoolchildren among primary school teachers in selected schools at Holenarasipura. To achieve the objectives of the study, a pre-experimental design was adapted and 60 primary school teachers were selected using non-random sampling technique to fulfilling the inclusion and exclusion criteria.[5]

The subjects were evaluated using structured questionnaire for sociodemographic data, knowledge, and attitude questionnaires and self-instructional module on hepatitis B infection.

HBV is probably the most important chronic viral infection affecting Indians.[6] However, despite the development of an effective vaccine against HBV, this infection remains a serious threat to public health in India. The vast majority of our study population belonged to rural regions,[7] haled from very low socioeconomic status, and depended on the state run PHC to get health service and for disease awareness. Awareness about the disease and the vaccine among the subjects was 38% and 32%, respectively, which is quite low and at par with other studies conducted in different parts of the world.[8,9]

Table 1: Demographic characteristics (n = 60)

Characteristics	Category	Respondents	
		Frequency	Percent
Age groups in years	21–30	31	51.7
	31–40	19	31.7
	41–50	10	16.6
Sex	Male	32	53.3
	Female	28	46.66
Educational qualification	D.Ed.	40	66.7
	CP.ed	5	8.3
	B.Ed.	9	15.0
	BPEd	6	10.0
Marital status	Married	42	70.0
	Unmarried	18	30.0
Residence	Rural	15	25.0
	Urban	45	75.0
Religion	Hindu	44	73.4
	Muslim	8	13.3
	Christian	8	13.3
Type of family	Nuclear	35	58.3
	Joint	15	25.0
	Extended	10	16.7
Total		60	100

Statement of problem

The effectiveness of Self-instructional module on knowledge and attitude regarding Hepatitis-B infection in schoolchildren among Primary School Teachers in selected Schools at Holenarasipura, Karnataka.

Demographic characteristics

- The demographic variable related to age indicates that 51.7% of the primary school teachers were of aged between 21 and 30 years.
- The demographic variables related to sex indicate that 53.3% were male.

Table 2: Overall aspects wise knowledge and attitude scores of respondents

Knowledge level	Category	Respondents	
		Frequency	Percent
Inadequate	≤50% score	45	75.0
Moderate	51–75	15	25.0
Adequate	>75%	0	0.0
Attitude level	**Category**	**Respondents**	
		Frequency	**Percent**
Unfavorable	≤50% score	46	76.7
Moderate	51–75% score	14	23.3
Favorable	>75% score	0	0.0
Total		60	100.0

Table 3: Overall and post-test wise post-test knowledge and attitude scores of respondents

Knowledge level	Category	Respondents	
		Number	Percent
Inadequate	≤50% score	0	0.0
Moderate	51–75% score	17	28.3
Adequate	>75% score	43	71.7
Attitude level		**Respondents**	
		Number	**Percent**
Unfavorable	≤50% score	0	0.0
Moderate	51–75% score	15	25.0
Favorable	>75% score	45	75.0
Total		60	100

Table 4: Overall pre-test and post-test mean knowledge on hepatitis B

Aspects	Max score	Respondents				Paired "*t*" test
		Mean	SD	Mean (%)	(SD%)	
Pre-test	30	13.20	3.4	44.0	11.5	29.69*
Post-test	30	23.55	2.8	78.5	9.3	
Enhancement	30	10.35	2.7	34.5	9.0	

*Significant at 5% level, t (0.05,59df)=1.96

Objective 1: The objective of this study was to assess the pre-test knowledge and attitude regarding hepatitis B infection among primary school teachers before administering the self-instructional module.

As per the objective of this study, the findings of pre-test knowledge and attitude score of primary school teachers regarding Hepatitis B infection. Mean pre-test knowledge score was 44% and mean pre-test attitude score was 47.1%.

The above study supported by the study

Palabras clave conducted study to assess school teachers level of knowledge on prevention of oral hepatitis. Teachers' knowledge seems to be inadequate and inefficient for attaining effective prevention against viral hepatitis.[10,11]

Media center 2004

A survey was conducted knowledge of students regarding hepatitis and HIV/AIDS of a private medical university in Karachi.[12]

Objective 2: The objective of this study was to assess the post-test knowledge and attitude regarding hepatitis B infection among primary school teachers.

As per the objective of this study findings of the mean post-test knowledge and attitude scores of primary school teachers regarding hepatitis B infection. The mean score was 78.5% that there was enhancement of 34.5% and from mean attitude score was 78.8%, there was enhancement of 31.7%. The findings show that there was significant increase in the knowledge and attitude level after administration of self-instructional module.

The above study support by the study

Girijamma, 2004: A prospective study was conducted to assess the effectiveness of self-instructional module O hepatitis among high school teachers in selected high schools Bengaluru. The result showed that the mean post-test knowledge scores 93.65% were significantly higher than the mean pre-test knowledge scores 37.96% at P<0.05 level of significance.[6]

Objective 3: The objective of this study was to determine the correlation between knowledge and attitude regarding hepatitis B infection among primary school teachers.

Table 5: Aspects wise mean pre-test and post-test knowledge on respondents

No	Knowledge aspects	Respondents knowledge (%)						Paired "*t*" test
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
I	Anatomy and Physiology of liver	51.3	16.7	87.5	13.3	36.3	16.1	17.46*
II	General knowledge on hepatitis B	43.0	10.5	76.8	10.2	33.8	8.7	30.09*
III	Prevention and treatment of hepatitis B	32.1	11.0	58.1	9.8	2 6.0	10.8	18.6 5*
	Combined	44.0	1 1.5	78.5	9.3	34.3	9.0	29.9*

*Significant at 5% level, t (0.05, 59df)=1.96

Based on the above objective the mean pre-test knowledge score was 44.0% with the 11.5% SD and attitude was 47.1% with the 7.6% SD, it was evidently noticed that the existence relationship between knowledge and attitude in pre-test sore was r = + 0.657*. Hence, it concluded positive correlation.

The above findings supported by the study Abhinav Singh, M.D.S. Bharathi M. Purohit, M.D.S *et al*. study was conducted among 245 dental students from Bhopal city, central India, to determine their level of knowledge, attitude, and practice scores which were 3.75 (1.01), 3.40 (0.75), and 3.35 (1.04), respectively. Significant linear correlation was seen between attitude and practice scores. The level of knowledge and practice of infection control measures was poor among dental students. The attitude toward infection control measures was positive, but a greater was needed.

Objective 4: The objective of this study was to find out the association between level of knowledge and attitude with selected demographic variables (Table 9).

Among the demographic variables analyzed in this study, experience, previous knowledge on hepatitis B, shows significant association in both pre- and post-test knowledge. There was no significant association with age, residence, source of information, and type of family in both pre- and post-test knowledge. Moreover, sex, marital status, type of family, and source of information show no significant in pre-test knowledge, educational qualification, religion, and type of school were showed the significant association with pre-test knowledge.

Table 6: Overall pre- and post-test mean attitude scores of respondents

Aspects	Max. score	Respondents attitude				Paired "*t*" test
		Mean	SD	Mean%	SD%	
Pre-test	100	47.05	7.6	47.1	7.6	32.74*
Post-test	100	78.8	6.0	78.8	6.0	
Enhancement	100	31.70	7.5	31.7	7.5	

*significant at 5% level, *t* (0.05, 59df)=1.96

Table 7: Classification of respondents pre- and post-test on attitude level

Attitude Level	Category	Classification of respondents				χ^2 Value
		Pre-test		Post-test		
		Number	Percent	Number	Percent	
Unfavorable	≤ 50%	46	76.7	0	0.0	91.03*
Moderate	51–75%	14	23.3	15	25.0	
Favorable	>75%	0	0.0	45	75	
		60	100.0	60	100.0	

*Significant 5%level, χ^2 (0.05,2df)=5.991

Table 8: Relationship between knowledge and attitude score

Aspects		Max score	Respondents knowledge				Correlation coefficient (r)
			Mean	SD	Mean (%)	SD (%)	
Pre-test	Knowledge	30	13.20	3.4	44.0	11.5	+0.657*
	Attitude	100	47.05	7.6	47.1	7.6	
Post-test	Knowledge	30	23.55	2.8	78.5	9.3	+0.497*
	Attitude	100	78.8	6.0	78.8	6.0	

*Significant at 5% level

Table 9: Association between demographic variables with pre-test and post-test knowledge and attitude level on hepatitis B infection of schoolchildren among teachers

Demographic Variables	Pretest				Post-test			
	Knowledge		Attitude		Knowledge	Attitude	Knowledge	Attitude
	χ^2 value	*P*	χ^2 value	*P*	χ^2 value	*P*		
Age Group (years)	2.94NS	*P*>0.05	1.87 NS	*P*>0.05	0.75 NS	*P*>0.05	1.26 NS	*P*>0.05
Sex	0.00NS	*P*>0.05	4.50 S	*P*<0.05	5.5 S	*P*<0.05	5.71 S	*P*<0.05
Educational Qualification	16.50S	*P*<0.05	18.46 S	*P*<0.05	3.05 NS	*P*>0.05	0.46 NS	*P*>0.05
Marital Status	0.95NS	*P*>0.05	0.02 NS	*P*>0.05	5.95 S	*P*<0.05	0.11 NS	*P*>0.05
Experience (years)	7.01S	*P*<0.05	3.18 NS	*P*>0.05	8.75 S	*P*<0.05	8.35 S	*P*<0.05
Residence	0.74NS	*P*>0.05	6.09 S	*P*<0.05	0.68 NS	*P*>0.05	6.67 S	*P*<0.05
Religion	7.27S	*P*<0.05	0.61 NS	*P*>0.05	0.40 NS	*P*>0.05	0.79 NS	*P*>0.05
Type Of Family	5.42NS	*P*>0.05	3.54 NS	*P*>0.05	0.04 NS	*P*>0.05	0.17 NS	*P*>0.05
Source Of Information	2.53NS	*P*>0.05	4.85 NS	*P*>0.05	1.84 NS	*P*>0.05	4.49 NS	*P*>0.05
Previous Knowledge on Hepatitis B	19.95S	*P*<0.05	11.62 S	*P*<0.05	5.89 S	*P*<0.05	0.68 NS	*P*>0.05
Type Of School	7.97S	*P*<0.05	5.73 NS	*P*>0.05	0.49 NS	*P*>0.05	10.33 S	*P*<0.05

S: Significant at 5% level, NS: Non-significant

Conclusion

This chapter presents the conclusion drawn implications limitations suggestions and recommendations. The aim of this study was to assess the knowledge and attitude regarding hepatitis B infection among primary school, teachers. The conclusion of study was drawn on the basis of findings are as follows

The enhancement of knowledge level was 34.5% and enhancement of attitude was 31.7%. The paired *t*-test was carried out in knowledge and attitude was found 29.69% orderly, which shows significant at 5% level. The study concluded that self-instructional module is effective on improving knowledge and attitude.

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Conflicts of Interest

I wanted to study the knowledge of teachers regarding the communicable diseases.

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