

EFFECTIVENESS OF BIBLIOTHERAPY ON KNOWLEDGE
REGARDING PREVENTION OF ROAD TRAFFIC
ACCIDENTS AMONG CHILDREN IN SELECTED
SCHOOLS AT MANGALORE

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ABSTRACT

Introduction: Road traffic accidents (RTAs) in children is uneventful but predictable challenge hence it is preventable through early knowledge. Road traffic injuries caused an estimated 1.24 million deaths worldwide in 2010 (WHO). The National centre for injury prevention and control reports approximately 1,68,000 children were injured and almost 1,000 children died in motor vehicle accident in 2008. Bibliotherapy being successful to know the consequences, find solution, self-development by self-understanding; this as an intervention can help the children to face challenge of RTAs.

Objective: To evaluate the effectiveness of bibliotherapy in terms of gain in knowledge regarding prevention of RTA.

Methods: An evaluative approach quasi experimental design was adopted for this study for which 100 school children were selected through Probability simple random sampling technique.

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Results: Majority of the subjects were at the age of 10 years, 45% came to school by walk and 75% knew how to ride bicycle. The overall findings of the study revealed majority (66%) had average knowledge level before Bibliotherapy intervention which rose to 67% with good knowledge level. The major findings of the study were mean post-test knowledge score which were significantly higher (19.18) than their mean pre-test knowledge score (11.79). The $t_{cal}(15.447)$ was higher than $t_{tab}(t_{99} = 2)$, $p < 0.05$ at 5% level of significance showing effectiveness of bibliotherapy.

Conclusion: There is a need to focus on road safety education for young children which will facilitate as a prevention program on road traffic accidents. Hence, Bibliotherapy can be a simple yet effective method to improve knowledge level of the children in their own understanding level.

Key words: Children, Road traffic accidents, Knowledge, Bibliotherapy, Effectiveness

INTRODUCTION

Road traffic accident (RTA) is one of the major problems which can be confronted by children globally besides poverty. Children are being involved in serious injuries, disabilities and even death due to traffic collisions and crashes.¹ "Prevention is better than cure", if followed simple preventive measures from the children side, it could halve the number of deaths. Thus, it is very important to make children understand about the consequences if proper road safety measures are not taken into consideration; which could be more easier and understandable through Bibliotherapy. This book as therapy emphasizes by using a story as a way to begin a discussion of issues and dealing with problems at the same time.

BACKGROUND OF THE STUDY

Early knowledge and proper guidance provides a base to personality throughout life. Stories can provide children with a non-threatening and often enjoyable way to deal with difficult circumstances (Goddard, 2011; Rozalski, Stewart & Miller, 2010).² During these processes, the

children/reader feels a sense of connection with a character, shares that character's experiences vicariously, and results in better understanding.

In this study, the purpose of bibliotherapy is to provide knowledge regarding road traffic accidents among children by self understanding, with a view to create road safety awareness. The characters portrayed through the literature considers social models for behavior, thinking, and feeling as traffic accidents is the top cause of fatal child injuries now.

THE NEED FOR THE STUDY

Nearly a million children worldwide die every year as a result of unintentional injuries, and the biggest killer is traffic accidents (World Health Organization). Also WHO explains, this is the second most important cause of death for 5 to 29 years old. About 830,000 children under 18 years die every year, and millions more children suffer disabling injuries that could have been prevented (Dr. Etienne Krug, the director of the Department of Injuries and Violence Prevention at WHO).³

In India, 3,84,649 incidence of Accidental Deaths was reported in 2010.⁴ Among that, half of all road traffic deaths are among pedestrians, cyclists and motorcyclists. India falls among the highest list of countries by annual traffic-related death rate.⁵

Thus, bibliotherapy provides a cost and time-effective, non-intrusive method for guidance and promote their healthy development and success. A child is a future of the society, country and can be an example of the world. Keeping their safety in mind, researcher was motivated to take up this study.

MATERIALS AND METHODS

An evaluative research approach using one group pre-testpost-testquasi experimental design was adopted for the study. From 2 randomly selected schools at Mangalore, 100 children between the age of 8-10 years were selected by probability sampling technique through simple random sampling method. The data was collected (21/10/13 to 25/11/13) using instruments comprising of Demographic Proforma and Knowledge questionnaire.

The knowledge questionnaire was developed by the researcher consisting of 27 questions in the area of Road safety measures, Pedestrian safety, Cycling and Travelling through vehicle. Each question had 4 items, with 3 distractors and 1 answer. Scoring was done by

Poor Level of knowledge(0 – 9), Average Level of knowledge(10 – 18) and Good Level of knowledge(19 – 27)

Also, Bibliotherapy was developed with a short story explaining the cause of RTAs and the measures which could have prevented it. This constructed booklet also included pictures with general rules to be followed on the roadside in the understanding level of the students.

The formal written permission was obtained from the concerned authorities and parents of the 100 children who met the inclusion criteria. After the pre-test, students were provided with bibliotherapy till 7 days for duration of 45 minutes. The students were helped under the supervision of researcher and teachers. Post-test was administered with the same tool to the same group after 7 days, to identify the effectiveness of the bibliotherapy.

RESULTS

The collected data was analyzed by using frequency, percentage and paired 't' test.

Table1: Distribution of students according to demographic characteristics

n=100

Demographic Characteristics		Frequency	%
Age in years	8	33	33
	9	27	27
	10	40	40
Gender	Male	46	46
	Female	54	54
Religion	Hindu	59	59
	Muslim	16	16
	Christian	24	24

	Others	1	1
Type of family	Nuclear	67	67
	Joint	18	18
	Extended	15	15
Occupation of father	Business	17	17
	Government	10	10
	Private job	14	14
	Laborer	52	52
	Unemployed	7	7
Occupation of mother	Government	19	19
	Business	7	7
	Private job	11	11
	Laborer	36	36
	Housewife	27	27
Mode of transportation to school	By walk	45	45
	Cycle	2	2
	Motorcycle	5	5
	Car	17	17
	Bus	15	15
	School bus	4	4
	Others	12	12
Travels school along with	Parents	19	19
	Guardians	5	5
	Siblings	27	27
	Friends	21	21
	Alone	19	19
	Others	6	6

Know to ride bicycle	No	25	25
	Yes	75	75
Previous RTAs	No	78	78
	Yes	22	22
Previous knowledge on RTA	No	79	79
	Yes	21	21

Table-1 shows that

Most of the students (40%) were in the age group of 10 yrs, 54% were female children, highest numbers of students (59%) were from Hindu religion, 67% of students were from nuclear family, majority of children fathers (52%) and mothers (36%) were labor, majority (45%) came to school by walk, most of the students (27%) travelled school along with their siblings, many (75%) knew how to ride bicycle, most of the students (78%) had no RTAs prior and 79% had already have some knowledge on RTAs.

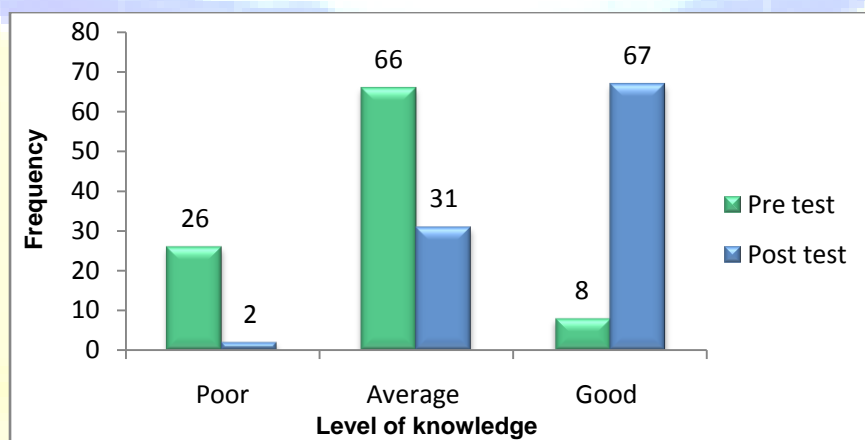


Figure 1: Comparison of pre-test and post-test knowledge level

Figure 1 reveals that, during pre-test most of the students (66%) had average level of knowledge which increased to 67% with good knowledge level in posttest indicating Bibliotherapy played a role in improving knowledge level.

Table 2: Difference in pre-test and post-test knowledge scores by using paired 't' test

n=100

Knowledge score	Minimum	Maximum	Mean	S.D.	t value	p value
Pre-test	5	20	11.79	3.988		< 0.001**
Post-test	8	25	19.18	3.295	15.447	HS

 $t_{99} = 2$ ($P < 0.05$) = level of significance

HS= HighlySignificant

Table 2 shows The $t_{cal}(15.447)$ was higher than $t_{tab}(2)$ and p value is < 0.05 for the knowledge score at 0.05 level of significance. Hence, Bibliotherapy is effective at 5% level of significance.

DISCUSSION

- The present study shows majority of students (40%) were in the age group of 10yrs. A similar result was revealed by IRTAD 2013 annual report, the number of children reported in road fatalities at Argentina, in the age group of 5- 9 yrs is 95 whereas in 10 - 14 yrs is 117.⁵ Contradiction to this studies in South India, Pakistan and Mexico City shows productive age group of 16-40 yrs had 65.9% of the victims.⁵ The researcher believes more accidents among younger children is less, this is partly because the younger children will be under close supervision and more protected by their parents and elder siblings. Also, higher representation of older children and adolescents, are more exposed on roads.
- The present study shows most (45%) of the students came to school by walk. The report of WHO 2004, supports that the outcome of a road traffic injury is also related to road user type. It supports similar results that most children involved in RTAs were pedestrians (72%), 64% bicyclists and 59% child vehicle occupant.⁶ Also, a similar study conducted by Monash University accidents Research centre revealed that 34.5% of injured school children travel mode was walk/cycle whereas other injured children not travelling to school is 28% (travel mode walk/cycle).⁷ Contradictory to this findings a

study conducted by Mangalore 2005 shows highest number of road traffic accidents victims are two wheelers (14.5%) followed by pedestrians (5.5%).⁸

- The present study shows significant difference between mean pre-test knowledge scores (11.79) are significantly lower than mean post-test knowledge scores (19.18). The t_{cal} (15.447) was higher than t_{tab} ($t_{99} = 2$) making statistically significant and bibliotherapy effective. A similar study conducted by Utah state university, 2009 suggested that 82% of the students were able to make more text to self-connections than any other type of connections. Further, they were also able to feel empathy for characters and expressed advocacy which shows bibliotherapy is effective in enhancing knowledge.⁹ It is also supported by a study of National autism centre 2008 which shows positive effect on educational treatments for the autism spectrum disorders (ASD). It shows bibliotherapy is effective in enhancing behaviours, as children (6-14 yrs), showed increased appropriate social behaviours and decreased inappropriate behaviours.¹⁰

Finally, the researcher felt the fact that Bibliotherapy increased knowledge level of the children, can be due to information which are tend to impart is being given in the form of story. The story acts as a base to help them realize the consequence of the action. Stories are structured at their understanding level which is easy to remember and creates interest among them.

CONCLUSION

Children are vulnerable groups exposed to hazards and risks everywhere. RTA being major childhood challenge requires urgent attention. According to the WHO Global Burden of Disease project, in 2004 nearly 1.3 million people of all ages were killed in road traffic crashes around the world and up to 50 million more were injured or disabled. Data shows that globally, road traffic death rate among children is 10.7 per 100,000 population and in South-East Asia is 7.4 per 100,000 population. As Bibliotherapy is one of the prominent method found to be very effective in inculcating knowledge in the children, was utilized in this study.

This research has shown that Bibliotherapy was effective in improving knowledge regarding RTAs among children. The researcher felt deep sensation and full satisfaction for under taking this study. Such research should be encouraged and continued for the public awareness, and to make each individual responsible. The study has provided researcher insight and importance of bibliotherapy. Many RTAs, road traffic injury, life threatening situation can be reduced or prevented, if proper adaptation of acquired knowledge on RTAs.

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