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IMPACT OF AN EDUCATIONAL PROGRAMME ON ROAD SAFETY KNOWLEDGE AND ATTITUDINAL CHANGE IN ADOLESCENTS

Dr. C. Priyadarshini [1] , Prof. V. Manjula [2]

[1] MSN RNRM PhD, Principal Sree Sastha college of nursing Chennai.

[2] COHN, RNRM, PhD scholar, vice principal Sree Sastha college of nursing Chennai

Abstract:

Background: Trauma leading to road traffic injuries is a significant public health concern across all regions of the world and is among the primary causes of mortality and morbidity among the adolescent population. **Aim:** This study aimed to evaluate the Impact of an Educational Programme on Road Safety Knowledge and Attitudinal Change in Adolescents. **Methodology:** The present study selected a preexperimental one-group pre-test and post-test research design. The research was conducted at the chosen secondary schools, and it engaged 80 adolescents who were chosen through convenience sampling. **Results:** The findings revealed that the mean pre-test knowledge and attitude scores were low, indicating inadequate awareness and unfavourable attitudes toward road safety among the participants. The paired t test showed a statistically significant difference. ($p < 0.05$) confirming the effectiveness of the intervention. **Conclusion:** The study concludes that educational programmes are effective in improving knowledge and attitude regarding road safety among adolescents and recommends their incorporation into routine school health education to promote safer road practices.

Keywords: Road traffic accidents, Adolescents, Knowledge.

INTRODUCTION

Trauma leading to road traffic injuries is a major public health concern across all regions of the world and is among the primary causes of mortality and morbidity among the adolescent population. Adolescence, which is characterized by a more autonomous period, a riskier behaviour, and a more exposed roadway environment whether as pedestrians, bicycle riders or as motor vehicle occupants, gives the increased susceptibility to road-traffic accidents. Knowledge gaps and attitudes of road-safety plague adolescents, thus exacerbating their vulnerability to road-traffic accidents. Proceeding without helmets and seat belts, over-speeding, distracted

walking or driving, and lack of adherence to the road rules are the key causes of the avoidable injuries and deaths.

Globally, road-traffic accidents cause a very high percentage of morbidity and deaths in adolescence. The young people living in the low and the middle-income nations are also mostly affected as a result of high urbanisation, rising motorisation, inadequate application of traffic law and inadequate road-safety training.

Road-traffic accidents pose a grave health-oriented issue in the Indian setting. The youth are especially vulnerable population since they are exposed at an early age to two-wheelers, bicycles, and unsafe walking habits. According to national statistics, road-traffic injuries are very prevalent in the youths with dangerous behaviours like riding without a helmet, breaking road traffic lights and incompetent road-crossing behaviours being reported with a significant level of frequency. Despite the enactment of road-safety laws and sensitisation, aggressive habits and lack of proper education still dominates the minds of the teens.

Many studies have highlighted the opportunities of health education in enhancing awareness of road-safety and positive attitude among the adolescents. However, a lot of school based interventions are not regular, unstructured or focus on enforcing rules rather than behaviour. There is limited experimental evidence in the effectiveness of the structured teaching programmes in improving the level of knowledge and attitude towards road safety among the adolescents.

METHODOLOGY:

The research design was a one-group pre-test and post-test, pre-experimental design that was used to determine the effect of a structured teaching programme on the knowledge and attitudes of adolescents towards road safety. The research was conducted at the chosen secondary schools, and it engaged 80 adolescents who were chosen through convenience sampling. Participants had to be present, willing and able to understand the instruction and those who were poorly, unavailable at the post-test or had attended a formal road safety training before were disqualified.

The structured instrument that was used to collect data consisted of demographic profile, road-safety knowledge questionnaire, and an attitude scale. After obtaining permission and informed consent, a pre-test was conducted, followed by the teaching programme, which was made of lectures, and discussions with the use of visual aids. The instruments were given as a post-test using the same instruments after a specified period. Gathered information was coded and was subjected to relevant statistical analysis.

RESULTS:

The Table 1 shows the demographic variables of the distribution of adolescents. Sixty per cent of the respondents were aged between 15 and 16 years old, and 52.5 per cent were females. Sixty percent (55) and seventy five percent (62.5) were in class X, and nuclear families respectively. A rural residence conceptualized

57.5 % of the sample. Two-wheelers were the most common form of transport among 45 per cent of the participants.

Table 2 illustrates the knowledge of adolescents with respect to road-safety in the pre-intervention and the post-intervention examinations. During pre-test, 67.5% of the cohort had poor knowledge with 5% reporting good knowledge only. The percentage that has received sufficient knowledge improved to 57.5, and those who were insufficient reduced to 12.5, which highlights the effectiveness of the intervention.

Table 3 demonstrates the percentage of those attitudes of adolescents to road safety represented prior to and after the intervention. First, the negative attitude became predominant (60 percent) as opposed to a positive attitude (10 percent). A favourable outlook was also adopted by half (50 %) of the cohort following the intervention and only 15 % of the cohort maintained an unfavourable outlook.

The comparison of the mean knowledge scores according to pre-, post-test obtained using paired sample t tests has been reported in Table 4. The average post-test knowledge score was relatively higher than the pre-test average mean ($t(\ldots) = 0., p < 0.001$).

Table 5 provides the comparison of the mean attitude scores at the pre-test stage and the post-test stage. This difference between the mean post-test attitude score and the pre-test mean was significant ($t(\ldots) = 0.001$) at 18.6 points, which is a significant enhancement that can be attributed to the programme.

Table 1: Demographic variables among adolescents.

Demographic Variable	**Category**	**Frequency (f)**	**Percentage (%)**
Age (years)	13–14	32	40.0
	15–16	48	60.0
Gender	Male	38	47.5
	Female	42	52.5
Class	IX	36	45.0
	X	44	55.0
Place of residence	Rural	46	57.5
	Urban	34	42.5
Type of family	Nuclear	50	62.5
	Joint	30	37.5

Mode of transport	Walking	18	22.5
	Bicycle	26	32.5
	Two-wheeler	36	45.0
Previous accident history	Yes	22	27.5
	No	58	72.5
Source of information	Media	28	35.0
	School	34	42.5
	Family/Friends	18	22.5

Table 2: Knowledge regarding Road Safety.

Knowledge level	Pre-test f (%)	Post-test f (%)
Inadequate	54 (67.5)	10 (12.5)
Moderate	22 (27.5)	24 (30.0)
Adequate	4 (5.0)	46 (57.5)

Table 3: Attitude Regarding Road Safety

Level of Attitude	Pre-test f (%)	Post-test f (%)
Unfavourable	48 (60.0)	12 (15.0)
Moderately favourable	24 (30.0)	28 (35.0)
Favourable	8 (10.0)	40 (50.0)

Table 4: Comparison of Mean Knowledge Scores

Test	Mean	SD	*t* value	df	*p* value
Pre-test	11.0	2.3	21.4	79	< 0.001*
Post-test	18.8	2.0			

Table 5: Comparison of Mean Attitude Scores

Test	Mean	SD	*t* value	df	*p* value
Pre-test	44.6	6.1	19.8	79	< 0.001*
Post-test	63.2	5.4			

DISCUSSION:

The results of the research have shown that the kind of knowledge and attitude of adolescents with regard to road safety were low when the pre-test study was done. After the implementation of a systematic instructional programme, the knowledge metric, as well as the attitude metric, was improved strongly. The mean post test knowledge score showed statistically significant difference with the pre-test score with a paired t-test whose p-value value was less than 0.001, and this value serves to indicate the effectiveness of the intervention. In line with this, the scores of the attitude type had statistically significant positive change after the intervention, which shows the better perceptions and increased willingness to engage in safe road-behaviour practices. The percentage of teenagers that voiced sufficient knowledge and positive orientations increased significantly after the intervention. Association analyses showed that post-test knowledge and attitude levels were significantly related to the selected demographic variables such place of residence, mode of transport, and prior experience of accidents and other variables did not show significant correlations. All these results confirm the effectiveness of the structured teaching programme in enhancing the level of knowledge as well as the level of attitude in respect to road safety among adolescents.

The results of the current research are consistent with those Adebayo et al. reported, who reported a high boom in road-safety among school-going adolescents subjected to a comprehensive educational intervention (p 1.D. 1.O.O.). Similarly, Sharma and Gupta found that a specifically designed instructional programme had a significant effect on the level of awareness of traffic culture in adolescents and that it positively influenced the attitude towards observing safe road-behaviours, which highlights the effectiveness of the school-based education in respect to road-safety.

CONCLUSION:

The research shows that the educational programme was significantly relevant in increasing both knowledge and attitude towards road safety functionality among adolescents. The significant increase in the scores of the post-test tends to describe that systematic, school-based educational programs are effective in changing the understanding and attitude of adolescents regarding road safety. It is urgent to increase the knowledge and attitudes of the adolescents at an early life stage to develop safe road-behavioural tendencies and reduce the exposure risk of road-traffic injuries. The implementation of an organized road-safety education as part and parcel of regular school health programs can have a significant beneficial effect on accident and teenage health.

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