

A Descriptive Study to Assess the Knowledge and Attitude towards Road Safety Rules and Regulation among Adolescents Studying in Selected Schools of District Solan, Himachal Pradesh

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Abstract: “Accidents Brings Tears Safety Brings Cheers”. **Background:** Road Traffic Injuries are major problem among youth especially in adolescents. According to World Bank report 2021, “India tops the world in road crash deaths and injuries. WHO predicts that road traffic injuries will rise to become the fifth leading cause of death by 2030. **Objectives:** To assess the knowledge and attitude towards road safety rules and regulation among Adolescents, and their association with demographical variables. **Material and Methods:** Non-experimental descriptive study with quantitative descriptive survey approach. Simple random sampling technique used to select sample of 100 adolescents studying in selected schools distt. Solan (HP) design was adopted. Data collection was done by using structured knowledge questionnaire to assess knowledge and rating scale to assess attitude of adolescents. **Results:** The results show 59% adolescents had adequate knowledge. The total mean knowledge score was 27.56 and SD was ± 8.68 whereas mean percentage of knowledge score was 68.9%. Among the study participants, more than half of the participants had a Unfavourable attitude (67%), the total mean attitude score was 47.88 and SD was ± 13.93 whereas range of attitude was 51. The selected socio demographic variables are age, gender, religion, residential area, class, father education status, mother education status, father occupation status, mother occupation status, source of information, mode of travelling. **Conclusion:** Overall findings of the shows that majority of the adolescents 59 (59%) having adequate knowledge and more than half of 67 (67%) adolescents have unfavourable attitude; Mere knowledge does not necessarily translate into improved traffic behaviour. Continuous reinforcement and education reminding them of traffic rules can bring about a positive change and motivate them to strictly adhere to the traffic norms and help reduce the morbidity and mortality regarding road traffic accidents.

Keywords: Road traffic accidents; Road safety rules and regulation; knowledge; attitude; adolescents

1. Introduction

The number of vehicles in India is quickly increasing as a growing middle class can now afford to buy cars. India's road conditions have not kept up with the exponential growth in number of vehicles¹. As children grow and their world extends beyond the home and out into local roads, they are exposed to hazards and risks. Despite the fact that children use roads as pedestrians, cyclists, motorcyclists and vehicle passengers, the road environment is rarely developed with consideration for their needs².

Road traffic accidents are one of the main causes of death and injury to children of school age or in adolescents. The reports of the WHO show that, every year the lives of approximately 1.3 million people are cut short as a result of a road traffic crash. Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury³.

Some children work, play or live on the road, and this exposure, along with other risk factors inherent to childhood,

make them particularly vulnerable in traffic. The result is millions of fatal or disabling injuries each year. In most countries, road traffic injuries are one of the top two causes of death from unintentional injury, with the highest rates among 15–19 year olds².

Globally, around 186 300 children less than 18 years die from road traffic crashes annually, and road traffic injuries are the leading killer of children aged 15-17 years worldwide⁴. As per the CDC, accident related Injury is the leading cause of death in children and young adults. According to the CDC, approximately 12, 000 children and young adults, ages 1 to 19 years, die from unintentional injuries each year⁵.

By giving the education to adolescents, we can prevent them to road accidents.

2. Need for Study

Every day children and young people are interacting with the road and traffic system either as a passenger, pedestrian, cyclist or driver. Road safety education in schools aims to

prepare and equip this vulnerable road user group with the knowledge, skills and positive attitudes that will enable them to stay safe⁶.

India ranks first in the number of road accident deaths across the 199 countries and accounts for almost 11% of the accident related deaths in the World⁷.

Adolescence is an age of exploration, a search to discover themselves and the world around them. It is normal for an individual to be interested in driving. Hence, they have to be guided in understanding the various aspects of driving and road safety measures⁸.

Objective

- 1) To assess the knowledge and attitude towards road safety rules and regulation among adolescents.
- 2) To find out the association of knowledge and attitude towards road safety rules and regulation.

3. Methodology

Non-experimental descriptive study with quantitative descriptive survey approach. Simple Random Sampling technique was adopted to select 100 adolescents. Sampling frame was made and Sampling was done through slips method and chosen the 100 adolescents studying in selected schools distt. Solan (HP). Data collection was done by using demographic Performa, structured knowledge questionnaire and rating scale to assess the knowledge and attitude respectively.

4. Results

The obtained data were analyzed by using descriptive statistics, presented on tables and diagrams and interpreted.

SECTION A: Findings related to description of selected demographic characteristics of adolescents.

The Data indicated that, among 100 adolescents studying in selected school of distt. Solan (HP)

- Majority of 68% adolescents were in the age of 16-19 years. Minimum of 32% of adolescents were in the age group of 12-15 years.
- More than half of adolescents were male (59%) and 41% were female.
- Majority of adolescents belong to Hindu religion (72%), and other were belongs to religion Muslim (20%), Sikh (8%).
- Majority of adolescents belongs to urban area 61%, 39% were from rural area.
- Minimum 36% of adolescents studied in class 12th, 26% were studied in 11th class, 22% were studied in 10th class, 16% were studied in 9th class.
- With regards to father's educational status of adolescents 33% had education up to graduation and above. 24% had education up to higher secondary, 20% had education up

to secondary, % had no formal education, 7% had education up to primary standard

- With regards to mother's educational status of adolescents 30% had education up to higher secondary, 22% had no formal education, 11% had education up to primary standard, 20% had education up to secondary, 17% had education up to graduate and above.
- Father's occupation status of adolescents 40% were doing private job.
- Mother's occupation status of adolescents 31% were doing work as agriculture/farmer, 31% were unemployed.
- Majority of 69% adolescents were get information towards road safety rules and regulation from mass media.
- Majority of 72% adolescents were pedestrians.

Section B: Finding related to knowledge regarding road safety rules and regulation among adolescents studying in selected schools of district Solan, Himachal Pradesh.

Table 1: Frequency and percentage wise distribution of adolescents according to their knowledge score regarding road safety rules and regulation.

Knowledge score	Percentage	Frequency
Adequate knowledge	59%	59
Moderate adequate knowledge	26%	26
Inadequate knowledge	15%	15

Table 1 More than half of 59% adolescents had adequate knowledge and 26% adolescents had Moderate adequate knowledge and 15% adolescents had inadequate knowledge regarding road safety rules and regulations.

Table 2: Mean, standard deviation, mean% of knowledge score of adolescents regarding road safety rules and regulation

Descriptive Statistics	Mean	SD	Range	Mean %
Knowledge score	27.56	±8.68	32	68.9

Table 2 result reveals that the total mean knowledge score was 27.56 and SD was ±8.68 whereas mean percentage of knowledge score was 68.9%.

Section C: Finding related to attitude towards road safety rules and regulation among adolescents studying in selected schools of district Solan, Himachal Pradesh.

Table 3: Frequency and percentage wise distribution of adolescents according to attitude score regarding road safety rules and regulation.

Attitude score	Percentage	Frequency
Favourable attitude	33%	33
Unfavourable attitude	67%	67

Table 3 More than half of 67% Adolescents had an unfavourable attitude and 33 % had favourable attitude towards road safety rules and regulations.

Table 4 Mean, standard deviation, Range of attitude score of adolescents towards road safety rules and regulation.

Descriptive Statistics	Mean	SD	Range
Attitude Score	47.88	±13.93	51

Table 4 result reveals that the total mean attitude score was 47.88 and SD was ±13.93 whereas range of attitude score was 51.

SECTION-D: Finding related to association of knowledge and attitude towards road safety rules and regulation among adolescents studying in selected schools of district Solan with their selected demographic variables.

Table 5: Association between knowledge score regarding road safety rules and regulation and selected demographic variables of adolescents

Demographic Variables	Levels (N=100)			Association with Knowledge score		
	Adequate Knowledge	Moderate Adequate Knowledge	Inadequate Knowledge	Chi Test	P Value	df
Age						
12-15 years	18	9	5	0.154	0.926 ^{NS}	2
16-19 years	41	17	10			
Gender						
Male	38	17	4	7.634	0.022*	2
Female	21	9	11			
Religion						
Hindu	44	16	12	3.104	0.541 ^{NS}	4
Muslim	10	7	3			
Sikh	5	3	0			
Christian	0	0	0			
Residential Area						
Urban area	41	13	7	4.406	0.110 ^{NS}	2
Rural area	18	13	8			
Class						
9 th	8	6	2	2.937	0.817 ^{NS}	6
10 th	11	7	4			
11 th	16	6	4			
12 th	24	7	5			
Father's Education Status						
No formal education	4	9	3	16.564	0.035*	8
Primary	5	0	2			
Secondary	11	5	4			
Higher secondary	19	4	1			
Graduate & above	20	8	5			
Mother's Education Status						
No formal education	10	9	3	10.278	0.246 ^{NS}	8
Primary	5	2	4			
Secondary	13	4	3			
Higher secondary	22	5	3			
Graduate & above	9	6	2			
Father's Occupation Status						
Private job	26	9	5	15.768	0.046*	8
Govt. job	14	2	2			
Business	8	4	2			
Agriculture/farmer	11	6	5			
Unemployed	0	5	1			
Mother's Occupation Status						
Private job	16	5	1	6.71	0.568 ^{NS}	8
Govt. job	3	0	2			
Business	6	3	2			
Agriculture/farmer	16	10	5			
Unemployed	18	8	5			
Source Of Information				9.914	0.128 ^{NS}	6

Mass media	38	21	10	7.558	0.272 ^{NS}	6
Books	9	2	5			
Lecture classes	7	3	0			
No information	5	0	0			
Mode of Travelling						
Scooty / Motorcycle	10	3	1			
Pedestrians	39	22	11			
School Bus	6	0	3			
Bicycle	4	1	0			

* Significant at P level ≤0.05

^{NS} Not significant at P level ≤0.05

Table 6 Association between attitude score towards road safety rules and regulation and selected demographic variables of adolescents

Demographic Variables	Levels (N=100)		Association with ATTITUDE score		
	Favourable Attitude	Unfavourable Attitude	Chi Test	P Value	df
Age					
12-15 years	14	18	2.46	0.117 ^{NS}	1
16-19 years	19	49			
Gender					
Male	23	36	2.33	0.127 ^{NS}	1
Female	10	31			
Religion					
Hindu	20	52	4.48	0.106 ^{NS}	2
Muslim	8	12			
Sikh	5	3			
Christian	0	0			
Residential Area					
Urban area	25	36	4.509	0.034*	1
Rural area	8	31			
Class					
9 th	4	12	4.917	0.178 ^{NS}	3
10 th	10	12			
11 th	11	15			
12 th	8	28			
Father's Education Status					
No formal education	3	13	3.633	0.458 ^{NS}	4
Primary	1	6			
Secondary	8	12			
Higher secondary	8	16			
Graduate & above	13	20			
Mother's Education Status					
No formal education	5	17	2.667	0.615 ^{NS}	4
Primary	5	6			
Secondary	6	14			
Higher secondary	12	18			
Graduate & above	5	12			
Father's Occupation Status					
Private job	15	25	8.454	0.076 ^{NS}	4
Govt. job	9	9			
Business	5	9			
Agriculture/Farmer	2	20			
Unemployed	2	4			
Mother's Occupation Status					
Private job	7	15	2.876	0.579 ^{NS}	4
Govt. job	2	3			
Business	5	6			
Agriculture/farmer	7	24			
Unemployed	12	19			
Source Of Information					
Mass media	22	47	0.337	0.953 ^{NS}	3
Books	6	10			

Lecture classes	3	7			
No information	2	3			
Mode Of Travelling					
Scooty / Motorcycle	6	8	1.034	0.793 ^{NS}	3
Pedestrians	23	49			
School Bus	3	6			
Bicycle	1	4			

*Significant at P level ≤ 0.05

^{NS} Not significant at P level ≤ 0.05

5. Discussion

The present study finding has been discussed in accordance with the objective of study.

Objectives of the study

The first objective of the study to assess the knowledge regarding road safety rules and regulation among adolescents.

In the present study showed that 59% adolescents had adequate knowledge and 26% adolescents had Moderate adequate knowledge and 15% adolescents had inadequate knowledge regarding road safety rules and regulation.

The second objective of the study to assess the attitude towards road safety rules and regulation among adolescents.

As per present study majority of 67% adolescents had unfavourable attitude and 33% had favourable attitude toward road safety rules and regulation.

The third objective of the study to find out the association of knowledge and attitude towards road safety rules and regulation among adolescents.

As per present study there is significance association between the level of knowledge score and their demographic variables (Gender, Father's education status, Father's occupation status). There is no significance association between the level of scores and other demographic variables (Age, Religion, residential area, Class, Mother's education status, Mother's occupation status, Source of information, Mode of travelling)

As per present study there is significance association between the level of attitude score and their demographic variables (Residential area). There is no significance association between the level of scores and other demographic variables (Age, Religion, Class, Gender, Father's education status, Mother's education status, Father's occupation status, Mother's occupation status, Source of information, Mode of travelling)

6. Conclusion

As per present study, majority of 59% Adolescents have Adequate knowledge regarding road safety rules and regulation. About 67% adolescents have unfavourable attitude

towards road safety rules and regulation. The study reveals adequate knowledge and unfavourable attitude regarding road safety rules and regulation among adolescents. Continuous reinforcement and education reminding them of traffic rules can bring about a positive change and motivate them to strictly adhere to the traffic norms.

7. Future Scope

Nursing Practice

- The nurses have an initial role to work with adolescents and children in schools through the school health programme.
- Children and adolescents must be encouraged to impart knowledge on road safety rules and regulation. Nurse as the change agent, can introduce child to child approach to impart knowledge on road safety rules and regulation.
- The nurse plays an important role in prevention of accidents and health promotion. Through education programme with effective teaching strategies she motivates the adolescents to follow the road safety rules and regulation.

Nursing Education

- The nursing curriculum should consist of knowledge related to health information using different methods of teaching. Nursing students should be made aware of them in health promotion and disease prevention in the present and future year, which may help in achieving the goal of Health for All.
- Nurse educator can develop health education material like informational booklet, pamphlet for adolescents which will help to understand the need for following the road safety rules and regulation.

Nursing Administration

- The nurse administration should take interest in providing information on health. Preventing the Road Traffic accidents to the public or to the community.
- A nurse administer should take all the measures to decrease the burden of road accidents. She could conduct and encourage various research programmes regarding consequences of not following the road safety rules and regulation.

Nursing Research

- Nursing personnel is the graduation and post-graduation level should take initiative not only conducting the research and also disseminate the findings of the study through conferences, seminars and by publishing in journals and websites.
- Research can be done to assess the magnitude of road traffic accidents in adolescents or in community.

8. Recommendations

- 1) Similar study can be replicated on a larger sample to increase validity and generalization of findings.
- 2) A Pre experimental study can be conducted to assess the effectiveness of structure teaching program on road safety rules and regulation among rural and urban students.
- 3) A similar study can be conducted in various settings like Community (Adults) and hospitals (Staff).
- 4) A comparative study to assess the knowledge and attitude towards road safety rules and regulation among rural and urban schools.
- 5) A descriptive study to assess self-reported road safety preventions among adolescents can be done.

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