



## KNOWLEDGE REGARDING ROAD SAFETY MEASURES AMONG ADOLESCENT

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### ABSTRACT

**Introduction and Aim:** Road safety is prime importance as road accidents are among the biggest causes of deaths in the country, with the number of vehicles in our roads increasing with every passing hour, it is of vital importance for everyone to have traffic awareness and understand and respect all the road safety rules. So the present study done with the aim of to assess the knowledge regarding road safety measures among adolescent.

**Methodology:** A Quantitative Non- Experimental descriptive research approach and design was used. The non- probability purposive sampling technique was used to select 150 adolescents (13-18 yrs), studying in selected schools of Punjab. Structured knowledge questionnaire was used to assess the knowledge regarding road safety measures among adolescents.

**Results:** The collected data was analyzed through descriptive and inferential statistics which revealed that out of 150 adolescents, 73(48.7%) were having good knowledge, 67(44.7%) were having average knowledge, 6(4%) were having excellent knowledge and 4(2.6%) were having poor knowledge. The association between knowledge and selected demographic variables of adolescents using chi-square test revealed that there was statistical significance with knowledge score and father's education and father's occupation at 0.05 levels of significance and non significant association with other demographic variables.

**Conclusion:** The adolescents having good knowledge regarding road safety measures. There is broad scope to create awareness regarding road safety measures among adolescent.

**Keywords:** knowledge, Road safety measures, Adolescents.

**“Know road safety, no injury - No road safety, know injury”**

### INTRODUCTION

The prevalence of road traffic accidents is on the rise, thus contributing to morbidity and mortality. In the year 2000, road traffic injuries was the 11<sup>th</sup> leading cause of death globally, currently, it is the 9<sup>th</sup> leading cause of death.<sup>1</sup> Road crashes are the 2<sup>nd</sup> leading cause of death worldwide among young people. Unless action is taken, road traffic injuries are predicted to become the 5<sup>th</sup> leading cause of death by 2030.

74% of the total fatalities occurred on national and state highway, both comprise of the total length in Punjab. The accidental death rate on National Highway in Punjab is 0.64 per kilometre/year and on State Highway is 1.65 per kilometre/ year. There are 243 million adolescents aged 10 – 19 years in India accounting for 20% of the global adolescent

population. In 2013, an estimated 275,000 Indian adolescents died of road traffic injuries. <sup>8</sup>A total 4,37,396 road accident were recorded across India in 2019, resulting in the death of 1,54,732 people and injuries to another 4,39,262, according to the latest National Crime Bureau (NCRB) data. In 2018, India had reported 1,52,780 deaths in road crashes, while the figures stood at 1,50,093 in 2017, it showed.

A traffic accident occurs when road vehicles collided with another vehicle, pedestrians, animals, road debris or other geographical and architectural obstacles. W.H.O has defined accidents as an unexpected, unplanned occurrence which may involve injury. <sup>6</sup>To avoid such accidents among school children, there is strong to conduct studies regarding their knowledge regarding road safety measures so that children can be guided as per aspects on which they lack information.

### **PROBLEM STATEMENT**

A study to assess the knowledge regarding road safety measures among adolescent studying in selected schools of Punjab.

### **AIM**

To assess the knowledge regarding road safety measures among adolescent.

### **OBJECTIVES**

1. To assess the level of knowledge regarding road safety measures among adolescent.
2. To find out association of knowledge regarding road safety measures among adolescent with selected demographic variables.

### **METHODOLOGY**

A Quantitative Non-experimental descriptive research approach and design was used. The total number of 150 adolescents (13-18yrs) was taken from selected schools of Punjab. Non-probability purposive sampling technique was used to select the sample. The present study was conducted in three selected schools of Punjabi.eg, Govt. Senior Secondary School, Lambi, Govt. Senior Secondary School, Raike kalan, Govt. Senior Secondary school, Badal. The purpose of selection of these schools was the investigators convenience, feasibility, proximity and expected co-operation from the authorities in getting permission for the study. Structured knowledge questionnaire was used to assess knowledge regarding road safety measures among adolescents. The collected data was analyzed through descriptive and inferential statistics as per objectives of the study.

### **RESULTS**

Analysis of data collection was done in accordance with the objectives of the study. The Data presented in Table- 1 depicts that, the majority of 68(45.3%) adolescents were from 17-18 years age group, 44(29.3%) adolescents were from 13-14 years age group and 38(25.3%) adolescents are from 15-16 years age group. Nearly half of adolescents 47(31.3%) and 42(28%) were from class +1 and class +2 respectively, 32(21.3%) adolescents were from 9<sup>th</sup> class and only 29(19.3%) were from 10<sup>th</sup> class. Maximum of adolescents 86(57.3%) were male and 64(42.7%) were female. The all 150(100%) adolescents were from rural area. More than half i.e. of 52(34.7%) fathers and 56(37.3%) mothers were illiterate, 8 (5.3%) fathers and 41(27.3%) mothers had primary school educational status , 16(10.7%) fathers and 32(21.3%) mothers had middle school educational status , 37(24.7%) fathers and 15(10%) mothers had high school educational status, 30(20%) fathers and 4(2.7%) mothers had higher secondary school educational status followed by only 7(4.7%) father and 2(1.3%) mothers were graduate.

The majority 62(41.3%) fathers were farmers, 33(22%) fathers were labourer, 15(10%) fathers were on private job followed by 10(6.7%) fathers were on Govt. job and self-employed. Majority 104(69.3%) mothers were house wife, 27(18%) were labourer, 13(8.7%) mothers were self-employed, 6(4%) mothers had Govt. job and none of the mothers had private job. Approximately equal number of adolescents 24(16%) and 26(17.3%) were use motorcycle and bicycle respectively, 46(30.7%) adolescents were pedestrians, 54(36%) were use school bus, 26(17.3%) were use bicycle. The majority of 111(74%) adolescents were get information from mass-media, 22(14.6%) adolescents were get information from family and friends, and only 17(11.3%) adolescents were get information from health care professionals.

### SECTION- I

**Table 1: Frequency and percentage distribution of adolescents, according to their socio-demographic variables.**

N

=150

| Sr. No | Characteristics            | Frequency | Percentage % |
|--------|----------------------------|-----------|--------------|
| 1.     | <b>Age(in years)</b>       |           |              |
|        | 13-14                      | 44        | 29.3%        |
|        | 15-16                      | 38        | 25.3%        |
|        | 17-18                      | 68        | 45.3%        |
| 2.     | <b>Class</b>               |           |              |
|        | 9 <sup>th</sup>            | 32        | 21.3%        |
|        | 10 <sup>th</sup>           | 29        | 19.3%        |
|        | +1                         | 47        | 31.3%        |
|        | +2                         | 42        | 28%          |
| 3.     | <b>Gender</b>              |           |              |
|        | Male                       | 86        | 57.3%        |
|        | Female                     | 64        | 42.7%        |
| 4.     | <b>Residential Area</b>    |           |              |
|        | Rural                      | 150       | 100%         |
|        | Urban                      | 0         | 0%           |
| 5.     | <b>Father's Education</b>  |           |              |
|        | Illiterate                 | 52        | 34.7%        |
|        | Primary School             | 8         | 5.3%         |
|        | Middle School              | 16        | 10.7%        |
|        | High School                | 37        | 24.7%        |
|        | Higher secondary School    | 30        | 20%          |
|        | Graduation and above       | 7         | 4.7%         |
| 6.     | <b>Father's Occupation</b> |           |              |
|        | Private Job                | 15        | 10%          |
|        | Government Job             | 10        | 6.7%         |
|        | Farmer                     | 62        | 41.3%        |
|        | Self employed              | 10        | 6.7%         |
|        | Labourer                   | 33        | 22%          |
|        | Unemployed                 | 20        | 13.3%        |
| 7.     | <b>Mother's Education</b>  |           |              |
|        | Illiterate                 | 56        | 37.3%        |
|        | Primary School             | 41        | 27.3%        |
|        | Middle School              | 32        | 21.3%        |
|        | High School                | 15        | 10%          |

|            |  |     |       |
|------------|--|-----|-------|
|            | Higher secondary School                                  | 4   | 2.7%  |
|            | Graduation and above                                     | 2   | 1.3%  |
| <b>8.</b>  | <b>Mother's occupation</b>                               |     |       |
|            | Private Job  | 0   | 0%    |
|            | Government Job   | 6   | 4%    |
|            | Labourer   | 27  | 18%   |
|            | House Wife   | 104 | 69.3% |
|            | Self employed  | 13  | 8.7%  |
| <b>9.</b>  | <b>Mode of travelling to school</b>                      |     |       |
|            | Motorcycle   | 24  | 16%   |
|            | Pedestrians  | 46  | 30.7% |
|            | School bus   | 54  | 36%   |
|            | Bicycle  | 26  | 17.3% |
| <b>10.</b> | <b>Source of information about road safety measures.</b> |     |       |
|            | Mass media   | 111 | 74%   |
|            | [T.V/Newspaper/Radio/Magazine/Internet]                  | 22  | 14.6% |
|            | Family and friends                                       | 17  | 11.3% |
|            | Health care professionals                                | 00  | 0%    |
|            | Any other specify  |     |       |

**Table 2: Frequency and percentage distribution of adolescents depending upon their level of knowledge regarding road safety measures  
N=150**

| Level of knowledge | Range | Frequency (f) | Percentage (%) |
|--------------------|-------|---------------|----------------|
| Excellent          | 34-44 | 6             | 4%             |
| Good               | 23-33 | 73            | 48.7%          |
| Average            | 12-22 | 67            | 44.7%          |
| Poor               | 0-11  | 4             | 2.6%           |

**Maximum score=44.**

**Minimum score=00.**

Table 2 revealed that out of 150 adolescents 4% have excellent level of knowledge, 48.7% have good level of knowledge, 44.7% have average level of knowledge and 2.6% have poor level of knowledge regarding road safety measures.

**Table 3: Mean and standard deviation of adolescents depending upon their Level of knowledge regarding road safety measures among adolescents.**

| Level of knowledge | Mean         | Standard deviation |
|--------------------|--------------|--------------------|
| Excellent (34-44)  | 35.7         | 1.36               |
| Good(23-33)        | 25.21        | 2.93               |
| Average (12-22)    | 18.05        | 2.28               |
| Poor(0-11)         | 9.5          | 5.34               |
| <b>Total:</b>      | <b>20.81</b> | <b>5.50</b>        |

**Maximum score =44.**

**Minimum score = 11**

Table 3 indicates that the total mean of adolescents according to their level of knowledge is 20.81 and standard deviation is 5.50.

**Table 4 : Association between level knowledge and selected demographic variables**

| S. no                | Demographic variable       | Level of knowledge |              |                 |             | Chi-square (df)            | Table values |
|----------------------|----------------------------|--------------------|--------------|-----------------|-------------|----------------------------|--------------|
|                      |                            | Excellent (34-44)  | Good (23-33) | Average (12-22) | Poor (0-11) |                            |              |
| <b>1</b>             | <b>Age</b>                 |                    |              |                 |             | 49.7 <sup>NS</sup><br>(6)  | 12.59        |
|                      | 13-14                      | 4                  | 25           | 15              | 0           |                            |              |
|                      | 15-16                      | 0                  | 25           | 11              | 2           |                            |              |
|                      | 17-18                      | 2                  | 23           | 41              | 2           |                            |              |
| <b>2</b>             | <b>Class</b>               |                    |              |                 |             | 1.93 <sup>NS</sup><br>(9)  | 16.91        |
|                      | 9 <sup>th</sup>            | 2                  | 12           | 16              | 2           |                            |              |
|                      | 10 <sup>th</sup>           | 2                  | 16           | 10              | 1           |                            |              |
|                      | +1                         | 1                  | 25           | 20              | 1           |                            |              |
|                      | +2                         | 1                  | 20           | 21              | 0           |                            |              |
| <b>3</b>             | <b>Gender</b>              |                    |              |                 |             | 0.60 <sup>NS</sup><br>(3)  | 7.81         |
|                      | Male                       | 4                  | 31           | 47              | 4           |                            |              |
|                      | Female                     | 2                  | 42           | 20              | 0           |                            |              |
| <b>4</b>             | <b>Residential area</b>    |                    |              |                 |             | 0<br>(3)                   | 7.81         |
|                      | Rural                      | 06                 | 73           | 67              | 4           |                            |              |
|                      | Urban                      | 0                  | 0            | 0               | 0           |                            |              |
| <b>5</b>             | <b>Father's Education</b>  |                    |              |                 |             | 27.9*<br>(15)              | 24.99        |
|                      | Illiterate                 | 2                  | 30           | 20              | 0           |                            |              |
|                      | Primary School             | 1                  | 4            | 3               | 0           |                            |              |
|                      | Middle School              | 2                  | 4            | 6               | 4           |                            |              |
|                      | High School                | 0                  | 15           | 22              | 0           |                            |              |
|                      | Higher secondary School    | 1                  | 17           | 12              | 0           |                            |              |
| Graduation and above | 0                          | 3                  | 4            | 0               |             |                            |              |
| <b>6</b>             | <b>Father's Occupation</b> |                    |              |                 |             | 25.7*<br>(15)              | 24.99        |
|                      | Private Job                | 0                  | 8            | 7               | 0           |                            |              |
|                      | Government Job             | 1                  | 6            | 2               | 1           |                            |              |
|                      | Farmer                     | 1                  | 33           | 27              | 1           |                            |              |
|                      | Self employed              | 1                  | 0            | 4               | 1           |                            |              |
|                      | Labourer                   | 1                  | 13           | 18              | 1           |                            |              |
| Unemployed           | 2                          | 9                  | 9            | 0               |             |                            |              |
| <b>7</b>             | <b>Mother's Education</b>  |                    |              |                 |             | 14.6 <sup>NS</sup><br>(15) | 24.99        |
|                      | Illiterate                 | 1                  | 25           | 29              | 1           |                            |              |
|                      | Primary School             | 1                  | 21           | 18              | 1           |                            |              |
|                      | Middle School              | 2                  | 17           | 12              | 1           |                            |              |
|                      | High School                | 1                  | 7            | 6               | 1           |                            |              |
|                      | Higher secondary School    | 1                  | 2            | 1               | 0           |                            |              |
| Graduation and above | 0                          | 1                  | 1            | 0               |             |                            |              |
| <b>8</b>             | <b>Mother's occupation</b> |                    |              |                 |             | 12.4 <sup>NS</sup><br>(12) | 21.026       |
|                      | Private Job                | 0                  | 0            | 0               | 0           |                            |              |
|                      | Government Job             | 2                  | 2            | 2               | 0           |                            |              |
|                      | Labourer                   | 2                  | 15           | 11              | 2           |                            |              |
|                      | House Wife                 | 2                  | 52           | 48              | 2           |                            |              |
| Self employed        | 0                          | 7                  | 6            | 0               |             |                            |              |

|           |  |    |    |    |   |                            |       |
|-----------|--|----|----|----|---|----------------------------|-------|
| <b>9</b>  | <b>Mode of travelling to school</b>                      |    |    |    |   |                            |       |
|           | Motorcycle   | 2  | 13 | 8  | 1 | 2.96 <sup>NS</sup><br>(9)  | 16.99 |
|           | Pedestrians  | 0  | 19 | 26 | 1 |                            |       |
|           | School bus   | 1  | 28 | 24 | 1 |                            |       |
| Bicycle   | 3  | 13 | 9  | 1  |   |                            |       |
| <b>10</b> | <b>Source of information about road safety measures.</b> |    |    |    |   |                            |       |
|           | Mass media [T.V/Newspaper/Radio/Magazine/Internet]       | 1  | 55 | 53 | 2 | 11.41 <sup>NS</sup><br>(9) | 16.99 |
|           | Family and friends                                       | 2  | 11 | 9  | 0 |                            |       |
|           | Health care professionals                                | 3  | 7  | 5  | 2 |                            |       |
|           | Any other specify  | 0  | 0  | 0  | 0 |                            |       |
|           |  |    |    |    |   |                            |       |

NS=Non-significant \*=Significant

The above table depicts that based on the chi-square value there is significant association found with the level of knowledge and father's education and father's occupation at 0.05 level of significant and there is no statistical significant association with other demographic variables like age, class, gender, residential area, mother's education, mother's occupation, mode of travelling to school, source of information about road safety measures.

## DISCUSSION

The present study revealed that, the majority of 68(45.3%) adolescents were from 17-18 years age group, 44(29.3%) adolescents were from 13-14 years age group and 38(25.3%) adolescents are from 15-16 years age group. Nearly half of adolescents 47(31.3%) and 42(28%) were from class +1 and class +2 respectively, 32(21.3%) adolescents were from 9<sup>th</sup> class and only 29(19.3%) were from 10<sup>th</sup> class. Maximum of adolescents 86(57.3%) were male and 64(42.7%) were female. The all 150(100%) adolescents were from rural area. More than half i.e. of 52(34.7%) fathers and 56(37.3%) mothers were illiterate, 8 (5.3%) fathers and 41(27.3%) mothers had primary school educational status, 16(10.7%) fathers and 32(21.3%) mothers had middle school educational status, 37(24.7%) fathers and 15(10%) mothers had high school educational status, 30(20%) fathers and 4(2.7%) mothers had higher secondary school educational status followed by only 7(4.7%) father and 2(1.3%) mothers were graduate. The majority 62(41.3%) fathers were farmers, 33(22%) fathers were labourer, 15(10%) fathers were on private job followed by 10(6.7%) fathers were on Govt. job and self-employed. Majority 104(69.3%) mothers were house wife, 27(18%) were labourer, 13(8.7%) mothers were self-employed, 6(4%) mothers had Govt. job and none of the mothers had private job. Approximately equal number of adolescents 24(16%) and 26(17.3%) were use motorcycle and bicycle respectively, 46(30.7%) adolescents were pedestrians, 54(36%) were use school bus, 26(17.3%) were use bicycle. The majority of 111(74%) adolescents were get information from mass-media, 22(14.6%) adolescents were get information from family and friends, and only 17(11.3%) adolescents were get information from health care professionals. Similar study conducted by Baniya Surjeeta (2016), the study revealed that 18(7.5%) were in age group 15 years, 71(29.6%) were of age group 16years, 103(42.9%) were of age group 17 years, 40(16.7%) were of age group 18 years, 08(3.3%) were of age 19 years. Regarding gender, 140(58.3%) were female, 100(41.7%) were male. Regarding residence, 185(77.1%) were from urban area, 55(22.9%) were from rural area. Regarding living status, 208(86.7%) were living with their family at present, 24(10%) were living alone, 08(3.3%) were living with friends. Regarding father's educational status, 06(2.5%) had no education, 35(14.6%) had primary education, 53(22.1%) had some secondary education, 115(47.9%) had SLC or higher

education. Regarding mother's education, 18(7.5%) had no education, 54(22.5) had primary education, 53(22.1%) had some secondary education, 115(47.9%) had SLC or higher education.

The present study revealed that out 150 adolescents about 6(4.6%) adolescents were having excellent knowledge, 67(44.7%) adolescents were having good knowledge, 73(48.7%) adolescents were having average knowledge and 4(2.6%) adolescents were having poor knowledge regarding road safety measures. Similar study was conducted by MS. Indhumathy, et al (2016), To assess the knowledge and practice on road safety regulations among primary school children. The study findings revealed that 16(32%) had inadequate knowledge, 14(28%) had adequate knowledge, 20(40%) of them had moderately adequate knowledge regarding road safety measures. Another study conducted by Baniya Surjeeta(2016), out of 240 adolescents, 142(59.2%) had moderately adequate knowledge regarding, 82(34.2%) had adequate knowledge, 16(6.7%) had inadequate knowledge.

The analysis was done for association with knowledge with selected demographic variables of adolescents using chi-square test, which revealed that there was statistical significance with knowledge score and father's education and father's occupation at 0.05 level of significance. However, there was no statistical significance with no variables like age, class, gender. Residential area, mother's education, mother's occupation, mode of travelling to school, source of information about road safety measures. The study conducted by Baniya Surjeeta (2016) revealed that there was statistical significant association (p=0.034) between the faculty of respondents (science and management) and level of knowledge of respondents on road safety rules and regulations. Likewise, there was no significant association of socio-demographic variables like, age, gender, class, residence, driving licence and driving experience with level of knowledge.

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