

A Study to Assess the Effectiveness of a Structured Training Programme on Knowledge Regarding Road Safety Measures Among School Going Children in Selected Schools of Ahmedabad District

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Abstract—Background: Road traffic accidents (RTAs) are a major public health concern and a leading cause of death and disability among children and adolescents. School-going children are particularly vulnerable due to their daily exposure to traffic, making road safety education essential.

Methods: A pre-experimental one-group pre-test post-test study was conducted among 60 school-going children aged 11–15 years in selected schools of Ahmedabad district, Gujarat. Participants were selected using convenience sampling. A structured knowledge questionnaire was administered before and after a structured training programme on road safety measures.

Results: Most participants were male (71.7%), studying in the 8th standard (96.7%), and had previously received information on road safety (93.3%). After the intervention, knowledge regarding road safety improved considerably. The number of students with average knowledge decreased from 15 (25%) to 4 (6.7%), while those with good knowledge increased from 44 (73.3%) to 56 (93.3%). No student demonstrated poor knowledge in either the pre-test or post-test.

Conclusion: The structured training programme effectively improved the knowledge of school-going children regarding road safety measures. Regular educational programmes in schools can strengthen road safety awareness and promote safer practices among children.

Index Terms—Road Traffic Accidents, Road Safety Measures, Structured Training Programme, Knowledge School-going Children, Road Safety Education

I. INTRODUCTION

Road traffic accidents (RTAs) are a major global public health concern and a leading cause of death and disability among children and adolescents. According to the World Health Organization (WHO), approximately 1.19 million people die each year due to road traffic accidents. Children are particularly vulnerable as they are regularly exposed to traffic while travelling to and from school. Inadequate knowledge of road safety rules and unsafe road-use practices significantly increase their risk of injuries.

In India, rapid urbanization, increasing vehicle ownership, and poor compliance with traffic regulations have contributed to the growing burden of road traffic accidents. In 2024, road crashes claimed 1.77 lakh lives, averaging 485 deaths per day. Ahmedabad also reported a rising trend, with 27,886 road traffic accident emergencies recorded in 2024, representing a 7% increase compared to the previous year.

Schools provide an ideal platform for promoting road safety awareness among children through structured educational programmes. Interactive teaching strategies, including demonstrations, posters, quizzes, and practical activities, enhance students' understanding and retention of road safety measures. In addition, parents play a crucial role by modelling safe road behaviours, such as using helmets, seat belts, and following traffic rules. Combined efforts of schools and families can significantly improve children's knowledge and encourage safer road-use

practices, thereby reducing the risk of road traffic injuries.

II. OBJECTIVES OF THE STUDY

1. To assess the knowledge regarding road safety measures among school-going children using pre-test and post-test scores.
2. To evaluate the effectiveness of a structured training programme in improving knowledge regarding road safety measures among school-going children.

III. OPERATIONAL DEFINITIONS

1. Assess: Refers to measuring the knowledge of school-going children regarding road safety measures before and after the structured training programme using a structured knowledge questionnaire.
2. Effectiveness: Refers to the improvement in knowledge regarding road safety measures as determined by the difference between pre-test and post-test knowledge scores.
3. Structured Training Programme: Refers to a systematically planned educational programme developed by the investigator, consisting of lectures, demonstrations, and interactive discussions on road safety measures.
4. Knowledge: Refers to the awareness and understanding of school-going children regarding road safety measures, including traffic rules, pedestrian safety, road signs, helmet and seat belt use, and safe road-crossing practices, as measured by a structured knowledge questionnaire.
5. Road Safety Measures: Refers to the rules, regulations, and safe practices followed to prevent road traffic accidents and ensure the safety of road users.
6. Selected Schools of Ahmedabad District: Refers to the schools in Ahmedabad district selected by the investigator based on feasibility, accessibility, and availability of participants for data collection.

IV. RESEARCH METHODOLOGY

Research Approach: The present study adopted a quantitative research approach.

Research Design: A pre-experimental one group pre-test and post-test design. was used in the present study.

Demographic Variables:

The socio-demographic characteristics of the participants, including age, gender, class/standard, type of school, area of residence, mode of transport to school, distance between home and school, previous exposure to road safety information, source of information, history of road traffic accidents, parents' use of helmets/seat belts, and adherence to traffic rules while crossing the road.

Independent Variable: Structured training programme on road safety measures.

Dependent Variable: Knowledge of school-going children regarding road safety measures.

Sample And Sampling Technique: . In this study, the sample were Maniprabhu higher secondary school, Chandkheda through simple random sampling technique.

V. DESCRIPTION OF TOOL

Section A:

This section consists of items related to the socio-demographic characteristics of the participants. It includes variables such as age, gender, class/standard, type of school, area of residence, mode of transport to school, distance between home and school, previous exposure to road safety information, source of information, history of road traffic accidents, parents' use of helmet/seat belt, and adherence to traffic rules while crossing the road.

Section B:

This section consists of 20 self-structured multiple-choice questions designed to assess the knowledge of school-going children regarding road safety measures. Each correct response carries one mark, giving a maximum score of 20. The knowledge scores were categorized into the following levels:

Poor Knowledge: 0–5 (0–25%)

Average Knowledge: 6–10 (26–50%)

Good Knowledge: 11–15 (51–75%)

Excellent Knowledge: 16–20 (76–100%)

REFERENCES

VI. RESULTS & DISCUSSION

The study included 60 school-going children aged 11–15 years. The majority were males (71.7%), studying in the 8th standard (96.7%), attending private schools (96.7%), residing in urban areas (98.3%), and using private vehicles (63.3%) for transportation. Most students (93.3%) had previously received information on road safety, 73.3% had never experienced a road traffic accident, 70% reported that their parents regularly used helmets or seat belts, and 81.7% stated that they always followed traffic rules while crossing the road.

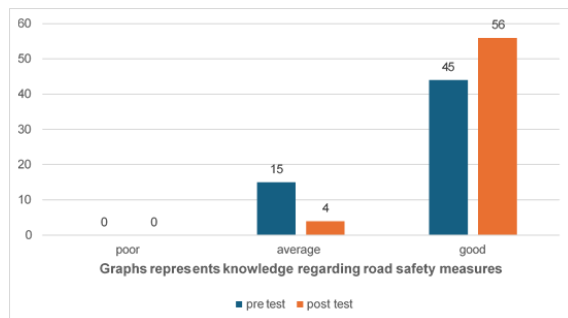


Figure 1: Bar Graph representing the knowledge about road safety measures.

The findings showed that most students possessed good baseline knowledge regarding road safety measures, including traffic rules, helmet and seat belt use, zebra crossings, emergency services, and legal driving age. Following the structured training programme, knowledge improved significantly. The number of students with average knowledge decreased from 15 in the pre-test to 4 in the post-test, while those with good knowledge increased from 44 to 56. No student demonstrated poor knowledge in either assessment. These findings indicate that the structured training programme was effective in enhancing the knowledge of school-going children regarding road safety measures.

VII. APPENDIX

Appendixes, if needed, appear before the acknowledgment.

- [1] World Health Organization (2023) Global status report on road safety 2023 WHO.
- [2] Peden, M., Scurfield, R., Sleet, D., Mohan, D., Hyder, A. A., Jarawan, E., & Mathers, C. (2004). World report on road traffic injury prevention. WHO.
- [3] Ministry of Road Transport and Highways (2022). Road accidents in India. Government of India.
- [4] United Nations Children's Fund. (2021). Child road traffic injury prevention. UNICEF.
- [5] World Health Organization. Global Status Report on Road Safety. Geneva: WHO; 2023.
- [6] UNICEF. Child Road Safety Report. New York: UNICEF
- [7] Ministry of Road Transport and Highways. Road Accidents in India. New Delhi: MoRTH; 2022..
- [8] Indian Council of Medical Research. Road Traffic Injury Prevention Report. New Delhi: ICMR; 2020.
- [9] World Health Organization. Road Safety Education Guidelines. Geneva: WHO; 2021.
- [10] Government of India. National Road Safety Policy. New Delhi; 2010.
- [11] Daily road deaths touched 485 in 2024 even as NH fatalities dipped | India News - The Times of India <https://share.google/tDjIMxt41hzEMuKLK>
- [12] City recorded 3 road accidents every hour in 2024: EMRI stats - Times of India <https://share.google/XLftn4RgDc0YduBi3>
- [13] Road deaths jump to 382 in 2025; silent vehicles new threat <https://share.google/jhTi1nTd5fLRZKypP>
- [14] Sharma SK. Nursing Research and Statistics. 4th ed. New Delhi: Elsevier; 2022.
- [15] Polit DF, Beck CT. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 11th ed. Philadelphia: Wolters Kluwer; 2021.
- [16] Basavanthappa BT. Community Health Nursing. 3rd ed. New Delhi: Jaypee Brothers; 2022.
- [17] UNICEF. Child Road Safety. New York: UNICEF; 2022.
- [18] Stanhope M, Lancaster J. Public Health Nursing. 10th ed. St. Louis: Elsevier; 2022.

- [19] Government of Gujarat. Gujarat Road Safety Policy. Gandhinagar: Government of Gujarat; 2023.
- [20] Ministry of Road Transport and Highways. Road Accidents in India 2023. New Delhi: Government of India; 2024.
- [21] World Health Organization. Global Status Report on Road Safety 2023. Geneva: WHO; 2023.
- [22] World Health Organization. Global Status Report on Road Safety. Geneva: WHO; 2023.
- [23] UNICEF. Child Road Safety Report. New York: UNICEF; 2021.
- [24] Kajal, Rana A, sehgal A, Dhiman A, Rana A, Chaudhary A, et al [2025]. A study to assess the effectiveness of structured teaching program on knowledge regarding road safety rules and regulation among adolescents in selected school, Distt. Kangra, Himachal Pradesh". International Journal of Advanced Research in Nursing, 8(2), 1052-1057.
<https://www.doi.org/10.33545/nursing.2025.v8.i2.J.611>
- [25] Byula B, Mallela R [2024]. A study to assess the effectiveness of structured teaching programme on road safety measures among primary school children in selected primary school.
<https://share.google/qpjNV0JpQBfKI83fh>
- [26] Naik S.G, Souza J.D. (2023). A Study to assess the effectiveness of a structured teaching programme on knowledge regarding road safety measures among school-going children." In selected schools of Udupi. International Journal of Creative Research Thoughts. 11(3), ISSN: 2320-2882.
<https://share.google/zEoXnldlfj1reVsO>
- [27] Jamunarani, Gayathridevi, Sudha.k (2023). A study to assess the effectiveness of a structured teaching programme on knowledge regarding road safety measures among children studying in a selected private school at Kamarajapuram, Namakkal District. International Journal of Scientific Development and Research. 8(6), ISSN: 2455-2631.
<https://ijsdr.org/papers/IJSDR2306145.pdf>
- [28] Deepa J., Melvin M., Dr. J. Balalakshmi (2022). A study to assess the effectiveness of child-to-child teaching on knowledge regarding road safety measures among children in selected schools at Kuppam, Chittoor District, Andhra Pradesh. International Journal of All Research Education and Scientific Methods. 10(6), ISSN: 2455-6211.
<https://share.google/x1FK8BnLQ2fV7FavM>
- [29] Shyamalan P.R, Kumari R, Rahul, Bhumi N (2022). A study to assess the effectiveness of structured teaching program on knowledge regarding prevention of road traffic accidents among students of selected college at GNSU, Rohtas. International Journal of Advanced Research in Science, Communication and Technology. 2(1), ISSN: 2581-9429.
<https://ijarsct.co.in/Paper4573.pdf>
- [30] Sonawane S.S., Talvekar G.K. (2022). A study to assess the effectiveness of a planned teaching programme on knowledge regarding road safety measures among schoolers in the selected school of the city." International Journal of Nursing and Health Research. 4(2), ISSN: 26646412.
<https://www.nursingjournal.in/assets/archives/2022/vol4issue2/4-2-15-406>
- [31] Masilamani N, Kothandan P, Basker M., Emmanuel S., (2022). A study to assess effectiveness of peer-led education on knowledge and attitude among adolescents regarding road safety. Indian Journal of Community Medicine. 47(3): 356-359.
<https://share.google/LHTx6bRr30znfxqBm>
- [32] Francis C., Dasarathan I., Shanmugam R (2019). A Study to assess the effectiveness of structured teaching programme on knowledge regarding road safety among 5th standard children at M.P.V E.M school Visakhapatnam.