An Experimental Study to Assess the Effectiveness of Structured Motivational Therapy on Aggression Management Combating Road Rage Among the Late Adolescents of Selected Areas in Bhopal (M.P.)

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ABSTRACT

Purpose: To find out the effectiveness of structured motivational therapy on aggression management combating road rage among late adolescent population.

Materials and methods: The study was carried out using a quantitative, true experimental design. The present study was conducted in Karond and Bhanpur areas of Bhopal city (MP). The total sample consists of 60 in numbers of which 30 samples belonged to the experimental group and 30 samples belonged to the control group. Using a multi stage sampling technique, two groups were selected through simple randomization (lottery) method and randomly assigned as experimental group and control group. Pre-test is administered into both the groups, structured motivational therapy on aggression management combating road rage is applied only to the experimental group but no intervention is applied to control group, after four weeks post-test is administered to both control and experimental groups.

Results: After the comparison of mean pre-test and post-test levels of driving anger among participants in experimental group it’s found that there is a mean difference of 21.79 between pre-test and post-test with t-value of 18.08, which is evident that there is a significant difference in the levels of driving anger before and after the introduction of motivational therapy.

Conclusion: Anger reduction therapies and techniques are very essential in preventing road rage related problems and enhancing well being of mankind overall. Present study brings to light on sustained, genuine and committed efforts in dealing with road rage among adolescents through structured motivational therapy. The study findings showed that the participants were undergoing varying levels of driving anger. Their driving anger levels have been reduced after the intervention of structured motivational therapy which has been statistically proven. Hence, structured motivational therapy is one of the reliable techniques in dealing with aggressive driving.

Keywords: Aggression, driving anger, Late adolescents, Aggression management, Road rage, Structured motivational therapy.

INTRODUCTION

Aggression is an emotional state or an act of aggressive behavior. As per Oxford dictionary, it’s a feeling of antipathy or anger leading to violent or hostile behavior. In psychology the term Aggression is coined to a range of behaviors which might result in physical, psychological harm to self or others, sometimes on objects in the environment. In past some psychologists like Sigmund Freud and Konrad Lorenz have proposed that aggressive behavior is
innate, but many others argued it as a learnt behavior. During childhood aggressive behavior is considered as normal part of growth and development. Impact of aggression changes during a person’s life span. In young children aggression is predominantly physical as they lack verbal skills. Once the verbal skills develop, they could be used to express aggression. Temper tantrums are the one of the ways to express anger, usually peak among toddlers and gradually decrease by five years of age. Early aggressive behavior manifestations are biting, crying, screaming, kicking, throwing and breaking objects. During early childhood exhibition of aggressive behavior may be in response to parental authority, strictness and excessive expectations from their children etc. Later aggression may be directed towards peers once social interactions increases. Later on, manifestation of aggressive behavior changes to teasing, fighting, bullying, irritability, setting fire, cruelty towards animals etc. The autonomic arousal is one of the reasons for aggression in adolescents where in stimulation of autonomic nervous system which is a part of fight-flight reaction prepares the individual for physical action. More serious violence develops during early adolescence, like gang fights, use of weapons etc. While in later adolescence, use of guns, truancy, cooperation stealing, gang activities, and participation in delinquent subculture and Road–rage etc. 

Aggressive driving behavior is defined as ‘a behavior which is deliberate, likely to increase the risk of collision and motivated by impatience, annoyance, hostility and/or attempt to save time.’ Term Road–rage firstly was coined by the media in 1980s, which became very popular. It has been defined as hostile behavior which is directed towards other road users. Britt and Garrity (2003) explained road rage as mild or severe forms of driving anger when confronted with an aggression provoking situation. Violence in traffic is one of the serious forms of violence, which can be seen everywhere and mostly among everyone, so has therefore become routine. Road rage is one such form of violence in traffic appears in the form of verbal, physical, emotional, sexual etc. even lead to injuring to killing, insulting to threatening. Definitions of Road rage vary, more often go unstated; it can be defined as an incident wherein an aggressive or impatient driver intentionally harms another motorist, passenger or pedestrian physically or emotionally. The conceptualization of road rage involves the intersection of anger, driving anger and aggressive driving. In stages of growth and development, adolescence is the transitional phase between childhood and adulthood. World health organization (WHO) defines adolescents as any individual between ages 10 and 19 years. It’s a transitional stage of psychological and physical development that generally happens between puberty and legal adulthood. The adolescence period is divided into three stages.

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<thead>
<tr>
<th>S. No</th>
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<th>Years</th>
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<tbody>
<tr>
<td>1</td>
<td>Early adolescence</td>
<td>10-14</td>
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<tr>
<td>2</td>
<td>Middle adolescence</td>
<td>15-17</td>
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<tr>
<td>3</td>
<td>Late adolescence</td>
<td>18-19</td>
</tr>
</tbody>
</table>

The adolescence phase goes through many maturational changes like physical, physiological, emotional, social, personality development and cognitive development etc. In late adolescence period the individuals are vulnerable to many behavioral problems like alcohol addiction, smoking, substance use, anger issues, violence, road rage etc. Thus the incidences of road rage, road traffic accidents are commonly seen. The anger is completely normal human emotion till one controls it; if it goes out of control then it’s devastating. To prevent its harmful effects aggression management strategies, play very important role. Aggression management involves learning to have control over the emotional outburst during provoking circumstances. As a part of anger management training Motivational Therapy refers to an
organized, well-structured psycho-educational intervention that enhances skills to control one’s anger. Aggression management combating road rage in adolescence can be possible through well framed, structured motivational interviewing or therapy, involving multiple sessions to identify the causes and imparting knowledge regarding the strategies to be followed to deal with aggression in general and driving anger in specific. "Behavioral modification strategies and education regarding anger management skills had drastically reduced verbal and non-verbal manifestation of negative anger, enhanced anger regulation and significantly reduces the incidences of aggressive behavior."\(^{14}\)

**Background of the study:** As per world Health Organization data, road traffic crashes are responsible for more number of deaths world-wide than most diseases, also they are the leading causes of deaths for children and young adults aged between 5 to 29 years (WHO, 2018).\(^{13}\) It is estimated that more than 1.2 million people lose their life because of road accidents each year and 20 million people are disabled permanently by road crashes. Additionally, over 90 percent traffic mishaps are due to errors done by human, such as over speeding, careless driving, drunk driving and road rage.\(^{15}\) Road traffic accidents are also associated with elevated levels of psychological distress (Craig et al., 2016),\(^{16}\) as per a recent meta-analysis it is concluded that the pooled prevalence of post-traumatic stress disorder amongst road traffic accident survivors was over 20% (Lin et al., 2018).\(^{17}\) It is reported that, the medical and other expenses associated with road traffic crashes in 2017 exceeded $75 billion in the United States alone (Center for Disease Control and Prevention, 2020).\(^{18}\) Driving is a stressful activity; multiple situations on roads may trigger anger at the slightest provocation. Driving driven anger may be exhibited as aggressive, violent and hostile behaviors on the roads, collectively referred to as road rage. Road rage involves variety of aggressive driving behaviors, ranging from milder behaviors like verbally demonstrating anger through closed windows or using high beam lights of the vehicle showing frustration or using hostile hand and facial gestures to severe manifestation of behavior like shouting, honking, abusing, firing gun shots, hitting vehicles, chasing vehicles, which can result in criminal offensive acts, intentional violence and even murder. Majority of road traffic crashes have been associated with intoxication, fatigue, aggression of drivers (Petridou and Moustak., 2000).\(^{19}\)

**Need of the study:** Nowadays most of the drivers especially youngsters are becoming the victims of Road rage, indulging in rash driving, fighting in between traffic, unnecessary honking, exhibiting aggressive behavior, increasing the incidences of road traffic accidents and mental health issues.\(^{14}\) Motivational programs or structured training programs on aggression management combating Road rage can make the difference a lot. There are hardly few Indian studies done on Road Rage which are lacking in providing the clear data about adolescent drivers. However, the statistical data on road rage is shocking. According to the 2015 data, reported by National Crime Records Bureau (NCRB), Kerala, Tamil Nadu, Madhya Pradesh, Karnataka and Maharashtra are the main five states in India that account for the highest number of road rage cases. The cases of road rage and rash driving in the nation added up to 4, 51,069, which implies very nearly 33 individuals out of each 1, 00,000 have lost their live-in road accidents. When look into NCRB’s report, which also says that a total of 1,538 adolescents were booked under Section 279 IPC, i.e. causing injuries due to rash driving or road rage. Where in 238 children caught in the act were aged between 12 to 16 years, while 08 of them were under 12 years! New Delhi itself reported around 61 cases of juveniles booked under this section.\(^{20}\) This study plays important role in today’s society as it focuses on the existing issues of road
rage among adolescents, getting enough data about the reasons behind the driving anger and based on these data a structured motivational enhancement therapy would be introduced to the study samples, to make them motivated in controlling the sudden burst of aggression instead altering their response to anger provoking situations. This study is planned keeping in mind about the late adolescents of Karond and Bhanpur areas of Bhopal who are at risk of road rage or driving anger, motivating them to practice aggression management whenever road rage situations encounters. This study also benefits other researchers in providing needed fundamental information regarding the effectiveness of motivation enhancement strategies in reducing the incidences of road rage and to conduct similar studies in different setting with large sample size.

MATERIALS & METHODS
Research Design: The research design used for this study is Randomized Control Trial (RCT) or True Experimental design.
Study setting: Study was conducted in Karond and Bhanpur areas of Bhopal city.
Duration of the Study: Four weeks – 28 days (From 30.01.2023 to 26.02.2023).
Study Population: Adolescents residing in Karond and Bhanpur areas of Bhopal city (MP).
Study Sample: Adolescents with 18 and 19 years of age, with designated criteria, who are willing to participate in the study, residing in Karond and Bhanpur areas of Bhopal city (MP).
Sample Size: 60 late adolescents, 30 in each control and experimental groups.
Sampling Technique: Simple random sampling technique is used and by lottery method two groups were assigned as experimental group and control group. Out of 60 samples, 30 samples belong to Group-E as an experimental group and 30 samples belong to the Group-C as a control group.

Criteria for Sample Selection:
Inclusion criteria-Late adolescents between the age group of 18 to 19 years, both male and female, those are willing to participate in the study, who understand Hindi or English (read and speak) and are available at the time of study.
Exclusion criteria-Late adolescents who are not able to understand Hindi or English. Who are with alcohol, narcotic substance addiction or previous history of psychiatric illnesses, who are currently practicing anger management strategies and who are not willing to participate in the study.
Description of Tools: Tools used for data collection consists of two parts. Part- A. Socio Demographic Character: This part comprised of demographic data of the samples which consists of 8 items including age, gender, occupation, life style, education, substance use, past psychiatric history and treatment history for aggression.
Part- B. Deffenbacher Driving Anger Scale (Short Scale): This part consists of a standardized shorter version Deffenbacher Driving Anger Scale (DAS), which includes 14 questionnaires to measure the driving anger or aggressive driving behavior in the study sample’s responses to illegal driving, hostile gestures, police presence, traffic obstructions, slow driving and discourtesy. The subjects are asked to choose one response from five given choices in each question and the responses are scored as 1 to 5. Scoring- 1. None at all, 2- A little, 3- Some, 4- Much, 5- Very much Total Driving Anger = Sum items 1-14. Interpretation- Higher scores indicate higher Driving anger.

Ethical clearance and Informed consent: Approval from the Institutional Ethical Committee, People’s college of nursing and research centre, Bhopal was obtained prior to data collection and all the participants signed informed consent, also the rights of the participants have been secured.

Pilot Study: The pilot study for the present study was conducted at Lambakheda area of Bhopal after obtaining required ethical clearance and administrative permission from the concerned authority. It was conducted for the period of one week from
9th of December to 14th of December 2022. In total 10 late adolescents were selected randomly and assigned 5 each in experimental and control group through lottery method. During pre-test the structured demographic tool was used to assess the demographic variables of the participants and The Deffenbacher Driving Anger Scale- short form was used to assess driving anger or aggressive driving behavior in them. A structured motivational therapy for aggression management combating road rage is administered to the participants of experimental group in four sessions (30 minutes each) over the period of 5 days. Post-test was conducted on last day of the pilot study. The results showed that structured motivational therapy was effective in managing driving anger and also the experience of pilot study assured the feasibility, practicability and reliability of the study, based on which main study could be progressed.

PROCEDURE:
The ethical approval from IEC and administrative permission from The Ward Officer, Bhopal Municipal Corporation Ward No-79, were obtained for conducting pilot study from 09/12/2022 to 14/12/2022 and main study from 30/01/2023 to 25/02/2023. In total 80 members fulfilling the study criteria were selected randomly for the study purpose from both Karond and Bhanpur areas, out of which 60 members were available for the study. These 60 members were assigned into two groups of 30 each as Group- E (experimental group) and group- C (control group) through lottery method. Informed consent was obtained from the study participants after explaining about the study. Pre-test comprising The Deffenbacher Driving Anger Scale- short form including 14 questionnaires was administered to the members of both the groups. Control group was kept away from any type of intervention where as Structured Motivational Therapy (SMT) was administered to the members in experimental group. 30 members of experimental groups were divided into three sub groups as Group-E₁, Group-E₂ and Group-E₃ (10 in each group) based on their vicinity of stay. Four sessions of SMT of 30 minutes each were administered to experimental sub groups for all the four weeks separately (one session for one week to every experimental sub groups). In case any member of the group missed their weekly session, a separate session was organized for them on next day based on their convenience, making sure that every member should attend weekly session regularly without any skip. After completion of interventional SMT sessions to experimental group a post-test comprising The Deffenbacher Driving Anger Scale-short form was administered to all the 60 participants of experimental and control groups to assess the level of driving anger once again and the results were analyzed separately.

STATISTICAL ANALYSIS
In the present study the collected data was organized, tabulated and analyzed by both descriptive statistics i.e. percentage, frequency, mean, median, mode and standard deviation and inferential statistics i.e. Chi square test. 
Descriptive Statistics- Demographic variables in categories were given in frequencies with their percentages. Mean, median, mode and standard deviation to assess the levels of driving anger in both pre and post tests. 
Inferential Statistics- Levels of driving anger between experimental and control group were analyzed using Chi square test. Similarity of demographic distribution among control group and experimental group was tested by using Chi square test. Difference between experimental and control group was analyzed by using independent ‘t’ test. The difference between pre-test and post-test was calculated by using paired ‘t’ test. Effectiveness and generalization of the research study was given in percentage with 95% CI and mean difference with 95% CI. Simple bar
diagram, multiple bar diagram, scatter diagram with regression estimate were used to represent data. A p-value of ≤ 0.05 was considered statistically significant and two tailed tests were used for significance testing.

**RESULT**

The aim of the study was to find out the effectiveness of structured motivational therapy on aggression management combating road rage among late adolescent population.

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<th>Table-2: Demographic profile</th>
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Variables 1-8 P > 0.05 not significant

**Result- Table-2:** Shows the demographic information of the adolescents who participated in this study.

**Age distribution**- Out of the total 60 participants in this study 30 were in experimental group and 30 were in control group. In experimental group, 14 (46.67%) adolescents were 18 years of age and 16 (53.33%) were 19 years of age. In control group, 16 (53.33%) adolescents were 18 years of age and 14 (46.67%) were 19 years of age. The difference of the age distribution among both the groups was assessed using chi-square test, with chi-square value of 0.44 and p-value of 0.61.

**Gender distribution**- In experimental group, 22 (73.33%) were males and 8 (26.67%) were females. In control group, 26 (86.67%) were males and 4 (13.33%) were females. The difference of the gender distribution among both the groups was assessed using chi-square test, with chi-square value of 0.66 and p-value of 0.20.

**Occupation distribution**- In experimental group 2 (6.67%) were delivery boys, 4 (13.33%) were drivers, 14 (46.67%) were students, 4 (13.33%) were factory workers and 6 (20%) were of other occupations like shop keeper, tailor, carpenter, waiter and butcher. In control group 1 (3.33) was a delivery boy, 4 (13.33%) were drivers, 13 (43.33%) were students, 6 (20%) were factory workers and 6 (20%) were of other occupations like shop keeper, tailor, carpenter, waiter and butcher. The difference of the occupation distribution among both the groups was assessed using chi-square test, with chi-square value of 0.92 and p-value of 0.94.

**Education distribution**- In experimental and control groups all the participants were educated, none was an un-educated. (Inclusion criteria of the study mentioned that, this study is conducted only among the educated adolescents those who can read and write). There was no difference between the education distribution among both the groups.

**Life-style distribution**- In experimental group 4 (13.33%) were leading sedentary...
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life-style and 26 (86.67%) were leading active life-style. In control group 3 (10%) were leading sedentary life-style and 27 (90%) are leading active life-style. The difference of the life-style distribution among both the groups was assessed using chi-square test, with chi-square value of 0.66 and p-value of 0.19. None among experimental group and control group stated of using any substance, having any previous psychiatric illness and undergoing any treatment for aggression.

Age wise distribution of Participants

Figure: 1: Pie diagram showing age wise distribution of participants in experimental group.

Figure: 2: Pie diagram showing age wise distribution of participants in control group.

Gender wise distribution of Participants

Figure: 3: Bar diagram showing gender wise distribution of participants in experimental group.
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**Figure: 4** Bar diagram showing gender wise distribution of participants in control group.

**Table 3**: Comparison of mean Pre-test and Post-test levels of driving anger in experimental group.

<table>
<thead>
<tr>
<th>Score</th>
<th>N</th>
<th>Mean (M)</th>
<th>Standard deviation (SD)</th>
<th>Mean difference</th>
<th>t-Value</th>
<th>Critical Value (CV)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>70</td>
<td>51.46</td>
<td>6.52</td>
<td>21.79</td>
<td>18.08</td>
<td>2.04</td>
<td>0.05</td>
</tr>
<tr>
<td>Post-test</td>
<td>70</td>
<td>29.67</td>
<td>5.96</td>
<td></td>
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</table>

**Result** – **Table 3**: Indicates the comparison of mean pre and post test levels of driving anger in the participants of experimental group. After the comparison of mean pre-test and post-test levels of driving anger among participants in experimental group it’s found that there is a mean difference of 21.79 between pre-test and post-test with t-value of 18.08, which is evident that there is a significant difference in the levels of driving anger before and after the introduction of motivational therapy.

**Figure: 5** Cone depicting comparison of mean pre and post test levels of driving anger among the participants of experimental group.

**Table 4**: Comparison of mean Pre-test and Post-test levels of driving anger in control group.

<table>
<thead>
<tr>
<th>Score</th>
<th>N</th>
<th>Mean (M)</th>
<th>Standard deviation (SD)</th>
<th>Mean difference</th>
<th>t-Value</th>
<th>Critical Value (CV)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>70</td>
<td>49.30</td>
<td>5.45</td>
<td>0.4</td>
<td>0.48</td>
<td>2.04</td>
<td>0.05</td>
</tr>
<tr>
<td>Post-test</td>
<td>70</td>
<td>48.90</td>
<td>5.13</td>
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</table>

**Result** – **Table 4**: Indicates the comparison of mean pre and post test levels of driving anger in the participants of control group. After the comparison of mean pre-test and post-test levels of driving anger among participants in control group it’s found that there is a mean difference of 0.4 between
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pre-test and post-test with t-value of 0.48, which is evident that there is no much significant difference in the levels of driving anger during pre-test and post-test without any intervention.

Figure: 6: Cone depicting comparison of mean pre and post test levels of driving anger among the participants of control group.

Table- 5: Mean difference in pre and post test scores of experimental and control groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Max Score</th>
<th>Mean Score</th>
<th>Mean difference of reduction in driving anger level with 95% Confidence interval</th>
<th>Percentage of reduction in driving anger level with 95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Pre-test</td>
<td>70</td>
<td>51.46</td>
<td>21.79 (20.26-23.32)</td>
<td>31.13 (28.94-33.32)</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>70</td>
<td>29.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Pre-test</td>
<td>70</td>
<td>49.3</td>
<td>0.4 (0.88=1.68)</td>
<td>0.57 (-1.26-1.85)</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>70</td>
<td>48.9</td>
<td></td>
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</table>

Result – Table- 5: Depicts mean differences in pre and post test scores of experimental and control groups. The effectiveness of structured motivational therapy on aggression management combating road rage is evident by the mean difference 21.79 in the pre and post test driving anger levels among the participants in experimental group. However, there is no significant difference in means pre and post test scores of control group. The percentage of reduction in driving anger among experimental group after the introduction of structured motivational therapy is 31.13%.

DISCUSSION
The adolescence phase goes through many maturational changes like physical, physiological, emotional, social, personality development and cognitive development etc. In late adolescence period the individuals are vulnerable to many behavioral problems like alcohol addiction, smoking, substance use, anger issues, violence, road rage etc. Thus the incidences of road rage, road traffic accidents are commonly seen. The anger is completely normal human emotion till one control it; if it goes out of control then it’s devastating. To prevent its harmful effects aggression management strategies, play very important role. Aggression management involves learning to have control over the emotional
outburst during provoking circumstances. As a part of anger management training Motivational Therapy refers to an organized, well-structured psycho-educational intervention that enhances skills to control one’s anger. Aggression management combating road rage in adolescence can be possible through well framed, structured motivational interviewing or therapy, involving multiple sessions to identify the causes and imparting knowledge regarding the strategies to be followed to deal with aggression in general and driving anger in specific. “Behavioral modification strategies and education regarding anger management skills had drastically reduced verbal and non-verbal manifestation of negative anger, enhanced anger regulation and significantly reduces the incidences of aggressive behavior.”

The aim of this study was to assess the effect of structured motivational therapy in aggression management combating road rage, where in the risk for driving anger was assessed by applying 14 - points Deffenbacher Driving Anger Scale among the 60 participating adolescents of Karond and Bhanpur areas of Bhopal, then administered the structured motivational therapy to 30 participants of experimental group over the period of 4 weeks and withheld any sort of intervention to the participants of control group. After 4 weeks post-test with the same tool was given to both experimental and control group, to know the changes in levels of driving anger. There was no or slight change was observed in the participants of control group but a remarkable decrease in driving anger levels was witnessed in the participants of experimental group with 31.13%, mean difference of 21.79 and t-value of 18.08 (at p= 0.000). Also, there was a significant difference in the post-test levels of driving anger among the participants of both experimental and control group by chi-square value ($\chi^2 = 0.99$).

**Implications of the study:**

The present study has its implications in every field of nursing. It has a great implication in nursing practice, nursing education, nursing administration and nursing research. As The adolescence phase goes through many maturational changes like physical, physiological, emotional, social, personality development and cognitive development etc. In late adolescence period the individuals are vulnerable to many behavioral problems like alcohol addiction, smoking, substance use, anger issues, violence, road rage etc. Thus, the incidences of road rage, road traffic accidents are commonly seen. The anger is completely normal human emotion till one control it; if it goes out of control then it’s devastating. To prevent its harmful effects aggression management strategies, play very important role. Aggression management involves learning to have control over the emotional outburst during provoking circumstances. Nurses in every field come across with such adolescents, being the victims of road rage. Nurses can play a pivotal role in preventing such incidences.

**Recommendations for further research:**

Based on the findings of the present study, following recommendations are proposed.

- A replication of the same study can be conducted with large sample size.
- The same study can be conducted as a comparative study between other age groups.
- Similar study can be conducted for longer duration, scheduling post-tests after 6 months and one year interval to evaluate the progress.
- Similar study can be conducted in different study settings.
- A study including other anger management strategies can also be done to compare the effect in preventing road rage.
- Similar study can be conducted applying different research methodology.
Limitations:

➢ The study was time consuming.
➢ Lack of interest among the population to be part of the study.
➢ Only educated people were included.
➢ Study was limited only to the adolescents of age 18 and 19 years of age.

CONCLUSION

As road rage is universal and of relevance to most of all. A more thorough understanding of road rage or aggressive driving and the strategies in preventing them is need of an hour. Anger reduction therapies and techniques are very essential in preventing road rage related problems and enhancing well being of mankind overall. Driving anger reduction techniques constitute a safe and effective approach for reducing anger. The samples in this study had various issues causing aggressive driving and they never had any chance to discuss about these issues with anyone. They even thought of abstaining from these behaviors but couldn’t get any supportive system to deal with it. Present study brings to light on sustained, genuine and committed efforts in dealing with road rage among adolescents through structured motivational therapy. The study findings showed that the participants were undergoing varying levels of driving anger. Their driving anger levels have been reduced after the intervention of structured motivational therapy which has been statistically proven. Hence, structured motivational therapy is one of the reliable techniques in dealing with aggressive driving. On an average the driving anger in the participants who received motivational therapy has reduced by 31.13% with mean difference of 21.79, this difference is statistically significant.

Declaration by Authors
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Conflict of Interest: The authors declare no conflict of interest.

REFERENCES


9. Shinar D. Aggressive driving: The contribution of the drivers and the


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