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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

Parent Experiences About in-Vehicle Passenger Safety for Children Aged 0-12: A Qualitative Study

0-12 Yaş Arası Çocuklar İçin Araç İçi Yolcu Güvenliğine İlişkin Ebeveyn Deneyimleri: Nitel Bir Çalışma

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ABSTRACT

Introduction: In this study, which was carried out in Turkey, we aimed to determine the experiences of parents of children aged 0-12 regarding in-vehicle child passenger safety and identify their opinions.

Material and Methods: The study was carried out by conducting in-depth interviews with 15 parents who met the inclusion criteria between 1 June 2023 and 15 August 2023. The content analysis method was used to analyze the collected data.

Results: Based on the results of the content analysis, five themes were identified. These themes were reasons for failure to ensure child passenger safety, in-vehicle safety precautions taken for child passengers, legal responsibility for child passengers, barriers to child passenger safety, and precautions to be taken to ensure child passenger safety.

Conclusion: It was determined that parents partly knew about in-vehicle safety practices for their children, but they were inadequate in implementing these practices. Regarding in-vehicle safety practices, deterrent legal penalties and training programs should be implementable and inspectable. The implementation of the necessary penalties would be expected to ensure in-vehicle child passenger safety and reduce the number of injuries and deaths caused by traffic accidents.

Keywords: Child passenger, in-vehicle precautions, safety, barriers, traffic accidents

ÖZ

Giriş: Türkiye'de gerçekleştirilen bu çalışmada, 0-12 yaş arası çocukların ebeveynlerinin araç içi çocuk yolcu güvenliğine ilişkin deneyimlerinin belirlenmesi ve görüşlerinin tespit edilmesi amaçlanmıştır.

Materyal ve Metotlar: Çalışma, 1 Haziran 2023 ve 15 Ağustos 2023 tarihleri arasında dahil edilme kriterlerini karşılayan 15 ebeveyn ile derinlemesine görüşmeler yapılarak gerçekleştirilmiştir. Toplanan verilerin analizinde içerik analizi yöntemi kullanılmıştır.

Bulgular: İçerik analizi sonuçlarına göre beş tema belirlenmiştir. Bu temalar; çocuk yolcu güvenliğini sağlayamama nedenleri, çocuk yolcular için alınan araç içi güvenlik önlemleri, çocuk yolcular için yasal sorumluluk, çocuk yolcu güvenliğinin önündeki engeller ve çocuk yolcu güvenliğini sağlamak için alınması gereken önlemlerdir.

Sonuç: Ebeveynlerin çocuklarına yönelik araç içi güvenlik uygulamalarını kısmen bildikleri, ancak bu uygulamaları hayata geçirme konusunda yetersiz kaldıkları tespit edilmiştir. Araç içi güvenlik uygulamaları ile ilgili olarak caydırıcı yasal cezalar ve eğitim programları uygulanabilir ve denetlenebilir olmalıdır. Gerekli cezaların uygulanmasıyla araç içi çocuk yolcu güvenliğinin sağlanması ve trafik kazalarından kaynaklanan yaralanma ve ölümlerin azalması beklenmektedir.

Anahtar Sözcükler: Çocuk yolcu, araç içi önlemler, güvenlik, bariyerler, trafik kazaları

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Introduction

Traffic accidents happening on land routes are a global problem and constitute a serious threat to public health (1). Worldwide, more than a million deaths are caused by traffic accidents annually, and more than 20 people are injured. Traffic accidents rank first among the causes of death of children and young people aged 5-25 (2). The United States Centers for Disease Control and Prevention (CDC) report that motorized vehicle accidents continue to be a leading cause of death in children aged between 1 and 17 (3). Accidents rank high also in Turkey among the causes of death in children in the age group of 5-14 (4). According to the Turkish Statistical Institute (TURKSTAT), in Turkey in 2021, 864 children died in traffic accidents. Among the children who died, 44.8% were 0-9 years old, and 21.5% were 10-14 years old (5).

Children in the 0-12 age group are not physically, cognitively, and psychosocially mature enough. This is why these children are under the supervision of their parents in vehicles that are used for transportation and travel. These vehicles, which are driven by parents or other adults, also pose a risk to children. Thus, all necessary precautions must be taken by these adults. High mortality rates despite the systems in place regarding this issue implicate neglect, lack of knowledge, and failure to take the necessary precautions as the causes (6).

As safety measures for child passengers, age-appropriate car seats should be available, the child should sit in a suitable position in the vehicle, it should be ensured that they wear their seatbelt, practices such as child locks should be adopted, and such practices should be supported (7). One of the most effective ways to protect children from accidents during transportation is the use of car seats for children. Children shorter than 145 cm should sit in the backseat equipped with a car seat that is appropriate for their height and weight. In the Global Status Report on Road Safety by the World Health Organization (WHO), it is stated that seating children in the age group of 0-12 in the backseat by using an appropriate car seat reduces the rates of mortality caused by traffic accidents by approximately 70% in infants and 54-80% in children (2, 8).

Specialized legal policies and penalties should be developed to create incentivizing strategies for the adoption of safety measures for child passengers (9). Furthermore, making safety measures for child passengers mandatory and providing continued education and training in schools and primary healthcare institutions led by healthcare personnel/nurses based on their counseling roles will make it possible to avoid preventable deaths and injuries (10).

It is important to thwart preventable attitudes and behaviors regarding the issue and contribute to the reduction of child mortalities caused by traffic accidents. There are very few studies on the factors that are effective, informative, preventive, predictive, and incentivizing for precautions in the context of child passenger safety. Therefore, the purpose of this study is to determine the experiences and views of parents of children aged 0-12 about child passenger safety.

Material and Methods

Design

Qualitative studies are based on the philosophy that human experiences are complex, and they aim to uncover subjective experiences and points of view by employing a holistic perspective and broad-scoped research questions (11). These studies follow a process in which phenomena are investigated and presented in a realistic and comprehensive manner in actual settings where events are experienced by individuals (12, 13).

In the phenomenological approach, which is among qualitative research designs, the purpose is to define the common meaning of the experiences of individuals and groups regarding a phenomenon or concept. In this sense, in phenomenological studies, researchers first explain the phenomenon in question, then collect data from persons who experience this phenomenon, and "provide a comprehensive description that defines the essence of the experiences of all included individuals" (14).

In this study, a descriptive qualitative research design was employed (15). In this phenomenological analysis approach, the main areas of interest are the experiences, comprehension, perceptions, and views of participants (16). The COREQ checklist was followed in this study.

Sample

The sample of the study consisted of parents (mother or father) living in the provincial center of Zonguldak, Turkey who had children in the age group of 0-12. It is accepted that there is no restriction in sample sizes for qualitative studies, and the sample size can be determined based on the objectives and research questions of a study. In such studies, it is important to analyze the phenomenon that is examined in depth, rather than generalize the results. In the data collection process, the criterion to be followed is "reaching theoretical saturation". Theoretical saturation is achieved when the data collected by the researcher start to repeat, and thus, no new information can be obtained (17, 18).

The data were collected between 1 June 2023 and 15 August 2023 from parents who were included by using the maximum variation sampling method (19, 20). The inclusion criteria for parents were as follows:

(1) Having a child aged 0-12,
(2) Having experience driving a vehicle and traveling,
(3) Having traveled with children,
(4) Being able to read, speak, and understand Turkish.

Table 1. Demographic characteristics of the participants

Participant	Child's age	Child's gender	Parent	Mother's age	Mother's occupation	Mother's education level	Father's age	Father's occupation	Father's education level
P1	10	M	Mother	39	Homemaker	Secondary school	50	Laborer	Secondary school
P2	5	F	Mother	21	Homemaker	High school	28	Driver	High school
P3	6	F	Mother	34	Homemaker	Secondary school	36	Laborer	Secondary school
P4	5	M	Mother	43	Nurse	Undergraduate	45	Police officer	High school
P5	5	F	Mother	39	Academician	Postgraduate	42	Academician	Postgraduate
P6	7	F	Mother	35	Laborer	Secondary school	36	Laborer	Secondary school
P7	5	F	Father	32	Teacher	Undergraduate	33	Soldier	Undergraduate
P8	8	M	Mother	29	Laborer	High school	38	Laborer	High school
P9	7	M	Mother	31	Civil servant	Undergraduate	33	Civil servant	Undergraduate
P10	6	F	Father	31	Homemaker	Secondary school	29	Laborer	Secondary school
P11	5	F	Mother	31	Teacher	Undergraduate	33	Soldier	Undergraduate
P12	14	F	Mother	42	Homemaker	Secondary school	47	Laborer	Secondary school
P13	7	F	Mother	38	Homemaker	Undergraduate	38	Civil servant	Undergraduate
P14	8	M	Mother	25	Homemaker	High school	26	Freelancer	High school
P15	10	M	Mother	34	Homemaker	High school	42	Laborer	High school

The sample consisted of 15 parents who met the inclusion criteria (Table 1). The participants were informed about the objective and methodology of the study and ensured that their confidentiality would be guaranteed. The participants were voluntary. The researchers had not met the participants before.

The prospective participants were given a detailed explanation about the data collection procedures of the study and their rights as participants before they provided informed consent. The date and time of the interview were set based on the availability of each participant.

Data Collection

An information form was used to collect data about the sociodemographic characteristics of the participants and their children, whereas a "Semi-Structured Interview Form" consisting of six open- and closed-ended questions was used to collect the views of the participants regarding in-vehicle child passenger safety. The questions on the Semi-Structured Interview Form" were "What could be the reason for the high non-medical mortality rates in children aged 0-12? What are the passenger safety precautions taken in the vehicle that your child uses to go to school or those taken by you in your own vehicle? What could be the tools that should be available in vehicles for the safety of child passengers? Do you think such tools are sufficient? What do you think about the legal aspects of ensuring in-vehicle passenger safety? Which topics should be focused on for an education program to be planned about in-vehicle child passenger safety? What are the barriers you face in taking precautions about in-vehicle child passenger safety?"

Using the form, individual face-to-face interviews were held with all participants. The in-depth interview technique was used in the interviews. The interviews were held at dates and times suitable for the participants and in an intervention room at the clinic where no person other than the researcher and the interviewee was present. The qualitative data were collected by using an audio recorder with the verbal and written permission of the interviewee. Each interview lasted for about 40-60 minutes. The audio recording of each interview was transcribed by the researcher who conducted the interview. This practice aimed to minimize the chances of misinterpretation and prejudice (21). The data collection and data analysis procedures were carried out simultaneously.

Data Analysis

The content analysis method was used to analyze the data. After all recordings were listened to by the researchers and transferred to a document in written form in the computer environment, based on the interview data, themes were identified first, and then, categories were determined. The stages of the analysis in this study were as follows: (1) transcription of data, (2) coding, (3) category and theme formation, (4) category and theme revision, and (5) recording and interpretations of findings. After the identified categories and themes were examined, and the researchers reached an agreement on these categories and themes, the resulting set of these units was presented to three experts for their review. After obtaining expert opinions, the final versions of the categories and themes were created (17, 22). The Consolidated Criteria for Reporting Qualitative Research (COREQ) (23) checklist was used to report the findings of the study.

Ethical Aspects of the Study

Before starting the study, approval was obtained from the Clinical Studies Ethics Committee at Zonguldak Bulent Ecevit University Human Research (Date: 26.05.2023, No: 222). The research protocol complied with the principles of the Declaration

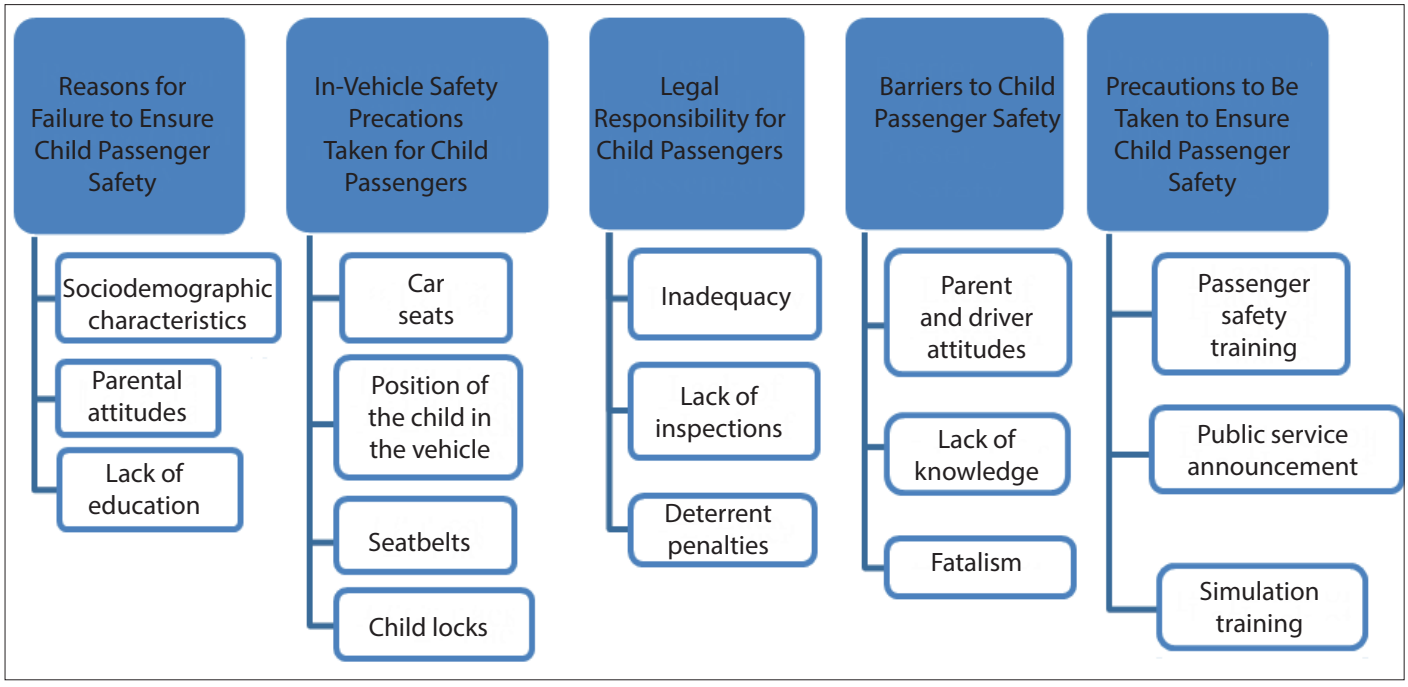

Figure 1. Themes and categories

of Helsinki. Participation was entirely voluntary, and the participants were informed that they could leave the study at any stage if they wished to do so. They were informed that the collected data would be used only for the purposes of this study, and the confidentiality of their information was protected.

Reliability

To achieve the reliability of the study, measures were taken to ensure credibility, trustworthiness, transferability, and confirmability. The researcher who would hold the interviews received training in qualitative interviews. A pilot implementation was made to test the applicability of the interview form. For trustworthiness purposes, all documents used in data collection and analysis can be made accessible if needed (24). A journal was kept by the researcher to keep their personal views in check after each interview (25). To achieve confirmability (i.e., to prevent the views of the researcher from affecting the results and avoid bias), the analysis results were repeatedly re-evaluated by the other members of the research team (26). When differences were encountered, discussions were held to reach a consensus. Transferability was ensured by reaching data saturation. Two researchers independently coded the data to provide consistency. When differences were encountered, the third researcher determined the final code. It was confirmed that all methods were implemented in compliance with relevant instructions and recommendations.

Results

According to the analyses of the data collected in the individual in-depth interviews held with the participants, five themes were identified as follows: (1) Reasons for failure to ensure child passenger safety, (2) In-vehicle safety precautions taken for child passengers, (3) Legal responsibility for child passengers, (4) Barriers to child passenger safety (5), and Precautions to be taken to ensure child passenger safety. The results showed that the participants were knowledgeable about in-vehicle child passenger safety. However, they were inadequate in practice, and the reasons for this were the lack of deterrent penalties and the insufficiency of education regarding the importance of child passenger safety. The view that legal consequences about child passenger safety should be a deterrent and the lack of sufficient education were emphasized. The themes identified based on the collected data are shown in Figure 1.

Theme 1: Reasons for Failure to Ensure Child Passenger Safety

According to the responses of the participants in the interviews, it was seen that age, gender, education level, and occupation were sociodemographic characteristics that affected in-vehicle child passenger safety.

"*Female drivers, especially those who are mothers like me, behave more sensitively about the safety of their children in their vehicles.*" **(P13)**

"*Male drivers are more experienced compared to female drivers, and they can protect their children better while driving on the road.*" **(P10)**

"*Education is not that important. I have witnessed several academician friends of mine not showing the same sensibility regarding child passenger safety.*" **(P5)**

"*The rigor in the safety measures we take for our children comes from the fact that my husband is a police officer. He encounters accidents frequently due to his job."* **(P4)**

The interviews showed the significant role of authoritarian, authoritative, or neglectful parental attitudes in the context of child passenger safety. The participants stated that parental attitudes are important in terms of in-vehicle child passenger safety.

"*My husband is a good driver. It is not that important to take precautions."* **(P15- Neglectful Attitude)**

"*If everything complies with the rules, no one would be sorry. My husband and I both try to take all precautions for ourselves and our children*." **(P9-Democratic Attitude)**

The responses of the participants showed that although they had sufficient knowledge about the importance of education and about child passenger safety, they had problems in putting this knowledge into practice. It was also learned that people in the immediate environment of the participants failed to take safety precautions due to a lack of knowledge.

"*Many families in our village have no idea what a car seat is. These are new-generation things now. So, not many safety precautions are taken. They leave it to God."* **(P1)**

"*Despite all the education we have had and all the information we hear about from around us, we have difficulty in practice. The children sometimes object to it, and this makes it convenient for us as parents."* **(P13)**

Theme 2: In-Vehicle Safety Precautions Taken for Child Passengers

Among precautions regarding the in-vehicle safety of child passengers, it was seen that car seats were a topic about which the participants were knowledgeable. Based on the statements of the participants, on the other hand, it was found that car seats were not actively being used due to the negative behaviors of the children and parental attitudes.

"*Because I have a child with a chronic illness, we have to leave the city once every month. As my daughter gets uneasy on long journeys, she wants to travel on my lap despite having a car seat in the back, and I cannot prevent it."* **(P2)**

"*My son feels uncomfortable in the car seat and does not want to use it."* **(P14)**

The statements of the participants showed that they thought children should ride in a car seat in the back, while they also knew that children over the age of 12 could ride in the front seat wearing their seatbelt.

"*I have three children. The oldest is 12 years old. …likes riding in the front seat but does not want to wear a seatbelt."* **(P5)**

Seatbelts are among the safety measures taken by traveling individuals to survive and protect themselves. When the participants shared their views about safety measures, seatbelts were the first thing they thought of. While the participants with high education levels had high rates of using seatbelts, those with low education levels did not wear them despite knowing that they are important as a safety precaution.

"*Wearing our seatbelts is at the top of our precautions, especially in our own vehicle and school vehicles. It is lifesaving even in the smallest accidents."* **(P5)**

"*Being educated or uneducated should not mean we have not heard of seatbelts, but when the child does not want to wear it, you cannot put it on by force."* **(P12)**

Most participants did not have any opinion about in-vehicle child locks and similar safety measures.

"*I did not know that locking the doors or windows was among safety measures."* **(P14)**

"*My husband usually thinks it is wrong to automatically lock [doors/windows]. He thinks it would not be possible to respond to emergency situations. This is why we tell our son to not play with the locks."* **(P11)**

Theme 3: Legal Responsibility for Child Passengers

Traffic rules, which are relevant to public health, are a set of practices under the individual responsibility of citizens that should be mandatory. There is a need for some legal basis to maintain order and health. More than half of the participants stated that legal repercussions regarding safety precautions for child passengers or lack thereof are inadequate.

"*Our children are precious to us. This is why safety precautions to protect children in vehicles while on the road should be mandatory."* **(P9)**

"*Inspecting compliance with traffic rules is the responsibility of the police, but these inspections are currently insufficient."* **(P8)**

"As parents, it is our responsibility to self-check and self-evaluate in the family during our drive in and outside the city, but we have difficulties in paying the utmost attention." ***(P5)***

The high rates of non-medical deaths among 5-14-year-old children, especially in cases of accidents, indicate that in-vehicle child passenger safety precautions are not adequately taken. Children should be supervised by their parents before their journey starts, and their safety should be checked at certain points by traffic officers. The participants complained about the inadequacy of inspections and wanted to see strict inspections. Their statements also indicated a lack of oversight.

"*We frequently leave the city due to the chronic illness of our daughter. We have never been asked about safety precautions for our child at any police traffic stop.*" **(P2)**

"*People frequently talk about precautions taken by the driver in general, but there is a substantial lack of inspections about the safety of children or other passengers in the vehicle. The news of accidents on the TV is the proof of this problem.*" **(P6)**

There are certain repercussions in society, and they are functional in the physical or emotional sense. This makes it possible to achieve behavioral change by dissuasive penalties. All participants agreed that current penalties for failing to comply with traffic rules are not deterrent enough.

"*People do not understand when they are warned politely. They understand the importance of the issue when they are punished. When they have to pay a fine, they do not repeat that mistake, while they should not have made it in the first place.*" **(P12)**

"*Paying substantial fines will activate the self-checking mechanisms of drivers. Of course, such penalties should not be considered more dissuasive than the threat to our children's lives.*" **(P5)**

Theme 4: Barriers to Child Passenger Safety

Motorized vehicles are used for transportation to schools, shopping locations, or holiday destinations, which are parts of social life. While on the road to the school, the driver of the school bus is responsible for the safety of the child, and the parents of the child are the ones responsible for their safety in their private vehicles. During journeys where a child is present, important considerations include a sense of responsibility, alertness, and compliance with rules. The responses of the participants also demonstrated the importance of the attitudes and behaviors of parents.

"*There was no such thing in the past, but the attitudes of the driver and the attendant of the shuttle are highly important when I send my child to school. If the attendant has the children wear their seatbelts and if the driver is watchful of this issue, this means it is a safe trip. This comforts me.*" **(P5)**

"*Although my husband is a good driver, it concerns me to see his overconfidence or potentially distracting behaviors like speaking on the phone or smoking.*" **(P2)**

New times bring new information and practices. It is inevitable to experience problems in keeping up with new information in the process of adaptation. As also demonstrated by the statements of the participants, parents should resolve their incomplete information and keep their knowledge up to date to ensure the safety of their children in their vehicles.

"*We did not have car seats in the past, or attendants in school buses… Now, everyone has to abide by rules.*" **(P12)**

"*My nephew flew out of the window after a crash in an accident. We lost him. He could be still with us if he had his seatbelt on. We sometimes find it difficult to put important knowledge into practice, and we realize its importance when something [bad] happens to us.*" **(P3)**

Fatalism is prevalently encountered in societies that have strongly held beliefs. This is a defense mechanism that is quickly adopted by helpless or negligent individuals. It may be seen based on the responses of the participants that one of the barriers to the adoption of safety precautions for child passengers in vehicles is fatalism.

"*Death is predestined. Regardless of how many precautions we take, angels will protect [the child]. The child wears it [the seatbelt] if he wants to and does not wear it if he does not want to. …but I still tell him to wear it.*" **(P1)**

"*Death is inevitable, and everyone will die someday. My husband is very careful, but this is not that important.*" **(P15)**

Theme 5. Precautions to be Taken to Ensure Child Passenger Safety

For the policies and development of countries, it is important to protect and improve the health of children. Education programs about in-vehicle child passenger safety should be organized along with counseling to be provided by professional health workers in the field of pediatrics. The participants also emphasized the need for education about child passenger safety and thought that safety would be ensured with the help of a professional team.

"*Like other families, we would like to be educated by qualified professionals.*" **(P13)**

"*I would very much like to obtain information from people who are qualified about these issues, especially about first aid training and what to do in the case of an accident.*" **(P7)**

"Although passenger safety in traffic is considered to be the responsibility of police officers, in other countries, education about issues such as using car seats is provided by doctors or other healthcare professionals. This could also be done in our country." **(P5)**

The media is a highly influential tool today. Public service announcements that would address all age groups during advertisement breaks or infomercials would be a strong method to change ill-advised behaviors or attitudes. With public service announcements, the child realizes the importance of their safety, while the family can develop behavioral changes. The participants shared the following views to highlight the importance of public service announcements.

"*Nowadays, children learn everything on a screen. For example, the harmful effects of smoking are shown on TV, and the child understands that smoking is harmful. If a similar thing is done for child passenger safety, it could attract the attention of everyone."* **(P11)**

"*An effective way to address children and parents in the age of technology is to use the media. Preparing public service announcements about legal regulations and practices may be helpful.*" **(P4)**

In the age of technology, the usage of simulation training methods is constantly becoming more prevalent. Providing such an educational opportunity to people about situations that they cannot predict could lead to permanent behavioral changes. It would be an effective practice to support the knowledge of individuals about the importance of in-vehicle child passenger safety and situations they could encounter if safety precautions are inadequate with simulation training opportunities. Only one participant argued that such an education program could be useful.

"*Simulations can now be used for educational purposes in the field of health. For instance, a surgeon can gain more experience by practicing in a simulation environment. They can see their mistakes and shortcomings via simulation training. Both parents and children can be provided with such training to ensure the safety of child passengers in vehicles."* **(P4)**

Discussion

This study was conducted to determine the experiences and views of parents of children aged 0-12 regarding in-vehicle child passenger safety. The results of individual in-depth interviews presented five themes, which were reasons for failure to ensure child passenger safety, in-vehicle safety precautions taken for child passengers, legal responsibility for child passengers, barriers to child passenger safety, and precautions to be taken to ensure child passenger safety. The categories under these themes were sociodemographic characteristics, parental attitudes, lack of education, car seats, position of the child in the vehicle, seatbelts, child locks, inadequacy, lack of inspections, deterrent penalties, parent and driver attitudes, lack of knowledge, fatalism, passenger safety training, public service announcements, and simulation training. As a result of the detailed review of the literature, no qualitative study on this topic was encountered. Kolunsağ and Nahcivan (2021) conducted an experimental study on the same topic. The authors provided child passenger safety training to mothers of children in the 0-12 age group. They examined whether the mothers used car seats for their children, their perceived risk of accidents-injuries, and their knowledge levels about car seats. About half of the mothers always used seatbelts. The usage rates of car seats for children increased significantly in the experimental group 3 and 6 months after the intervention. In terms of behavioral change stages, after 3 months, at least one level of "advancement" was observed in car seat usage for children's safety in 50% of the experimental group and 21.7% of the control group. In comparison to the mothers in the control group, those in the experimental group had a significantly higher mean perceived accident-injury risk score and significantly higher levels of knowledge about car seats for children's safety (27). The themes that were identified in this study and the results of previous studies demonstrated the importance of child passenger safety. Improving the risk perceptions of parents, using car seats for children, taking in-vehicle safety precautions, and enforcing legal penalty systems are effective methods to prevent potential accidents.

In this study, the participants were found to have insufficient knowledge about car seats, seatbelts, child locks, and the correct position of children in the vehicle as measures for in-vehicle child passenger safety. Although they frequently mentioned car seats and seatbelts, they did not list the correct position of children in the vehicle or child locks among safety measures, indicating their partial lack of knowledge about the topic. Moradi et al. (2019) reported that the usage of car seats for children in Tehran was very rare, most parents were unaware of the importance of car seats, and the reasons for not using car seats for children included the discomfort of children in these seats and the high cost of car seats (28). In terms of the discomfort of children among reasons for not using car seats, the result of their study was similar to the result of this study.

In the literature, it has been argued that effective approaches for increasing the usage rates of car seats for children's safety include legal regulations, information efforts for the general public via mass communication tools, education programs for healthcare personnel, security forces, children, and their parents, campaigns for promoting the usage of car seats, and programs designed to loan, rent, or gift car seats (29, 30, 31). Activities such as increasing the knowledge levels of parents, information support by the media, and the popularization of the issue by healthcare personnel in appropriate settings have also been proposed as approaches that could increase the usage rates of car seats for children (8, 9, 28, 32, 33).

Seatbelts were among the safety measures that were known and used by the participants of this study. In the study carried out by Kuğuluoğlu et al. (2006), 64.8% of parents stated that seatbelts should be available and used in school buses (34). Considering their result and ours together, it is seen that most parents support the implementation of safety measures for their children in their vehicles, but they have shortcomings in practice.

In the scope of the Directive on Traffic on Highways, there is legislation about compliance with traffic rules and each specific safety measure to be taken. Detailed information about penalties is also provided in traffic law for those who display behaviors violating the rules stated in the law (Directive on Traffic on Highways). These financial penalties can reach substantial sums

(35). It is observed that the implementation of deterrent penalties may be effective in ensuring child passenger safety.

Parent and driver attitudes are highly important in the achievement of in-vehicle child passenger safety. The careless behaviors of drivers who have negligent attitudes in vehicles threaten the health and safety of children. Moradi et al. (2019) stated that 38% of parents were unaware of child passenger safety and devices used for child safety, less than 20% used car seats for their children's safety as their spouses did not support it, and 29% thought using car seats do not affect the safety of children (28). Considering the results of our study and those of similar studies, it is understood that parents who have negligent attitudes risk the health and safety of their children.

One of the most prevalent and fundamental interventions in the development of health-promoting behaviors is raising awareness in society. Researchers have stated that informative efforts about car seats for children by healthcare professionals via mass communication tools can increase the usage of car seats (29, 30, 31). It has been demonstrated in various studies that following developments in education and technology has an important role in the achievement of child passenger safety. Gülada et al. (2023) showed that public service announcements utilizing the metaphor of death for traffic rules and passenger safety were highly prevalent. To prevent deaths and injuries caused by accidents, visuals promoting the usage of seatbelts by creating fear were emphasized (37). Like the results of our study, the result of their study also showed that public service announcements were effective although they were not appropriate for the age group or psychological state of children.

Conclusion

It was determined that parents partly knew about in-vehicle safety practices for their children, but they were inadequate in implementing these practices. Regarding in-vehicle safety practices, deterrent legal penalties and training programs should be implementable and inspectable. The implementation of the necessary penalties would be expected to ensure in-vehicle child passenger safety and reduce the number of injuries and deaths caused by traffic accidents. Child passenger safety is influenced by several factors. The rates of deaths and injuries in children caused by accidents are increasing today. The reason for this is the failure to understand the importance of passenger safety. Social education starts in the family environment. Children adopt the behaviors and attitudes they see in their parents as role models. The gap in the knowledge necessary for being a responsible passenger should be filled, and this should be supported with public service announcements that can also be understood by children. In terms of child passenger safety, the importance of increasing inspections for drivers, positive behavior changes, and deterrent penalties should be emphasized. Pediatric nurses should provide counseling and evidence-based education in school and family settings. It is expected that these interventions could substantially reduce the rates of mortalities and injuries in children caused by accidents.

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