

The use of child safety seats: A survey on levels of knowledge and attitudes of university employees

Çocuk koltuğu kullanımı: Üniversite çalışanlarının bilgi düzeyleri ile ilgili bir anket çalışması

Kursat Bora Carman¹, Yılmaz Palancı²

¹Eskişehir Osmangazi University, Faculty of Medicine Department of Pediatrics, Eskişehir, Türkiye

²Dicle University, Faculty of Medicine, Department of Public Health, Diyarbakır, Türkiye

ABSTRACT

Objectives: Child safety seats are the best practice for protecting child occupants. In western world, a significant reduction of child deaths in motor vehicle crashes has occurred over the past years. However, the use of child safety seats will be obligatory in Turkey from 2010 onwards. We aimed to determine the prevalence of safety seat use and survey the opinions of parents about children safety seat use in traffic.

Materials and methods: A survey was conducted in Kars province of Turkey. A questionnaire was handed out to parents who were employees in a university. The first part of questionnaire was concerned with the personal properties of participants. The second part was designed to evaluate the level of parents' knowledge on child safety seat.

Results: Of the 600 questionnaires distributed, 516 (86%) were returned and included in the final analysis. This study showed that 266 participants were having children and automobile. The ownership of child safety seat was only 13.5% among them. The parents reported that the lack of knowledge about child safety seats was the main reason for not having safety seats. Majority of parents stated that they would be more careful in the future about child safety in traffic.

Conclusion: This study showed that most parents were uninformed about the necessity of child safety seats. The authorities have to develop new strategies to increase the rate of child safety seat use. *J Clin Exp Invest* 2011;2(2):157-60

Key words: Child, car accident, seat, safety

INTRODUCTION

Traffic accidents are a major cause of morbidity and mortality for children all over the world¹. Increasing amount of attention has been paid to the reduction in injury risk among children through establishment of

ÖZET

Amaç: Çocuk güvenlik koltukları çocuk yolcuları korumanın en iyi yöntemidir. Son yıllarda batı ülkelerinde motorlu araç kazalarında çocuk ölümlerinde önemli bir azalma olmuştur. Ancak Türkiye'de çocuk güvenlik koltuklarının kullanımı 2010 yılından itibaren zorunlu olmuştur. Bu çalışmada güvenlik koltuklarının kullanım sıklığını ve ebeveynlerin trafikte çocuk güvenlik koltukları kullanımı ile ilgili görüşlerini saptamayı amaçladık.

Gereç ve yöntem: Bu çalışma Türkiye'nin Kars ilinde gerçekleştirildi. Üniversitede çalışan ebeveynlere anket dağıtıldı. Anketin ilk kısmında katılımcının kişisel özellikleri sorgulanırken ikinci bölüm ebeveynlerin çocuk güvenlik koltukları ile ilgili bilgilerini değerlendirmek amacıyla oluşturuldu.

Bulgular: Dağıtılan 600 anketten 516 (%86) geri toplandı ve değerlendirmeye alındı. Bu çalışmada 266 katılımcının çocuğu ve otomobilinin olduğunu gösterdi. Onların yalnızca %13.5'inin çocuk güvenlik koltuğu mevcuttu. Ebeveynler çocuk güvenlik koltukları hakkındaki bilgi eksikliklerinin sahip olmamalarının en önemli nedeni olduğunu belirttiler. Anne babaların çoğu gelecekte trafikte çocuk güvenli ile ilgili daha dikkatli olacaklarını belirttiler.

Sonuç: Bu çalışma ebeveynlerin çocuğunun çocuk güvenlik koltuklarının gerekliliği hakkında bilgilerinin olmadığını gösterdi. Otoriteler çocuk güvenlik koltuklarını kullanım oranlarını arttırmak amacıyla yeni stratejiler geliştirmelidirler. *Klin Deney Ar Derg* 2011;2(2):157-60

Anahtar kelime: Çocuk, araba kazası, güvenlik, koltuk

recommendations for appropriate restraint systems. The recommendation of existing guidelines includes four components; First, children younger than 1 year or weighing <9 kg should ride in rear-facing seats. Second, children who have outgrown their

Yazışma Adresi /Correspondence: Kursat Bora Carman MD.

Eskişehir Osmangazi University, Faculty of Medicine, Dept Pediatrics, Eskişehir, Türkiye Email: kbcarman@gmail.com
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rear-facing seats should be placed in forward-facing seats until they are 18 kg in weight. Third, children whose weights are between 18-36 kg should ride in belt-positioning booster seats until they fit well in car seat belts alone. Children usually do not fit well into car seat belts until they are 9 years of age. Last, all children < 13 years of age should ride in the back seat². Child restraints reduce the risk of injury and death in a car crash by minimizing contact with the vehicles interior, reducing impact forces and spreading forces onto less vulnerable parts of body.³ Child safety seats, when installed correctly, were 71% effective in reducing fatalities among infants (0-12 months old) and 54% more effective for toddlers (1-4 years old). The use of booster seats was found to lower the risk of injury by 58% in children aged 5 to 9 years when compared with the use of vehicle seat belts.⁴ Optimally restrained children are more than 3 times less likely as sub optimally restrained children to suffer an abdominal injury in an accident.⁵ The studies assessing the effect of seating position on injuries all concluded that the rear seat is the safest place for children.³

In western world, significant reduction of deaths of children in motor vehicle crashes, especially those involving children < 5 years old, has occurred over the past years⁶. This has been largely attributable to improvement in child safety seat and educational efforts of health professionals after legislation of restraint law. The rate of child restraint use in developed countries is high, at over 92%.³ In Turkey, the law about the mandatory use of child safety seats was legislated in 2007. But the law will be in force from June 2010 onwards.⁷

The issues of child safety in traffic such as the usage of safety seats and seat belts are not examined in developing countries as is done in western countries, and the situation in our country is not adequately known. The purpose of this study was to evaluate the level of child safety seat (CSS) use and the level of knowledge about the use of CSS of parents in Kars province of Turkey.

MATERIALS AND METHODS

The study was done in Kafkas University between January 1 and 30, 2010. Kafkas University has 720 staff members working at main campus in Kars province of Turkey. A specific questionnaire, which was prepared in Turkish, was handed out

to 600 employees working at the university which consists of five faculties and two collages, and collected back later. The rest 120 employees did not accept to be involved in the study. The participants were asked to fulfill the questionnaire composed of two separate parts. The first part was concerned with the socioeconomic status (education, number of child, driving habit) of participants. The second part of the questionnaire was designed to evaluate the level of parents' knowledge on child safety seat. To assess perceptions, parents were asked to rate what they agree or disagree with general statements about child safety rules in car. Statistical analyses were performed with the SPSS Program (Statistical Package for Social Sciences, Chicago, Illinois). Chi square test was applied.

RESULTS

Of the 600 questionnaires handed out, 516 (86.0%) could be collected back and included in the final analysis. The mean age of participants (162 female, 354 male) was 34.49 ± 7.87 years. Forty-seven percent of the study group was academic and fifty-three percent was administrative staff. It was noticed that 87.6% of the staff members stated that they used seat belt on intercity roads while the rate of using seat belt on city roads was only 38.4% (Table 1).

Table 1. Socioeconomic Status of all university employees

	Number (n=516)	%
Gender		
Male	354	68.6
Female	162	31.4
Profession		
Academic	242	46.9
Administrative	274	53.1
Automobile Ownership		
Yes	346	67.1
No	170	32.9
Children		
No	182	35.2
Yes	334	64.8
Seat belt use on city roads		
Yes	198	38.4
No	318	61.6
Seat belt use on intercity roads		
Yes	452	87.6
No	64	12.4

Table 2. The Rates of ownership of child safety seat (CSS) among parents who have also a car

Parents (n=266)	CSS Present (n=36) %	CSS Absent (n=230) %	P Value
<1 year of age	25.0	75.0	
2 to 5 years of age	14.3	85.7	<0.001
>6 years of age	2.6	97.4	
Academic staff	16.6 (31)	83.4 (155)	<0.001
Administrative staff	8(5)	92(75)	
Male	14.6	85.4	>0.05
Female	10.8	89.2	

Of the 516 employees, 334 had children and 266 of them were having their own cars. This group was the main research group of the study.

It was found that 36 (13.5%) of them were using CSS for protection of their children in traffic. Totally, 25% of parents of children 0 to 1 year of age, 14.3% of parents of children 2 to 5 years of age and 2.6% of parents of children older than six years of age reported that they owned a CSS or booster seat for their children ($p < 0.001$).

Our results showed that the ownership of CSS was more common among academic staff rather than administrative staff ($p < 0.001$) (Table 2).

The sex of driver and personal seat belt use habit were not found to be a factor affecting CSS use.

The lack of knowledge about CSS was emerged to be the main reason for not having CSS (66.9%). Most participants did not have any idea about when children may ride in front seat. The correct answer (> 13 year old) was given by only 62 (23%) participants. The ownership of CSS was not found to be a factor affecting the accuracy ($p > 0.05$).

Parents' knowledge level about CSS was analyzed by questions concerned with general statements. Parents were asked to report their thoughts in as agree/ disagree item format.

Only 20% of participants stated that children younger than 1 year of age must ride in rear-facing position. With respect to this question, the correct answer rate was higher among CSS owner parents than non-CSS owner parents. Our survey showed that 65% of employees agreed that a child may not use CSS for short trips.

Most participants (72.5%) reported that they didn't feel any need for taking information about CSS until this current research was performed. 82% of parents stated that they would be more careful in the future about child safety in traffic.

DISCUSSION

Traffic accidents are responsible for many child deaths and serious injuries. In fact most deaths can be prevented by using safety rules. However, many infants and young children continue to travel unrestrained, in unsafe positions, and in front seats.⁸

In contrary to developed countries, in which the knowledge level of parents and usage rates of CSS have been determined in various surveys, only a few studies have been performed in developing countries about CSS use.^{9,10}

This current study showed that parents are un-informed about the necessity of CSS. Only 13.5% of parents reported that they owned CSS. Several studies performed in various countries reported higher CSS use rates.¹¹ A recent Greek study demonstrated that 76.1% of Greek mothers use CSS in every vehicle transportation of their children¹². In our study, the lowest CSS use rate was found for children older than 6 years of age.

Infants should ride in rear-facing seats until they are at least 1 year of age². This current survey showed that most parents were not aware of this rule.

Approximately one third of participants reported that a child might not use CSS for short trips. In Japan, a survey conducted by Kakefuda et al. showed that 45.6% and 63.6% of Japanese mothers always use CSS for short drive and long drives respectively.⁸ However, over half of the children were injured in crashes < 10 minutes driving time from driver's home, on local roads, on routes familiar to the driver, and within areas with relatively low speed limits.¹

Children have tendency to imitate views they see on TV. One review found that more than 1000 studies reported a direct link between media exposure and changes in children's behavior patterns.¹³ A study from US showed that seat belt use was depicted in 62% of individuals in television programs.¹⁴ Nakahara S et al. showed that only 0.35% of articles on baby magazines were about CSS use.¹⁵ Our sur-

vey demonstrated that the lack of knowledge about CSS was the main reason for not having CSS. Nevertheless, it is clear that if parents try to get information about CSS from media, it is likely that they could not have enough knowledge.

Pediatricians may inform parents about CSS at routine well-baby visits. A Greek study showed that only 11.4% of parents consulted a pediatrician before purchasing a child safety seat.¹⁰ In a study performed in Canada, it was found that only 10% of pediatricians ask at first well-child visit whether rear-facing car seat is used¹⁶. Pediatricians should have sufficient knowledge about CSS, so that they would inform parents properly. Pediatrics residency education programs should be reorganized.

In 2006, the United Kingdom and 12 other members of European Union introduced child restraint laws for children up to 12 years of age. Evidences from a systematic review showed that legislation coupled with education campaigns successfully increases the use of optimal restraints. After introduction of law in New Zealand for children younger than 5 year old, the use of dedicated child restraint increased by 15% to reach 89% in 2005 in this age group.³

The number of traffic deaths per motor vehicle is directly proportional to the prosperity. For instance; it is observed that nine people in Denmark, 11 people in Germany and 73 people in Turkey have been died in each 1.000.000 vehicle/km.¹⁷ There is a strong positive association between infant mortality and children traffic fatality. Children traffic fatality is a backwardness problem and an indicator of underdevelopment.

The law about the mandatory use of child safety seats is in force from June 2010. The authorities have to develop new strategies to increase the prevalence of the CSS use. We suggest that automobile companies may provide their customers with CSS free of charge. We believe that many deaths might be prevented as a result of such measures.

Our study has some limitations. The population enrolled in this study consists of well-educated parents working in a university in Kars which is a small city of Turkey. The prevalence of CSS use may differ in other parts of our country. Further studies should be performed to establish the prevalence nationwide.

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