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Klinik Çalışma

Knowledge and attitude of Turkish parents regarding car safety seats for children

Arabada çocuk güvenlik koltuklarının kullanımı konusunda Türk anne-babaların bilgi düzeyi

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BACKGROUND

One of the major causes of death among children younger than 15 years is vehicular injury. Car safety seats protect children in a crash if they are used correctly. The objective of this study was to assess the level of parental knowledge and their attitudes regarding car safety seats.

METHODS

The survey was conducted in May and June 2007 at Bakirkoy Dr. Sadi Konuk Research-Training Hospital. Randomly selected parents were asked to complete an anonymous self-administered questionnaire after providing informed consent. Five hundred thirty-two Turkish parents were sampled.

RESULTS

Twenty-eight percent of the parents did not know what a car safety seat was. While 20% of parents reported using a car safety seat, only 10% used them correctly. Car safety seat use was correlated with higher socioeconomic status.

CONCLUSION

Increased education of parents regarding the proper use of child safety seats can protect children from potentially fatal injuries. Health care professionals are obligated to give information to parents regarding car safety seats and their proper use. This study should alert planners and policy makers regarding the need to implement educational prevention programs concerning car safety for children in Turkey.

Key Words: Car safety seat; children; knowledge; restraints; transportation.

AMAÇ

On beş yaş altı çocuklarda en önemli ölüm nedenlerinden biri trafik kazalarıdır. Çocuk güvenlik koltukları doğru kullanıldığında çocukları kaza anında ölüm ve yaralanmalardan korurlar. Bu çalışmada, anne-babaların çocuk güvenlik koltuğu kullanım oranları ve bu konu hakkındaki bilgi düzeyleri değerlendirildi.

GEREÇ VE YÖNTEM

Çalışma Mayıs-Haziran 2007 tarihlerinde Bakırköy Dr. Sadi Konuk Eğitim ve Araştırma Hastanesi Çocuk Sağlığı ve Hastalıkları polikliniklerine başvuran, çalışmaya katılmaya onay veren anne-babalara anket formu doldurtmak suretiyle yapıldı; 532 anne-baba çalışmaya alındı.

BULGULAR

Katılanların %28'i çocuk güvenlik koltuklarının ne olduğunu bilmediğini, %54'ü bildiğini fakat kullanmadığını, %20'si ise kullandığını ifade etti. Kullananlar içinde doğru kullanma oranı ise sadece %10 idi. Çocuk güvenlik koltuğu kullanımı annebabanın sosyoekonomik durumu ile ilişkili bulundu.

SONUÇ

Çocuk güvenlik koltuklarının kullanımının artması ve doğru kullanım ile ilgili eğitimlerin verilmesi ile çocukların kaza anındaki ölüm ve yaralanmaları azaltılabilir. Çocuk hekimlerinin ve diğer sağlık çalışanlarının anne-babaları çocuk güvenlik koltukları hakkında bilgilendirmesi sağlanmalı ve bu gereçlerin kullanımının zorunlu hale getirilmesi ile ilgili kanunlar ve düzenlemeler yapılmalıdır.

Anahtar Sözcükler: Güvenlik koltuğu; çocuk; bilgi düzeyi; araba koltuğu; taşıma.

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Motor vehicle crashes are the leading cause of mortality and morbidity for children younger than 15 years.[1,2] Children are exposed to an increasing risk of fatality in the traffic system. One reason for this is the difference in body segment proportions, leading to a higher center of gravity in a child, which in turn affects body kinetics in the event of an accident. In children, injuries to the head are common, whereas severe injuries to other parts of the body are relatively rare. Due to these differences, safety restraints for children must be designed differently from those intended for adults. When children are riding in a car, they must be secured in a car seat or strapped in with a seatbelt at all times. Car safety seats for children can reduce traffic fatalities by at least 70% if used properly.[3,4] Infants and young children need to use a car seat; older children should use booster seats or seatbelts.

Non-use and misuse of car safety seats are very common and lead to preventable serious injuries or death. Parents must be educated about the car safety seat. Pediatricians and other health care providers need to provide appropriate information for parents regarding car safety seats and their proper use.

The use of car safety seats is not common in Turkey, as in most developing countries, because there is no government enforcement of safety regulations when compared to many developed countries. Mandatory car safety seat laws could reduce traffic fatalities and serious injuries and could also increase the car safety seat usage rate.

To date, no Turkish study has documented how parents use car safety seats and what factors predict their correct use. Therefore, the purpose of this study was to identify the prevalence of car safety seat use in the Turkish population, the prevalence of errors during child transportation and the factors associated with such errors, including parental level of information on car safety seats.

MATERIALS AND METHODS

A prospective survey study was conducted among mothers who attended the pediatric outpatient clinics of the Bakırköy Dr. Sadi Konuk Research and Training Hospital in May and June 2007. All of the 532 mothers who had a car in the household agreed to participate and were enrolled in the study. After obtaining verbal informed consent, a questionnaire comprising 15 items was given to all mothers for the assessment of the parents' socioeconomic status, and their knowledge and attitudes relating to the car safety seat. The knowledge-based part of the survey contained 10 multiple choice questions. These questions were derived from child safety seat recommendations published by the American Academy of Pediatrics.[5] After the questionnaire was completed, the mothers were given more information on the correct use of car safety seats. The study was approved by the institutional ethical committee.

In this study, statistical analyses were performed using SPSS software for Windows 15.0. Results are expressed as odds ratios with 95% confidence interval. p values <0.05 were considered statistically significant. Performance on the knowledge-based survey was assessed according to the number of correct answers. The demographic data of the entire group were evaluated by calculating means and standard deviations for continuous variables and proportions for categorical values.

RESULTS

This study was conducted among 532 mothers who attended the general pediatric outpatient clinic of the Bakırköy Dr. Sadi Konuk Research and Training Hospital in May and June 2007.

The demographic features according to collected data are shown in Table 1. Most of the mothers had

Table 1. Parents' demographic profile

Variable	n	%
No of children		
1	238	44.7
2	202	37.9
3	64	12.2
≥4	28	5.2
Annual income ($)		
< 6000	48	9
6000-12000	153	28.8
12000-24000	207	38.9
> 24000	124	23.3
Maternal educational background		
Illiterate	24	4.5
Primary school	181	34
Secondary school	77	14.5
High school	126	23.7
College and higher	124	23.3
Paternal educational background		
Illiterate	5	0.9
Primary school	136	25.6
Secondary school	90	16.9
High school	144	27.1
College and higher	157	29.5

Table 2. Parental knowledge and attitudes relating to car safety seat use

Questions	Answers	n	%
Do you know about car safety seats and have you ever used one? (n:532)	I don't know	149	28
	I know and use one	109	21
	I know but never used one	274	52
Where is the best place for a child to sit in a car? (n:109)	Back seat	103	94.5
	Front seat	2	1.8
	No difference	4	3.7
Which way should your child face in a car? (n:109)	Should always face the rear of the car	81	74.3
	Should always face the front of the car	12	11
	Should face the rear of the car until they are at least 1 year of age	16	14.7
Is your child's seat belt always fastened while riding? (n:109)	Always fastened	92	84.4
	Sometimes fastened	12	11
	Rarely fastened	5	4.6
Should you upgrade the car safety seat? (n:109)	Yes	74	67.9
	No	35	32.1
How did you obtain the car safety seat? (n:109)	Borrowed from relative, friend, neighbor	18	16.5
	Purchased	90	82.6
	Other	1	0.9
How did you hear about car safety seats? (n:109)	Independently researched	46	42.2
	I saw someone with a car safety seat	37	33.9
	TV, media, journal, advertisement	20	18.3
	Advice from doctor/nurse	3	2.8
	Other	3	2.8

one child (44.7%, n: 238), finished primary school (34%, n: 202), and reported annual household income between $12,000-24,000 (38.9%, n: 207). Most of the fathers finished college and had advanced degrees (29.5%, n: 157).

The overall rate of the use of a car safety seat was 20% (n: 109). It was determined that 28% (n: 149) of mothers did not know what a car safety seat was, 52% (n: 274) of the mothers had heard of it but never used it, and 20% of the mothers used the car safety seat; however, only 10% (n: 53) used it correctly (Fig. 1). The knowledge and attitudes of the mothers about car safety seat usage are shown in Table 2.

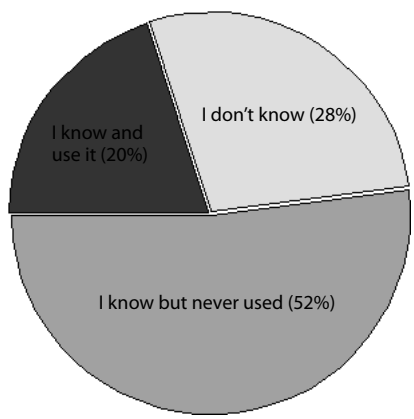

Fig. 1. Car safety seat knowledge and usage rate.

There was a direct relationship between the annual income level and the car safety seat use ($p<0.01$). Among all participants, there was a statistically significant relationship between car safety seat use and educational status of mothers and fathers ($p<0.01$, $p<0.01$, respectively) (Fig. 2).

Among the participants owning a car safety seat (20%, n: 109), most of them replied that the back seat was the best place for a child to sit in a car (94.5%, n: 103), that a child should always face the rear of the car (74.3%, n: 81), that a car safety seat belt should always be fastened while riding (84.4%, n: 92), and that the car safety seat should be upgraded (67.9%, n: 74).

Parents were queried regarding the source of their information about car safety seats, and 42.2% (n: 46) reported that it was through their own research, 33.9% (n: 37) observed someone with a car safety seat, 18.3% (n: 20) obtained information from the media, and only 2.8% (n: 3) received information from their healthcare providers. Among all participants, 82.6% (n: 90) of them were owners of the car

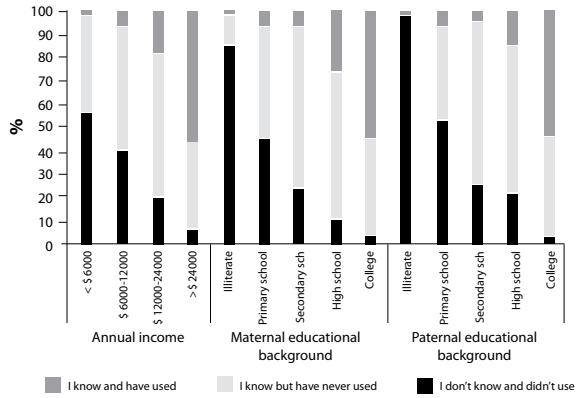

Fig. 2. Relationship between car safety seat use and parents' demographics.

seat; 16.5% (n: 18) had borrowed it from others (second hand user).

DISCUSSION

In several studies, car safety seats have been shown to be highly effective in preventing serious injury and hospitalization. Age- and size-appropriate car safety seats can reduce the risk of death up to 54% for toddlers and 71% for infants.[5] Most countries currently have laws enforcing mandatory car safety seat use. In one study, a combined enforcement and public education program was successful in increasing child passenger safety seat use from a baseline of 61% to 71%.[6] Guerin and MacKinnon[7] demonstrated a significant reduction in motor vehicle crash-related injuries when state legislation was mandating the use of a car safety seat in children less than four years of age. There is currently no such legislation in Turkey.

Despite the demonstrated efficacy, car safety seats are not used correctly. Misuse occurs frequently due to the parents' lack of knowledge about the benefits of car safety seats. An Italian study has shown that the prevalence of car safety seat use was very high (92%); however, more than one-third of them did not use it correctly.[8] The rate of correct usage of such restraints has been reported between 17% (for school-aged children) and 72% (for infants) in the United States.[9] We demonstrated that usage rate and knowledge about car safety seats are both extremely low in our community. The overall prevalence of car safety seat usage was 20% (Fig. 1), and the correct usage rate was 10% among Turkish parents.

Our study has some potential limitations which should be mentioned. The findings were based upon parental report rather than direct observation. Therefore, actual use and/or correct use may be lower than reported. In addition, the samples were predominately married, educated individuals living in Istanbul, thus limiting generalization of the results to other Turkish populations.

In several studies, it was shown that parental socioeconomic status is correlated with car safety seat use.[10-13] Similarly, in our study, a statistically significant relationship was determined between annual family income level and parents' educational status and the car safety seat usage rate (Fig. 2). Among the participants, only 23.3% had an income of more than $24,000 annually. Considering that the cost of a car safety seat in Turkey is approximately $200, obviously low income families could not be expected to pay this price. Interventions to increase the use of car safety seats and funding provided by the government to assist low-income families obtain car safety seats may be implemented.

According to one study, the most common sources used by parents to obtain information on car safety seats include non-professionals, such as family, friends and neighbors, rather than professional sources such as physicians, nurses, or prenatal education programs.[14] Similarly, our study showed that only 3% of parents reported that they received their information from a medical professional. We believe that pediatricians should play a more active role in injury prevention and devote more time to informing parents and children on safety issues. In addition, education on proper car safety seat use may be given in a variety of settings, including primary care offices, community-based organizations, child care settings, emergency departments, maternity wards, and point of sale locations.

In conclusion, considering the results of our study, educational interventions for parents and new policies and mandatory laws about child transportation safety are urgently needed in Turkey. Healthcare providers must be involved in training parents in car safety seat usage. In particular, caregivers with lower educational levels and lower income status are in greater need of educational intervention.

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