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## THE APPROACH OF MOTHERS TOWARDS CHILDREN'S SAFETY IN CARS IN SAKARAYA, TURKEY

### Condutas de mães objetivando a segurança de crianças nos carros em Sacaraya, Turquia

Artigo original

#### ABSTRACT

*The aim of this study was to assess protective behaviour of families with children between the age of 0-16 years concerning safety measures for vehicle transport. Inclusion criteria for this cross-sectional, descriptive study were: having child/children between the age of 0-16 years, sharing the same domicile with them and giving informed consent to participate in the study. Beyond the maternal attitudes facing their children's safety, there were studied the variables related to the mothers' educational level, the number of children, the loss of children due to automobile accidents or illnesses. For the maternal attitudes analyses, The Paediatric Preventive Behaviour Survey was applied using a 10 points response Likert Scale. The study group (n=248) was randomly selected among mothers fulfilling the above criteria. Data were collected during one year between February 2003 and 2004. The results of the study revealed that, the higher the educational level of the mother, the more important she considered safety measures for children in vehicles. Nevertheless, attitudes and behaviour concerning vital protective measures to prevent children from major harm inside vehicles were not at a satisfactory level. It is obvious that there is a need for education in order to raise the consciousness of the public and families with children concerning safe behaviour in traffic to reduce/prevent inappropriate careless behaviour leading to injury, disablement and death of children during traffic accidents.*

**Descriptors:** Accidents; Traffic; Child; Safety; Health behavior.

#### RESUMO

O objetivo deste estudo foi conhecer o comportamento preventivo de famílias com crianças entre a idade de 0 a 16 anos sobre as medidas de segurança em veículos de transporte. Os critérios de inclusão deste trabalho transversal e descritivo foram: possuírem crianças entre 0 e 16 anos, dividir o mesmo domicílio com elas e dar o consentimento livre e esclarecido de participar deste estudo. Além das atitudes maternas frente a segurança dos filhos foram estudadas as variáveis relacionadas ao nível educacional da mãe, o número de filhos, a perda de filhos por acidente automobilístico ou por doença. Para a análise das atitudes maternas foi aplicado o *The Paediatric Preventive Behaviour Survey* com a utilização de uma Escala *Likert* de resposta de 10 pontos. O grupo de estudo (n=248) foi escolhido de forma randomizada entre mães que preenchessem este critério. Os dados foram coletados durante um ano, no período de fevereiro de 2003 a 2004. Os resultados deste estudo revelaram que, quanto maior o nível educacional da mãe, mais importante ela considerava as medidas de segurança para crianças nos veículos. Apesar disso, atitudes e comportamentos relacionados às medidas de proteção vital para proteger as crianças de danos maiores dentro dos veículos não estavam em níveis satisfatórios. É obvio que há a necessidade de educação com o objetivo de aumentar a consciência da comunidade e de familiares com crianças no que diz respeito a comportamentos seguros no trânsito, para a redução/prevenção de condutas e descuidos inapropriados levando a traumas, incapacidade e mortes de crianças em acidentes de trânsito.

**Descritores:** Acidentes de Trânsito; Criança; Segurança; Condutas de Saúde.

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## INTRODUCTION

In all countries accidents which cause death and disability among children and young, are one of the most important health problems<sup>(1)</sup>. Traffic accidents rank the ninth among reasons of death world-wide and in 2020 they are expected to be promoted to the third place<sup>(2-5)</sup>.

According to a statistics from 1996, Turkey is the country with the most children killed in traffic accidents; the number of children who were killed in traffic accidents in one year in Turkey equals the general total of 11 western countries<sup>(6)</sup>.

According to the General Directorate of Security data, the total number of children between the ages of 0 - 15 and involved in accidents where people died and were injured in the year 2001 was 7413. This number constitutes 16.03% of the total passengers (excluding drivers) that were involved in accidents where people died and were injured. 32.23% of these children were aged between 0 – 5 .

It is possible to prevent most of these deaths and injuries through the use of child seats and seat belts. However, many parents put their children under risk by using the protection systems in a wrong way. Experts believe that 80 – 90 % of child seats are assembled in the car or used in a wrong way<sup>(3,7-9)</sup>.

Child protection systems provide “graded slowing down” during a fast crash impact. Child protection systems that are assembled in the right way ensure the stopping of the body of the child that is moving forward with the speed of the car when the car stops after a crash and prevent potential contact with other objects (people, floor or other cars). Child seats are designed with extra structures that will offer the required protection. Child seats do not direct the impact of the crash to a certain part of the body; instead, it disperses the impact of the crash to stronger parts of the body (hipbone, back and shoulder) and decreases the impact of the crash<sup>(10)</sup>.

In Turkey; through clause 78 of the Highways Traffic Code numbered 2918, use of protective systems during driving has been made obligatory. Arrangements regarding the matter have been stated in the regulations. Through the revision made in the Highways Traffic Code on 25.06.1998, b, c and d articles of paragraph 2 were amended.

Article d: “In vehicles listed in article (b) (automobiles, minibuses, lorries, pickups, tow-trucks, long-distance buses, double-decker long-distance buses), it is forbidden to seat children younger than ten (10) years old in the front seat next to the driver “<sup>(6)</sup>.

As for all aspects, without doubt, parents are important for the protection against traffic accidents. The children, who

are followed effectively and informed by their families about the facts that cause accidents, suffer less of those. Families should help their children to gain the right behaviour about traffic accidents and so together with the education given at pre-school, primary school and high school, they would create a traffic consciousness and culture<sup>(11,12)</sup>.

The aim of this study was to assess protective behaviour of families with children between the age of 0-16 years concerning safety measures for vehicle transport.

## METHODS

This cross-sectional and descriptive study was held at Sakaraya, in Turkey and had as its inclusion criteria the following: having child/children between the age of 0-16 years, sharing the same domicile with them, giving informed consent to participate in the study. The study group (n=248) was randomly selected among mothers fulfilling the above criteria. Due to missing values 25 of the questionnaires dropped-out. Data were collected during one year between February 2003 and 2004.

Primarily, a social characterisation of the mothers was done, by means of answering a questionnaire broaching topics such as: maternal age, educational level and number of children. Following that, the maternal attitudes and practices related to the prevention of injuries inside vehicles were investigated. “The Paediatric Preventive Behaviour Survey” was translated into Turkish and applied for the evaluation of the mothers’ procedures. This instrument consists of four questions and the given answers are confronted with a scale from 0 (zero) to 10 (ten), in which the zero value is given when the factor is not considered important and ten if it is of utmost importance.

The questions referred to: 1) Wearing safety belt while travelling at the front seat of the car, 2) Sitting at the back seat while going by car, 3) Always wearing safety belt while travelling by car and 4) Using special security seats for the children under 6 years old.

All analyses were performed with SPSS 10.0 for Windows (SPSS Inc., Chicago, Illinois, USA). Except for descriptive, continuous data were compared with students *t* test or ANOVA.

## RESULTS

The age average of the mothers was of 29,4 years. In what concerns the mothers’ educational level, it was observed that most of them (n = 129; 57.85%) had a primary school level, as seen in Table I.

**Table I** - The distribution of the mothers according to their educational level. Turkey, 2004.

Mothers' educational level	N	%
Illiterate	18	8.1
Primary school	129	57.8
Secondary school	22	9.9
High school	24	10.8
University	30	13.5
TOTAL	223	100.0

It was reported that 92.8% of the families were sharing the same domicile, and 74.4% of the families had social security.

In reference to the number of children, it was verified in the study that 94 (42.2%) of the mothers had two kids. Just 26 (11.6%) of them had four or more kids (Table II).

**Table II** - The distribution of the mothers according to the number of children. Turkey, 2004.

Number of children	N	%
1	73	32.7
2	94	42.2
3	30	13.5
4 and above	26	11.6
TOTAL	223	100.0

Regarding the question that referred to “death of child due to accidents or illnesses of any nature”, it was observed that 96.4% (n = 217) of the mothers in the study did not loose a child as a result of accident or illness. It was also determined that among the mothers who said ‘yes’, the child’s lost had not been caused by an accident but due to illness, as shown in (Table III).

**Table III** - The distribution of the mothers regarding the loss of child because of accidents or illness. Turkey, 2004.

Loss of child					
YES		NO		TOTAL	
n	%	n	%	n	%
7	3.1	217	96.4	223	100.0

In what concerns the Paediatric preventive Behaviour Survey’s criteria and in relation to the mothers’ educational level, it was evidenced that mothers that frequented a University showed the greater average values in all items, obtaining 9.05 in relation to the use of safety belt in the front seat of the car; 9.75 concerning the permanence of the child in the back seat of the vehicle; 9.33 for the regular use of seat belt when inside the car and 8.86 when referring to the use of special car seat for children under six years old (Table IV)

**Table IV** - Mothers’ educational level and mothers’ average survey score concerning child security in the car. Turkey, 2004.

Average score Mothers’ educational level					
Mother’s approach	Illiterate	Primary school	Secondary school / Highschool	University	Mothers average score
Wearing safety belt while travelling at the front seat of the car	7.05	8.23	9.03	9.05	8.92
Sitting at the back seat while traveling by car	6.31	7.95	9.16	9.75	8.78
Always wearing safety belt while travelling by car	7.04	7.80	8.18	9.33	8.58
Using special security seats for children under 6 years	5.52	6.94	7.55	8.86	7.51

The mean difference is significant at the .05 level

## DISCUSSION

It is very important for children to use safety belts and backseats until the age of 12 years in order to prevent injury and death. In Turkey, like in other countries, wearing a seat belt is obligatory, but this is only valid for the front seats.

Studies have revealed that fatal trauma during traffic accidents especially occurs in persons who are not wearing a seat belt. Standard safety belts are designed for adults, but children’s safety belts can be purchased optionally. Families with children should have the possibility to choose “child

safe” cars including standard safety equipment without extra charge<sup>(6)</sup>.

Children must travel by fastening them up in a proper way in a car. It has been reported that the use of safety belt for backseat passengers reduces death during accidents by 18%<sup>(6,9)</sup>.

In this study, we showed that mothers do not rate the importance of their children sitting in the backseat and wearing a seat belt while travelling in a car high enough. It was observed that mothers with a higher level of education were more precautions concerning the security of child in a car.

In his study, Bausell (1985)<sup>(7)</sup> showed that 35% of children sitting at the front seat and 44% of children sitting at the back seat do not wear safety belts. In the study of Kocak et al<sup>(9)</sup>, among members residents of the Faculty of Medicine, the researchers found that 33.3% of the participants were travelling with their children at the back seat without using safety belts.

In this study, mothers seemed not to give enough importance to the use of special child safety seats for children under the age of 6 years. The importance of being seated in a special children's' safety car seat is indicated in most of the resources (environment and traffic). Nevertheless the use of such safety children car seats in Turkey is very low and there is not one local manufacturer of appropriate equipment<sup>(8,9)</sup>. It is a proven fact that children who use safety belts do not suffer any injury in 75% of all accidents. For serious traffic accidents, this rate has been reported to be 67%. Even in 80% of the families who use safety belts for their children, incorrect use of the equipment (like fastening the child too loose) has been reported in 50% -70% (environment and traffic).

Bausell (1985)<sup>(1)</sup> indicated in his study that 29% of families use elevated seats for their children. But in the present study, of the use of this kind of child seats was 30.2%. The reasons for not using such safety equipment were expressed as follows: problems of accessibility 20.8% , lack of knowledge 9.4%, too expensive costs 4.2%. This question was not answered by 41, 6% of the participants<sup>(9)</sup>.

These results clearly demonstrate the importance of educating parents about traffic safety interventions for childrens' security in the car.

## CONCLUSION

The recent effects of accidents on health, social and economic situation and the foresight about the increase of the effects in years, made this subject one of the most basic

public health problem of 21. century which still needs to be solved<sup>(2)</sup>.

It is necessary to assess the proportion of traffic accident injuries especially caused by lack of education about traffic rules and safety equipment in Turkey in order to highlight the importance of public education concerning this topic. The results of this study revealed that higher educational level of the mothers was directly related to a more conscious behaviour concerning their children's security in the car. Nevertheless, the safety attitude and behaviour were still not at the desired level.

Mothers were asked to list and grade the importance of safety precautions for children in a car from one to ten: Wearing safety belt while travelling at the front seat of the car, Sitting at the back seat while going by car, Always wearing safety belt while travelling by car, Using special security seats for the children under 6 years old and the total sum was found to be \_8.44.

Although all these precautions were general traffic rules and legal regulations. The survey demonstrates that mothers couldn't attain a full result (10) and this shows that they do not pay much and adequate attention to safety precautions for children in a car. It is obvious that future education of families will augment public awareness towards the importance of traffic security issues which is likely to reduce death, injury and disability due to traffic accidents.

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