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DEDE ÇINAR, Nursan; FÍLÍZ, Tuncay Müge; SAHÍN, Sevil; TOPSEVER, Pinar
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THE IMPORTANCE OF PREVENTIVE CHILD CARE FROM THE POINT OF VIEW OF MOTHERS

Importância de cuidados preventivos à criança sob o ponto de vista das mães

Original Article

Nursan DEDE ÇINAR[1]
Tuncay Müge FİLİZ[2]
Sevil ŞAHİN[1]
Pınar TOPSEVER[2]

ABSTRACT

Objective: To assess protective behaviour of mothers who have children between the age of 0–16 years concerning immunization, nutrition and periodic health care. **Methods:** A cross-sectional and descriptive study held at Sakarya, Turkey, which inclusion criteria were: 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=368) was randomly selected among mothers fulfilling the above criteria. Data were collected between the years of 2003–2004. For sociodemographic inquiry, a semistructured questionnaire consisting of 19 questions was used. After test-retest procedures, these 10 items Likert scale questions (1=low importance, 10=utmost importance) were used to assess mothers' attitudes towards their offsprings' immunization, nutrition, and periodic health care. **Results:** The score for immunization (9.4±1.2) was leading; nutrition (8.5±1.4) and periodic health care (8.2±1.6) were found relatively less important by the mothers. The attributed importance to nutrition and periodic health care was significantly increasing with higher education levels (r=0.34, p<0.001; r=0.24, p<0.001, respectively) while there was no correlation between immunization and mothers' education level (r=0.1, p=0.06). **Conclusion:** Families should be educated in terms of child care, emphasizing the importance of nutrition, immunization and periodic health care. This study suggests that childhood vaccines are well known and appreciated by mothers of all levels of education.

Descriptors: Mothers; Health Promotion; Child Care.

1) Sakarya Univ. School of Health Sciences
Sakarya - Turkey

2) Kocaeli Univ. Faculty of Medicine
Department of Family Medicine
Kacaeli - Turkey

RESUMO

Objetivo: *Investigar os comportamentos de proteção das mães que têm crianças entre 0 a 16 anos de idade em relação à imunização, nutrição e cuidados periódicos de saúde.* ***Métodos:*** *Estudo transversal e descritivo realizado em Sakarya, Turquia, cujos critérios de inclusão foram: possuir criança/ crianças ente 0 a 16 anos, dividir o mesmo domicílio com estas, dar consentimento informado para participação na pesquisa. O grupo de estudo (n=368) foi selecionado aleatoriamente dentre mães preenchendo os critérios referidos. A coleta de dados ocorreu entre os anos de 2003-2004. Para investigação sócio-demográfica, utilizou-se um questionário semi-estruturado consistindo de 19 questões. Após os procedimentos de teste e re-teste, essas questões de 10 itens da escala Likert (1= pouca importância, 10= maior importância) foram usadas para investigar as atitudes das mães em relação à imunização, nutrição e cuidados periódicos de seus filhos.* ***Resultados:*** *O escore para imunização (9,4±1,2) liderou; nutrição (8,5±1,4) e cuidados periódicos de saúde (8,2±1,6) foram considerados relativamente menos importantes para as mães. A importância atribuída à nutrição e aos cuidados periódicos de saúde aumentou significativamente quanto maiores os níveis de escolaridade materna (r=0,34, p<0,001; r=0,24, p<0,001, respectivamente) enquanto não houve correlação entre imunização e nível de escolaridade materna (r=0,1, p=0,06).* ***Conclusão:*** *As famílias deveriam ser educadas em termos de cuidados à criança, enfatizando a importância da nutrição, imunização e cuidados periódicos de saúde. O estudo sugere que as vacinas da infância são bem conhecidas e apreciadas por mães de todos os níveis de escolaridade.*

Descritores: *Mães; Promoção da Saúde; Cuidado da Criança.*

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INTRODUCTION

A healthy society and a healthy future are only possible if the children are raised by their families knowing the value of their own health and using health care properly. The mother, who is the self-care agent of the child, has important roles in the proper feeding and inoculation of the child, as well as in the proper child care, protection and maintenance of his / her health. In order to efficiently fulfill this role, the mother often needs professional support[1,2].

Of the 133 million babies born yearly worldwide, an estimated 126 million will live past their first year of life when child mortality is highest[3]. About 90% of these survivors reside in developing countries where prevailing health and socioeconomic conditions also account for substantial morbidity[3].

In most low-income countries, the rates for child survival interventions are low, and millions of children die every year from diseases for which there are effective interventions[4]. In low-income countries various child-survival interventions are simultaneously being implemented. These include preventive interventions such as vaccines, micronutrient supplementation, nutrition counselling (breastfeeding and complementary feding), growth monitoring and appropriate newborn care[4].

In respect to an advanced analyses of ''Population and Health Research'' (TNSA), 29.1% of Turkey's population consist of children aged under 15 years old and mortality rate of under 5 years old was found to be 0.37% in 2003[5]. Circumstances that are possible to be prevented are the primary reason among child mortality causes in Turkey.

In a developing country such as Turkey, eventhough child health promotion programme is maintained, still child health problems are enduring.

The protective behaviors of the families are important in promoting, maintaining and supporting the health of the children. Vaccination, proper feeding, on-time and proper health care controls and health screenings are vital for the child health[6].

The aim of this study was to assess protective behaviour of mothers who have children between the age of 0-16 years concerning immunization, nutrition and periodic health care.

METHODS

This cross-sectional and descriptive study was held at Sakarya, in Turkey. This study was performed with the mothers of students from 2 primary schools and 2 kindergartens with similar socio-cultural level. The research started after receiving approval from related local authorities. Inclusion criteria of the study were: the willingness of the families, having child/ children between ages of 0-16 years with no handicap and domicile in Sakarya. The questionnaires inside envelopes were sent to the mothers in care of their children. All filled out questionnaires were delivered back to school management by the children. Later on, the questionnaires were taken from the school manager by the researchers at due date. The study group (n=368) was randomly selected among mothers fulfilling the above criteria. Data were collected between the years 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. "The Paediatric Preventive Behaviour Survey" was translated into Turkish and applied for the evaluation of the mothers' procedures[7]. For socio-demographic inquiry a semistructured questionnaire consisting of 19 questions was used. After test-retest procedures these 10 items Likert scale (1 = low importance, 10 = utmost importance) questions were used to assess mothers' attitudes towards their offsprings' immunization, nutrition and periodic health care.

The statistical package SPSS (Version 10.0) was used in the data analysis. Except for descriptive, continuous data were compared with student test or ANOVA.

RESULTS

The average age of the mothers was of 30.8±7.3 (16 to 51) years. In what concerns the mothers' educational level, it was observed that most of them (n= 183; 49.7%) had a primary school level, as seen in Table I.

It was reported that 94% (n=346) of the families were sharing the same domicile, and 79.3% (n=292) of the families had social security.

Table I - The distribution of the mothers according to their educational level

Mothers' educational level	N	%
Illiterate	17	4.6
Primary school	183	49.7
Secondary school	44	12.0
High school	70	19.0
University	54	14.7
TOTAL	**368**	**100.0**

Regarding the number of children, it was verified in the study that 200 (54.3%) of the mothers had two children. Just 6(1.7%) of them had four or more kids (Table II).

Concerning the question that referred to "death of child due to accidents or illnesses of any nature", it was observed that 97.3 % (n= 358) of the mothers in the study had not lost a child as a result of accident or illness. It was also determined that among the mothers who said "yes", the child's loss had not been caused by an accident but due to illness, as shown in (Table III).

(The attributed importance score for tuberculin test was lower than the other childhood vaccines ($p<0.001$ for all).

It was determined that the mothers had highly realized the importance of the application of the OPV, DTP and measles vaccines for themselves (average 9.6 ± 1.3), but they hadn't deemed the skin test and the other tests for tuberculosis as important as vaccinations (9.1±1.9). The difference was found to be statistically meaningful ($p< 0.001$ for all). Mothers pay attention to care childhood vaccination as seen in Table IV. There was no correlation with immunization and mothers' education levels ($r = 0.1$, $p = 0.06$).

The mothers' evaluation for inquired periodic health care parameters is displayed in Table V. Among periodic health care parameters, height and weight measurement are found highly considerable by mothers. Less overrate one is blood pressure control annually.

When mothers were inquired for daily life and nutrition, the importance was given to "three days per week exercise" with a score of 6.9±2.9. (Table VI a and b)

DISCUSSION

Vaccination is a powerful and dynamic tool[8]. Vaccines are among the most effective means of preventing disease, disability and death in infants, children and adolescents. In the world, 24 million children under the age of one did not receive the DTP3 vaccine doses in 2007. The worldwide incidence of poliomyelitis has dropped by 99%, from 350,000 cases reported in 1988 to 1,655 cases in 2008[9].

Although mothers deem vaccination as important, the immunization in children in Turkey is not at the desired rate. According to the 2003 Population and Health Research data, the vaccination rates for the infants up to 12 months of age are 86.2% for BCG, 86.9% for DBT_1, 74.0% for DBT_2, 62.2% for DBT_3, 92.5% for Polio 1, 80.4% for Polio 2, 66.5% for Polio 3 and 71.2% for measles. The rate of the infants with full-vaccination (vaccinated with BCG, measles and polio vaccines) was 48.0%, and the rate of the ones who hadn't been vaccinated at all was 4.1%. The rate of "being fully vaccinated" was found to be 45.0% for

Table II - The distribution of the mothers according to the number of children

Number of children	N	%
1	138	37.5
2	200	54.3
3	24	6.5
4 and above	6	1.7
TOTAL	**368**	**100.0**

Table III - The distribution of the mothers regarding the loss of child because of accident or illness

Loss of child	N	%
Yes	10	2.7
No	358	97.3
TOTAL	**368**	**100.0**

Table IV - Distribution of the mothers attributed scores for childhood vaccination (n= 368) (mean±SD)

	TST	Measles	DTP	OPV
Score	9.1±1.9	9.6±1.3	9.6±1.3	9.6±1.3

TST: Tuberculin skin test; DPT: Diphteria, Tetanus, Pertussis; OPV: Oral polio virus

Table V - Distribution of the mothers parameters for periodic health care (n=368) (mean±SD).

	Score
Postpartum hearing test	8.3±2.5
Blood pressure measurement/year	6.8±3.0
Visual screening/year	7.9±2.6
Dental screening/year	7.9±2.8
Height and weight measurement	8.9±1.8

Table VI a - Scores for nutrition (mean±SD)

Nutrient		Score
Intake restriction for	Cholesterol	7.6±2.8
	Coffee, tea	8.6±2.5
	Conservative dyes	8.6±2.6
	Salt	8.4±2.3
	Sugar and sweet	7.2±3.2
Sufficient intake of	Vitamin and minerals	9.6±1.1
	Calcium	9.3±1.4

Table VI b - Scores for daily life (mean±SD)

Daily life	Score
Exercise 3days/week	6.9±2.9
Brushing teeth 2 times/day	9.1±1.7
Sufficient night sleep	9.6±1.1

the children of the 12-59 months age group. In the same report, it was stated that the rate of the children having a vaccination card decreases with the increasing age of the children[5].

According to the data presented in the 2003 report of the Population and Health Research, there is a correlation between whether the child is vaccinated and the educational level of the mother[5]. While the rate of the children having full vaccination was found to be 26% among the children whose mothers had had no education, the rate of fully vaccinated children was 69% among the children whose mothers had had education at least at the level of high school. Among the children whose mothers had had no education, lack of continuity in DBT and TOP vaccinations were found to be higher than the other children. For example, while the percentage for the first dosage of DBT was 63% among the children whose mothers had had no education, the rate for the third dosage dropped to 35%. Among the children whose mothers had had no education, 45% was found to have been given measles vaccination, and 64% to have been given BCG vaccination[5].

As the mothers' educational level increased, also increased the children's vaccination rate and it had a positive effect on the behaviors towards the children's health protection[10]. In our study, the fact that there was no significant correlation between the educational levels of the mothers and whether they deem the vaccination as important, could be interpreted as mothers from all educational levels may consider taking their children to be immunized.

In Turkey, tuberculosis continues to be a significant public health problem. Especially as the child tuberculosis is an indicator of the public health services. In Turkey, 12% of the cases followed in dispensaries consists of the children below 15 years of age, and the Tb incidence in the 0-5 age group has been stated as 5%[11]. Even in our study it is determined that mothers take less care about Tuberculin skin test than childhood vaccinations ($p< 0.001$).

Following up the child growth is one of the main elements of pediatrics, because growth can be affected by every situation that can harm the child's physical and mental health. On the other hand, normal growth shows that there isn't any problem, at least to the extent as to seriously affect the health of the child [12].

In our study, it has been found that the matter that mothers consider as second in importance, after the following up of the child growth, is the performance of postnatal hearing test. In Turkey, a prevalence rate of 0.23 % has been reported for severe to profound hearing loss in a general paediatric population[13].

It is reported in literature that the mean age at which the diagnosis of severe to profound congenital hearing loss is confirmed, in absence of newborn hearing screening, is about 12-24 months; sometimes mild hearing loss remains undiscovered until school age[14].

Newborn hearing screening programs lead to an early diagnosis and have to be considered as a secondary prevention since they have the role of highlighting subjets with a higher probability of hearing loss[14].

Early identification and intervention is fundamental. In fact, as reported in literature, it is very important to have an earlier auditory perception training because it allows the child to achieve the best possible integration into the hearing and speaking world[14,15].

The European Consensus Statement on Neonatal Hearing Screening and the American Academy of Pediatrics endorses the goal of universal detection of hearing loss in infants before 3 months of age, thus allowing a good recovery of hearing ability[14].

It is vital matter that the children should annually be submitted to sight test, since early detection allows more effective treatment[5]. In our study, according to the mothers, the sight and external controls came third in order of importance among the yearly health care parameters. Again, it was shown that the rate of considering these parameters as more important increased as increased the mothers' educational levels.

Preventive oral health care strategies and education should begin with the mother before the child's birth and continue throughout infancy and childhood. Although infants should have their first dental visit by the age of 1 year, most parents wait until after most of the primary teeth erupt, usually around the age of 2 or 3 years[16].

It was also determined that the issue the mothers deem as the least important was the annual blood pressure control of the child. Fixed essential hypertension in children is uncommon[5]. But, it is advised that the blood pressure should be measured yearly beginning from the age of three[17]. It was seen in our study that the mothers didn't consider this subject much important, therefore they needed to be informed about it.

In our study, it was found that the mothers considered, with decreasing order of importance, the conservative dyes, coffee, tea, excessively salty food, food containing cholesterol and high-sugar-content food as the food requiring limitation.

The subject that the mothers considered as most significant was found to be the child taking adequate amounts of vitamins, minerals and calcium. Also, it was verified that the mothers considered protective health

behaviors as more important, depending on their increased educational level.

Families, especially the mothers, are rather effective in determining the food choices of the children[18,19,20]. If the mothers make their children acquire good habits in their early ages, they can make important contributions towards them being more healthy individuals both in their childhood as in their future life. On the opposite, leading the children to negative feeding patterns (such as excessive cholesterol intake, excessive salt, sugar and coffee consumption) can cause them to present diverse health problems both in their childhood as in their older ages.

The educational level and socioeconomic status of the mother had an influence on the child's nutrition. The families with higher educational levels and socioeconomic status had more positive attitudes regarding the child's nutrition and care[21]. Most of the mothers (85%) tried to make their children take adequate vitamins, mineral and calcium, 75% of them tried to limit their children's excessive sugary food intake, but only 51% of them tried to limit their children's cholesterol intake[7].

The results of these studies, regarding the importance that the mothers give to the limitation of their children's sugary food intake, are similar to the results obtained in our study. However, in our study, the importance the mothers gave to the limitation of their children's cholesterol intake was found to be higher.

The children consumed sugary milk, tea and fruit juices at a high level. Moreover, 66.3 % of the children had the habit of intaking cariogenic food two or more times a day[22].

In our study, the subject that the mothers considered less important was the children making exercise three times a week. It is a well known fact that in our century the children prefer sedentary games (computer games, television etc.) and spend most of their day motionlessly. The encouragement of the families towards the children's practice of physical activities will be beneficial both for the children's health as for preventing the obesity, which is a big problem nowadays. The fact that the importance given to exercise was found to be low in our study shows the need to inform the mothers on this subject.

In a study carried out in Turkey, it was shown that 81% of the children didn't have any protective behaviors towards their oral hygiene. So, the authors emphasized that the early identification of poor oral hygiene, improper feeding habits, and frequent use of sweetened medication should be considered in preventive health promotion strategies in Turkey[22].

In our study, it was determined that the mothers considered as very important their children brushing their teeth two times a day. According to the results, it can be said that although the tooth brushing behaviors of the children are deemed as considerable by the mothers, there is a difficulty concerning the children's transferring this from approach to application. It is essential that the mothers follow their children's tooth brushing activities and make them accept the importance of turning tooth brushing into a habit.

In our study, we found out that the mothers deemed as important their children having adequate sleep. Adequate sleep will affect the child's physical growth and development, as well as his/her mental health.

CONCLUSION

In this study, the mothers considered the vaccination and growth development measurements of their children very important, but didn't deem as so important some other issues related to their children's health (such as the yearly blood pressure control, weekly exercise, etc.).

The importance attributed to nutriton and periodic health care was significantly increasing with higher education levels while there was no correlation between immunization and the mothers' education level.

Families should be educated in terms of child care, emphasizing the importance of nutrition, immunization and periodic health care. This study suggests that childhood vaccines are well known and appreciated by this sample of mothers from all levels of education.

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Corresponding Address:

Nursan DEDE ÇINAR
Sakarya Üniversitesi Sağlık Yüksekokulu
54187 Esentepe Kampüsü / Sakarya Üniversitesi
E-mail: ndede@sakarya.edu.tr