BELIEFS ABOUT THIRD-HAND SMOKE AND HEALTH PERCEPTIONS OF THE PRESCHOOL PAEDIATRIC PATIENTS' PARENTS

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SUMMARY

Objectives: Millions of children suffer from the harmful effects of tobacco smoking. The aim of this study was to investigate the health perceptions of preschool paediatric patient's parents and their beliefs and attitudes towards third-hand smoke.

Methods: This cross-sectional study was conducted with the parents of pre-school paediatric patients. A questionnaire including the socio-demographic information form, the Beliefs About Third-Hand Smoke (BATHS-T) scale and the Perception of Health Scale (PHS) were applied to the participants.

Results: Of the 500 parents participating in the study, 74.6% were mothers. Among participants 440 (88.0%) stated that they had never heard the term third-hand smoke (THS). The mean BATHS-T score of the mothers (39.20 ± 5.79) was higher than the mean BATHS-T score of the fathers (36.94 ± 5.85) ($p < 0.001$). Regarding tobacco use, 10.5% of mothers and 49.6% of fathers were smokers ($p < 0.001$). PHS total scores were higher in those who were aware of THS (52.95 ± 7.15) compared to those who had never heard of THS (49.66 ± 6.99) ($p = 0.001$). Unfortunately, 17% of the children were exposed to tobacco smoke indoors in spite of tobacco bans.

Conclusions: In this study, although general awareness of THS was low, it was found to be associated with health perceptions. Parents should be informed about THS to protect their children from exposure and to convince the smokers to quit.

Key words: child health, perception, tobacco smoking, passive smoking

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INTRODUCTION

Tobacco smoking is an important public health problem, approximately 1.1 billion people in the world still smoke and it is expected to exceed 1.6 billion by 2025 (1). About eight million people die each year from smoking, including about 1.3 million non-smokers exposed to second-hand smoke (2).

In Turkey, nearly 110,000 people die each year from smoking-related diseases. By 2030, this number is expected to rise to 240,000 per year. Turkey implemented a comprehensive smoking ban as one of the first countries in the world. In 2013, Turkey became the first WHO-recognized country to implement all MPOWER (Monitor-Protect-Offer-Warn-Enforce-Raise) policies at the highest levels (3).

Smoking hazard knowledge was related to the intention to quit (4). The fact that the harmful effects of cigarette smoke are not limited to users only reveals the importance of passive smoking. Passive smoking, also known as second-hand smoke (SHS), is formed by a combination of smoke from a burning cigarette and smoke exhaled by an active smoker. The resulting damage is significant. Lately, a new type of exposure has been described, called third-hand smoke (THS), which is a combination of tobacco smoke contaminants remaining in a closed environment (5). Studies have shown that THS is found in the clothes, skin and hair of smokers, as well as on surfaces such as walls, armchairs, carpets, and curtains (6, 7). For this reason, THS is not innocent and children are more susceptible to the negative effects of THS, because they spend more time indoors than adults do, have more hand-mouth behaviours besides an immature respiratory and immune system (8–10).

Experimental studies have shown that exposure to THS results in a decrease in body weight in newborn mice, besides changes in immunological parameters of mice, and also metabolic changes in human germ cells. This confirms the relationship between the potential harms of THS exposure and its adverse health effects (11).

Perception of health expresses opinion about one's own health and is subjective. People may think that they are healthy despite having a chronic disease or consider themselves terminally ill despite the absence of a disease (12, 13). Individuals' perception of health and reactions to illness are determined by individual, social and cultural influences, and can be diverse (14, 15).

Preschool children who spend most of their time at home are more vulnerable to protect themselves from the harmful effects of tobacco smoke, thus constituting the riskiest group in terms of THS exposure, and parents have a great responsibility in preventing this exposure. Parents should be warned about

THS. In addition to this, it is necessary to ensure that people's health perceptions are improved by healthy lifestyle behaviours and therefore avoid harmful behaviours such as tobacco use. The aim of this study was to investigate the health perceptions of preschool paediatric patients' parents and their beliefs about THS. The study's hypothesis was that parents with a higher health perception would be more aware of THS.

MATERIALS AND METHODS

This cross-sectional study was conducted at the Necmettin Erbakan University Faculty of Medicine Hospital in Turkey between October 2021 and January 2022. The study population was parents of paediatric patients admitted to the hospital during this period. A power analysis was performed to determine the required sample size (confidence level 95%, precision 0.05), showing that at least 385 participants were needed. Taking into account the possibility of incomplete or incorrectly completed questionnaires, the target was to survey at least 423 people with a 10% increase on the required sample size. All parents were invited to join the study and 508 volunteered. Eight questionnaires were excluded due to incompleteness. Analyses were performed using the responses of 500 participants.

Parents of children aged between 28 days to 60 months old, native Turkish speakers participated in the study. Being younger than 18 years of age, having a disability that impairs communication such as dementia, Alzheimer's disease, and vision and hearing problems were accepted as exclusion criteria.

After obtaining the approval of the ethics committee, participants fulfilled a questionnaire form with three subheadings (socio-demographic information form, Beliefs About Third-Hand Smoke scale and Perception of Health Scale) face-to-face. This study was conducted by following the guidelines proposed in the World Medical Association Declaration of Helsinki. All participants provided written informed consent to participate in the study.

The socio-demographic information form questioned age, education level, employment status, place of residence, and smoking history of the participants', besides their child's age, whether he/she had a chronic disease, and the reason for applying to the hospital.

The Beliefs About Third-Hand Smoke (BATHS-T) scale was developed by Haardörfer et al. in 2017 to measure the beliefs and awareness of participants about THS. Çadırcı et al conducted the Turkish validity and reliability study. The scale consists of nine questions and items 1, 2, 3, 7 and 8 constitute the sub-dimension of health, items 4, 5, 6 and 9 constitute the sub-dimension of permanence. The questions in the scale were prepared in a five-point Likert type, and the scores can vary between 9–45 points. There is no cut-off point in the scale, as the score increases, the individual's belief in the effects of THS on health and permanence in the environment increases (16, 17).

Diamond et al. developed the Perception of Health Scale in 2007. It is a five-point Likert-type scale, and Kadıoğlu and Yıldız conducted Turkish validity and reliability (12, 13). The four sub-factors of the scale are "control centre", "certainty", "self-awareness", and "importance of health", and consists of 15 items. The control centre sub-factor measures how a person perceives himself in controlling his health, whether he/she attributes his/her health to situations or beliefs such as luck and fate. The 2nd, 3rd, 4th, 12th, and 13th items are negative attitudes, and scored in reverse. The PHS sub-factor precision measures whether an individual knows what he or she should do to be healthy. The 6th, 7th, 8th, and 15th items are negative attitudes, and scored inversely. Self-awareness sub-factor includes the 5th, 10th and 14th items questioning the self-awareness of the factors that will affect the health of the individual, such as healthy eating and exercising. The importance of health sub-factor shows how much the individual cares about his/her health with the 1st, 9th and 11th items. The lowest score is 15 and the highest score is 75 points. There is a linear relationship between the score obtained from the scale and the health perception of the participants (13).

SPSS for Windows 20.0 program was used to evaluate the data. Independent samples-T test, one-way ANOVA, Mann-Whitney U test, Kruskal Wallis test, and chi-square test were used for statistical analysis. Pearson correlation analysis was performed to determine the relationship between variables. A p-value of <0.05 was considered statistically significant.

RESULTS

The mean age of the 500 participants was 31.11±5.79 (min. 19, max. 51) years old. Of the participants, 373 (74.6%) were women, 496 (99.2%) were married, 203 (40.6%) were university graduates, 77 (15.4%) had chronic disease. Among mothers, 64.1% were high school graduates, while 54.3% of the fathers were university graduates ($p<0.001$) (Table 1).

The smoking rate was 49.6% in fathers and 10.5% in mothers ($p<0.001$), 102 (20.4%) in total. Of the patients, 286 (57.2%) live with a smoker and 224 (78.3%) of these were fathers. No one was smoking in 188 (37.6%) households, smoking was allowed only in certain places such as balcony and kitchen in 288 (57.6%) households, and in 24 (4.8%) smoking was allowed throughout the house. About THS, 440 (88.0%) stated that they had never heard of this term before. Only 10.2% of the mothers and 17.3% of the fathers ($p=0.048$) stated that they had heard about THS before (Table 2).

The median age of the children was 30 (min. 1, max. 60) months. Of the children, 266 (53.2%) were boys, 162 (32.4%) had no sibling and 209 (41.8%) were the first child. Within children, 117 (23.4%) had chronic disease, 63 (53.9%) had chest diseases and allergic diseases. Of all, 241 (48.2%) had respiratory tract complaints, 107 (21.4%) allergic and immunological complaints, 12 (2.4%) had developmental delay, 88 (17.6%) had neurological, nephrological and gastroenterological complaints that we grouped as other, and 52 (10.4%) were there for follow-ups. Of the children, 85 (17.0%) were exposed to tobacco smoke indoors and 61 (80.3%) of indoor exposure occurred at their own homes.

The mean BATHS-T scale score was higher in mothers (39.20±5.79) than in fathers (36.94±5.85) ($p<0.001$), and lower in active smokers (37.45±6.62) than in non-smokers (38.92±5.65) ($p=0.041$). The mean total score of PHS was higher in those who were aware of the THS (52.95±7.15) compared to those who had never heard of the term THS (49.66±6.99) ($p=0.001$). The comparison of the mean scores of the scales with some parameters is displayed in Table 3.

Table 1. *Demographic information of participants*

Items		n	%
Age (years)	≤ 30	253	50.6
	≥ 31	247	49.4
Gender	Female (mother)	373	74.6
	Male (father)	127	25.4
Marital status	Married	496	99.2
	Single	4	0.8
Education	Primary school	170	34.0
	High school	127	25.4
	University	203	40.6
Place of living	Province	343	68.6
	Village-county	157	31.4
Having a regular job	Yes	226	45.2
	No	274	54.8
Chronic disease	Present	77	15.4
	None	423	84.6
Type of existing chronic disease[a]	Chest diseases and allergies	22	28.6
	Cardiovascular problems	10	13.0
	Endocrinological problems	24	31.1
	Other	21	27.3
Medicine use for chronic diseases	Yes	56	11.2
	No	444	88.8

[a]77 participants answered

While 19.5% of the children with respiratory tract and allergic-immunological complaints were exposed to indoor tobacco smoke, 11.2% of the children who applied to the hospital for other reasons were exposed to tobacco smoke indoors (p = 0.022). Among parents of exposed children, 61.2% were 30 years old or younger (p = 0.032), 71.8% were less educated (Table 4).

A moderately significant positive correlation was found between the total BATHS-T scores and the importance of health

Table 2. *Tobacco use status of the participants*

Items		n	%
Smoking status	Never smoker	350	70.0
	Former smoker	48	9.6
	Smoker	102	20.4
Amount of smoking[a]	≤ 10 pcs/day	64	62.7
	≥ 11 pcs/day	38	37.3
Use of non-cigarette tobacco products	No	486	97.2
	Yes	14	2.8
Does anyone use tobacco products at home?	Yes	286	57.2
	No	214	42.8
Indoor smoker's relationship with the children[b]	Mother	22	7.7
	Father	224	78.3
	Other	40	14.0
Is there a smoking rule at home?	No one can smoke in the house	188	37.6
	Smoking in certain rooms only	288	57.6
	Smoking anywhere in the house	24	4.8
Have you heard of the term third-hand smoke?	Yes	60	12.0
	No	440	88.0

Pcs – pieces; [a]102 participants answered; [b]286 participants answered

Table 3. *Comparison of scales mean scores with some parameters*

Items		n	THS scale total	PHS total	PHS centre of control subscale	PHS certainty subscale	PHS self-awareness subscale	PHS importance of health subscale
			Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age of parent (years)	≤ 30	253	38.55 (6.03)	50.02 (6.86)	15.54 (4.46)	11.63 (3.25)	10.99 (2.16)	11.86 (1.89)
	≥ 31	247	38.70 (5.74)	50.09 (7.33)	16.00 (4.46)	11.69 (3.43)	10.99 (2.26)	11.41 (2.08)
	p-value[1]		0.786	0.903	0.248	0.852	0.985	**0.013**
Parent's gender	Female	373	39.20 (5.79)	49.64 (7.25)	15.37 (4.59)	11.59 (3.34)	10.96 (2.28)	11.72 (2.04)
	Male	127	36.94 (5.85)	51.28 (6.46)	16.93 (3.87)	11.87 (3.33)	11.09 (1.99)	11.39 (1.84)
	p-value[1]		**<0.001**	**0.024**	**<0.001**	0.404	0.543	0.101
Education	≤ high school	297	38.61 (6.21)	48.77 (7.06)	15.00 (4.59)	11.12 (3.40)	10.99 (2.30)	11.66 (2.08)
	≥ university	203	38.65 (5.38)	51.93 (6.72)	16.89 (4.03)	12.44 (3.09)	11.00 (2.07)	11.60 (1.88)
	p-value[1]		0.934	**<0.001**	**<0.001**	**<0.001**	0.966	0.733
Having a regular job	Yes	226	37.65 (5.80)	51.68 (7.27)	16.80 (4.31)	12.15 (3.35)	11.22 (2.08)	11.51 (2.00)
	No	274	39.42 (5.84)	48.71 (6.65)	14.91 (4.42)	11.25 (3.27)	10.80 (2.30)	11.74 (1.99)
	p-value[1]		**0.001**	**<0.001**	**<0.001**	**0.003**	**0.035**	0.191
Presence of chronic disease in the parent	Yes	77	39.43 (6.01)	50.29 (7.09)	15.55 (4.24)	11.56 (3.30	11.17 (2.11)	12.01 (1.90)
	No	423	38.48 (5.85)	50.01 (7.09)	15.81 (4.51)	11.68 (3.35	10.96 (2.23)	11.57 (2.01)
	p-value[1]		0.193	0.756	0.638	0.772	0.441	0.074
Smoking status	Smoker	102	37.45 (6.62)	50.36 (6.91)	16.55 (4.29)	11.40 (3.57)	11.25 (2.04)	11.16 (2.12)
	Non-smoker	398	38.92 (5.65)	49.97 (7.14)	15.57 (4.49)	11.73 (3.27)	10.92 (2.25)	11.76 (1.95)
	p-value[1]		**0.041**	0.623	**0.047**	0.382	0.176	0.006
Is there a smoking rule at home?	No one can smoke in the house[a]	188	38.88 (5.68)	51.22 (7.30)	16.32 (4.39)	11.96 (3.54)	11.13 (2.21)	11.81 (2.00)
	Smoking in certain rooms only[b]	288	38.30 (6.07)	49.68 (6.80)	15.55 (4.50)	11.61 (3.15)	10.98 (2.19)	11.55 (1.99)
	Smoking anywhere in the house[c]	24	40.58 (4.73)	45.38 (6.52)	14.04 (4.13)	9.96 (3.44)	10.04 (2.34)	11.33 (2.09)
	p-value[2]		0.142	**0.049**[a, b], **<0.001**[a, c], **0.011**[b, c]	**0.048**[a, c]	**0.016**[a, c]	0.074	0.295
Awareness of THS	Yes	60	39.47 (5.19)	52.95 (7.15)	17.40 (4.02)	13.17 (3.12)	11.07 (2.28)	11.32 (2.11)
	No	440	38.51 (5.97)	49.66 (6.99)	15.54 (4.48)	11.45 (3.32)	10.98 (2.20)	11.68 (1.98)
	p-value[1]		0.238	**0.001**	**0.002**	**<0.001**	0.775	0.186
Child's age (months)	≤ 30	259	38.87 (5.77)	49.62 (7.16)	15.43 (4.59)	11.60 (3.32)	11.01 (2.18)	11.58 (1.18)
	≥ 31	241	38.36 (6.00)	50.52 (6.99)	16.12 (4.30)	11.72 (3.36)	10.97 (2.24)	11.70 (2.12)
	p-value1	0.328	0.158	0.084	0.689	0.853	0.497	

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Items		n	THS scale total	PHS total	PHS centre of control subscale	PHS certainty subscale	PHS self-awareness subscale	PHS importance of health subscale
			Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Gender of the child	Female	234	38.58 (5.97)	50.19 (7.38)	16.15 (4.50)	11.45 (3.32)	11.00 (2.21)	11.59 (1.96)
	Male	266	38.67 (5.81)	49.93 (6.83)	15.42 (4.42)	11.85 (3.35)	10.98 (2.21)	11.68 (2.04)
	p-value[1]		0.867	0.683	0.069	0.185	0.893	0.583
Presence of chronic disease in the child	Yes	117	39.04 (5.70)	48.27 (7.18)	14.53 (4.46)	11.10 (3.53)	10.91 (2.38)	11.74 (2.17)
	No	383	38.50 (5.94)	50.60 (6.98)	16.14 (4.40)	11.83 (3.26)	11.02 (2.16)	11.61 (1.95)
	p-value[1]		0.380	**0.002**	**0.001**	**0.039**	0.657	0.550

SD – standard deviation; THS – third-hand smoke; PHS – perception of health scale; [1]independent samples T-test; [2]one-way ANOVA
Numbers in bold indicate statistically significant values.

sub-factor of PHS scores, ($r=0.270$) ($p<0.001$). According to linear regression analysis, 7.3% of the variance in the importance of health subscale scores was explained by the total BATHS-T scores ($R^2=0.073$, $p<0.001$).

DISCUSSION

Tobacco use, which is an important cause of morbidity and mortality all over the world, not only harms the user, but also affects the whole society by causing exposure to SHS and THS. While the harmful effects of SHS are still being discussed, the number of studies on THS exposure are very few. In addition, people's health perceptions affect their sensitivities about healthy lifestyle behaviours and therefore there may be changes in their attitudes towards tobacco use depending on their health perceptions. This study is important in terms of examining the relationship between parents' health perceptions and their beliefs and attitudes towards THS.

It has been shown that the smoking rate among adults in the UK has decreased from 19.3% to 14.4%. It is aimed to reduce this rate to below 5% by 2030 and make UK "smoke free" (18). In Turkey, according to 2017 data, 31.5% of adults use tobacco products (19, 20). In the present study, it was determined that 20.4% of the parents participating in the study were smoking. The participants were mostly mothers so affected the rate to be lower compared to Turkey's data.

When the studies on parents are examined, the smoking rate of fathers is higher than mothers. In a study conducted in Eskişehir Province, it was determined that half of fathers and one-fourth of mothers smoked (21, 22). Similarly, in this study, it was shown that half of the fathers and one-tenth of the mothers were smokers. In Turkey, one out of every two men and one out of every five women use tobacco products (19, 20).

Drehmer et al. demonstrated that mothers' belief in the negative effects of THS was higher than in fathers (23). In another study conducted on Israeli parents in 2018, it was shown that mothers had higher awareness about their children's exposure to THS compared to fathers (24). In line with the literature, in this study mothers' belief in the harmful effects of THS was found to be significantly higher than that of fathers.

In the presented study, nearly three-quarters of parents with children exposing to tobacco smoke in indoor environment were low educated. In a study conducted on parents in Spain, it was shown that the increase in education level increased the sensitivity of parents to the harmful effects of THS (25). This is important as it concludes that we should inform especially low educated parents to prevent their children's exposure to environmental cigarette smoke.

In a study by Johansson et al. in Sweden, parents who smoke were found to have lower awareness of the negative effects of environmental cigarette smoke than parents who did not smoke (26). In another study conducted on pregnant women, the BATHS-T score of pregnant women who smoke was found to be lower comparing to non-smoking pregnant women (27). Similarly, in the present study, the beliefs of smoking parents about the negative effects of THS were found to be significantly lower than non-smoking parents.

In this study, it has been determined that more than half of the participants are allowed to smoke only in certain places such as the kitchen and balcony, while no one can smoke in nearly a third of

Table 4. *The child's indoor tobacco smoke exposure according to some variables*

Items		Child's indoor tobacco smoke exposure				χ^2	p-value[1]
		Yes		No			
		n	%	n	%		
Child's age (months)	≤ 30	39	45.9	220	53.0	1.436	0.231
	≥ 1	46	54.1	195	47.0		
Gender of the child	Female	38	44.7	196	47.2	0.180	0.671
	Male	47	55.3	219	52.8		
Place of living	Province	55	64.7	288	69.4	0.721	0.396
	Village-county	30	35.3	127	30.6		
Age of parent (years)	≤ 30	52	61.2	201	48.4	4.583	**0.032**
	≥ 31	33	38.8	214	51.6		
Parent's education status	≤ high school	61	71.8	236	56.9	6.492	**0.011**
	≥ university	24	28.2	179	43.1		
Parent's awareness of THS	Yes	5	5.9	55	13.3	2.965	0.085
	No	80	94.1	360	86.7		
Smoking person at home	Yes	72	84.7	214	51.6	31.648	**< 0.001**
	No	13	15.3	201	48.4		
Smoking regulation at home	Yes	72	84.7	404	97.3	18.287	**< 0.001**
	No	13	15.3	11	2.7		
Total sibling number	1	29	34.1	133	32.0	0.138	0.710
	≥ 2	56	65.9	282	68.0		
Sibling order	1st	39	45.9	170	41.0	0.702	0.402
	≥ 2nd	46	54.1	245	59.0		
Total		85	100.0	415	100.0		

THS – third-hand smoke, [1]chi-square test
Numbers in bold indicate statistically significant values.

the houses. Studies show that the nicotine level is 5–7 times higher in environments where smoking is avoided but not totally forbidden than in completely smoke-free houses, and this explains that THS particles can be carried through hands, clothes, surfaces, and air circulation. It has also been emphasized that smoking outside reduces but does not completely eliminate THS exposure (28). In a study conducted in the neonatal intensive care unit, samples were taken from the hands of the mothers who had babies in the neonatal intensive care unit, the surfaces of the furniture they used in the hospital, and the baby incubators, and the urine of the babies was examined. Nicotine was detected in the items used by smoking mothers and in the incubators of their babies, and the urine cotinine levels of the babies of these mothers were higher than the other babies. This situation reveals that THS exposure can occur even in the most sheltered areas (29). The urine cotinine levels of the babies who share the same house with individuals who smoke outside the home were higher than the urine cotinine levels of the babies who do not have a smoker in their houses, therefore, smoking outside the house does not protect the babies living in the same house from the harmful effects of THS (28).

Most of the parents participating in the study stated that they had never heard of THS before. However, they agreed that it is harmful when brief information about THS was given. The low awareness of THS can be attributed to the fact that THS is a new term. In a study conducted with parents of children under the age of three in Spain, one-third of the parents stated that they were familiar with THS, and approximately eight out of ten believed that THS was harmful to their children (25). It has been shown that the educational intervention regarding THS had positive effects on tobacco control such as changing the smoking attitudes of individuals, reducing the number of cigarettes smoked and quitting (30).

Studies on THS are quite new and there is not enough study on the effects of THS on human health, especially on the health of children. Respiratory tract infections have been shown to be more common (31). Childhood asthma is associated with environmental tobacco smoke (32). In a study conducted on mice, a decrease in neutrophil counts and an increase in eosinophils were observed due to THS exposure. These results show that THS may adversely affect human health by creating effects on weakening of the immune system and allergy (11). Similarly, in this study, indoor tobacco smoke exposure was found to be significantly higher in children who applied to the hospital with respiratory and allergic complaints. These children's complaints may be due to the tobacco smoke they were exposed to.

The health perception of the participants aged 29 and younger was found to be higher in the study conducted by Yilmaz et al. In addition, health perceptions of higher educated ones were higher than those who have secondary school and below education level (33). In the present study, the mean importance of health score was found to be higher in parents aged 30 years old and younger.

This can be explained by the fact that the biological, psychological and social changes that occur in people with advancing age have a negative effect on the perception of health. Similarly, in the presented study, it was determined that the control and precision sub-dimension scores and total scores of the PHS were higher in parents with a university or higher education level than those with high school and below. It can be attributed to the fact that the increasing level of education increases the awareness of oneself and his environment, and therefore, he/she avoids harmful behaviours by preferring behaviours that will affect health positively.

Studies in the literature have shown that women's perception of health is lower than men's one (34, 35). Similarly, in this study, the mean score of the PHS of women was found to be significantly lower than that of men. This may be associated with women's low perception of health as they are physiologically and psychologically more sensitive.

In the present study, health perceptions of working parents were found to be higher than non-working parents. Supporting the present study, Kaleta et al. showed that the perception of health in unemployed people was worse (36). This can be explained by the comfort brought by the economic freedom of working individuals since they can more easily access the opportunities needed to protect and improve their health.

In a study conducted by Yiğitalp et al., cigarette smokers evaluated their health worse than non-smokers (37). In the present study, the importance of health sub-dimension mean score of the PHS of smoking parents was found to be lower than that of non-smoking parents, and this may be attributed to the fact that non-smokers care more about their health.

In another study conducted on students, the average of health perception scores of those with chronic disease was found to be higher. Similarly, it was observed that the certainty sub-dimension mean score of students with chronic diseases in their family members was significantly higher than those without a family member with a chronic disease. The certainty sub-dimension is intended to show whether the person has a definite idea about what to do to be healthy and stay healthy. Therefore, this situation shows that students with health problems in their families have clearer ideas about what they need to do to be healthy (38). In another study, the average health perception score of individuals with chronic disease was found to be lower than those without chronic disease (33). In the present study, parents' chronic disease had no significant impact on the perception of health, whereas the perception of health was lower in parents of chronically ill children. This situation can be explained by the fact that parents give priority to their children and neglect themselves.

The study has two limitations. Firstly, the participants were parents of children who attended the tertiary care hospital for any reason, which may have resulted in an unrepresentative sample. Secondly, the participants may have been more health-conscious individuals who were more likely to volunteer.

CONCLUSIONS

Most of the parents did not know about THS, and the total mean score of the THS scale of the parents who smoked was lower than those who did not smoke. Tobacco smoke exposure was found to be higher in children admitted to the hospital with respiratory tract and allergic complaints compared to children admitted to the hospital for other reasons. The education level of the parents, whose children were exposed to tobacco smoke in the indoor environment, was found to be lower.

Smokers' beliefs about the health risks of smoking have an impact on their decision to quit. Smokers, who report greater concern about future health effects and who are aware of the health benefits from quitting, are likely to consider quitting. Therefore, parents should be informed about THS and its effects on their children to protect their children from exposure and to convince the smokers to quit.

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Conflicts of Interest

None declared

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