

## Original Article

# Mothers' Decision-Making Processes Regarding their Children's Health Care

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## Abstract

**Aim:** The aim of this study was to investigate mothers' decision-making processes related to factors of child health care.

**Methodology:** The participants of this study were selected through convenience sampling from mothers who lived in Erzurum. One hundred and eight mothers voluntarily participated in the study. Data were collected using the Health Self-Determinism Index(HSDI), Health Care Scenarios(HCS) and Demographic Profile.

**Results:** In this study, the seriousness of the child's condition, the mother's previous experience, and the social support available to the mother were most common reasons impacting on the mother's decision-making regarding their children's health care. There were significant differences in decision-making factors between first-time mothers and mothers with more than one child, and support in decision-making was very important for the mothers in this study.

**Conclusions:** This study shows how it would also be useful for health care providers to better identify mothers' decision-making factors.

**Keywords:** Child Health Care, Decision-Making, Mother Experience, Health Self-Determinism Index(HSDI), Health Care Scenarios(HCS).

## Introduction

Over the past two decades, Turkey has made remarkable progress in improving health outcomes among its child population living (Turkish Statistical Institute, 2014). Although this trend is encouraging, the current levels of infant mortality and morbidity have remained high. According to the report of UNICEF; infant mortality rate is 5 per thousand in England, 7 per thousand in the USA whereas it is 14 per thousand in Turkey (Unicef Report, 2013). It is thought that children do not get sufficient health

care in our country; which is thought to be effective upon high infant mortality rate in our country.

Dealing with a child's health care issues at the right time and taking effective action are closely related to the mother's decision-making factors. Decision-making is a difficult process, needing high self-efficacy, knowledge, experience, capability and risk taking (Erci, 2005; Brotherton and Abbott, 2012). The culture mothers have affects decision-making process; too (Ozyazicioglu and Polat, 2014; Ozyazicioglu et

al. 2014). Mothers are the persons in the family most responsible for making decisions about health care and health behaviours regarding their children. However, problems concerning child health create anxiety for mothers who are responsible for maintenance of their child's health. If the child's health condition is unknown, the parents' anxiety level increases and their ability to problem-solve becomes restricted. Mothers with high levels of anxiety may experience difficulty in decision-making related to health care as well as participating and collaborating with the health team (Ozyazicioglu and Buran, 2014; Kilicaslan-Toruner and Akgun-Citak, 2013; Ozyazicioglu and Tufekci, 2009; Celebioglu, 2004).

Decision-making regarding health behaviour affects an individual's quality of life and their overall health care (Gross and Howard, 2001). Nursing is concerned with assisting individuals in understanding, adopting, and maintaining health behaviours that will reduce risk of disease and disability. Nurses need to continually increase their knowledge of how decisions are made regarding health behaviour in order to initiate and sustain appropriate behaviour (Fleury, 1992). Thus, all health personnel, especially nurses, can provide a positive contribution to children's health by giving encouragement during this difficult process, offering information on the adverse consequences of wrong decisions, supporting the family and medical staff, and advising regarding money and support to prevent the loss of time away from work (Gross and Howard, 2001).

There are small number of studies which have examined mother's decision-making concerning child health care during various diseases (Kilicaslan-Toruner and Akgun-Citak, 2013; Daniel et al. 2005; Okoko and Yamuah, 2006; Mahant et al. 2011). The number of the studies that attempted to explain parent-experiences and decision-making processes is limited (Mahant et al. 2011).

While there are a few studies about mothers' decision-making, there is no study specifically related to Turkish mothers' decision-making processes and the factors relating to child health care. Therefore, it is timely to further investigate this cohort to determine and understand mothers' decision-making process and related factors regarding child health care. This study aimed to

investigate mothers' decision-making processes and related factors regarding child health care.

## **Method**

A descriptive design was used in this study.

### ***Data collection methods, participants and procedure***

Quantitative data pertaining to participant demographics, availability of social support, client-professional interaction, levels of self-determinism, and responses to health care scenarios were measured in the study.

The study population comprised mothers who lived in the urban area of Erzurum, Turkey. A sample for this study was recruited from mothers with children aged less than 12 years old attending at least one of five primary health care centres in the town for immunization, care, and treatment services. The researchers asked mothers to participate in the study and to complete the questionnaire during their normal appointment. The sample size was determined as 134 mothers with an effect size 0.3, alpha 0.05, power 0.95 by using power analysis. There were 26 mothers who did not complete the questionnaire. Thus, 108 mothers voluntarily participated to the study, a response rate of 80.5%.

### ***Instruments***

Data were collected using Health Self-Determinism Index (HDSI), Health Care Scenarios (HCS) and Demographic Profile (DP) between 1 March and 15 June 2008.

***Demographic Profile (DP):*** The DP gathered demographic information relating to age, education level, health insurance, the number of children, resource health knowledge, and monthly income of family.

***Health Care Scenarios (HCS):*** The HCS were developed by Gross & Howard (2001) using common health care concerns that mothers might experience with their children (possible ear infections, possible head injury, and a laceration requiring stitches). The scenarios were translated into Turkish by researchers and linguistics controlled translated the scenarios.

***Example scenario;*** *Your child is standing by the kitchen counter on a chair to watch you prepare Thursday's lunch. She/he reaches out for a spoon on the counter and falls off the chair hitting*

her/his head on the leg of the chair before landing on the kitchen floor. You go to her/him to see where she/he hurts. She/he lies on the floor touching the back of her/his head, crying and telling you her/his head hurts. There is a large bump on the back of her/his head but no other injury can be seen. You sit her/him up and she/he tells you she/he doesn't feel well but she/he can't tell you how she/he doesn't feel well. You place a cold washcloth on her/his head and sit with her/him.

The mothers were asked to rate the actions that would be taken regarding each scenario.

Actions included:

- (1) calling a supportive person for advice,
- (2) going to the hospital's emergency room,
- (3) calling the doctor's office or health clinic and asking for the doctor's or nurse's advice,
- (4) staying with the child and watching for continuation of symptoms or further problems, or
- (5) calling the doctor's office or health clinic and asking for an appointment for the child as soon as possible.

Under each action, each mother rated the importance of each of 10 factors in her decision relating to the child's health care (Gross and Howard, 2001). Mothers could give more than one answer for the scenarios.

**Health Self-Determinism Index (HSDI):** The HSDI, used to measure motivation in health behaviour, was developed by Cox (1985) and is based on the theory of cognitive evaluation of intrinsic motivation in which individuals are described as having a need to feel competent and self-determining within their environment.

The HSDI measures the individual's motivational behaviour along an intrinsic–extrinsic motivation continuum. Intrinsic motivation is characterised by independent decision-making, managing motives effectively, responsiveness to internal cues, feelings of self-support, determination, and a high degree of perceived competence. Cox (1985) determined that internal consistency of the instrument was 0.82. The alpha of the instrument is 0.75, and validity of the instrument is 0.69 in this study.

In the first instance, the HSDI was translated into Turkish. The Turkish version was then translated into English by two Turkish lecturers who teach

English language at the Atatürk University. *Extrinsic motivation* is described as little active decision-making. Use of external cues includes rewards for performing the behaviour and are more meaningful than what the feelings of the behaviour does for the person; consequently, the feelings of competency are lower than *intrinsic motivation*.

The 17-item Likert-formatted questions are divided into four subscales that correspond to theoretical components of an intrinsically motivated person and are: self-determined health judgments, self-determined health behaviour, perceived sense of competency in health matters, and responsiveness to internal–external cues (Cox, 1985).

Half of the items indicate a strong sense of self-determination and competency and the remaining half reflect little or no self-determination and competency. Each intrinsically item is scored on a scale from 1 to 5 where 1 is most extrinsic and 5 most intrinsic. Each extrinsically motivated item is scored on a scale from 1 to 5; 1 is most intrinsic and 5 is most extrinsic. Factor analysis on the 17 items revealed that the four factors that resulted were the same as the four components of intrinsic motivation. All of the items have a loading factor 0.30 or greater. A strong confirmation was shown in the four components.

The HSDI was shown to measure distinct components of motivation. Factor analysis was used to check the multidimensionality of the instrument. The instrument's questions were revised by Gross and Howard to reflect the mother's decision-making in terms of her children (Gross and Howard, 2001). In the current study, reliability reflected an alpha of 0.76 for the HSDI extrinsic items and an alpha of 0.70 for the HSDI intrinsic items. Total alpha of the instrument is 0.75, and validity of the instrument is 0.69 in this study. The explained total variance was 56.0% for this scale.

### **Data analysis**

The data were evaluated on a computer using percentage, factor analysis, correlations, t test and chi-squares test. The comments were gained from the mothers regarding their decision-making factors in relation to the scenario by using a series of steps during the interview, including seeking further information. The

confidence interval was 95%;  $P < 0.05$  was considered to be statistically significant.

### **Ethical considerations**

Verbal and written approvals were obtained from the health centres and related organisations before starting the study. Permission to undertake this study was gained from the ethics committee at the Atatürk University and informed consent was obtained from each participant.

### **Result**

Demographic data indicated that the age of the mothers ranged from 19 to 48 (mean  $29.9 \pm 5.7$ ) years. All of them were married, and 90.7% of the mothers had health insurance. The majority of the mothers (60.2%) had two or more children, 46.3% had a secondary education degree, and more than half of them were unemployed (56.5%).

### **Decision-making factors used by mothers**

The seriousness of the child's condition (64.8%), the mother's previous experience (55.6%), and the mother's social support (39.8%) were the major reasons within the mother's decision-making about their children's health care. Decision-making factors used by mothers were directly related to how they processed the child's health situation. The mothers' responses related to the specific decision-making factors and their comments regarding scenarios are shown in Table 1.

### **Mothers' motivational style in decision-making**

The client singularity elements of intrinsic motivation and decisional control were analysed using the HSDI. This scale contained questions relating to how comfortable mothers felt about taking care of their child and how they utilised external support systems such as physicians. The mothers often reported that their child's health care was very important, and they were worried about their child's health.

In addition, the mothers felt that they always knew what to do regarding with their child's health care, and considered themselves comfortable about how they take care of their child. The mothers' responses were consistently distributed as far as preference for help from physicians and nurses to plan their child's health care.

In this study, the mean score of intrinsic self-determinism for mothers with one child was found to be 3.60 when compared to the mean score for mothers with more than one child, which was found to be 3.72. A score of 5 represents most intrinsically motivated.

The mean score of extrinsic self-determinism for mothers with one child was 3.71 as compared to the mean score for mothers with more than one child of 3.83. A score of 5 represents most extrinsically motivated or dependent on the physician to assist with decisions.

The age and the child number of the mothers did not affect the motivational style of the mothers in decision-making processes. The education level ( $KW_{\chi^2}: 7.92$ ,  $df: 2$ ,  $p < 0.05$ ) and employment situation ( $t: 3.37$ ,  $df: 105$ ,  $p < 0.001$ ) of the sample were associated with the motivational style of the mothers in decision-making processes.

In addition, all demographic characteristics were effective (53.3%) on the mothers' decision-making processes for child health care in this study.

### **Differences in decision-making processes due to mothers' experience**

The themes of seriousness of the child's condition, previous experience, the attitude of the health care provider, and the mother's support system were named as most important in their decisions relating to their child's care. There was no significant difference between mothers' experience and decision-making processes when using the decision-making factors, except for cost ( $X^2: 5.57$ ,  $df: 1$ ,  $p < 0.05$ ) in scenario 2.

The scenarios, experience of mothers, and their first reaction for the scenarios were summarized in Table 3. There was a significant difference between the decision-making factors of the less experienced and more experienced mothers.

The more experienced mothers were more likely to ask for a doctor's appointment and to stay with their child ( $p < 0.05$ ). In scenario 2 there was also a difference regarding calling for support, and in scenario 3 for a doctor's advice. Mothers gave a varied rating of the health care actions for each scenario but this did not provide a clear relationship to each scenario.

**Table 1 Distribution of comments from the mothers regarding decision-making processes in relation to the scenarios (n=108)**

<i>Comments</i>	<i>Comments' Percentage (%)</i>
<b>Seriousness</b> Seriousness of the situation is very important.	70 (64.8%)
<b>Cost</b> I think about the cost of the various actions (environmental and personnel financial resources).	26 (24.1%)
<b>Previous experience</b> I take into consideration my previous experience with a similar situation.	60 (55.6%)
<b>Location of health care</b> I consider the distance to and location of my health care provider and emergency room.	29 (26.9%)
<b>Support of family and friends</b> I usually get support and advice from family and friends.	43 (39.8%)
<b>Attitude of my boss and co-workers</b> If I needed to go to check my child I would.	16 (14.8%)
<b>Child care arrangements</b> I consider my child care arrangements.	19 (17.6%)
<b>Attitude of health care provider</b> I regard attitude of health care provider and their staff.	42 (38.9%)
<b>Frightened of situation</b> This is really important. If it's something that seems very serious to me then it's very important to react quickly to.	29 (26.9%)
<b>Work schedule or pay</b> I consider the effect of this condition on my work schedule and/or pay.	14 (13.0%)

*Comments' percentages were calculated from the mother's responses as some gave multiple comments about their decision-making.*

**Table 2 Decision-making factors related to mothers' experience and health care action (n=108)**

Factors	Scenario 1			Scenario 2			Scenario 3		
	(Ear Infection)			(Head Injury)			(Laceration)		
	Grand Mean	Mean 1 child	Mean > 1	Grand Mean	Mean 1 child	Mean > 1	Grand Mean	Mean 1 child	Mean > 1
Serious	8.37	8.40	8.25	8.11	8.14	8.00	8.71	8.68	8.84
Expert	6.86	6.77	7.50	6.61	6.34	7.57	6.84	6.57	7.92
Location	5.37	5.07	6.50	4.70	4.67	4.80	5.26	5.42	4.63
Support	5.64	5.71	5.30	5.69	5.70	5.63	5.66	5.55	6.00
CCP	4.32	4.50	3.75	4.42	4.66	3.62	3.41	3.39	3.50
HCP	5.70	5.81	5.50	5.79	5.78	5.81	5.76	5.83	5.50
Fear	5.58	5.74	5.00	5.65	5.46	6.18	6.36	6.17	7.28
Work	3.25	3.04	4.20	2.46	2.88	1.66	2.00	2.30	1.33
Cost	2.91	2.67	3.91	2.95	2.56*	4.46*	3.05	2.85	3.83
Employer	2.81	3.00	2.30	2.70	2.62	3.00	2.10	2.17	1.90

\* $p < 0.05$  Significant difference based on mother's experience (1 child and >1 child), *t* test was used.  
HCP = health care provider; CCP = child care provider.

**Table 3 Actions taken for each scenario in relation to mothers' experience (n=108)**

Scenario	Mothers	Call for Support	Hospital E.R.	Doctor's Advice	Stay with Child	Doctor's Appt.
1	1 child	23 (24.8%)	26 (28.0%)	27 (29.1%)	20(21.6%)*	31 (33.4%)
1	>1 child	39 (42.1%)	51 (55.0%)	45 (48.6%)	45(48.6%)*	46 (49.6%)
2	1 child	19(20.5%)*	37 (40.0%)	23 (24.8%)	22(23.7%)*	20(21.6%)*
2	>1 child	43(46.4%)*	50 (54.0%)	47 (50.7%)	47(50.7%)*	44(47.5%)*
3	1 child	20 (21.6%)	39 (42.1%)	20(21.6%)*	19 (20.5%)*	19 (20.5%)*
3	>1 child	41 (42.3%)	56 (60.4%)	44 (47.5%)*	44 (47.5%)*	44 (47.5%)*

\* $p < 0.05$ ,  $X^2$  test was used. Actions' percentages were calculated from the mother's responses as some gave multiple responses

## Discussion

Each year in the world, more than 630 000 children aged  $\leq 15$  years old die as a result of injury. A large proportion of these injuries (for example, drowning, burns, falls) occur in or around the home (WHO, 2014). For this reason, sickness, accident and injury cases affecting children receive early treatment with positive and negative effects on the mother's decision-making, and the factors affecting this process are very important to investigate (Yilmaz and Pival, 2011).

According to comments from the mothers in this study, the major decision-making factors were the seriousness of the issue—including their fear of the child's condition, previous experience with the situation, the social support available for the mother, and the attitude of the health care provider towards their children. Similar to our findings; Gross and Howard (2001) found that seriousness of the child's condition, the fear of the mother, the attitude of the health care provider, and the mother's support system were most important issues in decision-making for their child's health care. Previous experience with the particular health care situation influenced how she perceived the seriousness of the condition. Mothers expressed this experience to be helpful in knowing what needed to be done and how to best assist them with their children.

It was found out in other studies conducted that seriousness of the disease of the child (Ozyazicioglu and Buran, 2014; Kilicaslan-Toruner and Akgun-Citak, 2013; Allen, 2014), urgency of the disease of the child (Kilicaslan-Toruner and Akgun-Citak 2013), economical factors (Ozyazicioglu and Buran 2014), social support received from the social environment (Ozyazicioglu and Buran, 2014; Kilicaslan-Toruner and Akgun-Citak, 2013; Allen, 2014) and past experiences of the mothers (Cox, 1985) affected their decision-making process.

When the child was taken to the doctor's office, health care clinic or the hospital emergency room, the attitude of the health care provider was also described as an important component in the decision regarding how soon and at what location the child was treated. Mothers described "attitude" as the way the mother was welcomed by the health care provider, how the provider handled the child, and if the mother was included in the care of the child. The studies conducted

demonstrated that mothers were under pressure about decision-making (Mahant et al. 2011), opinions of the health professionals like nurses affected parents' point of views (Kilicaslan-Toruner and Akgun-Citak, 2013) and mothers left the decisions to the doctors because they feared about making wrong decisions about the treatments and treatment-options (Kahveci et al. 2014).

There was a significant difference between the decision-making factors of the less experienced and more experienced mothers. The differences were seen in scenario 2 (possible head injury) and cost was indicated as more important by mothers with more than one child, even though the rating for cost by both was low (2.56 and 4.46, respectively). These results were not similar to those found in study of Gross and Howard (2001). Cost may be influential because the mothers have more expenses with more children or the mothers may be thinking of the need for more intensive care, such as the emergency room, for the possible head injury.

Mothers may need support from the outside social environment (families, relatives, friends and significant others) because they may face difficult decisions about the health of the child which they have to make and which can change their lives (Allen, 2014). In the current study; it was found out that mothers' extrinsic factor scores were higher. Kathrins and Turbow (2010) pointed out that the participants with high extrinsic motivation scores adapted themselves more easily to the trainings provided. In a study done in Turkey; it was discovered that doctors had high level of decision-making authority about (Kahveci et al. 2014). This finding showed Turkish mothers depended on the physician's assistance in decision-making for health care.

In this study, the mean score of intrinsic self-determinism for mothers with one child was found to be 3.60 when compared to the mean score for mothers with more than one child, which was found to be 3.72. Gross and Howard (2001) determined that the mean score of intrinsic self-determinism for mothers with one child was lower than the mean score of mothers with more than one child. They also found that the mean score of extrinsic self-determinism for mothers with one child was lower than that of other mothers. Ozyazicioglu and Buran (2014) reported that social support the mothers with

single child perceived were higher. This result may be explained with the previous experience of mothers.

In the present study, the mothers responded to their child's needs according to their own perception or cognitive understanding of the seriousness of the condition, the fear they had about the situation, how they have dealt with the situation in the past, how the health care provider is willing to work with them, and the support system that they commonly use.

The only scenarios in which the mothers were thought to use the appropriate choices were in scenario 2 and scenario 3, and this was seen the mothers with more than one child. Perhaps the mothers had experienced this situation before and remembered what needed to be done or was expected of them to help their child. Gross and Howard (2001) found that there was a significant difference in the health care action taken for scenario 1 between first-time mothers and mothers with more than one child.

The location and cost of health care, the child care provider, mother's work schedule or pay, and their employer and co-worker attitude were not multiple concerns listed if their child was experiencing discomfort or a health condition. The mothers noted that they would take care of their children no matter how costly it might be or how far away the health care was. They would do what they could to pay for the care or take the child where they needed to go for care, as that was part of their responsibility as a mother. If the child needed care they would leave work to do so and make arrangements with their employer and co-workers, such as working at a different time or exchanging times with co-workers.

In this study, Turkish mothers were consistent in their responses and the decision-making factors that influenced their actions related to the health care of their children. The health care provider should know that if the mother has had previous experience and considers the condition as significant for her child, then they should take those concerns seriously. The mothers' expectation of her health care provider is to know what treatment is required and how this can best be accomplished. Nurses are responsible to increase care quality and to assess mothers' needs (Kilicaslan-Toruner and Akgun-Citak, 2013), therefore; they should make interventions that would improve decision-making process of

the parents about the child care (Mahant et al. 2011). The literature review revealed the need for more studies relating to decision-making processes about health care of mothers from all socioeconomic groups in the general population. This study helps broaden the knowledge about maternal decision-making regarding children's health care.

### **Conclusion**

Support of family and friends, their past experiences and seriousness of the child's disease is important in mothers' decision-making. There were differences in decision-making processes of those becoming mothers for the first time and those having more than one child.

### **Recommendations**

The health care provider should know that if the mother has had previous experiences and considers the condition as an issue for her child, then they should take those concerns seriously. Understanding factors impacting on decision-making about child health care can be useful in determining how to appropriately communicate with the mother regarding present and future conditions.

With the current study; it may be suggested that mothers' strength in decision-making process should be increased and new studies with larger sample sizes in different cultures should be done in order to receive effective health care services of the children.

### **Study limitations**

Statistical interpretation of the results was difficult due to the small sample and non-randomised sampling. Therefore, the results of the study may be generalized to only this group.

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