Evaluation of the attitudes and behaviors of parents with children aged 0-12 on drug use at the pandemic period

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ABSTRACT

Purpose: To determine the attitudes and behaviors of parents who have children between 0-12 years of age towards rational drug use during the pandemic period.

Materials and Methods: The sample of the descriptive and cross-sectional study consisted of 192 parents. The data were collected online between December 2020 and April 2021, using an information form about the child and family prepared by the researchers and the Parental Attitude Scale towards Rational Drug Use. The survey form was created using the Google Documents website, and the link of the survey form was distributed via social media tools such as Facebook, Instagram, and blogs, allowing the participants to participate in the survey. SPSS 26 program was used to evaluate the data, and the $p<0.05$ value was accepted as statistical significance.

Results: Of the parents participating in the study, 91.7% had a mother, 47.9% had a child between the ages of 31-40, and 62% had a child between the ages of 0-12. During the pandemic period, 40.6% of parents stated that their children needed medication, and 57% of those who needed medication met their child's medication needs without a prescription. The total mean score of the Parental Attitude Towards Rational Drug Use Scale of Parents is 153.58±11.42. Correct and conscious use sub-dimension mean score was 130.53±12.10, and effective and safe use sub-dimension score average was 23.05±6.39.

Conclusions: It was determined that the parents' attitudes towards rational drug use were at a good level. However, the rate of over-the-counter drug use was found to be above the average.

Keywords: Rational drug use, child, parent, COVID-19, pandemic

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INTRODUCTION

In drug use, problems such as the risk of side effects, increase in morbidity and mortality rates, decrease in accessibility to even the most basic drugs as a result of improper consumption of resources, and increase in costs are encountered. For this reason, "Rational Drug Use (RDU)" studies have been started in the world to produce and develop solutions. The World Health Organization (WHO) meeting in Nairobi in 1985 was considered the beginning of RDU studies [1,2]. WHO has defined RDU as "the ability of individuals to reach the appropriate drug, at the appropriate time and dose, at the lowest cost, and easily according to their clinical findings and individual characteristics" [1-3]. The use of drugs that do not comply with this definition is defined as Irrational Drug Use (IDU). Using too much medication per patient, writing prescriptions that do not comply with current guidelines, and inappropriate self-medication without consulting a physician are the types of IDUs. According to WHO, more than half of all medicines are prescribed, supplied, or sold inappropriately, and half of all patients do not use their medicines correctly. Difficulty accessing drugs and inappropriate doses leads to serious mortality and morbidity for childhood infections and chronic diseases such as hypertension, diabetes, epilepsy. Furthermore, inappropriate and excessive consumption of drugs causes an increase in the incidence of side effects and a decrease in patients' adherence to treatment [1,3]. Although IDU is an important public health problem in Turkey and the world, the increase in drug expenditures it brings with it causes economic losses for our country [4-6].

It was reported that irrational drug use is high in most developing countries, irrational drug use rates among parents increase in developed countries, and people self-medicate with over-the-counter drugs [7-10]. For example, in a study conducted in Italy, 69.2% of the participants used self-medication at least once without a doctor's prescription, and the rate of self-medication was higher in women, the younger population, and those who had health problems in the previous year [9].

Parents take care of their children by applying for their medicines when they are sick, as in every situation related to the care of their children. But children are more vulnerable to the negative consequences of drugs, and it is of great importance that parents self-medicate their children. In a study, it was found that 58.82% of parents gave their children medication without consulting a doctor and that self-medication was significantly higher in families with children over the age of five and with a low annual income [11]. In another study, it was determined that the prevalence of self-medication to children by their parents was 77.25%. It has been observed that 45% of parents self-medicate their children three or four times a year, and the main reasons behind this practice are the perception of the disease, experience, lack of time, financial constraints, and leftover medicines at home [12]. Irrational drug use; sociodemographic characteristics, culture, economy, and poorly implemented drug use policies. Parent and child's age, education level, place of residence, income level, parent's drug knowledge, written/visual media, previous experience of parents about their children's disease and symptoms, difficulty in accessing health services are the factors affecting attitudes and behaviors in drug use [9,12-16].

A pandemic was declared by the World Health Organization on March 11, 2020, for the rapidly spreading COVID-19 epidemic worldwide [1,17-19]. In the pandemic process; not leaving the house, the curfew imposed, distance to social relations, keeping a distance of at least one meter between people, avoiding contact due to social isolation, paying more attention to social distances against family elders, suspending face-to-face education in schools and continuing the implementation. With the distance education that started, there have been changes such as moving the school to the house, working parents staying at home for a long time. These have brought many physical, psychological, social, and economic changes in the lives of individuals [20]. It is normal for children to experience anxiety, panic, and fear for themselves, their families, and other loved ones due to the COVID-19 pandemic. However, it is the parents' responsibility to manage this process that children experience [21]. Not leaving the house for a long time during the pandemic process affects the situation of people receiving health care or managing their health needs. Since the number of studies examining the attitudes and behaviors of parents towards health care purchase and drug use is few in the literature review, this study was planned to be conducted. The study aimed to determine the attitudes and behaviors of parents who have children between the ages of 0-12 without COVID-19 infected during the pandemic period towards rational drug use.

MATERIALS AND METHODS

Study design, setting, and sample

This research is a descriptive and cross-sectional study and was conducted between December 2020 and April 2021. Due to the cross-sectional nature of the study, all families reached through social media within the specified time frame were included in the study. The sample of the study consisted of 192 parents. The researchers prepared

an information form about the child and family and the Parental Attitude Towards Rational Drug Use Scale to collect the data.

Data collection

Due to the pandemic conditions, the online method was preferred in the collection of research data. Link to the survey form created via the Google Documents Website; Parents' participation in the research was ensured by distributing them via social media tools such as Facebook, Instagram, and blogs. Answering a survey takes approximately 4 minutes.

INSTRUMENTS

Child and Family Introductory Form

In the form created by the researchers in line with the literature; gender, age, education level, occupation, employment status, income status, place of residence, family type, the total number of children, age of children, presence of chronic diseases in children, continuous drug use of children, were most frequently applied for treatment when the child is sick, child. There are a total of 19 questions such as which drugs are given most frequently without a prescription, the situation of being in quarantine during the pandemic, the child's need for medication during the pandemic, and how the medication is met in case of need [14,15,18,20,22].

Parental Attitude Towards Rational Drug Use Scale (PATRDUS)

The scale was developed by Çelebi (2018) to determine parents' attitudes towards rational drug use. It is a 5-point Likert-type scale that evaluates the attitudes and behaviors of the parents about the drugs they give to their children, such as what they use the drug for, side effects, storage conditions, whether they use non-prescription drugs, whether they use it as recommended (duration, dose) according to the prescription. It consists of 40 questions marked as disagree/strongly disagree. Each statement on the scale was scored from 1 to 5. Positive questions were scored as "1=strongly disagree", "2=disagree", "3=undecided", "4=agree", and "5=strongly agree". Negative questions were scored as "5=strongly disagree", "4=disagree", "3=undecided", "2=agree", and "1=strongly agree". 16, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 reverse items in the scale. The scores obtained from the scale vary between 40-200. The higher the score obtained from the scale, the higher parents' *Positive Attitudes Towards Rational Drug Use*. The scale consists of two sub-dimensions: "Correct and Conscious Use" [29 items] and "Effective and Safe Use" (11 items). While the scores that can be obtained for the correct and conscious use sub-dimension (1-29 items) vary between 29-145, it varies between 11-55 points for the effective and safe use sub-dimension (30-40 items). The Cronbach Alpha coefficient of the scale is 0.88 [22].

Ethical Statement

To carry out the study, permission was obtained from the Ethics Committee of a state university (Date: 17.11.2020, Decision No: 106). The Ministry of Health application permission (2020-11-15T16_19_21) was obtained by applying to the Scientific Research Platform of the General Directorate of Health Services of the Ministry of Health. Permission to use the scale was obtained from the responsible author via e-mail for the "Parental Attitude Towards Rational Drug Use Scale". Research consent was obtained from the parents using the online informed consent form. There is no conflict of interest between the researchers and the participants.

Data Analysis

SPSS 26.0 was used to evaluate the data. The data obtained were evaluated by two researchers according to the determined criteria. Descriptive statistics in the analysis of data; number, percentage, mean, standard deviation were calculated. Mann-Whitney U Test and Kruskal-Wallis test were used because the data did not conform to normal distribution. The significance level in the study was accepted as < 0.05.

RESULTS

In this study, 47.9% of the parents participating in the study are between the ages of 31-40. Of the participants, 119 (62%) had one child, 67 (34.9%) had two, 6 (3.1%) had three or more children. 91.7% of the parents are mothers, 51% are undergraduate graduates, 64.6% are working, 38.5% are civil servants and 28.6% are health workers. It was determined that the income level of 58.9% of them was equal to the expenditure, 94.3% of them had a nuclear family, 92.2% of them had no children with chronic diseases (Table 1).

It was determined that 92.7% of children of the parents participating in the study did not use any medication, except for vitamins. 40.6% of the children of parents needed medication during the pandemic process, and when their children fell ill, 52.1% most frequently applied to the private hospital and 24.5% to the state hospital for treatment. It was determined that 41.1% of the parents gave their children the most common vitamin drugs without a prescription, 29.7% gave antipyretic drugs, 22.4% did not use drugs and 6.8% gave painkillers. It was determined that none of the parents participating in the study used over-the-counter antibiotics for their children. During the pandemic, it was determined that 43% of the parents whose children needed medicine were obtained by applying to the doctor

and got a prescription, 22.8% of them bought it by consulting the doctor on the phone, and 30.4% of them went and bought the medicine directly from the pharmacy (Table 2).

Table 1. Comparison of sociodemographic characteristics and attitude towards rational drug use scale and sub-dimensions

Variables	**N**	**%**	**PATRDUS**	**Correct and Conscious Use (Sub-Dimension)**	**Effective and Safe Use (Sub-Dimension)**
			$\bar{X}$ ±SD	**$\bar{X}$ ±SD**	**$\bar{X}$ ±SD**
Parents					
Mother	176	91.7	154.66±8.49	131.72±9.33	22.95±6.46
Father	16	8.3	141.69±25.59	117.50±25.54	24.19±5.51
p			**.017***	**.003***	.355*
Age					
19-30	73	38.0	154.81±8.30	132.30±8.64	22.51±5.98
31-40	92	47.9	152.75±12.71	129.14±13.51	23.61±6.45
41-51	27	14.1	155.23±8.69	130.48±14.68	22.63±7.26
p			.334**	.195**	.594**
Education					
Primary/secondary education	9	4.7	155.11±14.61	128.89±11.05	26.22±10.15
High school	30	15.6	152.47±14.37	128.20±14.89	24.27±7.08
Undergraduate	98	51.0	153.59±12.20	130.70±12.78	22.89±5.90
Graduate	55	28.6	153.93±7.08	131.76±9.10	22.16±6.01
p			.930**	.816**	.491**
Job					
Not profession	36	18.8	154.86±10.55	130.44±9.49	24.42±8.05
Healty employee	55	28.6	155.93±6.54	132.65±8.40	23.27±6.52
Academic/Teacher	27	14.1	153.78±7.47	133.07±9.65	20.70±5.53
Worker/Officer/Other	74	38.5	151.15±15.00	128.07±15.58	23.08±5.50
p			.100**	.187**	.199**
State of working					
Working	124	64.6	153.63±9.09	130.48±10.95	23.15±6.03
Not working	59	30.7	153.39±15.38	130.64±14.60	22.75±7.22
Part time working	9	4.7	154.22±11.22	130.44±10.37	23.78±5.97
p			.884**	.897**	.751**
Economic situation assessment					
High	39	20.3	152.49±16.80	130.49±16.44	22.00±6.98
Middle	113	58.9	154.40±9.31	131.52±10.78	22.88±6.44
Low	40	20.8	152.35±10.47	127.78±10.47	24.58±5.43
p			.454**	.077**	.112**
Type of family					
Nuclear family	181	94.3	153.34±11.46	130.44±12.37	22.90±6.37
Extended family	11	5.7	157.64±10.32	132.00±6.27	25.64±6.31
p			.201*	.758*	.170*
Number of child					
1	119	62.0	155.48±7.41	132.71±8.09	22.77±6.24
2	67	34.9	150.43±13.96	127.40±15.37	23.03±6.23
3 and above	6	3.1	151.17±29.75	122.33±24.67	28.83±9.10
p			**.010****	.102**	.244**
Presence of chronic disease in children					
Yes	15	7.8	156.40±10.90	132.80±8.93	23.60±9.42
No	177	92.2	153.34±11.46	130.34±12.34	23.01±6.10
p			.534*	.431*	.948*
Total	**192**	**100.0**			

*X: Average, SD: Standard Deviation; * Mann-Whitney U Test, ** Kruskal Wallis test*

Table 2. Comparison of children's drug use information and attitude towards rational drug use scale and sub-dimensions

Variables	**N**	**%**	**PATRDUS**	**Correct and Conscious Use (Sub-Dimension)**	**Effective and Safe Use (Sub-Dimension)**
			X̄ ±SD	**X̄ ±SD**	**X̄ ±SD**
Presence of chronic disease in children					
Yes	15	7.8	156.40±10.90	132.80±8.93	23.60±9.42
No	177	92.2	153.34±11.46	130.34±12.34	23.01±6.10
p			.534*****	.431*****	.948*****
Children's continuous drug use (except vitamins)					
Yes	14	7.3	156.43±11.50	132.21±9.30	24.21±10.82
No	178	92.7	153.36±11.41	130.40±12.31	22.96±5.94
p			.638*****	.601*****	.839*****
Where to go for treatment when a child is sick					
University Hospital	14	7.3	156.14±6.78	132.79±9.85	23.36±6.94
Public Hospital	47	24.5	153.45±8.88	128.98±10.13	24.47±6.87
Private Hospital	100	52.1	154.41±9.78	132.28±9.93	22.13±5.86
Family Health Center	31	16.1	149.97±18.83	126.23±19.30	23.74±6.84
p			.328******	.148******	.292******
The most commonly given over-the-counter medications to the child					
Not use	43	22.4	151.93±11.37	130.21±12.53	21.72±6.19
Antipyretic	57	29.7	151.47±15.07	127.02±14.99	24.46±5.99
Analgesic	13	6.8	153.15±6.54	129.62±9.73	23.54±5.99
Vitamin	79	41.1	156.08±8.30	133.39±8.99	22.68±6.74
p			.090******	**.010****	.215******
The child's need for medication during the pandemic					
Yes	78	40.6	152.05±13.22	128.44±14.08	23.62±6.41
No	114	59.4	154.63±9.92	131.96±10.37	22.67±6.37
p			.126*****	**.017***	.282*****
Total	**192**	**100.0**			
How the child's medication needs are met during the pandemic					
By prescription	34	43.0	154.38±7.22	132.94±8.57	21.44±6.07
Consulting the doctor on the phone	18	22.8	149.22±21.54	125.56±22.44	23.67±5.76
Directly from the pharmacy	24	30.4	150.83±12.11	125.08±11.25	25.75±6.71
Other (Nurse, friend/neighbour, internet)	3	3.8	154.00±8.18	125.67±14.01	28.33±5.85
p			.608******	**.016****	.060******
Total	**79*****	**100.0**			

X: Average, SD: Standard Deviation

** Mann-Whitney U Test, ** Kruskal Wallis test,* ***Not all participants answered

A statistically significant difference was found between the parents participating in our study regarding rational drug use (p=0.017). It was found that mothers' attitudes towards rational drug use were more positive than fathers'. A statistically significant difference was found between the total number of children of the parents participating in our study and rational drug use (p=0.010). Parents with one child had a higher score of the PATRDUS. The total mean score of the PATRDUS of the parents who participated in our study was 153.58±11.42. The mean score of correct and conscious use sub-dimension was found to be 130.53±12.10, and the mean score of effective and safe use sub-dimension was 23.05±6.39 (Table 3).

Table 3. Parental Attitude Towards Rational Drug Use Scale Mean Scores

	N	X̄ ±SD	Item	Med (Min-Max)
PATRDUS	192	153.58±11.42	40	155(65-185)
Correct and Conscious Use (Sub-Dimension)	192	130.53±12.10	29	135(42-145)
Effective and Safe Use (Sub-Dimension)	192	23.05±6.39	11	23(11-46)

X: Average, SD: Standard Deviation, Med: Median, Min: Minimum, Max: Maximum

DISCUSSION

Parents need to learn rational drug practices to reduce unnecessary drug use in the pediatric group. This study determined that the attitudes of parents with children aged 0-12 years towards rational drug use were at a good level during the pandemic period. It was determined that the attitudes of mothers participating in the study towards rational drug use were more positive than fathers'. This may be since the number of mothers participating in the study was in the majority. The literature has determined that parents with children aged 0-12 have positive attitudes towards rational drug use [23-25]. It has been determined that education level, income level, place of residence for a long time, family type, number of children, age and gender of children, place of application in case of illness, non-prescription use of drugs, regular and continuous drug use in children affect parents' attitudes towards rational drug use [23-25]. In this study, the PATRDUS score of parents with one child was found to be significantly higher than those of mothers with more children.

During the pandemic, 40.6% of the children of the parents participating in the study needed medication. It has been determined that 43% of the parents get the drugs by applying to the doctor and get a prescription, 22.8% of them take medicine by consulting the doctor on the phone, 30.4% of them go and buy the medicine directly from the pharmacy, that is, the rate of using non-prescription drugs (57%) is above the average. When the literature is examined, it is seen that more than half of the parents first applied to the physician when their child got sick, the majority of the prescribed medication to be found at home, the majority of them kept the drugs left over from the previous treatment at home, 58.1% of the parents whose children got sick applied to the doctor, 42.9% of them gave their child over-the-counter prescriptions. Most frequently given antipyretic drugs [24], parents have weak perceptions and lack of knowledge about antibiotic use, 69.8% take their children to the doctor, and their children are prescribed antibiotics, 27.2% have been given antibiotics in the last 12 months. It was determined that they bought antibiotics by themselves, and 41.8% of them self-administered antibiotics to their children without a doctor's prescription [26]. It was determined that none of the parents participating in our study used antibiotics without a prescription, and 41.1% of them gave their children over-the-counter vitamin drugs most frequently. It can be thought that during the pandemic period, the rate of going to the hospital decreased due to the risk of contracting the COVID-19 disease and the fear of going to the hospital for treatment [27], which reduces the use of prescription and over-the-counter antibiotics.

In our study, maternal age did not affect rational drug use. However, studies are showing that the rational drug use of older mothers is lower [23] and that the use of drugs by mothers who gave birth after the age of 22 is more rational [28]. In a study conducted with parents on rational drug use of antibiotic treatments [29], when the symptoms of the disease began to decrease, 54.8% of parents who graduated from primary school discontinued their antibiotic treatment; It was determined that 52.3% of the university graduates continued the treatment until the drug was finished. It was determined that 93.9% of parents aged 20-30 threw away the remaining antibiotics after treatment, and 89.7% of them read the prospectus before using the antibiotic. In addition, it has been observed that most of the parents do not use antibiotics without prescribing a doctor, and those who do use them by consulting the pharmacist and reading their prospectuses. In Yılmaz's (2020) study, it was determined that the rational drug use levels of the parents were high, and the parents living in the nuclear family type had a more positive attitude towards rational drug use. It has been observed that possession of drugs at home and use of over-the-counter drugs are among the most common drug use mistakes made by parents [30].

Since this research was conducted over social media, the sample group was randomly selected. In the obtained population group, it was found that the education and financial status of the parents were high. This situation is thought to affect the findings and results of parental attitudes towards rational drug use in the study.

CONCLUSIONS

This study determined that nearly half of the parents included in the study during the pandemic period needed medication, and the rate of over-the-counter drug use among parents was above the

average. To prevent excessive and irrational drug use, physicians, nurses, and pharmacists should provide more effective information to both parents and sick children about drug use during the processes they encounter with patients, and more educational activities should be planned for parents. It is important and necessary for parents to learn rational drug practices that will reduce unnecessary drug use in the pediatric population.

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Conflict of interest

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