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ORIGINAL ARTICLE

Use of Vitamin, Mineral and Supporting Products in Children in Adana

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Abstract

Background: To determine the frequency, methods and families' knowledge about vitamins, minerals and supplementary products in children.

Methods: A questionnaire form was applied by face-to-face interviews with a total of 300 parents with children under the age of 5 who applied to the University Hospital, Training and Research Hospital and randomly selected family health centers in Adana. The demographic characteristics of the participants, their level of knowledge about preventive medication and supportive products, how they used them, and who suggested starting them were evaluated.

Results: The mean age of the children included in the study was 24.3±18.1 months. The correct use rates of iron and vitamin D by the parents were 60.7% and 83.3%, respectively. 147 of the parents (49%) used at least one supportive product to their children, and multivitamin (12.5%), molasses (8.3%), cumin (7.3%), honey (6.3%), fish oil (6.3%) was observed to be among the preferred products. It was found that supportive products were most frequently started due to growth and development retardation (27.7%) with the suggestions of neighbors-close relatives (45.8%) and doctors (30.7%).

Conclusions: Iron and vitamin D preparations are distributed free of charge in our country; however, we believe that the correct usage rates are not at the desired level, and more training and information should be given to healthcare professionals and parents in terms of compliance with prophylaxis and correct use. Although there is not enough data in our country regarding use of supportive products, more reliable results can be obtained with more comprehensive studies.

Key words: Iron, Vitamin D, Supportive Product, Children, Prophylaxis.

INTRODUCTION

Anemia is a common public health problem that causes increased mortality and morbidity, especially in pregnant women and children. Anemia prevalence is 47.4% in preschool children worldwid and it is the most important reason for nutritional iron deficiency in children (1). Iron deficiency and iron deficiency anemia are more common during periods of accelerated growth. Diet, socioeconomic status and previous infections contribute to the development of iron deficiency anemia (2).

Vitamin D also plays an important role in infant nutrition, especially in the development of the leukomotor system and in the regulation of bone metabolism. Therefore, vitamin D support that is started in the newborn period

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and continued for at least 1 year is important. Rickets due to vitamin D deficiency is a preventable health problem in our country. Its frequency varies between 1.6-19% (3). One liter of breast milk, which is the most important source of nutrition for babies in the first six months, contains 12-60 IU of vitamin D, and this amount cannot meet the 400 IU, which is the daily requirement for babies. For this reason, it is important to give appropriate vitamin D supplements to babies for an appropriate amount of time. In our country, it is recommended that all babies be given 400 IU of vitamin D per day for at least one year from birth, preferably until the end of three years, regardless of their diet (3).

Use of supporting products is generally based on traditional skills and practices that may not always be explained. It may also be based on theories, beliefs and experiences specific to different cultures. Supporting products are generally used for protection against physical and mental illnesses, diagnosing, healing or treating them, as well as maintaining good health (4). They are traditional or technological methods used in the treatment of common cold, flu, nausea, heart disease, kidney disease, depression and many other diseases (5). According to World Health Organization (WHO) data, approximately 80% of the population in developing countries use herbal supplements to meet basic health care requirements (6). Despite the lack of scientific data explaining the interactions, side effects and benefits of herbal supplements with medicines, their use is quite high. While useful information about these products usually refers to traditional uses, clinical side effects due to their herbal properties and pharmacological interactions with foods and drugs are difficult to evaluate (7). Supporting products are used in infants and children in cases such as upper respiratory tract infections, anorexia, gas pain, gastrointestinal disorders, sleep disorders, kidney stones, urinary tract infections, allergies and asthma (5).

The aim of this study was to determine the frequency of use of vitamins, minerals and supporting products in children in Adana province of Turkey; the methods of use and the level of knowledge families have on this subject.

MATERIALS AND METHODS

In order to carry out the study, a permit document from Adana Provincial Health Directorate dated 03.04.2019 and numbered 60247264-799 and an Ethics committee approval from Adana Çukurova University Faculty of Medicine Non-Invasive Clinical Research Ethics Committee with meeting number 84 and decision number 34, dated 04.01.2019 were obtained.

Parents of 300 children aged 0-5 who presented with an acute illness or for routine follow-up of healthy children and who wanted to participate in the survey voluntarily were included in the study. Patients over the age of 5 and who did not want to participate in the study were excluded. The patients were evaluated in 3 groups. The groups were determined according to the healthcare center that the patients first applied to; Çukurova University Faculty of Medicine Balcalı Hospital (Group-1), Adana City Training and Research Hospital General Children's Polyclinics (Group-2), Family Health Centers located in Sarıçam, Çukurova and Seyhan districts (Group-3). Each group included 100 participants. The mothers of 300 children were asked questions about the demographic characteristics of their family and children, their socioeconomic status, their knowledge and practices on iron, vitamin D and various supplements, using face-to-face questionnaires. The surveys were then recorded and the statistical analysis of the data was made. Verbal and written consents were obtained after the participants were informed about the study.

The correct dose of protective iron treatment has been accepted as 2 mg / kg / day for preterm babies and 1 mg / kg / day for term babies. For the protective vitamin D, 400 IU of daily intake was accepted as the correct dose.

Statistical analysis

SPSS 23.0 package program was used for statistical analysis of the data. Categorical measurements were summarized as numbers and percentages, while continuous measurements were summarized as mean and standard deviation (median and minimum - maximum where necessary). Chi-square test statistics were used to compare categorical variables. For the comparison of continuous measurements between the groups, distributions were checked, one-way Analysis of Variance was used for variables showing parametric distribution, and Kruskal Wallis test was used for variables that did not show parametric distribution. Statistical significance level was accepted as 0.05 in all tests.

RESULTS

300 children between the ages of 0-5, 190 of whom were healthy, 110 of whom presented with an acute illness were included in the study. Their average age was 24.3±18.1 months (min-max: 1-61), and 140 (47.7%) were male and 160 (53.3%) were female. There was no difference between the groups in terms of age and gender distribution (p=0.460 and p=0.498, respectively). The demographic characteristics of the groups were as shown in Table 1. The average age of the mothers who answered the questionnaire was found to be 30.1±5.4 (min-max: 19-48) years.

Considering the education level of the mothers, 96 participants (32%) were university graduates, 78 participants (26%) were high school graduates, 47 participants (15.7%) were middle school graduates, 46 participants (15.3%) were elementary school graduates, 16 participants (5.3%) were literate, 17 participants (5.7%) were illiterate. Education levels were found to be lower in Group 3 than the other two groups, but this was not statistically significant (p=0.509).

When the monthly incomes of the groups were evaluated, 79 families (26.3%) earned 2000-3000 ₺, and 69 families (23.0%) were earning 3000-5000 ₺. The monthly income of 20 families (6.7%) was <1000 ₺, and 39 families (13%) were >10.000 ₺. It was observed that the monthly income of the families in Group-3 was statistically higher (p = 0.011). The working status of the mothers and the total monthly income of the families were as shown in Table 1.

Table 1: Demographic characteristics by groups

	Group-1 Mean±SD		Group-2 Mean±SD		Group-3 Mean±SD		p
Age (month)	25.3±17.1		26.3±13.3		24.2±16.4		0.460
Weight (kg)	12.5±5.4		10.2±5.6		11.2±4.7		0.263
Height (cm)	84.2±16.4		80.9±16.2		82.6±15.4		0.361
Mothers' age (year)	30.4±5.1		30.1±5.7		29.7±5.4		0.656
Fathers' age (year)	33.9±4.9		32.3±6.1		32.9±5.0		0.089
	Median (min-max)		Median (min-max)		Median (min-max)		
Sibling number	2 (1-8)		2 (1-10)		2 (1-8)		0.365
Duration of breastfeeding (month)	9 (0-28)		8 (0-50)		9 (1-36)		0.842
Time to start supplementary food (month)	6 (3-10)		6 (4-9)		6 (5-7)		0.428
Mothers' Job Status	**n**	**%**	**n**	**%**	**n**	**%**	
Working	41	41.0	34	34.0	31	31.0	0.316
Not working	59	59.0	66	66.0	69	69.0	
Total Monthly Income	**n**	**%**	**n**	**%**	**n**	**%**	
<1000 TL	12	12.0	5	5.0	3	3.0	0.011
1000 –2000 TL	22	22.0	17	17.0	8	8.0	
2000 –3000 TL	27	27.0	26	26.0	26	26.0	
3000 –5000 TL	18	18.0	27	27.0	24	24.0	
>5000 TL	14	14.0	13	13.0	19	19.0	
>10.000 TL	7	7.0	12	12.0	20	20.0	

Only 95 (31.7%) of all mothers were using iron support for their children during the time of the study; but 182 of all participants (60.7%) knew the correct use of iron medication. When the rates of using iron supplements and correct usage information were compared, no statistically significant difference was found in all three groups (p=0.148, p=0.127, respectively). Participants were asked when to start protective iron treatment in children and 99 (33.0%) of all participants said "4th month". This answer caused a statistically significant difference when compared with other options (p=0.011). When all the participants were questioned about whom the protective iron therapy was recommended by; it was determined that in 132 (44.0%) patients it was recommended by pediatricians, 116 (38.7%) by family physicians, 52 (17.3%) by nurses and midwives. While the rate of recommendation by the pediatrician in Group 1 was 57%, it was found to be 42% in Group 2 and 33% in Group 3, and this difference was statistically significant (p=0.003). The questions about the protective iron treatment and the answers given by the mothers were presented in Table 2.

Table 2: Evaluation of questions and answers about prophylactic iron therapy

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
Do you give your child iron supplements?									
Yes	39	39.0	27	27.0	29	29.0	95	31.7	0.148
No	61	61.0	73	73.0	71	71.0	205	68.3	
Knowledge of correct use of iron medication.									
Doesn't know the correct use	32	32.0	46	46.0	40	40.0	118	39.3	0.127
Knows the correct use	68	68.0	54	54.0	60	60.0	182	60.7	
When should preventive iron treatment be initiated in children?									
As soon as birth	14	14.0	7	7.0	1	1.0	22	7.3	0.011
At 1-2 months	16	16.0	17	17.0	14	14.0	47	15.7	
At 4 months	33	33.0	34	34.0	32	32.0	99	33.0	
At 6 months	19	19.0	31	31.0	38	38.0	88	29.3	
At 1 year	18	18.0	11	11.0	15	15.0	44	14.7	
How many times a day should preventive iron treatment be given?									
Once a day	77	77.0	76	76.0	80	80.0	233	77.7	0.707
Twice a day	15	15.0	15	15.0	16	16.0	46	15.3	
Three times a day	8	8.0	9	9.0	4	4.0	21	7.0	
How should iron medicine be given?									
Should be taken on an empty stomach	49	49.0	57	57.0	56	56.0	162	54.0	0.378
Should be taken on a full stomach	28	28.0	22	22.0	17	17.0	67	22.3	
It does not matter	23	23.0	21	21.0	27	27.0	71	23.7	
Who recommended the iron preventive therapy?									
Family medicine doctor	34	34.0	41	41.0	41	41.0	116	38.7	0.003
Pediatrician	57	57.0	42	42.0	33	33.0	132	44.0	
Nurse-midwife	9	9.0	17	17.0	26	26.0	52	17.3	

Table 2: (continued)

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
What is the product form you use in the protective iron treatment?									
Drop	31	66.0	31	75.6	38	73.1	100	71.4	0.329
Syrup	14	29.8	10	24.4	10	19.2	34	24.3	
Sachet	2	4.3	0	0.0	4	7.7	6	4.3	
How long should preventive iron therapy be used?									
1 month	6	6.0	3	3.0	1	1.0	10	3.3	0.405
2-3 months	9	9.0	12	12.0	15	15.0	36	12.0	
4 months	6	6.0	13	13.0	10	10.0	29	9.7	
6 months	35	35.0	33	33.0	32	32.0	100	33.3	
2 years	44	44.0	39	39.0	42	42.0	125	41.7	
If you stopped to use preventive iron treatment, what is your reason for quitting?									
Bad taste	12	20.3	4	6.5	4	6.6	20	11.0	0.145
Stool Painting	2	3.4	9	14.5	5	8.2	16	8.8	
Diarrhea	1	1.7	0	0.0	0	0.0	1	0.5	
Constipation	7	11.9	10	16.1	10	16.4	27	14.8	
Vomiting	1	1.7	1	1.6	0	0.0	2	1.1	
Neglect	13	22.0	19	30.6	21	34.4	53	29.1	
Interrupted by the doctor	23	39.0	19	30.6	21	34.4	62	34.1	

When the use of vitamin D was examined, 115 (38.3%) of all mothers were regularly giving protective vitamin D to their children during the study period, and 250 (83.3%) of all participants knew the correct use. When the rates of vitamin D supplementation and correct usage information were compared, no statistically significant difference was found in all three groups (p=0.765, p=0.157, respectively). Participants were asked when to start preventive vitamin D treatment in children, 110 (36.7%) participants said "15th day", 107 of them (35.7%) answered as "as soon as birth", which created a statistically significant difference between the groups (p=0.001). When all the participants were questioned about whom protective vitamin D treatment was recommended by; it was determined that in 145 (48.3%) patients it was recommended by pediatricians, 109 (36.3%) by family physicians, 46 (15.3%) by nurses and midwives, and no statistically significant difference was found between the groups in this regard (p=0.306). The questions about protective vitamin D treatment and the answers given by the mothers were as presented in Table 3.

Table 3: Evaluation of questions and answers about prophylactic vitamin D treatment

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
Do you give your child vitamin D?									
Yes	41	41.0	36	36.0	38	38.0	115	38.3	0.765
No	59	59.0	64	64.0	62	62.0	185	61.7	
Knowledge of correct use of vitamin D medication.									
Doesn't know the correct use	23	23.0	15	15.0	12	12.0	50	16.7	0.157
Knows the correct use	77	77.0	85	85.0	88	88.0	250	83.3	

Table 3: (continued)

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
When should preventive vitamin D treatment be initiated in children?									
As soon as birth	36	36.0	42	42.0	29	29.0	107	35.7	0.001
At 15 days old	29	29.0	34	34.0	47	47.0	110	36.7	
At a month old	17	17.0	18	18.0	22	22.0	57	19.0	
At 3 months old	9	9.0	5	5.0	1	1.0	15	5.0	
At 6 months old	9	9.0	1	1.0	1	1.0	11	3.7	
How many times a day should preventive vitamin D treatment be given?									
Once a day	83	83.0	90	90.0	92	92.0	265	88.3	0.161
Twice a day	7	7.0	7	7.0	4	4.0	18	6.0	
Three times a day	10	10.0	3	3.0	4	4.0	17	5.7	
How should vitamin D medicine be given?									
Should be taken on an empty stomach	13	13.0	18	18.0	45	45.0	76	25.3	0.001
Should be taken on a full stomach	26	26.0	29	29.0	11	11.0	66	22.0	
It does not matter	61	61.0	53	53.0	44	44.0	158	52.7	
Who recommended protective vitamin D treatment?									
Family medicine doctor	43	43.0	31	31.0	35	35.0	109	36.3	0.306
Pediatrician	44	44.0	55	55.0	46	46.0	145	48.3	
Nurse-midwife	13	13.0	14	14.0	19	19.0	46	15.3	
What is the product form you use in the protective vitamin D treatment?									
Drop	48	94.1	46	90.2	49	92.5	143	92.3	0.758
Spray	3	5.9	5	9.8	4	7.5	12	7.7	
How long should the protective vitamin D treatment be used?									
1 month	3	3.0	1	1.0	7	7.0	11	3.6	0.016
6 months	32	32.0	24	24.0	14	14.0	70	23.3	
1 year	42	42.0	57	57.0	55	55.0	154	51.3	
2 years	23	23.0	18	18.0	24	24.0	65	21.7	
If you stopped to use preventive vitamin D treatment, what is your reason for quitting?									
Bad taste	2	3.3	4	6.3	0	0.0	6	3.3	0.132
Diarrhea	1	1.7	0	0.0	0	0.0	1	0.5	
Vomiting	0	0.0	3	4.8	0	0.0	3	1.6	
Neglect	17	28.3	17	27.0	15	25.0	49	26.8	
Interrupted by the doctor	40	66.7	39	61.9	45	75.0	124	67.8	

The use of supportive products was evaluated and it was determined that 153 (51%) of the parents did not give any supportive products to their children. 147 parents (49%) were found to use one or more supportive products. Similar results were obtained for all three groups (p=0.619) (Table 4). Of the participants, 37 (12.5%) preferred multivitamin,

25 (8.3%) molasses, 22 (7.3%) cumin, 19 (6.3%) honey and 19 (6.3%) fish oil. The usage rates of these products were similar in all three groups. Olive oil use was determined in 10% of the patients in Group 1, which was higher than the other two groups. This difference was statistically significant (p = 0.032) (Table 4).

Table 4: Evaluation of questions and answers regarding the use of supplementary products

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
Do you give your child any product other than iron, vitamin D and nutrients for growth and development and / or chronic disease?									
Yes	47	47.0	47	47.0	53	53.0	147	49.0	0.619
No	53	53.0	53	53.0	47	47.0	153	51.0	
Products									
Sage	2	2.0	2	2.0	1	1.0	5	1.7	0.816
Cumin	6	6.0	7	7.0	9	9.0	22	7.3	0.709
Anise	3	3.0	4	4.0	3	3.0	10	3.3	0.902
Fish oil	11	11.0	5	5.0	3	3.0	19	6.3	0.054
Propolis	5	5.0	6	6.0	2	2.0	13	4.3	0.352
Olive oil	10	10.0	2	2.0	4	4.0	16	5.3	0.032
Honey	4	4.0	7	7.0	8	8.0	19	6.3	0.483
Bee milk	2	2.0	1	1.0	2	2.0	5	1.7	0.816
Centaury	1	1.0	4	4.0	4	4.0	9	3.0	0.357
Multi-vitamin	13	13.0	11	11.0	13	13.0	37	12.5	0.884
Zinc	4	4.0	5	5.0	7	7.0	16	5.3	0.630
Vitamin C	1	1.0	1	1.0	2	2.0	4	1.3	0.776
Fennel	0	0.0	1	1.0	2	2.0	3	1.0	0.364
Probiotic	0	0.0	0	0.0	2	2.0	2	0.7	0.137
Ginger	1	1.0	4	4.0	2	2.0	7	2.3	0.359
Molasses	6	6.0	11	11.0	8	8.0	25	8.3	0.436
Where did you find the information about this product?									
TV programs	3	6.3	6	12.2	3	5.4	12	7.8	0.531
Internet	4	8.3	7	14.3	6	10.7	17	11.1	
Other patient relatives	1	2.1	1	2.0	0	0.0	2	1.3	
Doctor	17	35.4	11	22.4	19	33.9	47	30.7	
Nurse-midwife	3	6.3	2	4.1	0	0.0	5	3.3	
Neighbors-close relatives	20	41.7	22	44.9	28	50.0	70	45.8	

Participants were questioned about whom recommended the usage of supporting products; it was determined that supporting product usage started with neighbor-close relative recommendation at a rate of 45.8%. 30.7% of the participants reported that they have started supporting product usage by recommendation from a doctor and 11.1% of the participants started based on the information they obtained from the internet. These results were similar in all three groups, and there was no statistically significant difference between the groups (p = 0.531) (Table

4). Partcipants were asked about the reasons for using supportive products and it was found that 83 (27.7%) of the participants used it for growth-developmental delay and 38 (12.7%) were using it for constipation. The reasons for using the supporting product / products were as given in Table 5.

Table 5: Usage reasons of supporting products

	Group-1		Group-2		Group-3		Total		p
	n	%	n	%	n	%	n	%	
Do you give your child any product other than iron, vitamin D and nutrients for growth and development and / or chronic disease?									
Treatment of chronic disease	3	3.0	7	7.0	4	4.0	14	4.7	0.378
Growth-development delay	32	32.0	23	23.0	28	28.0	83	27.7	0.362
Cough	11	11.0	11	11.0	7	7.0	29	9.7	0.543
Gas pain	8	8.0	8	8.0	8	8.0	24	8.0	1.000
Constipation	10	10.0	15	15.0	13	13.0	38	12.7	0.564
Boosting immunity	3	3.0	1	1.0	1	1.0	5	1.7	0.443
Diarrhea	2	2.0	1	1.0	2	2.0	5	1.7	0.816
Appetite problem	9	9.0	0	0.0	9	9.0	18	6.0	0.008
Wound healing	0	0.0	0	0.0	5	5.0	5	1.7	0.006

DISCUSSION

Vitamin D deficiency and iron deficiency anemia is a public health problem affecting growth and development, psychosocial skills, neuromotor development, cellular and humoral systems, especially in infants. Therefore, prophylaxis is very important in terms of preventing vitamin D deficiency and iron deficiency anemia under 2 years of age. In order to prevent vitamin D deficiency and insufficiency, the daily vitamin D requirement for babies was determined as 400 IU by WHO (8). In our country, as of May 2005, within the scope of vitamin D prophylaxis, the Ministry of Health General Directorate of Mother and Child Health and Family Planning has put "prevention of vitamin D deficiency and protection of bone health" project on the agenda and free vitamin D preparations have been distributed in all family health centers. According to this project, 400 IU vitamin D should be given to all newborn babies starting from the first week of birth. Also, babies between 0-12 months who do not use vitamin D should immediately be started on vitamin D preparations for at least 12 months from that moment on. Iron deficiency anemia is considered in the world as a public health problem that is as current as vitamin D deficiency. In this context, WHO and various health institutions recommend iron supplementation to all children starting from the 4th month, in countries with iron deficiency anemia rates above 5% (9). Looking at our country, the "Iron-like Turkey Program" was initiated by the Ministry of Health in 2004 and in accordance with this application, free iron support has been provided to all children aged 4 months to 1 year (10).

Studies on vitamin D deficiency and nutritional rickets have shown that the rates of vitamin D use and regular use after starting vitamin D are low. In a study by Göker et al. (11) on 101 children, it was found that 12.9% of them used vitamin D irregularly, incorrectly and for a short amount of time. In our study, it was observed that 83.3% of the families knew the correct use of vitamin D, 26.8% of the parents neglected to give vitamin D to their children for various reasons, and the rate of starting vitamin D within the first 15 days after birth was 72.4% among all cases. Our study revealed that vitamin D prophylaxis is not at the desired level considering the ideal period of initiation and usage rates.

In a study conducted by Pehlivan et al. (12) on 204 physicians, it has been stated that 3.9% of physicians do not recommend vitamin D drops to children, 58.6% of the physicians who recommend vitamin D recommend vitamin D drop form, and the remaining physicians recommend vitamin D in the form of multivitamin. In our study, it was observed that 92.3% of the patients used vitamin D in drop form. It was determined that 48.3% of the parents who received suggestions for using vitamin D were recommended to use vitamin D from pediatricians, 36.3% from family physicians and 15.3% from nurses and midwives.

In a study conducted by Vatandaş et al. (13) in 2007, in Ankara, the prevalence of iron deficiency was found to be 20% in children who receive regular oral iron prophylaxis until the age of 1, while the prevalence of iron deficiency anemia was found to be 2%. The prevalence of iron deficiency was found to be 26%, and the prevalence of iron deficiency anemia was 30% in children who did not receive prophylaxis. In our study, the correct usege rate of iron preventive therapy was found to be 60.7%. As the reasons for not giving the appropriate dose; even though the dose should be increased in proportion to the weight gain of the baby, the same dose was continued without increasing or the previous preparation dose was continued even though the current form was changed to a different form. Moreover, it was observed that the parents confused and mistakenly gave wrong doses of vitamin D and iron drops that were used simultaneously. According to a study conducted by Yalçın et al. (14), the proportion of children who did not use prophylactic oral iron support was 31.2%. In a study conducted by Ilarslan et al. (15), the rate for the same parameter was 44.3%. Reasons for stopping prophylaxis were; because the family found it unnecessary (31.1%), neglect (26.6%), side effects (16.6%), taste disturbance (15.3%). Also, 6.3% were not informed by healthcare workers and 4.1% feared possible side effects indicated by their family members (15). Karapinar et al. (16) found that iron prophylaxis was not initiated in 16% of children, 44.5% discontinued prophylaxis. The reasons for discontinuing prophylaxis except for discontinuation of the treatments under the doctor's control were; vomiting (3%), diarrhea (2%), stool staining (3.5%) and neglect (forgetting, ignoring) (36%). Similarly, while the most common reasons for stopping prophylaxis in our study were negligence (29.1%), constipation (14.8%) and bad taste (11%), other causes were also found.

The use of herbal supplements for the treatment or prevention of diseases is as old as human history. WHO stated that they still meet 80% of the health needs of especially underdeveloped and developing countries with herbal supplements and that around 20,000 plant species are used for this purpose (6). Herbal products and their use have gained great popularity as a result of the "return to nature" trend that started in Western societies in the last 30 years. Studies in the USA show that the use of complementary and alternative medicine in children is becoming more common and that herbal medicine is the most common form among these (17,18). In a study conducted by Jean and Cyr (19) with 114 parents, it was determined that 54% of parents had used at least one kind of complementary and alternative treatment. Similar results (51%) were found in the study conducted by Lim et al. (20) with 503 parents. In this study, it was determined that 19% of the parents preferred to use multivitamins and minerals, 13% preferred vitamin C and 12% preferred other herbal remedies. In our study, 72 out of 147 participants who stated that they used supportive products for their children preferred herbal supplements. 37 participants were using multivitamins. In a study conducted in the USA, it was found that echinacea was the most commonly used supportive product, which was used for common cold symptoms. In the same study, fish oil was the second most commonly used product, which was used for sleep disorders and attention deficit (17). However, the most commonly used supplements in our study were multivitamins; and fish oil usage was in third place. It was determined that both of these products were used for growth and developmental delay. No statistical difference was found between the three groups regarding the frequency of supportive product use. However, it was determined that olive oil was used statistically significantly more in Group 1 ($p = 0.032$). This difference may be explained by the higher number of patients in this group who frequently applied to a tertiary healthcare institution due to growth and development retardation. This data shows that growth and development retardation is still a serious problem in our country, and especially mothers are extremely sensitive about this issue.

In a study conducted in the USA, 9% of babies were given herbal supplements or various teas (baby gas relieving mixture, dental tablets, peppermint, chamomile, fennel, anise, wild hyacinth and echinacea teas, herbal cold healers, etc.). It was found that the babies were treated with these remedies in the first year and even in the first month of their lives (21). Gastrointestinal diseases (in the treatment of constipation and hemorrhoids), infection and parasite diseases (fever and malaria), respiratory tract infections and neuropsychiatric diseases have been shown as the most common reasons for the use of herbal supplements in children (22,23). In our study, these products were most commonly used for reasons such as growth and development retardation, constipation, cough, gas pain, and loss of appetite, respectively.

The limitation of this study was that our study was conducted in a single region and the number of patients included in the study was relatively low.

Considering the supported use of iron and vitamin D in our country and the free of charge distribution of these preparations, the rate of correct use of iron and vitamin D preparations are expected to be higher. Since compliance with prophylaxis is low in our city, we believe that informative seminars for both healthcare professionals and parents, which increase sensitivity towards iron and vitamin D usage, should be conducted in primary family health centers. In addition, more information should be given to families by not only family physicians but also pediatricians about iron and vitamin D prophylaxis for patients who come to them for any reason, especially in the first year of life. Although there is not enough data on the use of supportive products in our country, more reliable results can be obtained with more comprehensive studies.

Declarations

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In order to carry out the study, a permit document from Adana Provincial Health Directorate dated 03.04.2019 and numbered 60247264-799 and an Ethics committee approval from Adana Çukurova University Faculty of Medicine Non-Invasive Clinical Research Ethics Committee with meeting number 84 and decision number 34, dated 04.01.2019 were obtained.

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