

# The Knowledge and Attitude of the Parents of Children with ADHD toward Methylphenidate (Ritalin)

Sanaz Noroozi<sup>1</sup>, PhD;  
Mostafa Farahbakhsh<sup>2</sup>, PhD;  
Mohammad Taha Saadati Rad<sup>3</sup>,  
MSc; Shahrokh Amiri<sup>2</sup>, PhD;  
Farinaz Saeedi<sup>4</sup>, MSc

<sup>1</sup>Research Center of Psychiatry and Behavioral Sciences (RCPBS), Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran  
<sup>2</sup>Department of Psychiatry, Psychiatry and Behavioral Sciences (RCPBS) Research Center, Tabriz University of Medical Sciences, Tabriz, Iran  
<sup>3</sup>Psychiatry and Behavioral Science Research Center, Manzadaran University of Medical Science, Sari, Iran  
<sup>4</sup>Department of Pediatric Nursing, Health Research Center, Nursing in Alzahra Hospital, Tabriz University of Medical Sciences, Tabriz, Iran

#### Correspondence:

Farinaz Saeedi, MSc;  
Department of Pediatric Nursing,  
Health Research Center, Nursing in  
alzahra hospital, Tabriz University of  
Medical Sciences, Tabriz, Iran  
Tel: +98 9141190759  
Email: farinaz\_saeedi@yahoo.com  
Received: 09 January 2023  
Revised: 27 February 2023  
Accepted: 08 March 2023

#### Abstract

**Background:** Methylphenidate is an important drug treatment for attention-deficit/hyperactivity disorder (ADHD). Parents' knowledge of the drug predicts their adherence to this treatment and active participation in the therapeutic interventions. The present study aimed to evaluate the knowledge and attitude of the parents of children with ADHD, who referred to the child and adolescent psychiatry clinic of Tabriz University of Medical Sciences, regarding methylphenidate (Ritalin).

**Methods:** This descriptive, cross-sectional study was performed on 300 parents during 2019-2020. The subjects were selected through convenience sampling. Data were collected using the socioeconomic status questionnaire and a researcher-made questionnaire, which encompassed the two sections of demographic information and parents' attitudes, knowledge and performance. The validity and reliability of the tool were confirmed. Data analysis was performed in SPSS version 16 using descriptive statistics, Chi-square, and t-test.

**Results:** The mothers played a more significant role in the care of children with ADHD compared to the fathers. Significant correlations were observed between the parents' knowledge, attitude, and performance with Ritalin consumption, and the knowledge score of the parents was low (46.6%), confirming their need for education in this regard. Meanwhile, 52.86% of the parents had a moderate knowledge level, and only 1% had excellent knowledge regarding the drug. Overall, the parents considered methylphenidate a more effective drug for ADHD compared to other medications. However, 84% of the parents were concerned about their children's Ritalin addiction. According to the results, mothers played a more significant role in the treatment of children with ADHD compared to the fathers.

**Conclusion:** According to the results, parents' participation in the treatment of children and adolescents with ADHD as a supporter and provider of methylphenidate had a positive effect in this regard. Therefore, supporting and improving the knowledge and attitude of parents could improve their perception of methylphenidate consumption by their ADHD children, thereby enhancing the prognosis of the patients.

Please cite this article as: Noroozi S, Farahbakhsh M, Saadati Rad MT, Amiri S, Saeedi F. The Knowledge and Attitude of the Parents of Children with ADHD toward Methylphenidate (Ritalin). *J Health Sci Surveillance Sys*. 2023;11(2):386-392.

**Keywords:** Attention-deficit/hyperactivity disorder (ADHD), Attitude, Knowledge, Methylphenidate, Ritalin

## Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a mental disorder that affects preschool and school-age children, as well as adolescents and adults worldwide. The disorder is characterized by inattention or excessive activity and impulsivity.<sup>1</sup> ADHD is the most prevalent behavioral neurological disorder in childhood and is reported in 6-7% of the world's population.<sup>2</sup> In general, ADHD has various subtypes, including predominantly inattentive, hyperactive-impulsive, and the combined subtype, and its symptoms contribute to poor academic, social, and occupational performance. With its chronic nature, the disease is inappropriate to the developmental stage and interferes with functioning or development.<sup>3</sup> Compared to other psychological diseases and severe physical disorders, ADHD adversely affects the family of the diagnosed patients.<sup>4</sup>

Several factors contribute to ADHD; the most important environmental and biological factors in this regard are pregnancy complications, problems during delivery and immediately following birth, head injury, environmental chemical toxins, reduced frontal cortex activity, reduced volume of the temporal lobe gray matter, and reduced activity of the inferior parietal cortex.<sup>5</sup> The nature of the disorder leads to decreased health levels, increased financial pressure, higher stress in the family, marital problems, depression, anxiety, guilt, exhaustion, impaired quality of life, high absenteeism, and unemployment.<sup>3, 6, 7</sup>

ADHD is primarily treated with stimulants and behavioral interventions independently as stand-alone interventions or in combination with other methods. Parents are ambivalent about these interventions and are mostly poorly committed to the proposed drug interventions for ADHD. This rate has been estimated at 25-50% and is decreasing over time. The stimulants or sympathomimetic agents of the central nervous system are used to treat ADHD, and methylphenidate (Ritalin) is one of the most important stimulants.<sup>8, 9</sup> Compared to fathers, mothers attribute the disease to global and indissoluble reasons. Fathers report more negative reactions to ADHD symptoms and mostly believe in psychological factors and the necessity of treatment. In a research carried out in Canada, parents considered behavioral therapy and stimulant drugs to be primarily beneficial in the management of ADHD. Nearly half of the families had accurate knowledge of the drug therapy and management of ADHD. One of the most important ADHD management aspects is access to promising information and a realistic attitude toward the condition. In fact, parents' information level predicts their adherence to drug treatments and active participation in medical interventions. Notably, treatment acceptance is also affected by social and cultural conditions.<sup>10</sup> Long-term ADHD drug treatment is important and necessary during childhood in order

to prevent irreversible psychological, educational, and communication complications in the future; Also, local cultural beliefs are significant and have adverse effects on the parents' attitudes toward the necessity of use, short/long-term beneficial effects, and side-effects of drugs (which lead to treatment acceptance or discontinuation); moreover, there is insufficient knowledge of the issue and extensive advertising to non-scientifically exaggerate the complications associated with methylphenidate. Considering the above points, in this study, we aimed to evaluate the knowledge and attitude of the parents of children and adolescents with ADHD in the first step and attempted to find a solution for this substantial therapeutic challenge.

## Methods

This descriptive, cross-sectional study was performed on 300 parents of children or adolescents diagnosed with ADHD during 2019-2020. The participants were selected from the parents of children and adolescents with ADHD referring to the child and adolescent psychiatry centers affiliated to Tabriz University of Medical Sciences in Tabriz, Iran through convenience sampling.

The inclusion criteria were children aged six years old and diagnosed with ADHD with no previous methylphenidate consumption, parents aged more than 18 years with appropriate education levels, and management of a child or adolescent with ADHD for a minimum of 12 months. The exclusion criteria were neuro-developmental disorders (e.g., autism spectrum disorder, mental retardation), physical conditions (e.g., seizures), major psychiatric disorders (e.g., bipolar disorder, history of psychosis or substance abuse), and parents with a history of severe stress incidents (e.g., death of a loved one, divorce) in the past six months. The parents of children and adolescents with ADHD with no history of methylphenidate consumption who referred to the child and adolescent psychiatry centers affiliated to Tabriz University of Medical Sciences during October 2019-April 2020 were enrolled in the study.

On the visit day, an adolescent subspecialist psychiatrist (first author) examined the mental status of the children and adolescents based on the DSM-5 criteria and obtained their history to confirm ADHD. After confirming the diagnosis, the parents were rolled if they met the inclusion criteria. Initially, the research objectives were explained to the parents, and they were ensured of confidentiality terms regarding their personal information. In addition, they were informed that participation in the study was voluntary, and consent had to be provided prior to participation. After receiving an ethical approval from the Ethics Committee of the university (IR.TBZMED.REC.1398.1137), we carried out the research in Razi

Hospital in Tabriz.

First, a researcher-made questionnaire was distributed among the parents to assess their knowledge and attitude toward methylphenidate (Ritalin). Notably, the validity and reliability of the questionnaire were confirmed. After collection of the completed questionnaires, data analysis was performed in SPSS version 16 using descriptive statistics (mean, standard deviation, and frequency), independent t-test, and Chi-square to compare the participants in terms of knowledge and attitude.

*Socioeconomic Status Questionnaire*

The questionnaire encompasses items on the main occupation of the head of the household, literacy level of the respondents, total family income, the monetary value of family housing, the monetary value of the family car, and share of family health expenses within the past six months. To answer the first item, the participants announced their type of occupation, according to which the score of the item was measured using a table. The remaining items included scale options, which were selected by the subjects based on their condition. The tool was applied after it was updated, and the validity and reliability were also confirmed in the Iranian population.<sup>11</sup>

The researcher-made questionnaire had two sections of demographic characteristics and the evaluation of the knowledge, attitude, and

performance of the parents. In order to prepare the questionnaire, we asked the parents to mention the main challenges and concerns about methylphenidate consumption. Afterwards, the information provided by the parents was combined with the medical information on methylphenidate by the researcher to prepare the preliminary draft of the questionnaire, which was finalized in the panel discussions with the main authors of this article. The questionnaire had 20 items, including 10 on attitude, seven on knowledge, and three on performance, which were scored based on a five-point Likert scale (Completely Agree, Agree, No Comment, Disagree, Completely Disagree). The obtainable score range of the questionnaire was 20-100. As to validation of the questionnaire, it was provided to 10 faculty members, psychology professors, and subspecialist pediatricians and experts at Tabriz University of Medical Sciences, and their opinions were used to modify the tool. In addition, the reliability of the tool was confirmed by performing a test-retest on 20 samples. The process involved distributing the questionnaires among the parents of children and adolescents with ADHD who referred to the child and adolescent psychiatry clinics affiliated to Tabriz University of Medical Sciences. After three weeks, the questionnaire was completed again by the parents, and the results of the test and retest were assessed. The items with the correlation-coefficient less than 0.8 were removed, and those with the correlation-coefficient higher than 0.8 remained.

**Table 1:** Demographic Characteristics of Parents and ADHD Children and Adolescents

Variables	N	%
Age of ADHD Children and Adolescents (year)		
<6	2	0.6
6-12	231	77
12-18	65	21.6
>18	2	0.6
Gender		
Female	224	76.6
Male	76	25.3
Relationship of Participants with ADHD Children and Adolescents		
Mother	239	79.6
Father	51	17
Parents' Education Level		
Illiterate	8	2.6
Below Diploma	26	8.6
Diploma	104	34.6
Associate Degree	30	10
BSc	77	25.6
MSc	32	0.6
PhD	17	5.6
Education Level of ADHD Children and Adolescents		
Preschool	2	0.6
Elementary School	236	78.6
Junior High School	56	18.6
High school	4	1.3
College/Preparatory School	2	0.6
Total	300	

ADHD: Attention deficit hyperactivity disorder; BSc: Bachelor of sciences; MSc: Master of sciences; PhD: Doctor of Philosophy

**Results**

This descriptive research was performed on 300 parents (father or mother) of children and adolescents with ADHD who referred to the child and adolescent psychiatry clinics affiliated to Tabriz University of Medical Sciences. According to the results, the mean age of the participants was 3.1±7.9 years, and the maximum and minimum age were 5 and 19 years, respectively. Moreover, 79% of the subjects were mothers, 15.5% were fathers, and the majority of the parents had a high school diploma (Table 1).

The score range of knowledge, attitude, and performance of the parents toward methylphenidate consumption was 20-100. Table 2 shows the frequency and percentage of the scores of the parents' knowledge, attitude, and performance regarding Ritalin consumption.

The results of t-test indicated a significant correlation between parents and their knowledge and attitude scores of methylphenidate consumption (Tables 3 and 4).

**Discussion**

According to the results of the present study, the care time of the children with ADHD was 79.6%, and the mothers' attitude toward the use of methylphenidate and its side-effects was more favorable compared to the fathers' attitude and knowledge. Our findings are in line with the results obtained by Bahrami, who claimed that the care time of children with ADHD was 73.2%. Therefore, the knowledge and attitude of parents (especially mothers) has a great impact on the process of Ritalin consumption or lack of consumption.<sup>12</sup>

The results of the present study showed that out of

**Table 2:** Mean Scores of Attitude, Knowledge, and Performance and Correlations with Ritalin Consumption

Phrase	Mean±SD	Knowledge*	Attitude*
Ritalin treatment is essential to my child's future.	3.90±1.01	0.000	0.39
I believe that Ritalin treatment often has a positive effect on my child's behavior and learning.	4.06±0.94	0.000	0.002
Despite the negative attitude in the society, I tend to treat my child with Ritalin.	4.05±0.96	0.000	0.324
In my opinion, some people and teachers comment on Ritalin without any scientific knowledge.	4.29±0.90	0.004	0.280
I am under a lot of stress to tell others that my child is taking Ritalin.	3.82±1.22	0.008	0.040
I am more concerned about the side-effects of Ritalin treatment rather than other psychiatric medications.	3.33±1.27	0.000	0.040
Treatment with Ritalin leads to substance abuse in the future.	2.72±1.13	0.000	0.010
Non-pharmacological therapies (e.g., neuro feedback, counseling) cannot be as effective as Ritalin treatment.	3.33±1.11	0.109	0.003
Long-term Ritalin treatment is dangerous to my child's health.	3.17±1.09	0.000	0.001
In using Ritalin, I trust the attending psychiatrist more than the advice of non-professionals (family members, acquaintances, teachers, principals, and physicians in other fields).	4.36±1.03	0.000	0.185
The fact that the drug can only be received through prescription shows that it is high-risk.	3.16±1.20	0.000	0.063
I am fully acquainted with the amount and doses of my child's Ritalin consumption.	4.04±1.03	0.000	0.63
I have sufficient information about the duration of the Ritalin treatment of my child.	3.68±1.11	0.000	0.002
Ritalin is a type of drug.	2.89±1.17	0.000	0.146
Taking the recommended amount of Ritalin by a psychiatrist does not cause dependence.	3.61±1.10	0.000	0.132
Ritalin is a sedative.	3.44±1.13	0.000	0.010
Starting Ritalin at an early age has better consequences than at an older age.	4.15±0.92	0.000	0.032
I count the number of Ritalin pills for my child based on the advice of the attending psychiatrist.	4.50±0.76	0.000	0.081
I give Ritalin to my child at the recommended frequency of the attending psychiatrist.	4.50±0.71	0.000	0.132
I do not discontinue Ritalin without the advice of the attending psychiatrist.	4.44±0.93	0.020	0.046

\*t-test

**Table 3:** Correlations of Knowledge and Attitude Scores with Gender of Participating Parents

Variable	Gender	N	Mean±SD	*P value
Performance Score	Mother	147	42.74±4.36	0.06
	Father	73	34.12±4.13	
Knowledge Score	Mother	163	69.84±8.96	0.05
	Father	57	69.80±8.13	
Attitude Score	Mother	117	12.79±3.16	0.03
	Father	46	14.83±3.20	

\*t-test; SD: Standard deviation; N: Number of samples

**Table 4:** Correlations of Demographic Variables and Knowledge and Attitude Scores

Demographic Variables	P value of Knowledge Score	P value of Attitude Score
Gender	0.2	0.2
Parents' Education Level	0.02	0.001
ADHD Children and Adolescents' Education Level	0.08	0.01
Parents' Occupation Status	0.009	0.001
Parents' Income Status	0.09	0.01
Parents' Economic Status	0.014	0.001

\*t-test; ADHD: Attention deficit hyperactivity disorder

20 questions on the attitude of parents toward children or adolescents with ADHD, only the item regarding the optimal effect of non-pharmaceutical treatments (compared to methylphenidate) had no significant associations with the other variables, which indicated the preference of methylphenidate for the treatment of ADHD. Our findings are congruent with the results obtained by McNeal et al., who assessed mothers' and children's perception of drugs for patients with ADHD. In the mentioned study, priority was given to pharmaceutical treatment with methylphenidate to calm ADHD children and adolescents.<sup>13</sup>

The findings of the current research showed significant correlations between the parents' knowledge and attitude and dependence and addiction to methylphenidate. Concern and resistance were observed in the parents at the beginning of the treatment, which was mostly due to the negative advertising of non-pharmacological methods and methylphenidate addiction. In this respect, our findings are in line with the results obtained by Arthur et al. (2007), who conducted a study on 140 parents to assess their attitude toward their children's consumption of psychiatric drugs. In the mentioned study, 80% of the parents were concerned about the dependence level of the drug, which caused them to avoid its consumption.<sup>14</sup> In another study by Lazaratou, 84% of mothers refused methylphenidate consumption by their children due to its dependence (addiction).<sup>15</sup> In addition, the fear of children's dependence on methylphenidate by parents has clearly been stated in a study by Dos Reis.<sup>16</sup> On the other hand, Katayoun Khoushabi evaluated the effects of methylphenidate, neurofeedback, and parental management education, concluding that methylphenidate was more effective and non-addictive when used concomitant with non-pharmacological treatments.<sup>17</sup> It seems that deeper socio-cultural beliefs are more influential in drug acceptance, which highlights the need for extensive media education to recognize the actual effects of the drug, necessity of its use, and lack of misdiagnosis of its side-effects, so that the proper attitude could be improved in parents. In this regard, interviewing psychiatrists is of paramount importance.

The results of the present research demonstrated significant correlations between the knowledge and performance scores of the parents of the ADHD children and adolescents and their education level

as the higher education level of the parents was associated with their better cooperation in their children's methylphenidate consumption. In this regard, our findings are consistent with the results obtained by Lazaratou, who reported that the use of methylphenidate was more scientifically accepted by parents with their increased education.<sup>15</sup> In addition, Amiri (2016) evaluated the parents' attitudes and knowledge of ADHD treatment, reporting a significant association between the parents' education level and drug consumption.<sup>10</sup> Therefore, it could be inferred that increased knowledge leads to the in-depth study of methylphenidate by parents, as well as the use of accurate scientific references and outcomes for the elimination of the misleading drug advertisements.

The results of the present study also indicated a significant correlation between the parents' attitude and knowledge with the side-effects of Ritalin in the ADHD children and adolescents, which is in line with the results obtained by Mukattash, who conducted a study aiming to audit attitudes toward pediatric medicine. In the mentioned research, parents were more interested in recognizing the side-effects of the drugs used in the treatment of their children. Therefore, it could be concluded that the parents' knowledge, along with education based on the recommendations of attending physicians, results in a conscious attitude and correct use of Ritalin in children and adolescents since the most important supporters of children during their life are the parents.<sup>18</sup>

The current research showed significant associations between parents' knowledge and attitude and discontinuation of the drug without the physician's order, which is in line with the results obtained by Bush, who reported the effects of mothers' acceptance of methylphenidate to manage children's behaviors and adherence to the drug on the child's behavior in its continuous use.<sup>19</sup> In the present study, 64.5% of the parents did not discontinue methylphenidate as instructed by the physician. This is consistent with the results obtained by Pappapol, who considered methylphenidate to be the most effective drug in the treatment of ADHD, reporting that 50% of the parents considered the drug to be safe for their children and understood its importance for their condition.

Adler et al. determined the attitude and knowledge of children with ADHD and their parents about methylphenidate, reporting that the

parents and children considered methylphenidate to be a safe drug and did not suddenly discontinue its consumption.<sup>20</sup> On the other hand, Pouretemadi et al. compared two treatment methods for ADHD children and confirmed that methylphenidate was a more efficient technique compared to neurofeedback. This highlights the need for consuming drugs based on a physician's prescription.<sup>21</sup> In a study by Arthur et al., 83% of the participants stated that they were familiar with the mechanism of action and effects of methylphenidate, and 4% considered the drug suitable. Furthermore, 20% believed that psychiatrists used psychiatric drugs unnecessarily, which is consistent with the present study since a significant association was revealed between the parents' knowledge and effect mechanism of the methylphenidate ( $P < 0.05$ ).<sup>14</sup>

The presence of teachers and educators in schools is considered a reliable educational source for children and adolescents. The implementation of educational sessions on the use of Ritalin results in correct scientific attitude in educators, and optimal education must be provided in this regard in schools for children and adolescents and even their parents, which emphasized extensive media training.

#### *Limitations of the Research*

Considering the quantitative nature of the applied questionnaires and limiting the participants' responses to only selecting the options of the questionnaires, we were unable to accurately assess the knowledge and attitude of the participants. In addition, all the subjects were selected only from the parents of the ADHD children and adolescents who referred to the child and adolescent psychiatry clinics affiliated to Tabriz University of Medical Sciences. Therefore, the results could not be generalized to other populations in other countries, and it is recommended that further investigations in this regard should be conducted in the other cities in Iran.

#### **Conclusion**

According to the results, parental involvement was positive in providing and supporting the use of methylphenidate by ADHD children and adolescents. Therefore, supporting and increasing the knowledge and attitude of these parents could encourage the use of methylphenidate, which is an important drug therapy in the treatment of ADHD. In line with this strategy, the side-effects of delayed treatment and non-consumption of methylphenidate could be reduced, thereby promoting the health of ADHD children and adolescents.

#### **Ethical Considerations**

Research committee of Razi Research Center approved

the study with the code of IR.TBZMED.REC.1398.1137

#### **Authors' Contribution**

Study concept and design: S.N., and F.S.; analysis and interpretation of data: F.S., and S.N. M.F.; drafting of the manuscript: F.S.; critical revision of the manuscript for important intellectual content: S.N, M.F.; statistical analysis: MTS, RAD.

#### **Acknowledgments**

Hereby, we extend our gratitude to the parents of the children and adolescents with ADHD for participating in the study. We would also like to thank the staff of Razi Hospital for assisting us in this research project.

#### **Financial Support and Sponsorship**

Open Access funding enabled and organized by committee Tabriz Pediatric Research Center.

**Conflict of Interest:** None declared.

#### **References**

- 1 Sarkhel S. Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 10(th) edition. Indian J Psychiatry. 51: © Indian Journal of Psychiatry.;2020. p. 331.
- 2 Eklund H, Cadman T, Findon J, Hayward H, Howley D, Beecham J, Xenitidis K, Murphy D, Asherson P, Glaser K. Clinical service use as people with Attention Deficit Hyperactivity Disorder transition into adolescence and adulthood: a prospective longitudinal study. BMC Health Serv Res. 2016 Jul 11; 16:248. doi: 10.1186/s12913-016-1509-0. PMID: 27400778; PMCID: PMC4940923.
- 3 Afeti K, Nyarko SH. Prevalence and effect of attention-deficit/hyperactivity disorder on school performance among primary school pupils in the Hohoe Municipality, Ghana. Ann Gen Psychiatry. 2017 Feb 14; 16:11. doi: 10.1186/s12991-017-0135-5. PMID: 28228839; PMCID: PMC5307701.
- 4 Usami M. Functional consequences of attention-deficit hyperactivity disorder on children and their families. Psychiatry Clin Neurosci. 2016 Aug;70(8):303-17. doi: 10.1111/pcn.12393. Epub 2016 May 10. PMID: 27061213.
- 5 Azadbakht L, Esmailzadeh A. Dietary patterns and attention deficit hyperactivity disorder among Iranian children. Nutrition. 2012 Mar;28(3):242-9. doi: 10.1016/j.nut.2011.05.018. Epub 2011 Aug 25. PMID: 21868196.
- 6 Chen JY, Clark MJ, Chang YY, Liu YY, Chang CY. Factors affecting perceptions of family function in caregivers of children with attention deficit hyperactivity disorders. J Nurs Res. 2014 Sep;22(3):165-75. doi: 10.1097/jnr.000000000000042. PMID: 25111110.

- 7 Ronis SD, Baldwin CD, Blumkin A, Kuhlthau K, Szilagyi PG. Patient-Centered Medical Home and Family Burden in Attention-Deficit Hyperactivity Disorder. *J Dev Behav Pediatr*. 2015 Jul-Aug;36(6):417-25. doi: 10.1097/DBP.0000000000000161. PMID: 26035140.
- 8 Dodangi N, Vameghi R, Habibi N. Evaluation of Knowledge and Attitude of Parents of Attention Deficit/Hyperactivity Disorder Children towards Attention Deficit/Hyperactivity Disorder in Clinical Samples. *Iran J Psychiatry*. 2017 Jan;12(1):42-48. PMID: 28496501; PMCID: PMC5425351.
- 9 Wilens TE, Kratochvil C, Newcorn JH, Gao H. Do children and adolescents with ADHD respond differently to atomoxetine? *J Am Acad Child Adolesc Psychiatry*. 2006 Feb;45(2):149-157. doi: 10.1097/01.chi.0000190352.90946.0b. PMID: 16429085.
- 10 Amiri S, Shafiee-Kandjani AR, Noorazar SG, Rahmani Ivrih S, Abdi S. Knowledge and Attitude of Parents of Children with Attention Deficit Hyperactivity Disorder Towards the Illness. *Iran J Psychiatry Behav Sci*. 2016 May 15;10(2): e122. doi: 10.17795/ijpbs-122. PMID: 27803715; PMCID: PMC5087560.
- 11 Abobakri O, Sadeghi-Bazargani H, Asghari-Jafarabadi M, Alizadeh Aghdam MB, Imani A, Tabrizi J, Salarilak S, Farahbakhsh M. Development and Psychometric Evaluation of a Socioeconomic Status Questionnaire for Urban Households (SESIran): The Preliminary Version. *Health Promot Perspect*. 2016 Jan 30;5(4):250-60. doi: 10.15171/hpp.2015.030. PMID: 26933644; PMCID: PMC4772795.
- 12 Bahrami M, Yousefi F, Bahrami A, Farazi E, Bahrami A. The Prevalence of Attention Deficit – Hyperactivity Disorder and related factors, among elementary school student in Kamyaran city in 2014-2015. *Shenakht Journal of Psychology and Psychiatry* 2016; 3 (3) :1-11.
- 13 McNeal RE, Roberts MC, Barone VJ. Mothers' and children's perceptions of medication for children with attention-deficit hyperactivity disorder. *Child Psychiatry Hum Dev*. 2000 Spring;30(3):173-87. doi: 10.1023/a:1021347621455. PMID: 10851792.
- 14 Greydanus DE, Pratt HD, Patel DR. Attention deficit hyperactivity disorder across the lifespan: the child, adolescent, and adult. *Dis Mon*. 2007 Feb;53(2):70-131. doi: 10.1016/j.disamonth.2007.01.001. PMID: 17386306.
- 15 Lazaratou H. [Attention-deficit hyperactivity disorder or bipolar disorder in childhood?]. *Psychiatriki*. 2012 Oct-Dec;23(4):304-13. Greek, Modern. PMID: 23399752.
- 16 DosReis S, Mychailyszyn MP, Evans-Lacko SE, Beltran A, Riley AW, Myers MA. The meaning of attention-deficit/hyperactivity disorder medication and parents' initiation and continuity of treatment for their child. *J Child Adolesc Psychopharmacol*. 2009 Aug;19(4):377-83. doi: 10.1089/cap.2008.0118. PMID: 19702489; PMCID: PMC2830211.
- 17 El-Baz FM, Youssef AM, Khairy E, Ramadan D, Youssef WY. Association between circulating zinc/ferritin levels and parent Conner's scores in children with attention deficit hyperactivity disorder. *Eur Psychiatry*. 2019 Oct; 62:68-73. doi: 10.1016/j.eurpsy.2019.09.002. Epub 2019 Sep 20. PMID: 31546229.
- 18 Mukattash TL, ALGhazawi NY, Abu Farha RK, Jarab AS, Hämeen-Anttila K, Vainio K, Gammoh OS. An audit on parental attitudes towards medicines used in children. *Saudi Pharm J*. 2018 Jan;26(1):133-137. doi: 10.1016/j.jsps.2017.10.001. Epub 2017 Oct 3. PMID: 29379345; PMCID: PMC5783804.
- 19 Bush G. Attention-deficit/hyperactivity disorder and attention networks. *Neuropsychopharmacology*. 2010 Jan;35(1):278-300. doi: 10.1038/npp.2009.120. PMID: 19759528; PMCID: PMC3055423.
- 20 Adler L, Cohen J. Diagnosis and evaluation of adults with attention-deficit/hyperactivity disorder. *Psychiatr Clin North Am*. 2004 Jun;27(2):187-201. doi: 10.1016/j.psc.2003.12.003. PMID: 15063992.
- 21 Pouretmad HR, Khooshabi K, Roshanbin M, Jadidi M. The effectiveness of group positive parenting program on parental stress of mothers of children with attention-deficit/hyperactivity disorder. *Arch Iran Med*. 2009 Jan;12(1):60-8. PMID: 19111032.