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On the attitudes of adolescents, parents, teachers, and pediatricians toward the tendency to treatment of attention deficit hyperactivity disorder

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Abstract

Background and Objectives: Although Up to 90% of adolescents with attention deficit-hyperactivity disorder (ADHD) remain functionally impaired, but less than half continue to take medication. In developing countries little is known about factors influencing willingness to use the treatment. This paper has assessed views on willingness to use treatment in groups involved in ADHD.

Methods: 17 adolescents with ADHD referred to Tehran Psychiatric Institute participated in this qualitative study by available sampling .Focus Group discussions (FGD) were conducted in two groups of adolescents and two groups of their parents and teachers. Deep interviews were done with two pediatricians and data analyzed with Content analysis method.

Results: The most important factors influenced willingness to use the treatment, in all of groups consist of side-effects expectations, concerns regarding social stigma of medication, incorrect perceptions and low knowledge about ADHD and its treatment, cost and unavailability of treatment options. All groups confirm effectiveness of medications but adolescents had lowest willingness to use the treatment.

Conclusion: Involvement of adolescents in treatment decision-making may increase willingness to use the treatment. Totally, despite of all treatment obstacles, all of the groups accepted medication is inevitable.

Keywords: ADHD, Adolescent, Willingness, Treatment

Background

Attention deficit hyperactivity disorder (ADHD) is the most common behavioral disorder of childhood, and is characterized by varying levels of excessive motor restlessness, inattention and/or impulsivity. ADHD is a neuropsychiatric disorder with high heritability associated with significant disturbances in occupational, educational, psychiatric, and social function (1).

Although there is no global consensus in terms of country, region and age, analyses have estimated the worldwide ADHD prevalence at 5.29% (2). There are different outbreaks in Iran due to the use of different instruments, but according to a systematic review, the highest prevalence is in Tehran and the lowest is in Sanandaj (3).

Early diagnosis and treatment of ADHD may improve the psychosocial and educational development of these children.

Significant factors that can affect evidence-based therapies include social awareness of adolescents and parents, attitudes of health care providers and teachers associated with treatment acceptance, benefits and disadvantages of treatment, interest or dislike of drug use, observed therapeutic effects, and stigma (4). Many adolescents with ADHD do not like taking medication because of the lack of perceived need for drug use or drug recovery, social experience or drug side effects. Many adolescents argue with their parents and refuse to take medication or regular drug use (5).

Side effect are common and commonplace in

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terms of feeling negative about drug therapy in all groups (4, 5, 6). Various studies on parents' attitudes show that they prefer behavioral interventions to drug therapy (4, 5, 6).

More than 50% of parents have tried alternate and complementary therapies before they start treatment, stating that these treatments are more natural and healthier and have less social stigma (6).

Parents sometimes have to start stimulants to avoid stigma of being a bad parent or due to school pressure (6).

Teachers act as a source of information on ADHD for parents, hence, the awareness of teachers about treatment can affect evidence-based treatment (4).

Teachers, like parents, consider behavioral interventions to be more acceptable to girls (4).

Stigma of mental illness and treatment act as a barrier to requesting help (6).

Health staff awareness and understanding of the treatment of ADHD are other areas specifically under investigation and research.

Psychiatrists are more concerned about side effects of stimulants than other doctors (4).

Pediatricians may not be aware of a variety of pharmaceutical and non-pharmaceutical alternatives that parents use (5).

It should be noted that most studies on ADHD have been conducted in developed countries. Cultural factors influence the identification of psychiatric illnesses and the management of problematic behaviors in children. The extent to which a behavior is assumed to be deviant varies among different cultures; this variation in the definition and determination of the behavior of children as a problem has a significant effect on acceptance of interventions and receipt of assistance by parents (7).

In Iran, no study has been carried out on the attitudes of people involved in the treatment of ADHD so far and barriers to treatment are still unknown.

On the other hand, information about the attitudes of individuals, which is part of their personal experience, is not accessible by quantitative studies. The strength of qualitative research is to allow a deeper understanding of a phenomenon, in the form of sentences of the people affected by that experience.

Given the importance of early diagnosis and treatment of ADHD and the importance of understanding the factors which are more effective in their tendency to treatment and lack of adequate information in this field in Iran, we decided to investigate these factors in a qualitative study groups involved with ADHD (patient, parents, teachers and doctors).

Method

This study is a qualitative study aimed at identifying the attitudes of adolescents, parents, teachers, and pediatricians toward the tendency to treatment of ADHD in Tehran Psychiatric Institute.

Method of data collection for this study is to hold focus group discussion (FGD) and in-depth interviews with participants.

The population under study are the adolescents referring to a **c**hild and adolescent psychiatric clinic in Tehran Psychiatric Institute and Ali Asghar Hospital, who are under treatment with a diagnosis of ADHD, the respective parents and their teachers, and assistant seniors majoring in Children at Iran and Tehran University of Medical Sciences.

Sampling in this study achieved through convenience sampling. Having investigated the files of patients admitted to a psychiatric clinic for children and adolescents, names of 12-18 year-old adolescents who were treated under the diagnosis of ADHD were extracted. Then, the researcher telephoned the adolescents and their parents to invite them to participate in the study. The study population were divided into four main groups: adolescents, parents, teachers and pediatricians. It was predicted to conduct in-depth interviews with pediatricians and have three focus group discussions in each of which 6 to 10 subjects participated in groups of adolescents, parents and teachers. However, after FGD 3 in the group of teenagers and parents and FGD 2 in the group of teachers, it seemed that they were few new data and the study data seemed to be saturated. Subsequently, the focus group discussions were stopped in groups. Therefore, purposive sampling was continued till the data saturation was achieved, and the data saturation was collected when the data was duplicate and no new category was obtained. Two in-depth interviews were conducted with pediatric specialists. For this study, the following criteria were set for the participants:

- In adolescents, the individual must be visited and diagnosed by a child and adolescent psychiatric specialist and has already been diagnosed with ADHD.
- Subjects should consent to participating in the study.

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Table 1: Participant demographics

Variable	Adolescents	Parents	Teachers
	Sex		
Female	4	15	0
Man	13	15	6
Age	14-12 13	30-20 2	40-30 1
	16-14 1	40-31 13	50-41 3
	18-16 3	50-41 15	60-51 2
	Birth		
First	13	-	-
Second	4	-	-
Third and more	0	-	-
	Use of medication		
Short work	15	-	-
Long Effect	1	-	-
incurable	4	-	-
Non-pharmacological treatment	5	-	-
	History of ADHD		
In parents	8	-	-
In Sister or brother	6	-	-
Psychiatric illness	6	-	-
	Education		
Under diploma		1	0
Diploma		16th	2
Bachelor		9	2
Masters and higher		4	2
Total	17	30	6

Attitudes of these individuals were collected through focus group discussion. According to the main question of the study: the questions were guided. Whenever necessary, probe questions were asked to extract in-depth responses. The interview started with the question, "talk about your experience of ADHD".

During the interview, the researcher checked the correctness of his statements out of the participants using the help questions.

After the group discussion, each of these sessions would be recorded by the electronic recording system in the event of the participants' consent. Additionally, in each of the sessions, nonverbal postures and gestures of the participants were recorded by the researchers. The researchers monitored that non-verbal messages of these individuals and their interactions with each other and with the surrounding area. All of the recorded discussions of each interview were then transcribed and typed. Each of the central focus discussions of this study lasted between 90 minutes to 2 hours.

The methodology chosen for this study and the analysis of data was content analysis.

The content analysis was conducted in such a way that several times the text was read and the sentences and sections of each text were coded based on the researcher's recognition. The next step was to find out what the participants had stated. In the next step, the data encoding was applied to each section of the text. The resulting codes were compared with previous codes, and the codes that were conceptually similar were placed in the same category. Content analysis was used with a comparison method.

This study eventually led to the discovery of five main themes. In the final step, the same code merged into one group, and for each class of the code, a name representing the codes was chosen. Therefore, in this method, according to the participants in the study, obvious and hidden concepts were identified. These concepts were then coded, summarized and classified and the themes were extracted. The codes were identified based on the units of meaning derived from the participants' descriptions and then classified according to their differences or similarities in different classes. Classification was made so that each category was classified only in one class.

Based on theme coding and the combination of synonym codes, the findings related to attitudes from each individual are summarized in a separate table.

The main codes for the analysis in this study were determined as follows.

- The general attitude of each group to ADHD treatment
- The general attitude of each group to the strengths and weaknesses of the treatment
- The general attitude of each group to the

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Table 2. Pediatricians' attitudes toward ADHD and its related factors

Class	Subclass	The main view of the participants
Perspectives on hyperactivity	Overdiagnosis	"Not having enough biographies and not paying attention to the fact that naughtiness is different from hyperactivity"
First line treatment and its effect	Methylphenidate (Ritalin) – to be started with caution and awareness can be effective.	"I think it is effective, the drug should prescribed with caution, other methods do not work"
Non-pharmacological treatments	Lack of knowledge and awareness of them	"Actually, I'm not aware of any non-pharmacological treatment"
Drug dependence	Measuring drug dependence on the basis of treatment within the first 2-3 years	-
Basis of treatment	Complete awareness and accurate diagnosis and visits in several sessions	"If this age is not addressed in their treatment, there will be profound behavioral effects in the future, and during this important period, their training will be lost and will lead to a lack of progress."
Medicinal side effects	Severe headache and insomnia	"Insomnia is one of the side effects of medication that is very important for us and for families"

future of treatment
- The general attitude of each group to the barriers to treatment
- Emotional experiences of the participants

Results

Fifty-five participants participated in four groups of adolescents, parents, teachers and pediatricians, whose demographic characteristics are presented in Table 1.

The findings of this study, which included the attitudes of the participants, were presented in four groups as follows in Tables 1,2,3, and 4.

In these tables, the arrangement of the findings in the classes is based on their frequency. For example, the findings that have the highest frequency among the comments are given and the same is true throughout the Tables 1-4.

Table 3. Teachers' attitude toward ADHD and its related factors

The main view of the participants	Subclass	Main class
"Hyperactive kids in the classroom are not relaxed and make a mess of the class and tease their classmates."	Restless and highly active and naughty	Teachers' experiences in dealing with hyperactive a student
"it might be inherited."	Inherited and congenital	Teachers' attitude toward the cause of hyperactivity disorder
"In my opinion, if the medication is received, a relative concentration will be achieved."	Increase relative and cross-sectional focus	Impact of drugs on hyperactive students
"In my opinion, they recover by receiving good medicine."	Upon reaching a higher age, they will recover with continued treatment	Teachers' experience from the process of treating hyperactive students in the future
"They will take medicine till guidance school, when they grow up or step into the community, they will deal with other people and will have more control over their behavior and personality."	Guidance school	Continuing the student's treatment according to their educational grade
"I think love and affection toward them is effective."	More attention and love from parents and teachers and around them	Teachers' awareness of non-pharmacological treatments
"Disagreement - I do not think it is correct, because there may be problems or lead to being allergic to the drug."	Disagreement - the possibility of increased side effects and sensitivity	Teachers' attitude toward taking responsibility for giving medicine to students with the permission of doctor and their parents

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Table 4. Parents' attitudes toward ADHD and its related factors

The main view of the participants	Subclass	Main class
"At home and at school, they are not at all calm and they are teasing other children and do not focus on the lesson."	High level of mobility and activity and lack of attention to parenting advice	Comments on hyperactivity
"Focusing on taking medication has improved, and its quarrels have declined."	Increasing their concentration and reducing their stress and hyperactivity	The effect of the drug on their hyperactive children
"In my opinion, affection is very important to them, and they enjoy being accountable."	Increasing their affection and attention to them	Awareness of non-pharmacological treatments
"As they grow, their strange behavior and some of their ticking goes away."	Their recovery along with aging	The future of the children according to the treatment
"Their concentration in the school and the home is less and they are less interested in the lesson, and their mobility and naughtiness will be much more."	Reducing focus and reducing interest in the lessons and academic failure	Discontinuation symptoms
"We both agree that drug treatment should be applied."	Couple agreement	Parental agreement or parental disagreement on drug therapy for hyperactive children
"If they are educated, that's fine, and a normal life is also a reasonable expectation to have."	Educational progress and their achievement in their work and life	Parents' expectation from the treatment result

Table 5. Attitudes of children with hyperactivity toward ADHD and its related factors

The main view of the participants	Subclass (subclass)	Main floor
"A person who is very noisy at school and at home and annoys other children"	Boisterous and hyperactive	Attitude of children to hyperactive people
"It affects reading and I can learn better."	Increase accuracy and focus	The effect of drugs on them
"I don't know"	Most of them were not aware, but they mentioned non- pharmacological sporting and counseling and attention to problems	Awareness of non- pharmacological treatments
"I would get a severe headache when I was taking pills."	Headache, dizziness	Medicine side effects
"I feel free and do not depend on anything when I'm not taking medicine"	Feeling free and independent	And medicine discontinuation side effects
"I feel they love us"	Satisfaction	The attitude of the children to the prescribing physician and the parents toward them
"In our school, if someone is hyperactive, that means they are mentally retarded"	Mentally retarded reading these people	The attitude of children toward their friends' and other students' knowing about their illness
"I feel that I'm progressing and in the following year I hope the treatment will be cut off"	Feeling calm and getting better	Attitude to the future of drug therapy

Discussion

The results of this study showed pediatricians believe that among children with ADHD as well as boisterous children, there are differences in terms of behavior. Teachers believe that this is a hereditary and congenital illness and they believe that hyperactivity may pose problems in educating these children. Parents think of the problems of these children as their noisiness, naughtiness, hyperactivity and their inability to focus on their lessons and they are suspected of their being hyperactive by these symptoms. From the perspective of children with ADHD, if an individual makes many noises and turns naughty in a school or house and has a lot of mobility, this behavior is called hyperactive. The view of teachers, parents and children on the definition of the illness is almost the same, but pediatricians see it in more specialized. In a study by William et al (5), the children's attitudes toward their own hyperactivity deal with being more active and having less focus on lessons and talks, which is consistent with our study. In their study, Claire et al (7) found that parents' attitudes toward hyperactivity refers to behaviors such as jumping up and down and inattention to talks, which is consistent with our study.

The findings of this study about the onset of drug therapy and its effect from the viewpoint of pediatric specialists show that based on the specific clinical symptoms and in several separate visits

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and ensuring the child's hyperactivity, the illness should be diagnosed and medication should be prescribed. They cited drug therapy as the first step and considered it important. Parents have highlighted the great influence of medicine on their children in terms of increasing their concentration and reducing their being boisterous, although teachers consider drug effectiveness to be sectional. Children with hyperactivity have considered medicine to be effective in increasing their accuracy and concentration, which has been accompanied by a reduction in energy and loneliness. In the study by William et al. (5), the effect of the drug has been described in a number of ways. Along with increasing patients' focus, they have mentioned some problems. In a study by Bussing et al. (4), effect of medicine on patients is described as sectional and believe that other interventions, including counseling and training, are effective along with the medicine. In a study by Leggett et al. (6) five out of seven adolescents with hyperactivity in their sample have reported educational progress, which is consistent with the results of our studies.

Our findings on drug side effects suggest that pediatricians believe that insomnia is one of the most important side effects of medication that also specialists and families pay attention to. In some cases, anorexia and severe headache have also been reported. The attitude of children with hyperactivity toward the side effects of drugs is that they get severe headaches and dizziness when taking medication. In the study by Claire et al. (7), drug-related side effects are associated with decreased appetite, fever, hallucinations and weight loss. Also, in the study by William et al (5), loss of appetite, weight loss, and delayed sleep have been mentioned as side effects. Furthermore, in a study by Shaw et al (8), 80% of hyperactive individuals in samples they studied were unhappy with treatment management and in a study by Leggett et al (6), 20% of patients under study experienced weight loss, personality and behavioral changes and as drug side effects, which requires further attention and should be addressed to solve them.

Regarding awareness and attitudes toward non-pharmacological therapies for individuals with hyperactivity, pediatricians did not have any awareness of and opinions on non-pharmacological therapies, and teachers believed in having affection toward students and recommended more attention from parents and their surrounding; parents' attitudes were paying more attention and putting some responsibility on their shoulders along with drug therapy. Hyperactive children were not aware of non-pharmacological therapies, but they suggested sports and music and counseling could be effective. In a study by Shaw et al (8), 51% of the subjects mentioned behavioral therapy as the first-line treatment for ADHD, but Bussing et al (4) special advice is ineffective. The findings of the current study in terms of drug dependence in the future by view of pediatricians are such that attention to treatment should be preferred to treatment dependence its side effects. Experts believe that drug use during in adolescence will cause more dependability. Parents' concerns about drug dependence were more likely to be related to future drug use and feared having a mental illness. In the study by Bussing et al (4), it was believed that these patients would be addicted to drug and become dependent on the drug in the future, which was almost consistent with our study; however, most parents agree to continue the treatment, and believed that over time the continuation of the treatment process they will improve. In addition, the children with ADHD believed that they would feel better in the future, hoping for recovery; some of them would be more confident with taking medications.

According to the results of this study, the teachers' attitude toward students with ADHD was the fact that their medication would last until the secondary education grade and then they would recover.

Parents believed that 50 percent of these patients would recover and expected them to have future academic achievement and normal life. The affected children had a greater hope of improvement, although some of them considered the drug to be ineffective. In a study by Shaw et al. (8), families considered drug therapy to improve their quality of life.

Conclusion

In the present study, due to the lack of awareness of the majority of the people and interviewed subjects, of hyperactivity disorder, its inability to be diagnosed, and ignorance of how to deal with these patients in different environments such as school, classroom, home, etc., it is essential that educational classes and training pamphlets be provided to them. The link between the special therapists of children with ADHD and their parents and teachers is essential to prevent further harm to the individual, community and family and to reduce their individual and social concerns.

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Conflicts of interest: None declared.

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