IJMS
Vol 34, No 4, December 2009

Original Article

Disclosure of Attention Deficit Hyperactivity Disorder and its Effect on Rejection of Students by Teachers

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Abstract

Background: The common psychiatric disorder of attention deficit hyperactivity disorder (ADHD) and the knowledge of teachers about it are well discussed in literature. While teachers can play an important role for the management of ADHD, it is not clear whether informing of teachers about children with ADHD affects their behavior and attitude toward the children. In the present study, we studied whether the disclosure of children with ADHD is associated with social rejection and negative attitude of their teachers. In addition, we studied the perception of teachers for treatment and its benefits.

Methods: A total of 558 primary school teachers of students in grade I in Shiraz, south of Iran, participated in this study. They completed the questionnaires after studying one of the randomly selected four vignettes. One of the vignettes with inattentive type and one of the vignettes with hyperactive-impulsive type symptoms were not labeled as ADHD children.

Results: The teachers did not show any difference in their attitude on various types of disclosed and undisclosed ADHD vignettes. The four groups of teachers were not different regarding their belief for treatment and its benefits.

Conclusion: Parents of the children with ADHD could be assured that informing of teachers about the disorder does not cause the social rejection or negative attitude towards the affected children. Lack of difference among the teacher groups for the necessity of the treatment and its benefits shows that their knowledge about ADHD is not enough. Improving the knowledge of teachers about ADHD is a preceding step for disclosing the children's disorder.

Iran J Med Sci 2009; 34(4): 259-264.

Keywords ● Disclosure ● ADHD ● social rejection ● students ● teachers

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Received: 7 May 2009
Revised: 8 July 2009
Accepted: 6 August 2009

Introduction

Symptoms of attention deficit hyperactivity disorder (ADHD) are common in the primary school students.[1] More than two third of families who have children with ADHD had never consulted with a mental health professional about their child's condition.[2]

Prevalence of ADHD symptoms in Iran is very similar to other countries.[1] About 85% of primary school teachers in Iran

self-rated their information regarding ADHD as very low. Less than 40% of the teachers believed that ADHD could be managed with medication.[3] Meanwhile, in Iran, similar to other countries, teachers are the first who suggest the diagnosis of ADHD.[4,5] Children with ADHD have been referred for clinical evaluation 1.6 years later than the first suspicion to the ADHD.[4] The parents of such children usually do not have sufficient information about ADHD.[4] Knowledge and attitude of some health care providers such as pharmacists towards ADHD are not better than teachers in Iran and many of them do not have the opportunity to learn about ADHD.[6] Meanwhile, many of these children's parents are suffering from psychiatric disorders.[7]

Presence of ADHD symptoms is not enough to predict mental health service use.[8] Many parents of children with ADHD ask mental health consultants if they should disclose to their school teachers that their child has the disorder. There is scant information about the possibility of social rejection by teachers after disclosing of ADHD. Labeling of ADHD in children might have the advantages, such as facilitating the communication between the teacher and clinician, and providing a basis for research, assessment, and treatment.[9] On the other hand, the labeling might have a potentially negative impact on patients because it may lead to poorer expectations of the child or labeling bias.[10]

There are some reports that diagnostic labels negatively impact educators' ratings of children. Teachers rated behaviors of children described in a vignette as more disturbing and less accepted when the behavior was not matched with the label.[11] In another study, teachers watched a videotape of a child displaying stereotypical ADHD behaviors. The teachers reported more negative first impressions and evaluated the essays of the child more critically than the teachers who watched the videotape of a child exhibiting normal behavior.[12] A study investigated the effect of presentation of diagnostic information and the label of ADHD on judgments of college students regarding children's social and concentration skills. The participants were more negative when the stereotypical behaviors associated with ADHD were watched in a videotape than when were read in a vignette.[10] However, the difference was not significant.

Recently qualified elementary school teachers have a better knowledge on ADHD than teachers who have been working for a longer period.[13] Probably the teachers with less work experience are exposed to update information and in-service training about ADHD.[13]

Preventive disclosure decreases stigma and misattribution of patients with psychiatric disorders such as Tourette's syndrome.[14] A study on 306 undergraduate young adults showed the effect of ADHD disclosure by the use of four different vignettes of ADHD. Each of the participants read one of the four vignettes. The vignettes were different in a two (ADHD symptom presentation: hyperactive/impulsive *v* inattentive) by two (preventative disclosure *v* nondisclosure) designs. The results showed that disclosure of ADHD led to less socially rejecting attitudes and more positive attitudes on the benefits of professional help.[15]

It is important to discuss possible effects of labeling bias on teachers interacting with children with ADHD for a long time. We studied disclosure of behavioral characteristic of hypothetical children described in labeled or nonlabeled ADHD vignettes on the teachers. We aimed to find whether preventative disclosure of ADHD will be associated with social rejection and negative attitude of teachers.

Subjects and Method

Participants and Settings

Participants were primary school teachers of students in grade I in Shiraz, south of Iran. Of the 558 questionnaires given to teachers, 550 were returned. The response rate was 98.5%. Female teachers were 477. The mean age of the teaches was 39.9 (SD=6.3) years. Their age range was 25 to 55 years. 83.5% of them were married. 24.2% had no child. The percent of teachers who had one or two children were 14.5% and 38.7%, respectively. Their mean years of education as a teacher was 17.2 (SD=7.8) years. The teachers were randomly assigned into four groups.

The entire city was divided into four district areas. The headmasters and the teachers were first contacted by letter or by telephone. Then, the teachers of distinct area were gathered in four different days. The researchers participated in each gathering of the teachers and distributed the vignettes and questionnaire. The teachers completed the questionnaire at this session and returned them to researchers directly. All questionnaires were answered anonymously.

Vignettes

Four vignettes used in the present study were obtained from a previous study.[15] The vignettes were different in a two (ADHD symptom: hyperactive *v* inattentive) by two (disclosed of disorder *v* no disclosed) designs.

The vignette is shown in table 1 with altered items stated in brackets. We also changed the name of the vignette from "Jamie" to "Mehran" to be more familiar with our culture. The diagnostic criteria were represented in statements referring to everyday activities, e.g. "Mehran is a restless student".

Table 1: The four different vignettes

"Mehran" has been one of your students from more than 7 months ago and you have spent a lot of time with him/her. "[Mehran is often quite fidgety and seldom sits still, even when talking one–on–one with you. Mehran always talks more than any other student you have, even when it seems inappropriate for what you are doing. Mehran often interrupts when you or someone else in a group is talking.] vs. [Often when you are talking, Mehran is busy doing multiple tasks and appears not to be paying full attention to what you say. Mehran usually shows you later that most of what was said in the conversation were remembered, but there are sometimes spots of the conversation that are not recalled. Mehran seems increasingly irresponsible: coming late for meeting times, not following through on promises made to you, and losing important papers and other items.]" Recently, you were informed that he/she has diagnosis of attention deficit hyperactivity disorder] vs. [None]".[15]

There were four vignettes that each teacher read one of them and responded accordingly. These vignettes were according to the diagnostic criteria of the DSM-IV regarding ADHD, inattentive type or hyperactive/impulsive type. One of the vignettes with inattentive type and one of the vignettes with hyperactive/impulsive type were not labeled as ADHD children. The other two vignettes were labeled as ADHD. One of the vignettes was provided to only one of the four groups of teachers.

Questionnaire

The teachers responded to 11 statements followed by the vignettes regarding the hypothetical child presented in the vignette. The questionnaires were identical for all participants. The questionnaire used in the previous study was translated and back translated into Persian and English. The questionnaire consisted of two factors including "socially rejecting attitude" and "potential benefit with treatment". The first factor included seven statements and the second factor included five statements. Internal reliability of the two factors reported to be 0.82 and 0.61, respectively.[15] The questionnaire had been used in a previous study to survey the effect of preventive disclosure of ADHD on socially rejecting attitudes and positive attitudes about the benefits of treatment. The subjects of the study were students of a psychology course.[15] A five-point response scale was utilized (5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree). Higher scores of "socially rejecting attitude" factor display the worse condition. While, higher scores of "potential benefit with treatment" factor show more favor conditions.

The two statements from the "socially rejecting attitude" factor including "I would probably continue the relationship with Jamie" and "I would not take these behaviors personally" were replaced by "My attempt to improve his/her behavior is ineffective" and "I do not accept him/her to be in my next year educational class". The two statements of "I would feel sorry for Jamie" and "Jamie has some significant problems" from the "potential benefit with treatment" factor were replaced with these statements: "his/her behaviors indicated that he/she has a psychological problem" and "his/her behaviors indicated that he/she has a medical problem" (table 2). These replacements were carried out because our participants were teachers. The final version of the questionnaire was approved by consensus.

Participation in the study was voluntary and anonymous and the participants were assured that the information collected was confidential.

Table 2: Factor analysis of the questionnaire

Statement number	Factors	
	Rejecting attitude	Medical or psychological problem and treatment
It would be hard to spend time with Mehran.	0.60	0.23
My relationship with Mehran would be at risk.	0.74	0.08
I would try to limit the amount of time I spend with Mehran.	0.60	0.00
I would be personally hurt by Mehran's behaviors.	0.76	0.11
Mehran's behaviors would interrupt my schedules.	0.67	0.10
My attempt to improve his/her behavior is ineffective	0.60	0.06
I do not accept him/her to be in my next year educational class.	0.58	0.09
Mehran would benefit from psychotherapy.	0.14	0.66
Mehran should be evaluated if medication would be useful for him/her.	0.15	0.74
His/her behaviors indicated that he/she has a psychological problem.	0.21	0.55
His/her behaviors indicated that he/she has a medical problem.	0.16	0.68

Rotation method: Varimax rotation

Statistical Analysis

Factor structure of the new questionnaire was examined by an exploratory factor analysis of the items. Pearson correlation was used for evaluation of reliability (internal consistencies) of the two factors and the entire questionnaire. Group comparisons were conducted using the two separate linear regression models. The "socially rejecting attitude" and "potential benefit with treatment" were considered as dependent variables. The independent variables were age, gender, educational level of teachers, marital status, numbers of years being as a teacher, and having children. Pearson's correlation coefficient was also carried out to analyze the statistical association between the two variables of "socially rejecting attitude" and "potential benefit with treatment".

Results

The two-factor model questionnaire included "social rejecting and negative attitude" and "medical or psychological problem and treatment" factors. The hypothesized two-factor solution accounted for 46.3% of the total variance. Kaiser-Meyer-Olkin measure of sampling adequacy was 0.81 and the Bartlett's Test of Sphericity was significant (P<0.001).

The internal consistencies (reliability) were analyzed through Cronbach's alpha coefficients for the two factors and the entire questionnaire. The internal consistency (reliability) scores were good for "social rejecting and negative attitude" at 0.786, for "medical or psychological problem and treatment" at 0.596, and for the entire questionnaire at 0.763.

Only one of the teachers reported that she had already taken part in a training program for ADHD. Therefore, nearly, all of the teachers were without any background training course on ADHD.

The analysis revealed that the teachers did not differ in their attitude about the different types of disclosed and undisclosed ADHD vignettes. The scores of teachers referred to vignette of ADHD-labeled hyperactive-impulsive were more than the others. However, after adjusting for the covariant variables, the difference was not significant. The only predictor of social rejecting and negative attitude was gender. None of the variables of age, educational level of teachers, marital status, numbers of years being as a teacher, and having children predicted social rejecting and negative attitude score (table 3). Similarly, the only predictor of potential benefit with treatment was gender. None of the variables of age, education level of teachers, marital status, numbers of years being as a teacher, and having children predicted potential benefit with treatment score (table 4).

Table 3: Predictors of social rejection and negative attitude score

	df	F	P value
Age	1	0.11	0.73
Duration of teaching experience	1	1.07	0.30
Education level	1	1.04	0.30
Number of children	1	0.15	0.69
Group of the vignette	3	0.14	0.93
Gender	1	4.10	0.04
Marital status	1	0.22	0.63

Table 4: Predictors of medical or psychological problem and treatment score

	df	F	P value
Age	1	0.14	0.70
Duration of teaching experience	1	0.04	0.83
Education level	1	0.15	0.69
Number of children	1	1.07	0.30
Group	3	2.03	0.10
Gender	1	6.83	0.001
Marital status	1	1.72	0.18

There was a significant correlation between the scores of "social rejecting and negative attitude" and "medical or psychological problem and treatment" (r=0.24, P<0.001).

Discussion

The present study was designed to investigate the potential impact of disclosure and labeling of children with ADHD on their teachers' attitude and behavior. Social rejection and negative attitude and treatment benefits aspects were compared between four groups of teachers.

Our findings indicated that informing teachers about their students disability did not improve or decrease social rejection or negative attitude of the teachers towards the ADHD children. Moreover, the informed teachers no more than the non-informed teachers believed in the necessity of medical or psychological help for these children. It is possible that symptoms of ADHD are important more than ADHD labeling for the teachers. It is interesting that the type of ADHD symptoms (inattentiveness or hyperactive-impulsiveness) was not associated with the rejecting or treatment aspect scores.

Nearly, all of the teachers were without any background training course about ADHD. A previous study on teachers reported that knowledge of them about ADHD is not enough and should be improved.[3] It might be a possible reason for the lack of difference between those teachers whom their vignettes were labeled and those were not.

In the present study, the duration of teaching experience was between 1 and 36 years. It means that our study included both the teachers with low and high teaching experiences. However the duration of teaching experience was not a predictor for both the "socially rejecting attitude" and "potential benefit with treatment" scores. This finding is in contrast with the hypothesis that the teachers with less teaching experience have a more rejecting attitude towards children with ADHD labeling.[13] In other words, teaching experience does not differentiate social rejecting and negative attitude and treatment benefit scores between the teachers who were provided labeled and those without labeled ADHD child vignette.

One possible explanation for lack of the difference is that the teachers have already dealt with such cases and behaviors and labeling was not important for them. In addition, it is possible that the teachers do not perceived the impact of ADHD children on the teachers. They may think that ADHD is not a real disorder or ADHD is just a minor problem. Another possible reason might be that these teachers do not have sufficient information and knowledge about ADHD and its consequences. It might also shows that they feel they have enough ability to control these children. A previous study on the teachers reported that they do not have enough knowledge. Also, their attitude towards these children is not favor.[3]

Lack of difference between the teacher groups does not rule out that the teachers provide higher quality education to students without ADHD. The current study only reported about rejection and did not provide any data on the quality of education. We should answer the question of how many teachers use child labeling as the basis of their expectations and education. However, it should be noted that preventive disclosure may inhibit the formation of negative impression or attribution of the individual's condition to other stigmatized conditions. For example, restlessness and hyperactivity might be attributed to conduct problem; and inattentiveness might be attributed to laziness or impoliteness.

Our study did not include expectation of teachers from students. Expectation of teachers affects classroom interactions of students and teachers.[16] Further studies should consider the characteristics of teachers such as their expectation from students.

Another limitation was that the vignettes did not explain educational impairment of the student. It is unclear whether educational achievement is much more important than the students' behavior or ADHD symptoms for the teachers. It might be another explanation for the lack of difference between the groups of teachers. Further studies should use vignettes with more explanation about the hypothesized student including his/her educational and personal function impairment. Videotape vignettes are better than the narrative vignettes regarding more detailed and vivid condition.[10] So, more studies are required to be conducted by the Videotape vignettes.

The present study did not include control group, therefore the effects of ADHD labeling on the teachers cannot be determined definitively. A control group with a vignette of normal characteristics might show whether the teachers really reject children with ADHD more than other students. Most of the teachers were female. It might be an explanation that gender was a predictor of the scores.

The findings of our study can only be implied to student grade I. These findings leave open the question whether they can be generalized to older children. Future studies should examine contextual factors that affect where and when and in which setting the rejection might occur.

The teachers were assured about the confidentiality of their responses. However, it can not be guaranteed whether the teachers' behavior in actual situation will be similar to what they had displayed in the questionnaire. More rigor evidences are required.

The last limitation was that ADHD is not a homogenous disorder. It is usually co-morbid with other psychiatric disorders.[7] The vignettes only represented a child with ADHD. They did not include symptoms related to co-morbid disorders. Furthermore, the current study surveyed only two types of ADHD (predominantly inattentive and predominantly hyperactive-impulsive). It did not include the combined type of ADHD and severity of ADHD. Therefore, generalization of our results to actual situations should be done with care.

Conclusion

Although ADHD labeling is not associated with more rejection of the labeled students by the teachers and the children with ADHD need more attention and caring from their teachers, it can not be guaranteed whether informing the teachers about ADHD children is beneficial. Of course, parents of the ADHD children should be assured about the lack of rejection of their children by the teachers after disclosure of ADHD diagnosis. Improving the knowledge of teachers on ADHD is a preceding step for informing them about children diagnosed as having ADHD.

Acknowledgment

This study was Dr. M. Fallahi's undergraduate thesis under supervision Dr Ahmad Ghanizadeh. It was supported by a grant from Shiraz University of Medical Sciences to Dr Ghanizadeh.

Conflict of Interest: None declared

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