Arab and Jewish Mothers' Decisions Regarding Treatment of their Children with Attention-Deficit/ Hyperactivity Disorder: A Qualitative Study

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Research Article

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Abstract

Background: The use of medication for attention deficit hyperactivity disorder (ADHD) differs globally, depending on ethnic group. In Israel, the prevalence of stimulant prescriptions for ADHD among Jewish children is four times higher than among Arab children. Ethnical differences may affect parents' perceptions and attitudes towards diagnosing and treating ADHD. Therefore, it is important to identify differences in attitudes and beliefs towards diagnosis and treatment of ADHD among Arab and Jewish mothers and teachers, in order to understand what affects the mothers' decision whether to medicate their child diagnosed with ADHD.

Methods: A qualitative study including 23 in-depth interviews with mothers of children diagnosed with ADHD and 12 teachers (Arabs and Jews) from elementary schools in Northern Israel. The interviews were analyzed using thematic analysis.

Results: Data analysis revealed four themes, emphasizing the way mothers and teachers perceive ADHD differently in the two ethnic groups: (1) The degree of ADHD medicalization differed between the ethnic groups. Jewish mothers and teachers tended to perceive ADHD more as a medical problem, while Arab mothers and teachers perceived it more as a childhood social behavior; (2) Arab mothers reported guilt feelings in relation to ADHD diagnosis and treatment, whereas Jewish mothers felt sympathy and understanding towards their child; (3) Among Arab mothers, the social environment is a stronger influence than among Jewish mothers; and (4) Stigmatization was reported only by Arab mothers.

Conclusions: Our study suggests that there are ethnical differences in the perception of ADHD that may explain the differences in its prevalence and treatment.

Introduction

Attention deficit hyperactivity disorder (ADHD) is the most common neurobehavioral disorder of childhood [1]. Throughout childhood and adolescence, ADHD is often associated with anxiety, aggressive behaviors, low self-esteem, and learning disabilities, and may affect academic achievement [2]. Stimulant medications are recommended as a first-line treatment for the core symptoms of ADHD. However, rates of adherence to medication vary depending on ethnicity, country and patients' perceptions of the medication [3]. Adherence to medication is problematic [4], as parents play a key role in making treatment decisions for their children [5].

During the last decade, the prevalence of ADHD has increased significantly [6]. The prevalence of ADHD varies among populations; in school age children it is in the range 8-12% [7]. Findings from school-based samples indicate that rates of ADHD diagnosis are lower among ethnic minorities [8]. Minority children are also less likely to be treated for ADHD than non-minority children [9]. The differences in diagnosis and treatment rates are explained by differences in services, awareness of ADHD, lack of access to care and differences in the social, and physical environments—incomes, education, occupation, different cultural beliefs about health and illness and differences in the expansion of ADHD medicalization. [8, 10, 11].

ADHD rates vary substantially by gender, ethnicity, geographic area, and other contextual factors [12]. Some sociologists argue that the increase of ADHD diagnosis and treatment is attributed to the medicalization process. Medicalization refers to the process by which previously nonmedical conditions are understood under the rubric of disease and behaviors are diagnosed and treated as a medical entity rather than a social one [13]. Until two decades ago, ADHD diagnosis was prevalent primarily in North America and a few other countries [14]. Today, ADHD is diagnosed in numerous countries across the globe. Yet, in some countries, such as France [15] and Italy [10], there is resistance towards medicating children with ADHD.

Studies suggest that parents confront difficulties making decisions about using medication for treating ADHD. Misconceptions of the medical treatment, paucity of information, conflicting opinions, the cost of medication, unsatisfactory experiences with healthcare providers, adverse effects, fear of drug addiction, cultural beliefs, and concern about social stigma have been identified as barriers [5, 16]. In contrast, factors prompting parents to initiate medication use include recognizing that their child is suffering from functional impairments, physician and family support and viewing stimulants as an established medication [17].

Studies indicate that teachers are highly involved in the process of diagnosing and treating ADHD. They provide crucial information for diagnosis and advise parents regarding possible ways of dealing with the child's difficulties [8]. Given that most children with ADHD have academic, behavioral or social difficulties, teachers are among the most common sources of referral for ADHD, second to parents [18]. Teachers are considered valid and reliable reporters of ADHD symptoms due to their training and understanding of normative behavior in the classroom [19]. They discuss medication use with parents and may influence parents' decisions regarding ADHD medication use. Thus, it is important to understand how teachers view ADHD medication and their support or opposition to its use [20, 21]. Studies have found that teachers' attitudes may vary by race. For example, Simoni found that African-American teachers were less approving of medication use for ADHD compared with white teachers [21].

In Israel, the increase in ADHD prevalence and treatment by medication in recent years may partly reflect changing attitudes towards the disorder and its treatment. Additionally, more consider ADHD diagnosis and treatment to be a means to improve their child's achievements with the aid of medications, which may lead to over diagnosis [22].

However, Israel is a multi-ethnic country with a minority of Arab citizens. Generally, Arab children are less diagnosed and treated for ADHD than Jewish children. A study conducted in Israel in 2011 suggested that Jewish children were four times more likely to be prescribed stimulant medication compared to Arab children. These disparities may be partially explained by lower socio-economic status, education, and accessibility to secondary healthcare services within Arab populations [22, 23]. Moreover, the Arab population seems to be less aware of ADHD, with fewer referrals by school professionals [24]. It also has a limited ability to pay for healthcare, less access to medical and neurodevelopmental services and negative attitudes toward disability stigmatization [23, 24].

Israel's multiethnic character provides the opportunity for a comparative study between different ethnicities, i.e., Jewish versus Arab. Understanding the different cultural/ethnical backgrounds may explain the differences in diagnosing and treating ADHD between the two ethnic groups. To understand what influences the mothers' decision whether to medicate their child with ADHD, this study aimed to identify and characterize differences in perceptions and attitudes toward ADHD and its pharmacological treatment among mothers and teachers in both ethnic groups.

Methods

Study Design

This study used the qualitative approach, which enables an in-depth exploration of the phenomenon as the research participants perceive it [25]. Such research method provides a perspective and greater depth that cannot be achieved through quantitative research tools [26].

Participants

From March 2019 to November 2019, 23 Arab and Jewish mothers (12 Arab, 11 Jewish) of children aged 7-12 diagnosed with ADHD, and 12 Arab and Jewish teachers in elementary schools (6 Arab, 6 Jewish) were interviewed. Arab participants were: 13 Muslims (9 mothers and 4 teachers), 5 Christians (3 mothers and 2 teachers). Jewish participants were: 11 mothers and 6 teachers. All participants were women, living in various towns and villages in northern Israel, varying in size and socioeconomic status (see Table 1). The mothers' educational status ranged from less than high school completion, to possessing more than one graduate degree. All the teachers had an academic degree.

Procedure

Ethics

The study was approved by the university's committee for ethical research with humans and the ethics committee of the Ministry of Education. The first author (the principal researcher) informed the participants of the purpose and topic of the interview. Participants were assured that the research findings would only be used for scientific research purposes, that no identifying details would be revealed, and that the children would not be harmed if their mothers decided not to participate. All methods were performed in accordance with the relevant guidelines and regulations.

Recruitment and procedures

Mothers were recruited through several elementary schools. The schools' principals contacted mothers of children diagnosed with ADHD and after obtaining their agreement to participate, the principal researcher contacted them to introduce the study and to schedule an interview. Teachers' enrollment was also performed through several elementary schools' principals. Interviewees' recruitment continued until data saturation was achieved and the researchers noted that no new themes emerged during the interviews [27].

The processes of data collection and data analysis took place simultaneously. Analysis of the first few interviews updated subsequent interviews; when key issues were uncovered, they were then integrated into future interview guides, obtaining wider and significant information in subsequent interviews. This process was repeated until no supplementary topics were revealed, both by code as well as by meaning, and further data became superfluous, achieving both data saturation and meaning saturation [28]. Data saturation also determined the sample size [29]. In the current study, saturation was achieved after 35 participants were interviewed. When data from other participants repeated itself, the researchers decided that data saturation was attained, and data collection stopped.

The interviews were conducted in Arabic for Arab participants and in Hebrew for Jewish participants. Twenty-seven interviews were conducted face to face, at a time and place of the participants' choice; eight interviews were conducted via telephone according to the participants' request. The interviews' duration ranged from 25 to 60 minutes. All interviews were audio-recorded and transcribed verbatim. The principal researcher, who is bilingual and fluent in both languages performed all interviews, translated the Arabic transcripts into Hebrew. In order to validate the translations, the Arabic transcripts were translated by another professional translator. These two versions were compared and changes were made in case of discrepancies between the two. All authors conducted analysis of the transcripts.

Data Collection

Data were collected through in-depth semi structured interviews led by an interview guide (see Appendixes 1 and 2). Prior to conducting the interviews, the interviewees signed an informed consent form and completed a short questionnaire eliciting basic demographic data on age, gender, education, country of birth, place of residence, religion, religiosity, number of children in the mothers' questionnaire, and professional seniority in the teachers' questionnaire.

The semi structured interview guide comprised open-ended questions that covered topics such as mothers' and teachers' attitudes and perspectives regarding diagnosing and treating ADHD and the issues related to diagnosis and care. In the teachers' protocol, questions that dealt with the teachers' experience when teaching children with ADHD (e.g. "Please tell me about an event that occurred in the classroom with a child with ADHD. In which ways do you deal with their behaviors in the classroom?"), their ways of coping (e.g., "Describe the way you act when you suspect a child in your class has ADHD"), and their involvement in the parents' referral process for diagnosis and treatment (e.g., "Tell me about your involvement in the parental referral process for diagnosis and treatment").

The mothers' protocol included questions about how they made the decision whether to medically treat their child's ADHD (e.g., "What do you think about medicating children as a treatment for ADHD?" and "Tell me about the positive and negative sides of the medication, in your opinion"), and questions about factors that make it easier or harder for them to cope with their children (e.g., "Have you shared your child's diagnosis with your relatives or other people? If so, how did they react when you informed them of your child's diagnosis?" "How did their reaction make you feel?" "What do you think about behavioral treatment?").

Data analysis

The interviews were analyzed using thematic analysis [30] in several stages: (1) familiarizing with the data: transcribing, reading and re-reading the data; (2) generating initial codes for mothers and teachers and for each ethnic group, separately; (3) collating codes into potential themes; (4) comparing the interviews to find similarities and dissimilarities between the two ethnic groups and between mothers and teachers; (5) reviewing and defining the themes arising within each of the four groups. The themes that emerged from the thematic analysis enabled capturing the differences between Arab and Jewish participants' experiences regarding the same phenomenon, thus obtaining a broader perspective of participants' attitudes towards ADHD, its diagnosis, and its treatment.

Rigor

The researchers discussed their perspectives of the research topic throughout the research process, aiming to reflect on and attaining insight regarding their subjective views, thus avoiding biases [31]. To reduce bias and improve credibility [32], additionally to the first author's comprehensive data analysis, each researcher conducted a separate thematic analysis of the data, keeping their interpretative notes separate. This analysis yielded themes based exclusively on participants' narratives [33]. Subsequently, it can be assumed that these themes represent participants' experiences and narratives, instead of the researchers' any earlier assumptions or opinions. By comparing and discussing the similarities and differences in their analyses, and consequently achieving agreements concerning theme content and interpretation of meaning, the researchers employed interrater reliability, further improving credibility [27].

Results

Four main themes emerged from data analysis regarding mothers' experiences and attitudes towards their children diagnosed with ADHD and the teachers' experience concerning diagnosing and treating children with ADHD: (1) Medicalization of ADHD; (2) Mothers' feelings towards ADHD; (3) Social pressure and social norms, and (4) Stigmatization (see Table 2).

Medicalization of ADHD

This theme is composed of five sub-themes. Participants ranged in their perception of ADHD on the medicalization continuum, from one extreme, where ADHD is regarded as a medical problem that needs to be treated as a disease, to the opposite extreme, where ADHD is regarded as a social behavior during childhood wherein children's misbehavior is not perceived to be a medical problem.

The mothers' decision about their child's treatment depended on their position on this continuum. The mothers' position seems to be distributed differently in the two ethnic groups. Arab mothers and teachers were more skewed towards the non-medicalized side of the continuum, demonstrating resistance to the medicalization of ADHD. Jewish mothers and teachers tended to consider ADHD to be a medical issue that should be treated with medication, therefore positioning themselves towards the medical side of the continuum.

Mothers' perceptions of ADHD on the continuum of medicalization

Most Arab mothers thought that ADHD is a behavioral problem rather than a medical problem and that the child is simply misbehaving: 'I attributed his behaviors to childhood, children want to be naughty, and they want to try everything' (Arab mother). Most Jewish mothers thought that ADHD is a genetic disorder that the child is born with. Defining the problem in a medical language was more accepted among Jewish mothers. Moreover, part of them said that either the father or the mother had ADHD themselves, which strengthened their opinion that ADHD is a genetic problem, transmitted from generation to generation. None of them attributed ADHD to a behavioral problem: 'ADHD is totally genetic, it's something that the boy was born with, and he didn't choose it' (Jewish mother). Another participant, Jewish mother described ADHD as a disease, comparing it to other diseases that should be treated 'they can't control it, it's really physiological, an organic problem, just like diabetes, I don't think it's behavioral'.

Teachers' perception of ADHD on the continuum of medicalization

Arab teachers seemed to position themselves in the middle of the medicalization continuum, explaining that ADHD includes components of both a genetic disorder and a behavioral problem caused by the environment: 'I think the environment has created the disorder, I don't know if there are studies that prove genes for ADHD, but I think that the childhood environment can cause ADHD" (Arab teacher). Another Arab teacher said:

It is genetic and environmental, I don't know what exactly causes ADHD, but we are in a generation that highlights these disorders, everything is digital and computerized today. I don't know the truth, but genetics certainly plays a role too.

Whereas most Jewish teachers regarded ADHD as a genetic, intergenerationally transmitted disorder, none of them mentioned that ADHD is a behavioral problem related to childhood: ‘Definitely it has something genetic, it is inherited’ (Jewish teacher). In addition, Jewish teachers defined ADHD using medical terms, as one participant said: ‘I know that ADHD is a neurological problem.’

Mothers’ lifestyle during pregnancy

This explanation of the causes of ADHD was provided only by the Arab mothers, including etiological attributions to the mothers’ life events. While in other parts of the interviews, the Arab mothers link the child's condition to behavior and not to medical condition; they indicate a connection between their lifestyle during pregnancy and the child's condition without reference to the nature of the phenomenon. For example, several Arab mothers thought that their child had ADHD because they did not maintain a healthy lifestyle during pregnancy: ‘I think that we, the Arab mothers, don’t take care of ourselves during pregnancy, I didn’t rest for a second’ (Arab mother); ‘The result is obvious; I used to drink 9 XL cans every day. I was addicted to it. It probably made an impact’ (Arab mother). Another Arab mother also thought that her lifestyle during pregnancy might have influenced her child:

Sometimes I return with my thoughts, that maybe the extra energies I had while I was pregnant, I was just too energetic, no one believed that I was pregnant; so maybe this has influenced my baby. I think pregnant women should always be relaxed (Arab mother).

Acceptance of the ADHD diagnosis

Another aspect of medicalization was reflected through the way mothers accepted the diagnosis and how they felt about it. Jewish mothers reported that they were not worried about the diagnosis itself. Moreover, some even reported feeling a certain relief when they discovered that it was ADHD. Defining their child’s situation in medical terms made it easier for them to accept it: ‘When the doctor told me [the diagnosis], I felt relieved, I sat in front of the doctor, and everything she said was so accurate, it’s like putting a mirror in front of yourself’ (Jewish mother).

In contrast, Arab mothers reported significant difficulties accepting their children’s diagnosis and opposed the medicalization of their child’s behavior: ‘When the doctor told me [the diagnosis] I was completely shocked, I lost control, I denied it, I said that my boy is just fine, he has nothing’ (Arab mother). This mother also said: ‘I thought he has a kind of madness.’ Whereas this mother reported being shocked, followed by denial of her son’s worrisome condition and later labelling it as madness, another mother was also completely stunned, but tried to rationalize the reason for her offspring’s condition as determined by divine providence: ‘When my son was diagnosed, I was really shocked, I cried a lot and asked myself why God gave me such a son’ (Arab mother).

To medicate or not to medicate

Both Arab and Jewish mothers and teachers reported their ambivalence towards medication. The response to drug treatment varied markedly between the two ethnic groups. Fewer Arab participants, compared to Jewish participants, rated medication interventions as appropriate. Most Jewish mothers favored medication, while most Arab mothers opposed it. Apparently, parental health beliefs affected the medical care sought for their children, as more Jewish mothers administered medical treatment, while Arab mothers used alternative treatments such as behavioral techniques, horseback riding and swimming classes, or did not treat their children at all:

I explained to the teacher that until recently she was in the kindergarten, playing the whole time, and suddenly the whole issue of discipline at school, it's not taken for granted. ADHD does not hurt her health, anyone can suffer from ADHD at a certain time in his life for different reasons. . . medication for me is not an option, I take her to music class, ballet (Arab mother).

Some of the Arab mothers and teachers regarded the medication as poison:

I refused to give him medication because of the adverse effects, such as infertility, autism and addiction. I agreed that my kid will be in a special education class, but I won't agree to give him poison, so that he won't bother the teacher during the class (Arab mother).

Most of the Jewish mothers and teachers described the benefits of the medication, the enormous contribution to the child, and the positive changes that occurred due to the medication, such as more social improvement in relationships with peers, and more social involvement:

There has been an enormous improvement in the social aspect. Now she knows better how to deal with conflicts. She wasn't a zombie at all, and she eats well, things are easier, and for me it's wonderful, we use the medication for its purpose only (Jewish mother).

Jewish teachers expressed similar attitudes to those of Jewish mothers on this issue. They strongly supported medication and its contribution to the child:

There is a huge difference between a treated child and an untreated child, you can see it in their eyes. When they don't take the pill, they are distracted, restless, hyperactive, it's out of their control. I'm in favor of drug treatment (Jewish teacher).

Arab teachers were less supportive of medication, as most of them were against it. One Arab teacher stressed the dramatic impact of medication on the child: 'I'm against medication. . . I don't want a grade of 100, I'm afraid of the adverse effects. It's like "turning him off." No, no, I'm against medication.' Another teacher pointed the effects of the medication beyond the purpose of calming the child down: 'It's a chemical (the medication) that might affect other aspects of the child, you just see them too quiet that you feel pity for them' (Arab teacher).

Mothers’ feelings towards ADHD

Feelings of guilt

This theme emerged mainly from Arab mothers’ narratives, expressing guilt feelings for being responsible for their children’s problematic behaviors and for being treated with medication, even though reporting that the child benefited from the medication. As mentioned above, some mothers thought that their unhealthy lifestyle during pregnancy caused their child’s ADHD. Others expressed guilt feelings for treating their children with medication: ‘I stopped giving him the medication, till today he doesn’t get the medication. . . I clear my conscience of guilt feelings and am free of my sin’ (Arab mother). Another Arab mother depicted her guilt feelings while justifying that she gives her child the medication only when necessary:

I give him medication only from Sunday to Thursday, there are mothers who don't care but I am not capable of that, because he is my own boy. If I won't be patient with him, then who will, on Friday and Saturday I don't give him medication (Arab mother).

Mothers sympathize with their ADHD child

Most Jewish mothers appeared to understand their children with ADHD and even sympathized with them. They considered their behavioral problems to be a medical problem that a few decades ago their own parents had not been aware of. Most Jewish interviewees reported that one of the parents has ADHD, which enhanced feeling empathy towards their children. Those parents were not diagnosed in the past and struggled with difficulties at school and with other social problems. They wanted to spare their children their own suffering. This seemed to be a strong incentive for Jewish parents to diagnose and medically treat their children: “We decided to give her medication, because I know the frustration that my husband had until he treated himself with medication, and you can see the improvement, it helped him a lot” (Jewish mother). Another Jewish mother narrated her own experience with ADHD:

From my own experience, I also have ADHD, and when I was a little kid, it wasn't something that you could put your finger on, I can see myself through my kids, we are identical. She also said: ‘One of the things that helps me deal with my two children with ADHD, is understanding them, and since I have ADHD, I'm capable of understanding their behaviors.’

Social pressure and social norms

This theme emphasizes the fact that ADHD can be seen through contrasting lenses from different social standpoints, including family, relatives, teachers, and physicians, as it seems to be a social matter that reflects the parents’ experience within the cultural context, norms, and society. Data analysis

revealed the high impact of social pressure on parents' decision whether to diagnose their children with ADHD and medicate them. It also emphasized major differences between the two ethnic groups.

Relatives' involvement in the mothers' decision

Evidently, for most Jewish mothers the social environment did not play a role in their decisions whether to medicate. Some of them did not discuss such decisions with their relatives, nor did they allow them to interfere in private issues:

My family knows that she's treated with medication. The medication is on the microwave in the kitchen, we don't make an issue out of it, we talk about it as a casual thing, just like we talk about the basketball club, but they don't interfere (a Jewish mother).

Contrariwise, Arab mothers reported that their social environment strongly affected their decision, and that they found it hard to treat their children with medication because of social pressure. Medicalization of ADHD is not accepted in Arab social discourse. The mother's families opposed medication, though they were aware of the medication's benefits:

They [my relatives] tell me not to give him medication, because it may cause him damage in the future. I feel stuck in the middle, I see his relapse at school every time I stop giving him the medication; it's obvious there's a significant drop in his grades (Arab mother).

Another Arab mother shared that her child stopped the medication because his aunt convinced him not to take it. She said: 'his aunt kept digging in his head, she made him hate the medication, and he stopped taking it, she told me that there was a big issue running in the media that Ritalin causes an addiction.' Arab mothers mentioned that even the pharmacist did not support the decision to treat with medication:

I heard that medication is harmful. Even the pharmacist told me "Haram" [meaning it's forbidden, a taboo]. He is human, what are you doing to him? (Arab mother).

In the next quote, the whole surrounding is not supportive when considering medical treatment. Hence, the mother who gave her daughter Ritalin needs to conceal her act:

They [my relatives] tell me: why has your child become so quit? You probably did something to her. I can't tell them that she's on Ritalin. Many times during parents' gatherings at school I hear other parents say that we shouldn't treat our kids with Ritalin. But I'm convinced that if this drug wasn't necessary they wouldn't have invented it (Arab mother).

Teachers pressure parents to treat their children with medication

Both Arab and Jewish mothers reported that the teachers were involved in the diagnosis and treatment process. However, more Jewish mothers than Arab mothers reported that teachers were pressuring them to treat their children with medication:

There were times that I felt enormous pressure, it's like the whole time, "give him, give him." I was very scared to get a zombie boy, but in the fifth grade, I was unable to resist the pressure from his teachers, so I gave him medication, and I regret that I didn't give it to him earlier. The medication has done him good (Jewish mother).

Moreover, Jewish mothers said that the educational system requires that all children study in similar frameworks: 'All the educational frameworks want to have order; they want to put all the students into the same frame' (Jewish mother).

The teachers reported being involved in the detection process in both ethnic groups. Yet, the two groups differed concerning the treatment—Jewish teachers were convinced that the medication was an optimal solution for their students, while Arab teachers were reluctant to use medication and preferred handling ADHD in alternative ways or accepting the child the way he was:

'Today, I am very much in favor of medication; I do not see it as a negative thing. . . once there is some difficulty, I see how drug treatment improves achievement and how it does magic' (Jewish teacher). Conversely, an Arab teacher reported: 'I don't believe in medication, I want an active boy, his behavior doesn't bother me.' Another Arab teacher shared that she preferred to deal with a naughty student rather than that student would be treated with medication. She used a variety of descriptive words that characterize a student who is treated with medication:

I was used to him as hyperactive, and all of a sudden, he is tired, drowsy, and too quiet. It is depressing. I wish he would be hyperactive again; I don't care if he is naughty, it's better than being under the drugs' influence.

Stigmatization

Concern about stigma and prejudice towards psychiatric disorders is a major barrier to diagnosing and medically treating children with ADHD. This theme emerged more frequently among Arab participants than among Jewish participants, as most of the Arab mothers and all of the Arab teachers reported that children with ADHD were stigmatized. Keeping the diagnosis and treatment a secret was highly important for Arab mothers, because they were afraid of the stigma that could arise:

I insist that my child won't find out [that he is taking medication for ADHD], because of the environment. In his class there is stigma about children with medication. I made a complete show, I took him to a blood test, made a deal with the doctor to tell him that he has anemia, and until today, he thinks that he takes medication for treating anemia (Arab mother).

Arab teachers shared their own experience with parents' fear to reveal the fact that their children are treated with medication due to the risk of stigma: 'Of course other children mustn't know that this child is on medication; we surly don't tell, otherwise he would be stigmatized for being mad' (Arab teacher).

Conversely, most of the Jewish mothers did not feel their child was stigmatized. Jewish mothers did not seem to mind sharing or talking about their child being diagnosed with ADHD, nor did they mind talking about the medication. They did not make an issue out of it, and the children themselves shared information with each other and did not keep it a secret:

I think that because the discourse is very embracing and containing, and the children know those who go individually out of the classroom for corrective teaching. They see it as normal; as part of the routine; they do not even consider it important. They ask each other, 'Did you take your pill today? (Jewish teacher).

Discussion

Our results present major differences in social, ethnical, and cultural factors that are vital to understanding trends in ADHD diagnosis and treatment among Arabs and Jews. Studies have shown that social and cultural factors are keys to understanding trends in ADHD diagnosis and medical treatment. Consumption rates of medication have increased dramatically across the world over the past decades. However, differences in diagnosis and treatments among different countries also have been observed [34]. Cultural attitudes in relation to children's behavior have a profound impact on how parents and teachers perceive a child with ADHD and decide to treat that child.

The Israeli-Arab society is considered a collectivist-communal, traditional culture as well as a minority group, whereas Israeli-Jewish society is a relatively Western and individualistic culture [35]. These differences may explain why Arabs and Jews differ in their attitudes and perceptions towards diagnosis and treatment of ADHD, and consequently, can partially explain the difference in the prevalence and treatment of ADHD between the two groups.

Medicalization

ADHD medicalization is defined as a normalization process within Western societies [13, 36]. Normalization relates to the use of medication to bring mental functioning in line with a prevailing cultural norm (i.e., academic normalcy), fixing lost functions and increasing performance beyond socially desirable norms [21]. Our study revealed that the medicalization of ADHD is far more prevalent and entrenched in Jewish society. Jewish participants, like people in Western societies, tend to perceive ADHD as a medical problem that should be treated with medication [10, 32, 37]. Western society has become less tolerant of deviant behaviors that were once accepted as part of a child's development and are now regarded as problems to be resolved through medical practice. In addition, their positive attitude towards medication seems to facilitate their decision to medically treat the child [17, 32].

Conversely, Arab participants tended to perceive ADHD as a childhood behavioral problem and demonstrated resistance to the perception that ADHD is a medical problem. Similarly, previous studies worldwide and in Israel supported this perception even when the child was diagnosed by a medical specialist. In those studies, the participants attributed ADHD behavior to childish and naughty behavior, rather than to a psychiatric disorder requiring diagnosis and treatment. They reported hesitancy towards medicating children with ADHD and often preferred non-pharmacological intervention [38, 39].

Our study implies that the degree to which mothers accept ADHD as a medical condition varies by ethnicity and cultural differences. Furthermore, acceptance of the diagnosis and treatment can be a predictor for parents' compliance with medical treatment. Acceptance is typically lower when individuals are not comfortable with a medical approach [40] (Brown et al., 2005). Studies supporting our findings suggest that illness oriented, or generally acceptable treatment groups were more open to the prospect of medication and initiated medication treatment for their child [41]. Mothers' acceptance of the ADHD diagnosis as an illness allowed them to understand their child's problems and this helped them accept medication for their child.

Social environment

Israeli-Jewish society is based on an individualistic nuclear family system characterized by democratic relations, similar in many ways to other Western societies [42]. In contrast, Israeli-Arab society is a relatively collectivist-communal cultural group [42]. Moreover, Arab families rely on a collectivist perspective, where the self is a component of the group rather than an independent entity. This may explain the high influence of the social environment on Arab parents' decisions. Studies indicated that the interactions individuals have with members of their social network affect the way they perceive health problems and comply with medical advice [43]. In addition, the degree of support and beliefs about the disorder and its treatment influence the decision whether to medicate [8].

Teachers' involvement in the diagnostic procedure and the pressure they apply to parents to medicate shows the contribution of public social institutions to the medicalization process. Research indicates that the education system has a critical impact on reducing parents' resistance to administering medication and encouraging them to diagnose and treat their ADHD child [44, 45]. In our study, Arab teachers may be described as gatekeepers who refuse to administer medication. A study in the United States has shown that African American teachers were less approving of medication use for ADHD compared with white teachers, implying potential mistrust toward medication use and health institutions in society [21]. This finding may help to partially explain racial disparities in medication use.

Stigmatization

Our study revealed that Arab participants are concerned about stigma, which seems to be a barrier to diagnosing and medically treating ADHD. These fears are consistent with prior studies [17], which have

shown that stigma and embarrassment about seeking help is one of the most prominent barriers to obtaining assistance for mental health problems [46].

Numerous studies show that large population groups still characteristically stigmatize individuals who have ADHD, no matter how prevalent the disorder is. This attitude may be expressed in their approach to the diagnosis and treatment of ADHD [47, 48]. The stigmatization of persons diagnosed with ADHD is associated with the cultural attitude and perceptions among various ethnic origins. In America, the stigmatization of a psychiatric diagnosis may be typical of individuals associated with minority groups. If members of minority groups stigmatize ADHD, the evaluation and treatment of those who have the disorder may take place on a much smaller scale [49].

Research and Clinical Significance

A future quantitative study can complement the current study by examining the knowledge, attitudes and perceptions of a large sample of Arab and Jewish mothers and teachers towards the diagnosis and treatment of ADHD. Such a study may yield a better understanding of how parents make decisions whether to treat their child with ADHD.

Our study emphasizes cultural variation in perceiving the behavior of children with ADHD. It provides evidence that social and cultural factors are vital for understanding trends in ADHD diagnosis and treatment, because cultural beliefs play a key role in determining parents' perceptions and attitudes. Intervention programs by policy makers are required to minimize the gaps between the different ethnic groups and bring the contrasting positions to a middle point on the scale, where under-diagnosed children are detected and overdiagnosis is limited. Moreover, policy makers should be aware of the special cultural and social structure of each group and plan their intervention programs accordingly.

Limitations

This was a qualitative study. Thus, the sample was not representative. However, despite the small number of participants, the in-depth interviews provided rich information that can be considered a trade-off for the modest sample size. This rich information exposed the decision-making process whether to medicate their child diagnosed with ADHD and reflected the differences between Arab and Jewish societies in explaining the gaps in rates of diagnosis and treatment existing between these societies.

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics Committee, The Faculty of Social Welfare and Health Sciences at the University of Haifa, confirmation number 448/18 and the ethics committee of the Ministry of

Education. All the study participants gave their written informed consent to participate in the research. All methods were performed in accordance with the relevant guidelines and regulations.

Consent for publication

Not applicable.

Availability of data and materials

The data that support the findings of this study are available on request from the corresponding author, Amal shehadeh Sheeny, Amalsheeny1@gmail.com. The data are not publicly available because it contain information that could compromise the research participants' privacy.

Competing interests

The authors declare that they have no competing interests.

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Authors’ contributions

ASH performed all interviews, wrote the main manuscript text and prepared the tables. ASH, HG and OBE conducted data analysis, reviewed the entire manuscript and determined its final content.

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References

1. Rowland, A. S., Lesesne, C. A., & Abramowitz, A. J. The epidemiology of attention-deficit/Hyperactivity disorder (ADHD): A public health view. *Mental Retardation and Developmental Disabilities Research Reviews*. 2002;*170*, 162–170. https://doi.org/10.1002/mrdd.10036
2. Cormier, E. Attention Deficit / Hyperactivity Disorder: A Review and Update. *Journal of Pediatric Nursing*. 2008;*23*(5), 345–357. https://doi.org/10.1016/j.pedn.2008.01.003
3. Charach, A., & Fernandez, R. Enhancing ADHD medication adherence: Challenges and opportunities topical collection on attention-deficit disorder. *Current Psychiatry Reports*. 2013; *15*(7). https://doi.org/10.1007/s11920-013-0371-6
4. Charach, A., & Ickowicz, A. Stimulant Treatment Over Five Years: Adherence, Effectiveness, and Adverse Effects. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2004;*43*(5), 559–567. https://doi.org/10.1097/00004583-200405000-00009
5. Brinkman, W., Sherman, S., Visscher, M., & Donovan, E. Parental Angst making and revisiting decisions about treatment of Attention deficit/hyeractivity disorder. *Pediatrics*. 2008;*124*, 580–589. https://doi.org/10.1542/peds.2008-2569
6. Center for Disease Control and Prevention (CDC). Increasing prevalence of parent-reported attention-deficit/hyperactivity disorder among children - United States 2003 and 2007. *Morbidity Mortality Weekly Report (MMWR)*. 2010;*59*, 1439–1443.
7. Biederman, J. Attention-Deficit / Hyperactivity Disorder: A Selective Overview. *Biol Psychiatry*. 2005;*57*, 1215–1220. https://doi.org/10.1016/j.biopsych.2004.10.020
8. Eiraldi, R. B., Mazzuca, L. B., Clarke, A. T., & Power, T. J. Service utilization among ethnic minority children with ADHD: A model of help-seeking behavior. *Administration and Policy in Mental Health and Mental Health Services Research*. 2006;*33*(5), 607–622. https://doi.org/10.1007/s10488-006-0063-1
9. Rowland, A. S., Umbach, D. M., Stallone, L., Naftel, A. J., Bohlig, E. M., & Sandler, D. P. Prevalence of medication treatment for attention deficit-hyperactivity disorder among elementary school children in Johnston County, North Carolina. *American Journal of Public Health*. 2002;*92*(2), 231–234. https://doi.org/10.2105/AJPH.92.2.231
10. Conrad, P., & Bergey, M. R. The impending globalization of ADHD: Notes on the expansion and growth of a medicalized disorder. *Social Science and Medicine*. 2014;*122*, 31–43. https://doi.org/10.1016/j.socscimed.2014.10.019
11. Geiger, H. J. Racial and ethnic disparities in diagnosis and treatment: a review of the evidence and a consideration of causes. In *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health*

Care (Issue with CD). 2003; http://nap.edu/10260

12. Schneider, H., & Eisenberg, D. Who Receives a Diagnosis of Attention-Deficit / Hyperactivity Disorder in the United States. *Pediatrics*. 2006;*117*(4), e601–e609. https://doi.org/10.1542/peds.2005-1308
13. Conrad, P., & Potter, D. From Hyperactive Children to ADHD Adults: Observations on the Expansion of Medical Categories. *Social Problems*. 2000;*47*(4), 559–582. https://doi.org/10.1525/sp.2000.47.4.03x0308v
14. Mayes, R., Bagwell, C., & J., E. Medicating Children: ADHD and Pediatric Mental Health. *Harvard University Press, Cambridge*. 2009; *MA*. https://doi.org/10.1215/03616878-2010-030
15. Vallee, M. Resisting american psychiatry: French opposition to DSM-III, biological reductionism, and the pharmaceutical ethos. *Advances in Medical Sociology*. 2011; 85–110. https://doi.org/10.1108/S1057-6290(2011)0000012009
16. Cormier, E. How Parents Make Decisions to Use Medication to Treat Their Child's ADHD: A Grounded Theory Study. *Journal of the American Psychiatric Nurses Association*. 2012;*18*(6), 345–356. https://doi.org/10.1177/1078390312466918
17. Coletti, D. J., Pappadopulos, E., Katsiotas, N. J., Berest, A., Jensen, P. S., & Kafantaris, V. Parent Perspectives on the Decision to Initiate Medication Treatment of Attention-Deficit/Hyperactivity Disorder. *Journal of Child and Adolescent Psychopharmacology*. 2012;*22*(3), 226–237. https://doi.org/10.1089/cap.2011.0090
18. DuPaul, G., & Stoner, G. ADHD in the schools: Assessment and Intervention Strategies. *Journal of Attention Disorders*. 2003;*7*, 63–64. https://doi.org/10.1007/s10980-004-5040-z
19. Anastopoulos, A. D., & Shelton, T. L. Assessing attention-deficit/hyperactivity disorder. Dordrecht, Netherlands. *Kluwer Academic Publishers*; 2006.
20. Bussing, R., Koro-Ljungberg, M., Noguchi, K., Mason, D., Mayerson, G., & Garvan, C. W. Willingness to use ADHD treatments: A mixed methods study of perceptions by adolescents, parents, health professionals and teachers. *Social Science and Medicine*. 2012;*74*(1), 92–100. https://doi.org/10.1016/j.socscimed.2011.10.009
21. Simoni, Z. R. Medicalization, Normalization, and Performance Edge: Teachers ' Attitudes about ADHD Medication Use and the Influence of Race and Social Class. *Sociological Perspectives*. 2018;*61*(4), 642–660. https://doi.org/10.1177/0731121417691050
22. Davidovitch, M., Koren, G., Fund, N., Shrem, M., & Porath, A. Challenges in defining the rates of ADHD diagnosis and treatment: Trends over the last decade. *BMC Pediatrics*. 2017;*17*(1), 1–9. https://doi.org/10.1186/s12887-017-0971-0
23. Ornoy, A., Ovadia, M., Rivkin, D., Milshtein, E., & Barlev, L. Prevalence of ADHD among 7-9-year-old children in israel. A comparison between jewish and arab populations. *Israel Journal of Psychiatry and Related Sciences*. 2016;*53*(2), 3–9.
24. Mahajnah, M., Sharkia, R., Shorbaji, N., & Zelnik, N. Clinical profile of attention deficit hyperactivity disorder: Impact of ethnic and social diversities in Israel. *Israel Medical Association Journal*. 2016;*18*(6), 322–325.

25. Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. Qualitative Research Designs: Selection and Implementation. *The Counseling Psychologist*. 2007;*35*(2), 236–264. https://doi.org/10.1177/0011000006287390
26. Creswell, J. W., Fetters, M., & Ivankova, N. Designing a mixed methods study in primary care.pdf. *Annals Of Family Medicine*. 2004;*2*(1), 7–12.
27. Morse, J. M. Determining Sample Size. *Qualitative Health Research*. 2000;*10*(1), 3–5. https://doi.org/10.1177/104973200129118183
28. Hennink, M. M., Kaiser, B. N., & Marconi, V. C. Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough? *Qualitative Health Research*. 2017;*27*(4), 591–608. https://doi.org/10.1177/1049732316665344
29. Trotter, R. T. Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. *Preventive Medicine*. 2012;*55*(5), 398–400. https://doi.org/10.1016/j.ypmed.2012.07.003
30. Clarke, V., & Braun, V. Using thematic analysis in counselling and psychotherapy research: A critical reflection. *Counselling and Psychotherapy Research*. 2018;*18*(2), 107–110. https://doi.org/10.1002/capr.12165
31. Tufford, L., & Newman, P. Bracketing in qualitative research. *Qualitative Social Work*. 2012; *11*(1), 80–96. https://doi.org/10.1177/1473325010368316
32. Lincoln, Y. S., & Guba, E. G. Naturalistic inquiry. In. *Beverly Hills, CA: Sage* 1985;7,184–187.
33. King, N., & Horrocks, C. *Interviews in qualitative research. Sage.* 2018; 349.
34. SeokYoung, M. Cultural perspectives on attention deficit hyperactivity disorder: A comparison between Korea and the U.S. *Journal of International Business and Cultural Studies*. 2011;*6*(1987), 1.
35. Dwairy, M., Achoui, M., Abouserie, R., Farah, A., Sakhleh, A. A., Fayad, M., & Khan, H. K. Parenting styles in arab societies: A first cross-regional research study. *Journal of Cross-Cultural Psychology*. 2006;*37*(3), 230–247. https://doi.org/10.1177/0022022106286922
36. Malacrida, C. Medicalization, ambivalence and social control: Mothers' descriptions of educators and ADD/ADHD. *Health*. 2004;*8*(1), 61–80. https://doi.org/10.1177/1363459304038795
37. Lusardi, R. Current trends in medicalisation: Universalising ADHD diagnosis and treatments. *Sociology Compass*. 2019;*13*(6), 1–10. https://doi.org/10.1111/soc4.12697
38. Fleischmann, A., & Dabbah, S. Negev Bedouin Teachers' Attitudes Toward ADHD and Its Pharmacological Treatment. *Qualitative Health Research*. 2019; *29*(3), 418–430. https://doi.org/10.1177/1049732318803892
39. Loh, P. R., George, H., Vicary, D., Mancini, V., Martin, N., & Piek, J. Australian Aboriginal Perspectives of Attention Deficit Hyperactivity Disorder. *Australian and New Zealand Journal of Psychiatry*. 2016; *50*(4),309–310. https://doi.org/https://doi.org/10.1177/0004867415624551
40. Brown, C., Battista, D. R., Bruehlman, R., Sereika, S. S., & Thase, M. E. Beliefs About Antidepressant Medications in Relationship to Self-Reported Adherence. *Medical Care*. 2005; *43*(12), 1203–1207.

41. DosReis, S., Mychailyszyn, M. P., Evans-Lacko, S. E., Beltran, A., Riley, A. W., & Myers, M. A. The Meaning of Attention-Deficit/Hyperactivity Disorder Medication and Parents' Initiation and Continuity of Treatment for Their Child. *Journal of Child and Adolescent Psychopharmacology*. 2009;*19*(4), 377–383. https://doi.org/10.1089/cap.2008.0118
42. Florian, V., Mikulincer, M., & Weller, A. Does Culture affect Perceived Family Dynamics? A Comparison of Arab and Jewish Adolescents in Israel. *Journal of Comparative Family Studies*. 1993;*24*, 189–201.
43. Pescosolido, B. A. Beyond Rational Choice: The Social Dynamics of How People Seek Help. *American Journal of Sociology*. 1992; *97*(4), 1096–1138. https://doi.org/10.1086/229863
44. Arcia, E., Fernández, M. C., & Jáquez, M. Latina mothers' stances on stimulant medication: Complexity, conflict, and compromise. *Journal of Developmental and Behavioral Pediatrics*. 2004; *25*(5), 311–317. https://doi.org/10.1097/00004703-200410000-00002
45. Gesser-Edelsburg, A., & Hamade Boukai, R. Does the education system serve as a persuasion agent for recommending ADHD diagnosis and medication uptake? A qualitative case study to identify and characterize the persuasion strategies of Israeli teachers and school counselors. *BMC Psychiatry*. 2019; *19*(1), 1–12. https://doi.org/10.1186/s12888-019-2120-9
46. Gulliver, A., Griffiths, K. M., & Christensen, H. Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC Psychiatry*. 2010; *10*(113), 1–9.
47. Justmane, S. Attention Deficit/Hyperactivity Disorder: Diagnosis and Stereotypy. *Ethical Human Psychology and Psychiatry*. 2015; *17*(2), 135–144. DOI: 10.1891/1559-4343.17.2.135
48. Lebowitz, M. S. Stigmatization of ADHD: A Developmental Review. *Journal of Attention Disorders*. 2016; *20*(3), 199–205. https://doi.org/10.1177/1087054712475211
49. Liang, J., Matheson, B. E., & Douglas, J. M. Mental Health Diagnostic Considerations in Racial/Ethnic Minority Youth. *Journal of Child and Family Studies*. 2016; *25*(6), 1926–1940. https://doi.org/10.1007/s10826-015-0351-z

Tables

Table 1

Interviewees' socioeconomic characteristics (N=35)

Characteristics		Arab	Jews
Ethnicity	All	18	17
	Mothers	12	11
	Teachers	6	6
Average age (years)	Mothers	38.2	41.7
	Teachers	34.1	44.1
Mothers' education	Primary school	1	0
	High school (partial)	3	0
	High school (complete)	3	4
	Academic degree	5	7
Teachers' education	B.A.	4	4
	M.A.	2	2
Average number of children (mothers)		3.2	3
Average years' seniority (teachers)		10.7	15.8
Religion	Jews	0	17
	Muslims	13	0
	Christians	5	0
Religiosity	Secular	8	12
	Observant	10	5

Table 2

Themes demonstrating factors affecting Arab and Jewish mothers' decision to diagnose and treat their ADHD child.

Themes	Sub-themes	Differences between Arabs and Jews
1. **Medicalization of ADHD**	**1.1 Mothers' perceptions of ADHD on the continuum of medicalization**	**Arab mothers suggested:** • ADHD is a behavioral problem and not a medical one. • The child's behavior will pass after childhood. • Unhealthy lifestyle during pregnancy is the cause of their child's ADHD. **Jewish mothers suggested:** • ADHD is a genetic disorder that their child was born with.
	1.2 Teachers' perceptions of ADHD on the continuum of medicalization	**Arab teachers:** • Some think that ADHD is a genetic disorder and some think that ADHD is a behavioral problem. **Jewish teachers:** Attribute ADHD to a genetic disorder.
	1.3 Mothers' lifestyle during pregnancy	**Arab mothers:** • Indicate a connection between their lifestyle during pregnancy and the child's condition.
	1.4 Acceptance of ADHD diagnosis	**Arab mothers:** • Deny that their child has a medical problem. • Were completely shocked when the doctor told them the diagnosis and had a hard time accepting the diagnosis. **Jewish mothers:** • Are not worried about the diagnosis itself. • Felt relief when the doctor diagnosed their child.
	1.5 To medicate or not to medicate	**Arab mothers:** • Are against medical treatment and perceive medication as a poison.

		• Prefer trying alternative treatments rather than medication. **Jewish mothers:** • Are pro medical treatment. • Experienced the benefits of the medicine, which encouraged them to continue with the medication. **Arab teachers:** • Are less supportive of medication, and have a negative attitude towards it. **Jewish teachers:** • Generally have a positive attitude towards medication.
2. Mothers' feelings towards ADHD	1. **Mothers feeling guilty**	**Arab mothers:** • Expressed feelings of guilt even after experiencing the medication's benefits. • Are blamed by their social environment for medicating their child.
	2.2 Mothers sympathizing with their ADHD child	• Jewish mothers expressed sympathy and understanding towards their children with ADHD.
3. Social pressure and social norms	**3.1 Relatives' involvement in the parents' decision**	**Arab mothers reported:** • Their decision is influenced by their social environment. **Jewish mothers reported:** • There is no interference by relatives in their decision whether to medicate.
	3.2 Teachers pressuring parents to treat their children with Ritalin	• Both Arab and Jewish mothers reported that the teachers tried to persuade them to diagnose their child. • Jewish parents said that teachers pressured them to treat their children with Ritalin. • Both Arab and Jewish teachers shared their involvement in the process of identifying ADHD.
4. Stigmatization	**4.1 Concern about stigma can be a barrier to treatment**	**Arab mothers:** • Reported that a child with ADHD is stigmatized.

	• Keep the diagnosis and treatment of ADHD a secret since they are afraid of stigma. **Jewish mothers said:** • Parents and children share the fact that they have ADHD, and do not keep the diagnosis or treatment a secret.

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