


## How do parents view psychological assessment and intervention for their children with ADHD in Saudi Arabia?

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### ABSTRACT

The purpose of this study is to provide quantitative data on parental experiences with their children with attention-deficit hyperactivity disorder (ADHD) and to focus more on their opinion about medication and the role of psychological assessment and interventions. The study sample included 211 parents of children with ADHD. More than half of the parents think that ADHD could be treated without medication and that their child is too young to have psychotropic medication with its side effects. There were concerns about misdiagnosis and being too quick to prescribe medications. Psychometric assessment and psychological intervention were infrequently used and their experience with combined interventions is almost rare. Pressure from schools to prescribe medication was one of the parents' concerns. Parental satisfaction with medication occurred when an improvement in school performance was noted. It is essential for health professionals to be aware of parents' experiences and to develop a proper evidence-based intervention for ADHD which includes psychological counselling or combined interventions and not to rely on medication intervention alone.

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## Introduction

Attention-deficit hyperactivity disorder (ADHD) is a common chronic childhood psychiatric disorder characterized by persistent and impairing symptoms of inattention, hyperactivity and impulsivity, which affects 3–5% of school-aged children (Rowland, Lesesne, & Abramowitz, 2002). A systematic review of approximately 100 studies revealed the worldwide prevalence of ADHD is around 6% (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007).

Treatment of ADHD consists mainly of medication and behavioural interventions that are used separately or in combination. The professional guidelines of the American Academy of Pediatrics Subcommittee on ADHD (Wolraich et al., 2011) recommend a multidisciplinary approach to treating ADHD, including counselling and behavioural intervention. It is commonly recommended that psychological and behavioural interventions should be integrated with medication (Murray, 2010). Adherence to

treatments may revolve around parents' experiences of ADHD and their opinions regarding interventions (Corkum, Rimer, & Schachar, 1999).

Studies have found several variables that could contribute to parents' intervention options for a child. These include previous knowledge of mental health services, attitudes towards mental health professionals, stigma or cultural variables (Dubow, Lovko & Kausch, 1990; McMiller & Weisz, 1996; Turner, 2012).

In past decades, psychotherapy, counselling and behaviour science in Saudi Arabia were perceived to include an art curriculum only and that the field is mainly theoretical rather than professional. They may perceive psychological intervention as less important than other healthcare areas because it is not relevant to medicine. This trend has gradually shifted to perceiving psychology as a professional field and there was a resultant call for restructuring Saudi medical curricula in order to include psychology (Alshehri, 2001). This positive insight is supported by the fact that it has gained a reputation around the world (Hohenshil, 2010).

On the other hand, the approach of treating and managing ADHD in Saudi Arabia is faithful to the pharmacological method. ADHD patients who are receiving pharmacotherapy are rarely referred for concurrent psychotherapy. Unfortunately, there is no combined treatment protocol or professional guidelines from the institutional review board to be followed. There were only some individual efforts and some general guideline which highlighted the importance of cultural competency when dealing with psychological issue (Alqahtani & Altamimi, 2016).

Studies in Saudi Arabia determined the prevalence rates of ADHD among children to vary from about 3% to 6% (Alqahtani, 2010a) with high comorbidities, such as lower social functioning, learning difficulties and oppositional defiant disorder (Alqahtani, 2010b; Jenahi, Khalil, & Bella, 2012). Although much attention has been paid to the prevalence of ADHD in Saudi Arabia, less is paid to parental experiences regarding the medication for ADHD and the role of psychological assessment and interventions in their children's management (Alqahtani, 2015).

Unfortunately, in Saudi Arabia, there were no efforts to evaluate parents' experiences, not only with regards to medication but also comprehensive ADHD interventions, including psychological, behavioural and educational interventions.

This study is drawn from a larger investigation project which aims to understand the knowledge and experiences of parents of children with ADHD, and the impact of these on the management of ADHD intervention. This study was designed to quantitatively investigate parental knowledge regarding ADHD and parents' experiences with their children who have ADHD based on recommendations from earlier qualitative studies in Saudi Arabia (Alqahtani, 2015). In that qualitative study, results revealed that parents hesitated to manage the ADHD with medication and that they were uninformed about behavioural or educational interventions that could be used to manage ADHD.

ADHD in children is difficult to diagnose and manage because many symptoms observed in children with ADHD are not unique to ADHD and could be seen among other behavioural disorders. There are common concerns about diagnoses at a very young age, insufficient assessments and overprescribing (Efron, Davies, & Sciberras, 2013).

It became well recognized that using psychometric assessments contribute to improved accuracy in diagnoses and to better outcomes than single diagnoses made according to

clinical observations alone (Pritchard, Nigro, Jacobson, & Mahone, 2012). However, we know little about how ADHD children in Saudi Arabia are assessed and managed.

Therefore, the aim of this study is to understand parental experiences regarding their child's ADHD management, with more focus on investigating the role of psychological assessments and interventions.

### **Sample**

A cross-sectional survey was conducted of parents from urban, rural and suburban areas of Saudi Arabia. Parents were identified through their children, who had been diagnosed by professionals using the Diagnostic and Statistical Manual, Fourth Edition (DSM-IV). The parents who agreed to be involved in the study were recruited as per inclusion criteria: (a) parents have a child with confirmed ADHD, irrespective of the type of ADHD and its severity; (b) a child aged  $\leq 16$  years. Children who had other medical conditions that required ongoing medical intervention were excluded.

Over almost 5 years (September 2010–May 2014), more than 350 parents were approached. Some parents refused to participate in this study. Discomfort about discussing their child's ADHD was the main reason for refusal, though some refused without giving a reason. A sample of 211 parents of children with ADHD was finally assembled. All parents participating were fathers or mothers; none of them was a guardian, and all were Saudi citizens. Volunteering parents were informed that these interviews were not related to their treatment programme and that they had the right to choose whether or not to contribute. Confidentiality was assured.

### **Instrument**

Parents were asked to complete a self-report questionnaire that was specifically developed for this study. The questionnaire was based on an extensive item pool developed from Saudi studies about parental management of psychiatric disorders in general (Al-Haidar, 2008), and ADHD in particular (Alqahtani, 2015), a comprehensive literature search of key factors influencing parental knowledge and experiences about ADHD in worldwide data (Dosreis et al., 2003; Lazaratou, Anagnostopoulos, Alevizos, Haviara, & Ploumpidis, 2007; Stevens et al., 2009; Turner, 2012), and discussions with psychologists, psychiatrists and other key healthcare professionals. This pool was refined by professionals and established face validity, and the final version of the questionnaire emerged.

The questionnaire contained questions regarding the experiences of parents whose children have ADHD. The first part included parents answered one open-ended question regarding 'common behaviour problems that led to visiting the clinic due to their child's ADHD'. The second part had seven items that asked parents about their concerns regarding the treatment of their child with ADHD. Answer choices were 'yes', 'no' and 'don't know'. The third part includes 10 items that investigated parents' experiences and satisfaction with ADHD medications. Parents responded according to three answer choices of 'yes', 'no' and 'don't know'. Finally, the last part asked parents about their experiences with psychometric and psychological interventions. This part includes five questions and specific responses of 'yes' or 'no' were offered for parents to reply.

## Results

The demographic characteristics of the sample are presented in Table 1. The characteristics of participant families mostly represented middle to upper socio-economic status, with an undergraduate or better education of at least one parent. In details, the final sample included 211 parents of children with ADHD. Age of the parents ranged from 25 to 53 years. The majority of the parents (59%) were between 26 and 35. About two-thirds of the parents (67%) were undergraduates or highly educated, including 8.0% holding a master's degree or other postgraduate degree. Most parents (79%) were married and in a stable relationship. About 18% were divorced and about 2% were widowed. In general, the majority of participants were both mother and father together (60%), while mothers alone were about 34%, and fathers alone were about 5%. About 62% patients in this sample had used medication, and nearly 30% were on medication at the time of this study. Most of those who had stopped medications (36%) before this investigation made that decision without or even against their doctor's advice.

With respect to school performance of the ADHD children in this study, about 66% of parents experienced that their child was in a special education programme and about 20% reported grade failure. This result could be linked to a result showing that most parents (62%) indicated that the school was the first party to suggest that a child should seek treatment for ADHD, while about 25% were self-referrals.

**Table 1.** Demographic and sample characteristics.

Characteristics		N	%
Child's gender	Male	89	42.2
	Female	122	57.8
Child's age (Mean = Y.M)	≤8 years (6.9)	95	45.0
	≥9 years (11.4)	116	55.0
ADHD types	Attention deficit	102	48.3
	Hyperactivity/impulsivity	58	27.5
	Combination	51	24.2
First referral for ADHD	School	130	61.6
	Self-referral	67	31.8
	Family/friends' recommendation	9	4.3
	Doctors	5	2.4
Child medicated for ADHD	Yes, Now	64	30.3
	Yes but in the past	67	31.8
	Yes, at any time (before or now)	131	62.1
Child receiving psychological interventions	No, at all	80	37.9
	Yes	33	15.6
Monthly household income	No, at all	178	84.4
	<2000\$	40	18.7
	2000–4000\$	105	50.0
Parent's sex	≥5000\$	66	31.3
	Father	11	5.2
	Mother	72	34.1
Parent's age	Both (together)	128	60.5
	≤25	42	19.9
	26–35	118	55.9
Parent's educational level	≥36	51	24.2
	≤High school graduate	69	32.7
Area type	≥undergraduate	142	67.3
	Urban areas	113	53.6
	Suburban areas	42	19.9
	Rural areas	56	26.5

Table 2 shows common ADHD symptoms mentioned by parents as a reason for seeing their child's doctor. Poor school performance was the primary symptom (91%) leading to a doctor's consultation, followed by attention deficit (83%) and (51%), respectively. Poor social skills were also reported by parents (35%). Poor social skills indicated behaviour problems which sometimes prevented the child and a family from attending social activities due to the child's hyperactivity and impulsivity.

As can be seen in Table 2, parents rejected medication as a result of their concern about side effects (87%). Parents emphasized their concerns that their child is too young to have psychotropic medication for ADHD (64%). Interestingly, more than half of the parents (60%) thought that ADHD could be treated without medication.

Table 2 also shows parental concerns related to the treatment of ADHD. It seems that accepting an ADHD diagnosis and subsequent medication depend on parents' opinions rather than severity of ADHD symptoms. Most parents emphasized that their concerns were first about diagnosis and medication. Those parents whose children were on ADHD medication at the time of this study (30%) were confident that their decision about using medication was correct, though they were concerned about the long-term effects of such medication. There were frequent concerns about misdiagnosis of ADHD (88%), due to healthcare practitioners being too quick to prescribe medications (87%), or the absence of an alternative treatment before medication (79%). School pressure in diagnosing and then prescribing medication was also one of the parents' concerns. The majority of parents (54%) showed concern that medication was used in order to result in improved school achievement and due to school pressure. Surprisingly, about 42% of the parents reported their concern that the ADHD diagnosis could be false, or that it's

**Table 2.** Showing parents' experiences about several aspects and issues of ADHD.

Items	N (211)	%
Common behaviour problems that lead to visiting the clinic		
Poor school performance	192	90.9
Attention deficit	174	82.5
Hyperactive/Disruptive behaviour	107	50.7
Poor social skills	74	35.1
Impulsivity	32	15.2
What concerns do you have related to the treatment of your child ADHD?		
Misdiagnosis of ADHD	186	88.2
Medicate too quickly	184	87.2
No alternatives tried before medication	167	79.1
No available behavioural interventions	120	56.9
School pressure to have medication	113	53.6
Stigma from medication	109	51.7
ADHD is not a real illness.	88	41.7
Reasons that lead parents to refuse psychotropic medication (n = 147).		
Long-term side effects	115	87.2
Child is too young to have psychotropic medication for ADHD	94	63.9
ADHD don't need medication.	88	60.0
Duration of use.	83	56.5
How to stop the drug.	53	36.1
Satisfaction with medication (n = 131)	On medication (n = 64) (%)	Was in medication (n = 67) (%)
Overall satisfaction with medicine	49 (76.5)	34 (51.0)
Improvement in school behaviour	32 (50.0)	13 (19.4)
Improvement in school performance	54 (84.4)	28 (42.0)
Improvement in peer relations	26 (40.6)	12 (18.0)
Improvement in self-esteem	17 (26.6)	7 (10.4)

not a real illness. Stigma was one main concern as well (52%) whereby parents described their concern and hesitancy to continue the medication for ADHD as a result of stigma.

Responses to items on satisfaction are presented in Table 2. Most parents, with children on medication and off medication, showed limited satisfaction in general, 77% and 51%, respectively. Parents reported high satisfaction with medication in terms of improvement in school performance, with 84% and 82%, respectively.

Parents' answers to items about their experiences on psychometrics and psychological interventions are presented in Table 3. Only 25% confirmed that the psychometric assessment was used when the ADHD was diagnosed or during the treatment plan. Astonishingly, only about 16%; 7.1% and 1% of the parents experienced psychological intervention, parental counselling and health education at the clinic, with high tendency for a significant difference  $\chi^2(N = 209) = 5.71, p < .01$ ;  $\chi^2(N = 210) = 5.88, p < .01$  and  $\chi^2(N = 206) = 6.71, p < .001$ , respectively. In fact, schools' efforts in parental counselling or educational intervention seem to be much better (79%) than at the clinics, but there was no significant difference. About 12% of parents experienced combined interventions (medication and psychological intervention) for a significant difference  $\chi^2(N = 207) = 5.78, p < .01$ .

## Discussion

The parents in our study revealed it was difficult to decide whether or not to use medication for ADHD. A previous study found that parent moved through phases before making the decision to medicate or not to medicate their children (Taylor, O'Donoghue, & Houghton, 2006). This journey to make the decision starts with a phase of grieving due to having a child diagnosed with ADHD, then cynicism phases of denying the diagnosis and ending with acceptance. At the final stage, parents adopt a proactive approach to their parenting and make their medical decision accordingly. Nearly two-thirds of our sample had been under medication, with about half of them still on medication at the time of the study. This could give the sample the impact of having enough experience about ADHD and its management. It should also be known

**Table 3.** Parents experiences with psychometric and psychological interventions.

Items		<i>n</i>	%	$\chi^2$	
The psychometric assessment was used when the ADHD was diagnosed.	Yes	52	24.6	2.83	
	No	96	45.5		
	Don't know	63	29.9		
Have you tried psychological intervention for your child?	Yes	33	15.6	5.71*	
	No	178	84.4		
Have you experienced parental intervention for your child (Training parents OR Counselling)?	Yes	15	7.1	5.88**	
	No	196	92.9		
Have you tried educational intervention for your child (Health Education OR School Intervention)?	Clinic	Yes	2	0.9	6.79***
		No	209	99.1	
	School	Yes	166	78.7	
		No	45	21.3	
Have you got experience with combined interventions (Medication and psychological) at any time?	Yes	25	11.8	5.78**	
	No	186	88.2		

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

that this sample shows varying lengths of time of using medication, from just starting to having used medication for years.

The results showed a high level of concern about ADHD medications, including some specific concerns regarding side effects, and that a child is too young to be medicated with psychotropic medication. In previous investigations in Saudi Arabia, parents mostly believed all psychotropic medications were addictive (Al-Haidar, 2008). Parents' worries about such issues should be raised and discussed during consultation as a function of case management for parents of children with ADHD.

The results also showed a high number of parents discontinue medications without or against their doctor's advice. Several studies reported that nearly half the children diagnosed with ADHD who do begin medication suspend it within a year (Winterstein et al., 2008). This result leads to the question of the level of adherence to ADHD medication among Saudi parents (Alqahtani, 2015), which could be investigated in future studies.

In this study, the main source of referring parents to clinics is schools. Some studies showed significant short-term improvement, mainly in school behaviour and academic achievements (Conners, 2002; Goldman, Genel, Bezman, & Slanetz, 1998). Commonly, a teacher is the first one to identify ADHD in children (Snider, Busch, & Arrowood, 2003). They work with many different students for most of the day, are aware of how typical students behave in classroom and can see the ADHD symptoms affecting school performance and disrupting the rest of the class. School frequently provides some psychological services including assessment, counselling and behaviour management (Watkins, Crosby, & Pearson, 2001). Therefore, it is important that teachers and school psychologists be knowledgeable about ADHD. It is especially crucial to have a guideline to serve and refer ADHD from the school to the clinic.

Recent reviews of the treatment of ADHD showed that medication has the potential to reduce some symptoms of ADHD. Medication alone will not normalize co-occurring impairments, such as parent-child relationships or oppositional-defiant behaviour (Pritchard et al., 2012), but behavioural problems are rarely completely treated by medication interventions alone (Taylor et al., 2006). Therefore, combined treatments of pharmacotherapy and behaviour therapy are increasingly described as the treatment of choice for ADHD (Abramowitz, Eckstrand, O'leary, & Dulcan, 1992). Previous studies found that medication was prescribed when alternative treatments existed but had not been used (Goldman et al., 1998). It was recommended that ADHD medications should be used only for those children who do not respond sufficiently to behavioural or educational interventions (Kendall, Taylor, Perez, & Taylor, 2008).

Repeatedly, it has been described that children with mild to moderate symptoms of ADHD do well at home and school without medication, and by using only behaviour and educational interventions (Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004). On the other hand, children with more severe symptoms benefit greatly from medication, but at the same time, parents preferred psychological interventions for lower levels of symptomatology (Stevens et al., 2009). In the current study, some parents were concerned about the absence of behavioural interventions in favour of using medication alone and immediately.

Based on the absence of guidelines for managing ADHD as mentioned above, the current finding highlights the importance of involving psychological intervention and

counselling. It is a sound demand for reforming the sole pharmacological intervention for ADHD in order to shift to multidisciplinary teams, including psychologists, and to document the effort to manage symptoms. It was recommended in the clinical practice guidelines (Wolraich et al., 2011) to document all aspects of the diagnostic procedures in patients' records, including the results of the psychometric assessments, as a method for diagnosing monitoring treatments. Unfortunately, the results of this study indicate this is not the case in Saudi clinics. One explanation for this is that the access to psychometric assessments and psychological interventions in many clinics in Saudi Arabia is limited to qualified psychologists. Thus, the rareness of providing psychological intervention was not surprising, given that a psychological intervention in general is rarely delivered among mental health services in Saudi Arabia (Alqahtani & Salmon, 2008) and elsewhere (Asarnow et al., 2005). The rareness of psychological interventions could be the same reason for the rareness of combined treatments, which include medication and behavioural therapy. Such combined interventions require clinical psychologists who have sufficient training in behavioural therapy, which is not accessible to most clinics in Saudi Arabia.

This results in the limitation of having psychometric assessment as well as the psychological interventions raise a question about the cause and the remedy of this limitation. Establishing a protocol or official guidelines for managing ADHD in children is an essential task that needs to be addressed soon in Saudi Arabia. For example, in the current guidelines for paediatric practice in Australia, the psychological assessments and interventions of ADHD were documented as an essential part that should be routinely conducted, recommending health professionals consider more systematic processes for diagnosing ADHD (Efron et al., 2013).

Parents in this study commonly linked their children's performance at school and their satisfaction with medication. Parents in some studies were aware of the short-term effects of medication on academic performance, including classroom behaviour, test performance, attention and peer relationships (Stroh, Frankenberger, Wood, & Pahl, 2008). This led parents to be satisfied with their child's medication. Unfulfilled needs and dissatisfaction of parents could be reduced to the adherence to medication (O'Brien, Petrie, & Raeburn, 1992). In fact, parents did not know that medication for an unconfirmed diagnosis of ADHD could produce the same short-term positive effect on the general academic performance and classroom behaviour, regardless of ADHD diagnosis (Peloquin & Klorman, 1986).

Stigma is a major concern in the current results. Stigmatizing knowledge and experiences about individuals with ADHD could create a 'culture of suspicion' about ADHD medication (DosReis, Barksdale, Sherman, Maloney, & Charach, 2010). It has been reported in Saudi studies that children who receive medication for ADHD could be stigmatized (Alqahtani, 2015). This kind of stigmatization will associate with intervention adherence and will deeply affect ADHD management (Sirey et al., 2001). This point also could be linked with the number of the parents ( $n = 139$ ) who refused to participate in the study. Alqahtani (2012) reported that parents could refuse to share their experience about their child's problem due to cultural opinions, indicating that parents needed to be viewed culturally with their children in an ideal health state. Sharing information about their children's problem could be more accepted culturally



and less stigmatized. Therefore, this point could be an area for the future research to examine the effects that would be produced on results due to such cultural issues.

## Conclusions

This study produced a unique insight into the personal journeys of diagnosis and management of ADHD. Parents were less likely to prefer medication over psychological intervention, but without psychometric assessment or psychological interventions, parents tended to be less satisfied overall with the general management of ADHD. Medication plays an essential role in severe impairment cases of ADHD. However, a combined medication and psychological intervention is recommended for all cases. It should be provided also to those children who are not responding satisfactorily to medication and also when parents decide to reject the use of medication. Finally, it seems there is a gap between professionals and parents in their experiences of ADHD. It is essential that health professionals be aware of these different experiences of parents, and develop a proper educational programme along with evidence-based interventions (Alqahtani, 2012).

## Limitations and implications for future research

The findings of this study need to be considered according to its limitations. First, it is a descriptive study based on a relatively small sample where a new questionnaire has been used. Another concern is that social stigma could be a barrier to obtaining information about hidden experiences.

In addition, the participants of this study were recruited during 2010 and 2014, when the diagnostic criterion DSM-IV of ADHD was changed to DSM-V. None of the samples was diagnosed according to the DSM-V.

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## Disclosure statement

No potential conflict of interest was reported by the author.

## Notes on contributor

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