

Knowledge of Parents Working in Healthcare Settings Toward Attention-Deficit Hyperactivity Disorder Among Children

Sawsan Abuhammad¹, Manar ALazzam², Yasmine Alabbasi³

¹Department of Maternal and Child Health, Faculty of Nursing, Jordan University of Science and Technology, Irbid, Jordan; ²Department of Community and Mental Health Nursing, Princess Salma Faculty of Nursing, Al-Albait University, Mafraq, 25113 Jordan; ³Department of Maternity and Pediatric Nursing, College of Nursing, Princess Nourah Bint Abdulrahman University, Riyadh, 11671 Saudi Arabia

Correspondence: Yasmine Alabbasi, Email yaalabbasi@pnu.edu.sa

Aim: To examine the knowledge of parents who are working as healthcare workers about Attention-Deficit Hyperactivity Disorder (ADHD) and to determine the predictors of ADHD knowledge in children among parents.

Methods: A cross-section study was conducted among parents who are working as HCWs. An online survey by google forms facilitated the creation of a 373 participant's sample.

Results: The parents who are working as HCWs toward ADHD Knowledge 14.9 (SD = 7.9). The most questions were answered correctly. ADHD children are frequently distracted by extraneous stimuli 285 (76.8%). ADHD children often fidget or squirm in their seats 272 (73.7%) and HCWs training in managing an ADHD child are generally effective when combined with medication treatment 260 (70.5%).

Conclusion: This study found that many parents who working as HCWs had poor knowledge regarding causes and general aspects of this disorder. The results had many implications that include increased efforts to improve the capabilities of parents who working as HCWs and prevent further complications for the children and increase awareness among parents and teachers.

Keywords: ADHD, parents who working as HCWs, knowledge, Jordan

Introduction

Attention-deficit hyperactivity disorder (ADHD) include many unacceptable characteristics.¹ American Academy of Pediatrics² defines ADHD as a behavioral disorder often diagnosed during childhood. Many children experience emotional, academic, and social challenges such as difficulties with interpersonal relationships, low-esteem, educational underachievement, and school difficulties.^{3,4} The behavior of these children is often perceived as unacceptable to family members, parents, and peers. Therefore, Alazzam et al³ and Barfield & Driessnack⁵ argued that ADHD is also linked to maladaptive interpersonal interactions and mother-child disruption.

A study revealed that mothers with children who have ADHD report more intimidating parenting style and negative parenting characterized by poor knowledge and depressive moods than mothers with normal children⁶⁻⁸ Therefore, early diagnosis and management of ADHD are essential to decrease negative ADHD outcomes by redirecting health and academic interventions to enhance the child's educational, emotional, and psychosocial development.^{7,9} The American Academy of Pediatrics guidelines argue that parents who work as HCWs have an important role in ADHD management by guiding themselves, other parents and teachers. The parents who work as HCWs are at the frontline and are better placed to identify and manage ADHD effectively.⁹ However, Ozer et al¹⁰ argues that treatment of ADHD using traditional medical models and the roles of the school nurse are often ignored in the care of children with ADHD. Recently, ADHD treatments have started to shift to a more inclusive multimodal approach that includes behavioral management, medication, counseling, and support for children, parents¹¹, and environment management.¹² This model expands the contribution and role of the parents who work as HCWs in preventing or reversing the negative impacts of

ADHD, which involve identifying ADHD in its early stages and managing the disorder in the school, acting as a link between the schools, family and community.¹³ Laver-Bradbury¹⁴ argued that medical models with collaboration with parents who work as HCWs provide a great opportunity for parents to enhance ADHD management in children.

Children with ADHD experience various challenges at school.¹⁵ ADHD is considered the most common time demanding condition.¹⁶ Few studies have examined the experiences of parents or service needs of families with ADHD children. These studies show that children with ADHD and their families have significant service needs from the school system.^{17,18} Further, these studies reveal that early diagnosis and appropriate treatment are related to the information and sources provided by the school nurse. Therefore, parents who work as HCWs should be up to date with current ADHD management guidelines and academic developments.¹⁹ Adequate knowledge will allow parents to facilitate a better understanding of the condition among parents and school staff, provide effective management recommendations, and promote collaboration between students, parents, and all other specialties. It may also help by making referrals to ADHD support groups.^{19,20} However, little is known about knowledge of parents who are working as HCWs regarding the current ADHD assessment and management. Few studies have assessed knowledge of ADHD among parents^{21,22} and described the roles of parents taking care of children with ADHD. Many recommended multidisciplinary holistic healthcare and healthcare integration for children with ADHD and their families. Russell et al's²² recommendations are coherent with the suggestions presented by Moen et al,²¹ arguing that a multidisciplinary collaboration between practitioners and public health nurses and parents of children with ADHD is essential in healthcare decision-making.

Children with ADHD are unique challenges that require personalized care that deals with the unique circumstance of every child. Besides, parents who work as HCWs should address and recognize the knowledge, needs and perceptions of the delivered healthcare while providing care. Moreover, studying ADHD among healthcare provider-parents is critical for improving performance at work, improving the care of patients, tackling stress in the workplace, reducing discrimination, and providing greater assistance for both providers and their families. Therefore, this study aims to examine the knowledge of parents who work as HCWs towards ADHD among children and to determine the predictors of ADHD knowledge in children among parents.

Method

Design and Sample

A cross-section study was conducted among Jordanian parents working as medical staff to determine their knowledge about ADHD among children. The announcement about the study was published on social media websites (Facebook, WhatsApp, twitter, and Instagram stories) on shared groups and pages among medical staff and was sent to them privately. Based on G power, an adequate sample size was 300 participants. Jordan governorate has a total 10061 nurses. To enroll the participants, a convenience sample technique was used, with no drop rate and incomplete data. An online survey prepared by google forms facilitated the creation of a 373 participant's sample. These links were sent only to interested parents who are working as HCWs after showing their identity as parents who are working as HCWs. Data collection began in September 2021 and closed in November 2021.

Instruments

The survey sections are demographics and knowledge of ADHD. The first section asked about the participants and the second section asked about their knowledge of ADHD. The first section included three domains; one focused on demographics; age, gender, marital status, nationality, highest educational attainment, workplace, the number of experience years, and income. Another asked about their personal experience with ADHD, their resources of information, family history of ADHD, and if exists, how it was diagnosed. The last domain is concerned with the participant's mental health; personal or family history of psychiatric diseases, if seeking medical help then and by whom (psychiatrists, psychologist, family member, etc.).

The second section is Knowledge of Attention Deficit Disorder Scale (KADDS).²³ The Arabic version this instrument was used.²⁴ This tool consists of three sections and 39 questions were developed to investigate ADHD, characteristics and ways of treatment (12 questions). The answers for each question are True, false, or Do not Know. This section was reviewed and evaluated by many experts in maternal and child health nursing to ensure the validity of the final survey

items in reflecting the basic knowledge a medical worker should have about this disorder. The internal consistency from literature was (0.80–0.90) in KADDS.²³ Similarly, in our study the instrument's internal consistency was 0.92.

Ethical Consideration

Al-Albait IRB approved this research after guarantee the risk advantages of being in this study and the online survey notified participants about its team, goals, and reliability. So, once they clicked the link, they were instructed to read the informed consent form to have the choice of whether to participate in the current anonymous survey research. This study complies with the Declaration of Helsinki.

Data Analysis

The SPSS Version 26 was employed by the authors. Multiple regression was used to determine the predictors of ADHD among parents who working as HCWs in terms of socio-demographic variable.

Results

Demographic Variables

The response rate is 373 (75%). The number of females was 291 (77.8%), and male was 82 (21.9%). Most of them were married 239 (63.9%). The number of Jordanian was 358 (95.7%). See [Table 1](#)

Description of the Response of the Parents Who Working as HCWs Toward ADHD Knowledge

The parents who worked as HCWs mean score toward ADHD knowledge were 14.9 (SD = 7.9). The most questions were answered correctly: “ADHD children are frequently distracted by extraneous stimuli” 285 (76.8%), “ADHD children often fidget or squirm in their seats” 272 (73.7%) and “Parent and parents who working as HCWs training in managing an ADHD child are generally effective when combined with medication treatment” 260 (70.5%).

Incorrect answers were: “for reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD”, 334 (91.3%), “A diagnosis of ADHD by itself makes a child eligible for placement in special education”, 323 (88.0%), and “Behavioral/psychological interventions for children with ADHD focus primarily on the child's problems with inattention”, 319 (87.2%). See [Table 2](#)

Table 1 Demographic Characteristics of the Participants (N = 373)

Item	Categories	N	%
Gender	Male	82	21.9
	Female	291	77.8
Number of children	1	121	32.1
	2	76	20.3
	3	85	22.7
	4	46	12.3
	5	45	12.0
	6	40	10.7
Working	Health center	50	13.4
	Government hospital.	84	22.5
	Private hospital.	98	26.2
	Private clinic.	39	10.4
	Military medical services.	15	4.0
	University hospital.	87	23.3

(Continued)

Table 1 (Continued).

Item	Categories	N	%
Hear about ADHD	No	48	12.8
	Yes	325	86.9
Who told you about ADHD?	Study.	178	47.6
	Friend.	67	17.9
	Visual or audio media.	29	7.8
	Internet.	10	2.7
	Social media.	64	17.1
	Others	4	1.1
Having a chronic disease?	No	338	90.4
	Yes	35	9.4
Having experience with ADHD?	No	289	77.3
	Yes	84	22.5
Diagnosed with ADHD?	No	364	97.3
	Yes	9	2.4
Who makes the diagnosis?	Pediatrician.	60	16.0
	Psychologist.	29	7.8
	General doctor	24	6.4
	Others	5	1.3
Having a mental disorder?	No	329	88.0
	Yes	44	11.8
Type of mental disorder	Depression.	31	8.3
	Bipolar depression.	4	1.1
	Schizophrenia;	5	1.3
	Anxiety disorder;	25	6.7
	Other	64	17.1
Asking for help	No	311	83.2
	Yes	62	16.6
Who is asking for help to treat ADHD?	Counseling psychologist.	19	5.1
	Psychologist.	29	7.8
	General doctor.	3	0.8
	Sheikh or clergyman.	4	1.1
	A family member.	17	4.5
	Others	42	11.2
Income (JD)	Less than 400	52	13.9
	400 to 600	82	21.9
	600 to 800	83	22.2
	800 to 1000	91	24.3
	More than 1000	65	17.4
Living area	City	262	70.1
	Village	111	29.7
Nationality	Jordanian	358	95.7
	Others	15	4.0
Education	Associate	59	15.8
	Bachelor	235	62.8
	Higher degree	79	21.1

Predictors of Knowledge Regarding ADHD Among Parents Who Working as HCWs

The model was significant ($F = 7.87$, $p = 0.002$). This means many factors will impact or correlate with knowledge toward ADHD among parents who are working as HCWs. These factors were years of experience ($B = 0.169$, $P = 0.05$), experience with ADHD ($B = 0.199$, $p < 0.001$), having chronic disease ($B = 0.117$, $p = 0.021$), hear about ADHD ($B =$

Table 2 Description of the Response of the Parents Who Working as HCWs Toward ADHD Knowledge

Items	Incorrect		Correct	
	Count	Row n%	Count	Row n%
1. Most estimates suggest that ADHD occurs in approximately 15% of school age children.	295	79.5%	75	20.2%
2. Current research suggests that ADHD is largely the result of ineffective parenting skills.	223	59.9%	149	40.1%
3. ADHD children are frequently distracted by extraneous stimuli.	86	23.2%	285	76.8%
4. ADHD children are typically more compliant with their fathers than with their mothers.	281	76.4%	87	23.6%
5. To be diagnosed with ADHD, the child's symptoms must have been present before age 7.	213	57.7%	156	42.3%
6. ADHD is more common in the 1st degree biological relatives (ie, Mother, father) of children with ADHD than in the general population.	230	62.0%	141	38.0%
7. One symptom of ADHD children is that they have been physically cruel to other people.	270	72.8%	101	27.2%
8. Antidepressant drugs have been effective in reducing symptoms for many ADHD children.	251	68.0%	118	32.0%
9. ADHD children often fidget or squirm in their seats.	97	26.3%	272	73.7%
10. Parent and HCW training in managing an ADHD child are generally effective when combined with medication treatment.	109	29.5%	260	70.5%
11. It is common for ADHD children to have an inflated sense of self-esteem or grandiosity.	277	74.7%	94	25.3%
12. When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return.	231	62.4%	139	37.6%
13. It is possible for an adult to be diagnosed with ADHD.	225	61.3%	142	38.7%
14. ADHD children often have a history of stealing or destroying other people's things.	147	39.8%	1	0.3%
15. Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction.	188	51.5%	177	48.5%
16. Current wisdom about ADHD suggests two clusters of symptoms: one of inattention and another consisting of hyperactivity/impulsivity.	142	38.6%	226	61.4%
17. Symptoms of depression are found more frequently in ADHD children than in non-ADHD children.	227	61.7%	141	38.3%
18. Individual psychotherapy is usually sufficient for the treatment of most ADHD children.	236	64.1%	132	35.9%
19. Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood.	296	80.7%	71	19.3%
20. In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.	161	43.8%	207	56.3%
21. To be diagnosed as ADHD, a child must exhibit relevant symptoms in two or more settings (eg, home, school).	152	41.4%	215	58.6%
22. If an ADHD child can demonstrate sustained attention to video games or tv for over an hour, that child is also able to sustain attention for at least an hour of class or homework.	291	78.9%	78	21.1%
23. Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.	334	91.3%	32	8.7%
24. A diagnosis of ADHD by itself makes a child eligible for placement in special education.	323	88.0%	44	12.0%
25. Stimulant drugs are the most common type of drug used to treat children with ADHD	269	73.3%	98	26.7%
26. ADHD children often have difficulties organizing tasks and activities.	131	35.7%	236	64.3%
27. ADHD children generally experience more problems in novel situations than in familiar situations.	316	86.6%	49	13.4%
28. There are specific physical features which can be identified by medical doctors (eg, Pediatrician) in making a definitive diagnosis of ADHD.	292	78.9%	78	21.1%
29. In school age children, the prevalence of ADHD in males and females is equivalent.	265	71.8%	104	28.2%
30. In incredibly young children (less than 4 years old), the problem behaviors of ADHD children (eg, Hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.	319	87.4%	46	12.6%
31. Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.	158	43.1%	209	56.9%
32. Most ADHD children evidence some degree of poor school performance in the school years.	160	43.7%	206	56.3%
33. Symptoms of ADHD are often seen in non-ADHD children who come from inadequate and chaotic home environments.	199	54.5%	166	45.5%
34. Behavioral/psychological interventions for children with ADHD focus primarily on the child's problems with inattention.	319	87.2%	47	12.8%

(Continued)

Table 2 (Continued).

Items	Incorrect		Correct	
	Count	Row n%	Count	Row n%
35. Electroconvulsive therapy (ie, Shock treatment) has been found to be an effective treatment for severe cases of ADHD.	252	68.9%	114	31.1%
36. Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.	204	55.9%	161	44.1%
37. Research has shown that prolonged use of stimulant medications leads to increased addiction (ie, drug, alcohol) in adulthood.	312	85.2%	54	14.8%
38. If a child responds to stimulant medications (eg, ritalin), then they probably have ADHD.	309	85.1%	54	14.9%
39. Children with ADHD generally display an inflexible adherence to specific routines or rituals.	318	87.1%	47	12.9%

Note: This instrument was adopted from original author after getting the permission to use.

0.119), and place of working ($B = -0.105$, $p = 0.046$). This means people with less experience, had experience with ADHD, had chronic diseases, and work in hospitals had more knowledge toward ADHD. See [Table 3](#)

Discussion

Most healthcare providers commonly oversee the treatment of children with ADHD. According to the CDC (2016), each member of these teams plays a crucial part in identifying symptoms, referring patients, and aiding ongoing treatment in both mental and medical healthcare environments. Several studies have utilized diverse research approaches to explore the challenges faced by parents who work as healthcare workers and care for children with ADHD.^{21,25–28}

This study aimed to determine the knowledge of parents who work as HCWs towards ADHD in northern Jordan. The number of study participants included in this study was 373. The results indicate a relatively weak knowledge toward ADHD knowledge among Jordanian parents who are working as HCWs. Similar studies found greater knowledge regarding ADHD among parents who are working as HCWs. The difference may be due to the lack of ongoing plans to develop skills such as training programs, seminars, or workshops provided by the ministry of health and health in these

Table 3 Predictors of Knowledge Regarding ADHD Among Parents Who Working as HCWs

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	−0.948	5.057		−0.188	0.851
Age (years)	0.127	0.091	0.136	1.402	0.162
Gender (female vs male)	−0.209	0.957	−0.011	−0.219	0.827
Experience (years)	−0.179	0.091	−0.169	−1.967	0.050
Social status (single, married, widow)	−1.336	0.930	−0.092	−1.436	0.152
Working	−0.483	0.242	−0.105	−2.001	0.046
Hear about ADHD	6.031	1.221	0.251	4.939	0.000
Chronic?	−3.164	1.360	−0.117	−2.326	0.021
Experience with ADHD?	3.769	0.985	0.199	3.826	0.000
Having a mental problem?	1.972	1.259	0.081	1.566	0.118
Asking for help?	−0.001	1.087	0.000	−0.001	0.999
Income (JD)	0.253	0.325	0.042	0.777	0.438
Living (City vs village)	−0.540	0.873	−0.031	−0.619	0.536
Nationality (Jordanian vs others)	1.625	1.969	0.040	0.825	0.410
Education	0.471	0.671	0.036	0.702	0.483

countries. Therefore, parents who are working as HCWs should have the opportunity to evaluate their knowledge to provide them with the necessary training in areas of weaknesses.

A potential explanation for the low knowledge among Jordanian parents who work as HCWs towards ADHD knowledge symptoms and treatment may be a lack of official sources and national policies to address a variety of learning challenges in the healthcare system. Although there are studies that have targeted Jordanian children with ADHD, very few have focused on the significance of parents who work as HCWs in identifying, referring, and managing treatment plans for the children.

In our study, the parents who worked as HCW the mean knowledge regarding ADHD in children were 14.9 (SD = 7.9) and this is considered an extremely low score that required attention to focus on it. Many parents who worked as HCWs had the answers to the following questions incorrectly. These questions were about how reducing sugar is effective in decreasing ADHD clinical symptoms. Any child diagnosed with ADHD needs physical, psychological and behavioral rehabilitation.

In contrast, a participatory study conducted in Australia investigated nurses' perspectives on caring for children with mental health disorders.²⁷ This study utilized qualitative design with a purposive sample comprising of 20 pediatric nurses. They found that nurses have insufficient preparation, knowledge and skills to provide optimal care for children with mental health diagnoses admitted to the pediatric unit. The authors attribute this lack of proficiency to inadequate preparation, support and resources. They proposed several strategies to improve healthcare for children with ADHD. These recommendations include developing mental health interventions, continuous professional development among nurse practitioners, and enhancing relationships with mental health services. However, despite using a relatively small sample of the focus group, the study results recommended nursing strategies to satisfy healthcare needs of children with ADHD. No studies were conducted in Jordan or Arab countries about ADHD knowledge among parents who worked as HCWs, but some studies were about teachers or parents. However, our finding corresponds with the findings made by Al-Omari et al²⁹ revealed that teachers have negative knowledge towards children who have ADHD. Al-Omari et al showed that most teachers believed children who suffered from ADHD were at a higher risk of antisocial behaviors, depression, truancy, substance abuse, and chronic absenteeism. In the present study, the negative knowledge of ADHD in children among parents who are working as HCWs may be due to the deficiency in the knowledge of parents who are working as HCWs who teachers and parents were dealing with.

In our study, many factors were correlated with knowledge toward ADHD among parents who are working as HCWs. These factors were years of experience ($P = 0.05$), experience with ADHD ($p < 0.001$), having chronic disease, hearing about ADHD, and place of working ($p = 0.046$). This means parents who worked as HCWs with less experience, had experience with ADHD, had chronic diseases, and worked in hospitals had more knowledge toward ADHD. Adamis et al²⁵ conducted a survey concerning the attitudes and beliefs of general practitioners in Ireland regarding ADHD. The study identified a correlation between knowledge, attitudes, and various factors. The survey involved 140 Irish nurses. Analysis revealed that 58.8% of the respondents demonstrated sufficient knowledge and held positive attitude toward ADHD children. Studies regarding predictors of knowledge of families about this disease are very limited. However, there are studies regarding ADHD predictors among parents and teachers. For example, a study found no correlation was found between the participant's knowledge towards ADHD in teachers and years of experience. Dilaimi's³⁰ finding showed no correlation of knowledge of teachers and age towards ADHD. However, the findings of this study are different from past studies as it reveals a correlation between age of teacher and their knowledge of the disease. Besides, this study found no statistical difference between working in private and public institutions. This finding is like that of Kern et al, who found no correlation in teacher knowledge towards ADHD and demographic variables.

Implication

The findings of this study had many implications that included increased efforts to improve the capabilities of parents who work as HCWs and prevent further complications for the children and increase awareness among parents and teachers. The Ministry of Health and health institutions in Jordan need to apply special programs to enhance parents who work as HCWs' knowledge and awareness about ADHD. These parents who are working as HCWs could educate parents and teachers about ADHD since they have more contact and effective methods to teach them. Reforming the

curriculum of medical schools in Jordan to consider children with special needs such as ADHD. Additionally, training programs are required for all medical specialties workers and students to improve their knowledge about ADHD among children. A cooperative initiative is needed to create informative ADHD knowledge programs and ensure parents who work as HCWs suffer from in-service training in the art of caring for children experiencing effects of ADHD to enhance the whole community.

Limitations

This study had many limitations that will be the focus of the next studies. They did not describe the different healthcare workers who have different educational backgrounds and possess different medical knowledge. Also, this study

Conclusion

This study found that many parents who worked as HCWs had poor knowledge regarding causes and general aspects of this disorder. The finding may have several implications that includes increased efforts to improve the capabilities of parents who working as HCWs and prevent further complications for the children and increase awareness among parents and teachers.

Acknowledgment

The authors express their gratitude to Princess Nourah bint Abdulrahman University Researchers Supporting Project number (PNURSP2024R390), Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia.

Funding

This research was funded by Princess Nourah bint Abdulrahman University Researchers Supporting Project number (PNURSP2024R390), Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia.

Disclosure

The authors report no conflicts of interest in this work.

References

1. Association AP. *Diagnostic and Statistical Manual of Mental Disorders*. Washington DC: American Psychiatric Publishing; 2013.
2. Subcommittee on Attention-Deficit/Hyperactivity Disorder SCQI, Management. *ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents*. IL, USA: American Academy of Pediatrics Elk Grove Village; 2011. 1007–1022.
3. Alazzam M, Albashtawy M, Kloub AL, et al. Advantages and disadvantages of studying the family as a context approach when dealing with a school aged child diagnosed with attention deficit hyperactivity disorder. 2016.
4. AlAzzam M, Tawalbeh L, Abu Al-Rub M, et al. Exploring elementary schoolteachers' perceptions of attention deficit hyperactivity disorder (ADHD) in Northern Jordan. *Child Psychiatry Human Dev*. 2022;53(3):538–545. doi:10.1007/s10578-021-01131-8
5. Barfield PA, Driessnack M. Children with ADHD draw-and-tell about what makes their life really good. *J Spec Ped Nur*. 2018;23(2):e12210. doi:10.1111/jspn.12210
6. Song I, Lee MS, Lee EK, Shin JY. Patient and provider characteristics related with prescribing of ADHD medication: nationwide health insurance claims database study in Korea. *Asia-Pacific Psy*. 2018;10(1):e12289. doi:10.1111/appy.12289
7. Park KJ, Lee JS, Kim H-W. Medical and psychiatric comorbidities in Korean children and adolescents with attention-deficit/hyperactivity disorder. *Psychiatry Invest*. 2017;14(6):817. doi:10.4306/pi.2017.14.6.817
8. Adalja AA, Toner E, Inglesby TV. Priorities for the US health community responding to COVID-19. *JAMA*. 2020;323(14):1343–1344. doi:10.1001/jama.2020.3413
9. Arnold LE, Hodgkins P, Kahle J, Madhoo M, Kewley G. Long-term outcomes of ADHD: academic achievement and performance. *J Attention Disord*. 2020;24(1):73–85. doi:10.1177/1087054714566076
10. Ozer S, Takon I, Atherton M, Beets R. *G655 Development of a Formal Clinical Supervision Policy for ADHD Specialist Nurses Working in a Child Development Centre*. BMJ Publishing Group Ltd; 2019.
11. Ryan N, McDougall T. Children and young people with attention deficit hyperactivity disorder: the nurse's role. *Nurse Prescribing*. 2018;16(8):373–378. doi:10.12968/npre.2018.16.8.373
12. Bhide S, Sciberras E, Anderson V, Hazell P, Nicholson JM. Association between parenting style and socio-emotional and academic functioning in children with and without ADHD: a community-based study. *J Attention Disord*. 2019;23(5):463–474. doi:10.1177/1087054716661420
13. Shajan Z, Snell DW. *Leahey's Nurses and Families: A Guide to Family Assessment and Intervention*. FA Davis; 2019.
14. Laver-Bradbury C. ADHD in children: an overview of treatment. *Nurse Prescribing*. 2013;11(12):597–601. doi:10.12968/npre.2013.11.12.597

15. Brown C, Looman WS, Garwick AE. School nurse perceptions of nurse–family relationships in the care of elementary students with chronic conditions. *J School Nurs.* 2019;35(2):96–106. doi:10.1177/1059840517741944
16. Ahmann E, Saviet M, Tuttle LJ. Interventions for ADHD in children and teens: a focus on ADHD coaching. *Pediatr Nurs.* 2017;43(3):121.
17. Selekmán J. Students with chronic conditions: experiences and challenges of regular education teachers. *J School Nurs.* 2017;33(4):307–315. doi:10.1177/1059840516674053
18. Oh WO, Park ES, Suk MH, Song DH, Im Y. Parenting of children with ADHD in South Korea: the role of socio-emotional development of children with ADHD. *J Clinical Nur.* 2012;21(13–14):1932–1942. doi:10.1111/j.1365-2702.2011.03968.x
19. Fridman M, Banaschewski T, Sikirica V, Quintero J, Chen KS. Access to diagnosis, treatment, and supportive services among pharmacotherapy-treated children/adolescents with ADHD in Europe: data from the caregiver perspective on pediatric ADHD survey. *Neuropsychiatr Dis Treat.* 2017;13:947. doi:10.2147/NDT.S128752
20. French B, Hall C, Vallejos EP, Sayal K, Daley D. Evaluation of a web-based ADHD awareness training in primary care: pilot randomized controlled trial with nested interviews. *JMIR med edu.* 2020;6(2):e19871. doi:10.2196/19871
21. Moen ØL, Hedelin B, Hall-Lord ML. Family functioning, psychological distress, and well-being in parents with a child having ADHD. *SAGE Open.* 2016;6(1):2158244015626767. doi:10.1177/2158244015626767
22. Russell L, Forbes F, Forsyth K, Maciver D, Mulvanny A, Whitehead J. The value of an inter-agency pathway for Attention Deficit Hyperactivity Disorder (ADHD). *Int J Ther Rehabil.* 2011;18(7):404–410. doi:10.12968/ijtr.2011.18.7.404
23. Sciutto MJ, Terjesen MD, Frank ASB. Teachers' knowledge and misperceptions of attention-deficit/hyperactivity disorder. *Psychol Schools.* 2000;37(2):115–122. doi:10.1002/(SICI)1520-6807(200003)37:2<115:AID-PITS3>3.0.CO;2-5
24. Abed M, Pearson S, Clarke P, Chambers M. Saudi Arabian teachers' knowledge and beliefs about ADHD. *J Intern Assoc Spec Educ.* 2014;15(1):1.
25. Adamis D, Tatlow-Golden M, Gavin B, McNicholas F. General practitioners'(GP) attitudes and knowledge about attention deficit hyperactivity disorder (ADHD) in Ireland. *Irish J Med Sci.* 2019;188(1):231–239. doi:10.1007/s11845-018-1804-3
26. Bultas MW. The health care experiences of the preschool child with autism. *J Pediatric Nurs.* 2012;27(5):460–470. doi:10.1016/j.pedn.2011.05.005
27. Reid-Searl K, Dwyer T, Happell B, et al. Caring for children with complex emotional and psychological disorders: experiences of nurses in a rural paediatric unit. *J Clinical Nur.* 2009;18(24):3441–3449. doi:10.1111/j.1365-2702.2008.02567.x
28. Laugesen B, Lauritsen MB, Jørgensen R, Sørensen EE, Grønkjær M, Rasmussen P. ADHD and everyday life: healthcare as a significant lifeline. *J Pediatric Nurs.* 2017;35:105–112. doi:10.1016/j.pedn.2017.03.001
29. Al-Omari H, Al-Motlaq MA, Al-Modallal H. Knowledge of and attitude towards attention-deficit hyperactivity disorder among primary school teachers in Jordan. *Child Care in Prac.* 2015;21(2):128–139. doi:10.1080/13575279.2014.962012
30. Dilaimi A. New Zealand primary school teachers' knowledge and perceptions of attention-deficit/hyperactivity disorder (ADHD): a thesis presented in partial fulfilment of the requirements for the degree of master's in educational psychology at Massey University, Albany, New Zealand: Massey University; 2013.

Journal of Multidisciplinary Healthcare

Dovepress

Publish your work in this journal

The Journal of Multidisciplinary Healthcare is an international, peer-reviewed open-access journal that aims to represent and publish research in healthcare areas delivered by practitioners of different disciplines. This includes studies and reviews conducted by multidisciplinary teams as well as research which evaluates the results or conduct of such teams or healthcare processes in general. The journal covers a very wide range of areas and welcomes submissions from practitioners at all levels, from all over the world. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/journal-of-multidisciplinary-healthcare-journal>