Available online at: http://www.iajps.com   *Research Article*

AWARENESS AND KNOWLEDGE ABOUT CHILDHOOD AUTISM AMONG FAMILY MEDICINE RESIDENTS IN KING FAHAD MEDICAL CITY, RIYADH, SAUDI ARABIA-2023

Nasser Mohammed Alamri, Yousef Ateeq Alsaadi

Family medicine academy-King Fahd medical city at Riyadh

Abstract:

Aim: to assess knowledge and awareness of autism among family medicine residents in King Fahd Medical City "KFMC" in Riyadh Region in Saudi Arabia.

Methods: A descriptive cross-sectional study among all family Medicine residents in KFMC-Riyadh using knowledge about childhood autism among health workers (KCAHW) questionnaire.

Results: 116 residents' doctors participate in the study with 66 (56.9%) males and 50 (43.1%) females. Of all participants 17 (14.7%) attended workshops or conferences about autism. The total mean score on the questionnaire among the participants was 12.35 ± 3.6, with a total of 80 (68.9%) of the participants scoring within and above the total mean score.

Conclusion: Knowledge of family medicine residents regarding childhood autism spectrum disorder is moderate, and it is mandatory to update the awareness and train them to provide healthcare services that would ensure early diagnosis and proper management of these cases.

Keywords: Autism spectrum disorder – awareness – knowledge - family medicine.

Corresponding author:

Nasser Mohammed Alamri,
Family medicine academy-King Fahd medical city at Riyadh

QR code

INTRODUCTION:

Autism spectrum disorder is a spectrum of neurodevelopmental disorders characterized by repetitive behaviors and deficits in social communication[1]. Diagnostic criteria for autism were updated in 2013 in *Diagnostic and Statistical Manual of Mental Disorders—5th edition* (DSM-5)[2]. The prevalence of autism spectrum disorder is estimated one in 100 children around 16% of the global children population, per World Health Organization 2022. It is diagnosed more commonly in males than in females. Its prevalence may be uniform across all races and ethnicities but is identified more in the Caucasian race than in African American or Hispanic groups [3]. Family physicians are the first line to provide protective healthcare services, diagnosis and treatment services, and refer patients to specialists. With the increase in family and physicians' knowledge about autism and a decrease in stigma around it, the difference in the rate of identifying the disorder in children between various ethnicities has been decreasing[4].

As with any chronic condition, autism spectrum disorders (ASD) pose serious challenges to patients and their families. Autism requires early diagnosis and years of cognitive and behavioral therapy to manage the condition. Usually, autism is screened in well-child visits at pediatricians' offices starting at less than 18 months[5]. Once diagnosed, the family and patient require intensive social and therapeutic support to manage for years, depending upon severity. Lack of early diagnosis, awareness among healthcare workers and/or child caretakers, stigmatization around mental illnesses, and lack of proper social support, including modified school curriculum at school or behavioral therapy centers, pose serious challenges and make autism a difficult condition to manage in Saudi Arabia[6].

In previous studies done to assess knowledge of autism in Saudi Arabia, reports show that the primary source of education among common people regarding autism remains social media. However, people with a master's degree education or higher were 3.5 times more likely to understand autism spectrum disorder. Starting in the late 90s, the Saudi health departments and other non-governmental organizations have invested in creating a wide range of services for treatment and education for children with autism and support to their families[7]. This study aims to evaluate the awareness of the family Medicine residents in King Fahd medical city In Riyadh Region in Saudi Arabia concerning childhood autism and assess their knowledge concerning childhood autism.

METHODOLOGY:

A descriptive cross-sectional study using a self-administered KCAHW questionnaire. This study was conducted among all family Medicine residents in KFMC-Riyadh in February 2023. The total number of Family medicine residents in this region is 116. The exclusion criteria were as follows: none of KFMC Family medicine residents, Family Medicine specialists, or consultants.

Statistical Package for Social Sciences (SPSS) version 26 was used to calculate the mean, median, and mode scores of the total score for the family medicine residents on the KCAHW questionnaire. The various mean scores concerning the socio-demographic variables of the participants were also one-way Analysis of Variance (ANOVA) to determine the correlates of knowledge scores on the KCAHW questionnaire. The frequency and percentage distribution of the participant's opinions were also computed. The Ethical Committee of the Ministry of Health gave ethical clearance.

Knowledge about Childhood Autism among Healthcare Workers (KCAHW) questionnaire:
It is a nineteen-item questionnaire divided into four domains, each having three options to choose from (correct option yields 1 score while incorrect ones get zero[7]. The first domain (eight-item questions) assesses the impairments in social interaction. The second domain (one-item question) addresses communication and language development. The third domain (four-item questions) evaluates the obsession and compulsive pattern of restricted, repetitive, and stereotyped behavior in children with childhood autism. The fourth domain (six-item questions) studies the etiology, comorbid conditions, and onset. Therefore, the total scores range from 0 to 19. The mean total score for the KCAHW questionnaire measures the knowledge level about childhood autism among that particular population.

The questionnaire was modified to include the gender, level of residency, and any attended Autism workshops or conferences.

RESULTS:

116 residents' doctors from the family medicine department consented to participate in the study. There were 66 (56.9%) males and 50 (43.1%) females. The total number of residents attending workshops or conferences about autism is 17 (14.7%). Other socio-demographic variables are shown in Table 1.

To measure the knowledge of family medicine residents about childhood autism; (KCAHW) questionnaire. The questionnaire contains four domains, with maximum total scores of 8, 1, 4, and 6 possible in domains 1, 2, 3, and 4, respectively. The total mean score on the questionnaire among the participants was 12.35 ± 3.6, with 80 (68.9%) of the participants scoring within and above the total mean score. The median score was 12, and the mode score was 13.

SOCIO-DEMOGRAPHIC VARIABLES	N (%)
GENDER	
MALE	66 (56.9)
FEMALE	50 (43.1)
AGE	
25-30 YEARS OLD	101 (87.1)
31-35 YEARS OLD	11 (9.5)
ABOVE 35 YEARS OLD	4 (3.4)
TRAINING LEVEL	
R1	38 (32.8)
R2	32 (27.6)
R3	46 (39.7)
ATTENDING ANY WORKSHOPS OR CONFERENCES ABOUT AUTISM	
YES	17 (14.7)
NO	99 (85.3)

Table [1]: Socio-demographic variables

The pattern of distribution of scores in the different domains of the KCAHW questionnaire is shown in Table 2 represents domain 1, which contains the questions on the area of impairments in social interaction and has a mean score of $5.78 \pm .18$, with a total of 91 (78.4%) participants who scored within and above the mean score in this domain The mean score in domain 2 deals with questions on communication impairments $.62 \pm .05$, and 106 (91.3%) of the participants scored within and above the mean score in this domain. Domain 3, which deals with questions on obsessive and repetitive behavioral patterns, had a mean score of $2.63 \pm .12$, and 94 (81.0%) participants scored within and above the mean score in this domain. Domain 4, which measures what type of disorder childhood autism is and possible associated co-morbidity, recorded a mean score of $2.63 \pm .12$, and 47 (40.5%) participants scored within and above the mean score in this domain. The knowledge gap was higher in domain 4, followed by domains 1, 3, and 2, respectively. Figure 1 contains the histogram and normal distribution curve showing the pattern of scores from a minimum of 0 to a maximum of 19 on the KCAHW questionnaire among family medicine residents.

Domains	Area of Knowledge	Total Score	Mean Scores	The total no. of participants scored within and above the mean score in this domain (%)
Domain1	Impairments in Social Interaction	8	5.78 ± .18	91 (78.4%)
Domain2	Impairment in Communication	1	.62 ± .05	106 (91.3%)
Domain3	Obsessive and Repetitive Behavioral Pattern	4	2.63 ± .12	94 (81.0%)
Domain4	Type of Disorder Autism is and Possible associated Comorbidity	6	3.31 ± .14	47 (40.5%)
Total		19	12.35 ± 3.6	80 (68.9%)

TABLE [2]: THE PATTERN OF DISTRIBUTION OF SCORES IN THE DIFFERENT DOMAINS OF THE KCAHW QUESTIONNAIRE AMONG FAMILY MEDICINE RESIDENTS
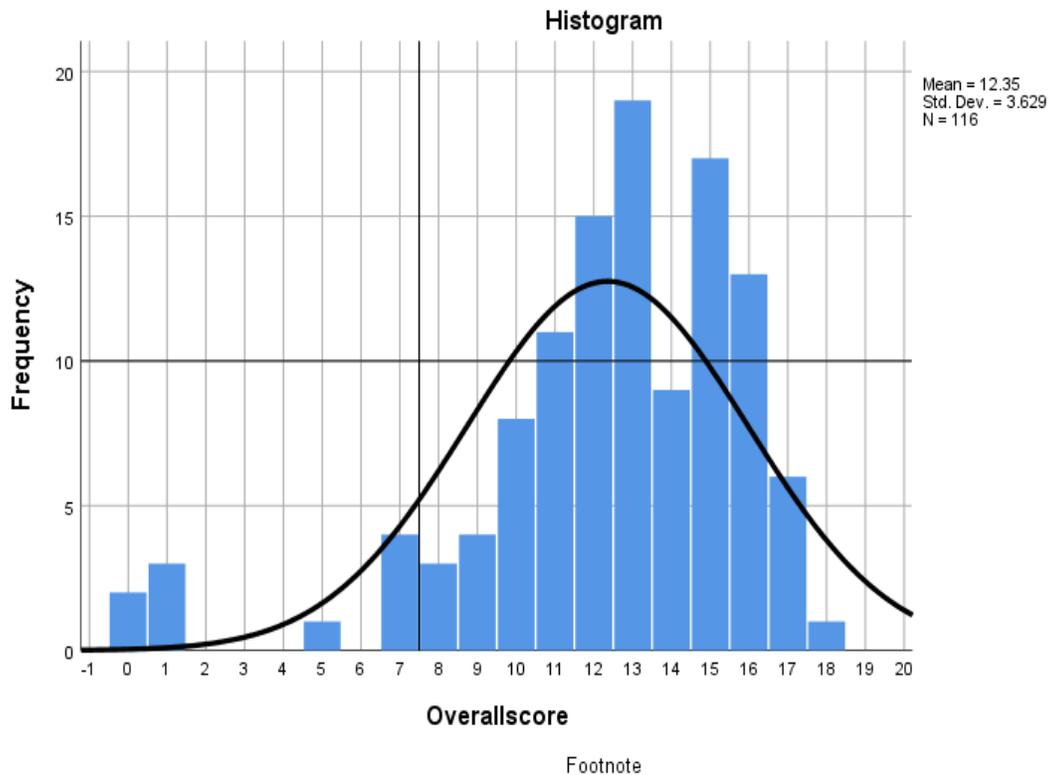

FIGURE [1]: HISTOGRAM AND NORMAL DISTRIBUTION CURVE OF FAMILY MEDICINE RESIDENTS ON KCAHW QUESTIONNAIRE.

A significant relationship was found between the mean score on the KCAHW questionnaire and the age group distribution of the participants (p-value= .022) and a non-significant relation with the other factors Table 3.

SOCIO-DEMOGRAPHIC VARIABLES	MEAN SCORES ON KCAHW QUESTIONNAIRE	ONE-WAY ANOVA COMPARING MEAN SCORES
GENDER		
MALE	11.9 ± 3.7	F-ratio=2.01 df=1 p-value=.159
FEMALE	12.9 ± 3.6	
AGE		
25-30 YEARS OLD	12.6 ± 3.0	F-ratio=3.966 df=2 p-value= .022*
31-35 YEARS OLD	11.5 ± 6.0	
ABOVE 35 YEARS OLD	7.8 ± 6.3	
TRAINING LEVEL		
R1	11.5 ± 3.8	F-ratio=1.517 df=2 p-value= .224
R2	12.6 ± 2.6	
R3	12.9 ± 4.0	
ATTENDING ANY WORKSHOPS OR CONFERENCES ABOUT AUTISM		
YES	11.2 ± 4.0	F-ratio=2.116 df=1 p-value= .149
NO	12.6 ± 3.6	

TABLE [3]: COMPARISON OF MEAN SCORES ON THE KCAHW QUESTIONNAIRE ABOUT THE FAMILY MEDICINE RESIDENTS' SOCIO-DEMOGRAPHIC VARIABLES

DISCUSSION:

The mean score on the questionnaire among the participants was 12.35 ± 3.6; This revealed a much higher level of knowledge about childhood autism compared to the previous studies[8-10] and with a similar mean result to other studies [11-13] which is a good indicator for family residents in KFMC to know about childhood autism and aid early recognition and diagnosis of the case. Given the importance of Family physicians' sufficient knowledge plays a fundamental role in diagnosing ASD, further training and education are highly recommended to fill the knowledge gap in domain 4, followed by domain 1 of the KCAHW questionnaire found in our results.

The knowledge regarding autism is a common problem and has been reported by several studies with various psychiatry curriculums and residency programs. A study done in Egypt reported that the mean total score of the knowledge questionnaire was 11.2 ± 3.5, indicating an average level of knowledge [14]. Another study had a moderate knowledge of Autism [15]. Furthermore, a study among general practitioners in Pakistan revealed that 44.6% had heard of autism [16]. Additionally, a study in Saudi Arabia noted that only (10%) answered correctly on more than 50% of the questions [17]. Besides, many studies described that physicians who lack the necessary knowledge about ASD are more prone to delays in diagnosis and treatment, leading to the situation's complications [17-19]. On the other hand, many studies reported that improving knowledge and diagnostic skills with continuing medical education and training leads to provides the necessary information to ASD patients and their caregivers regarding its management[20-23].

CONCLUSION:

Knowledge of family medicine residents regarding childhood autism spectrum disorder is moderate, and it is mandatory to update the awareness and train them to provide healthcare services that would ensure early diagnosis and proper management of these cases.

REFERENCES:

1. Hodges, H., C. Fealko, and N. Soares, *Autism spectrum disorder: definition, epidemiology, causes, and clinical evaluation.* Translational Pediatrics, 2020. **9**(S1): p. S55-S65.
2. *Diagnostic and statistical manual of mental disorders: DSM-5™.* Diagnostic and statistical manual of mental disorders: DSM-5™, 5th ed., ed. t. ed. 2013, Arlington, VA, US: American Psychiatric Publishing, Inc. xliv, 947-xliv, 947.

3. Fairthorne, J., et al., *Maternal Race-Ethnicity, Immigrant Status, Country of Birth, and the Odds of a Child With Autism.* Child Neurol Open, 2017. **4**: p. 2329048x16688125.

4. Baio, J., et al., *Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years - Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014.* MMWR Surveill Summ, 2018. **67**(6): p. 1-23.

5. Johnson, C.P. and S.M. Myers, *Identification and evaluation of children with autism spectrum disorders.* Pediatrics, 2007. **120**(5): p. 1183-215.

6. Alshaigi, K., et al., *Stigmatization among parents of autism spectrum disorder children in Riyadh, Saudi Arabia.* Int J Pediatr Adolesc Med, 2020. **7**(3): p. 140-146.

7. Abualhommos, A.K., et al., *Community Knowledge about Autism Spectrum Disorder in the Kingdom of Saudi Arabia.* Int J Environ Res Public Health, 2022. **19**(6).

8. Bakare, M.O., et al., *Knowledge about childhood autism among health workers (KCAHW) questionnaire: description, reliability and internal consistency.* Clin Pract Epidemiol Ment Health, 2008. **4**: p. 17.

9. Ozdemir, M., et al., *Adaptation of the Knowledge about Childhood Autism among Health Workers (KCAHW) Questionnaire: Turkish version.* North Clin Istanb, 2020. **7**(1): p. 40-48.

10. Tasew, S., H. Mekonnen, and A.T. Goshu, *Knowledge of childhood autism among nurses working in governmental hospitals of Addis Ababa, Ethiopia.* SAGE Open Medicine, 2021. **9**: p. 20503121211049121.

11. Alsulami, A. and K. Alghamdi, *KNOWLEDGE AND ATTITUDE ABOUT AUTISM AMONG FAMILY MEDICINE RESIDENTS IN WESTERN REGION OF SAUDI ARABIA IN THE YEAR 2020.* Indo American Journal of Pharmaceutical Sciences, 2021. **08**(03).

12. Bakare, M.O., et al., *Knowledge about childhood autism and opinion among healthcare workers on availability of facilities and law caring for the needs and rights of children with childhood autism and other developmental disorders in Nigeria.* BMC Pediatr, 2009. **9**: p. 12.

13. Masarit, A., et al., *Awareness and Knowledge about Childhood Autism among Family Medicine Residents in Al Madinah Region in Saudi Arabia, 2020.* World Family Medicine Journal /Middle East Journal of Family Medicine, 2022. **20**.

14. Mikhail, H., *Assessment of family physicians' knowledge of childhood autism.* Family Medicine and Community Health, 2017. **5**.

15. Imran, N., et al., *A survey of Autism knowledge and attitudes among the healthcare professionals in Lahore, Pakistan.* BMC Pediatr, 2011. **11**: p. 107.

16. Rahbar, M.H., K. Ibrahim, and P. Assassi, *Knowledge and attitude of general practitioners regarding autism in Karachi, Pakistan.* J Autism Dev Disord, 2011. **41**(4): p. 465-74.

17. Alshammari, M.S., A.A.M. Afify, and O. Abdelhay, *Perception and convenience of caring for children with autism spectrum disorder among family medicine residents in Riyadh 2018.* J Family Med Prim Care, 2019. **8**(6): p. 1902-1907.

18. Altay, M.A., *Family Physicians' Awareness of Autism Spectrum Disorder: Results from a Survey Study.* Open Access Maced J Med Sci, 2019. **7**(6): p. 967-972.

19. Rhoades, R.A., A. Scarpa, and B. Salley, *The importance of physician knowledge of autism spectrum disorder: results of a parent survey.* BMC Pediatrics, 2007. **7**(1): p. 37.

20. Bordini, D., et al., *Impact of training in autism for primary care providers: a pilot study.* Braz J Psychiatry, 2015. **37**(1): p. 63-6.

21. Major, N.E., et al., *Autism training in pediatric residency: evaluation of a case-based curriculum.* J Autism Dev Disord, 2013. **43**(5): p. 1171-7.

22. Eray, S. and D. Murat, *Effectiveness of autism training programme: An example from Van, Turkey.* J Pak Med Assoc, 2017. **67**(11): p. 1708-1713.

23. Odejide, A.O., et al., *Integrating mental health into primary health care in Nigeria: management of depression in a local government (district) area as a paradigm.* Seishin Shinkeigaku Zasshi, 2002. **104**(10): p. 802-9.