

Knowledge About Childhood Autism Among Pediatricians, Family Physicians And General Practitioners In Karbala

¹ Ali Abdul-Razaq Hujail, ² Sarah Sabah Hasan Al-Shami, ³ Shaymaa Naser Mohammed

Corresponding author Dr.Ali Abdulrazzaq Aljanabi m.b.ch.b. Alnahrain medical college,Iraqi board in pediatrics,Pediatric specialist

Email : Dr.alinicu@yahoo.com Mobile no. 009647711336999 Karbala children teaching hospital

Abstract: Autism is a spectrum of neuro developmental disorders occurring early in childhood, that is characterized by persistent deficits/restricted in social communication and interaction; repetitive patterns of behavior; interests, or activities. Commonly, pediatricians and family practitioners are the first health care providers for those families who contact with through routine infant/toddler wellness checks. The aim of the present study was to determine the degree of knowledge about autism among pediatricians, family physicians and general practitioners in Karbala. Also, to assess the factors that may play a role in this knowledge. The study has been conducted at multiple hospitals and primary health care centers at the Holly Karbala city, Iraq. The doctors (n=132) of different age groups, both genders and different specialties (pediatricians, family physicians and general practitioners) was included. A specially designed questionnaire form has been prepared. A socio-demographic questionnaire was used to obtain information. The assessment of the knowledge of participants about the childhood autism revealed that 59.1% participants had good “knowledge about childhood autism among health workers” (KCAHW) score while 40.9% had inadequate KCAHW score. There were statistically significant association between the good KCAHW and older age, the older age participants were more likely to have good KCAHW scores (84.2%) compared to younger age. This supported by the significant association between the good knowledge (18.6±8.8years practice) as compared to inadequate knowledge (15.3 ± 6.4years practice). The significantly longer duration of experience as specialist reported that maximum had good knowledge (11.4 ± 5.4years) than inadequate knowledge (8.8 ± 3.6years) on autism. Good knowledge about autism reported in less than two thirds of participants. Older age participants and those with longer duration of experience had the higher knowledge scores about autism.

Keyword: Childhood autism, Health workers, Pediatricians, Family physicians, Social communication

Introduction

Autism spectrum disorder (ASD) is a spectrum of neurodevelopmental disorders occurring early in childhood, that is characterized by persistent deficits in social communication and interaction and restricted, repetitive patterns of behavior, interests, or activities¹. It is believed to be one of the fastest growing disabilities in children^{2,3}. There had been observation that the prevalence of Autistic Spectrum Disorder were on the increase worldwide⁴⁻¹⁰. This prevalence increase had been thought to be attributable to increased knowledge and awareness among health workers¹¹. An earlier survey by Stone et al. (1987) clearly demonstrated that many professionals in various disciplines

¹ Alnahrain medical college Iraqi board in pediatrics Pediatric specialist, Karbala children teaching hospital.

Email : Dr.alinicu@yahoo.com Mobile no. 009647711336999

² Babylon medical college Arab board in family medicine Family specialist F.A.B.M.S (F.M.), Karbala health directorate/Al-Ghadeer PHC

Email : Sarahalshami7m@yahoo.com Mobile no. 07706045139

³ Kufa medical college Iraqi board in Psych Psych specialist F.I.C.M.S.(Psych), Imam Al-Hussain medical city

Email: shaimanasir@yahoo.com Mobile no.07801844084

did not possess accurate knowledge about autism¹². Pediatricians, general practitioners and family physicians are usually the first health care providers that a family contacts for children under 5 years old¹³.

Early identification of ASD is vital as it facilitates the process of referral to specialist services¹⁴. So, the primary health care (PHC) providers provide a gateway to specialist services¹⁵. Poor knowledge of ASD among physicians and failure to give further information to caregivers may be a reflection of lack of training in the wide range of behaviors that occur across the autism spectrum¹⁶. Caring for children with childhood autism requires the services of professionals like psychiatrists, pediatricians, nurses, clinical psychologists among others¹⁷. Unfortunately, knowledge and awareness about autism is low among some healthcare professionals and the presence of inaccurate and outdated beliefs regarding this disorder may compromise early detection and timely referral for interventions. To date, little research has been published from Iraq regarding the above mentioned issues. The present study seeks to address this knowledge gap in Karbala.

In Iraq There are multiple centers that provide services for autistic patients. In Karbala city, there are 3 centers for autism *viz.* Al-Imam Al-Hussein center for autistic children care, Noor Al-Mustafa center and Hebat Al-Rahman center. These centers provide speech and language therapy to treat the language deficit, educational therapy to treat cognitive disability, behavioral treatment to treat anxiety and hyperactivity. With this background, we aim to determine the degree of knowledge about autism among pediatricians, family physicians and general practitioners in Karbala. Also, we assessed some factors that may play a role in this knowledge.

Methodology

A cross sectional study. The study has been conducted at Karbala Pediatrics Teaching Hospital, Al-Hindiya, Obstetric and Gynecological Teaching Hospital, Al-Markez, Al -Hur Health, AL- Hindiya and Al-Husseinea Health District for primary health care at Holly Karbala city in Iraq. A Convenient sample size included 132 doctors of different age groups and from both genders which included pediatricians, family physicians and general practitioners.

The study was conducted for the period from 5th December 2014 to the 30th June 2015. Pediatricians, family physicians and general practitioners were included in the present study. Doctors which was not first healthcare providers and family contacts for children under 5 years old were excluded from the study.

Data collection tool (Questionnaire form)

A specially designed questionnaire form has been prepared A socio-demographic questionnaire was used to obtain information like gender, age, marital status, duration of working experience and previous experience managing children with childhood autism. The KCAHW (Knowledge about childhood autism among health workers) questionnaire measures knowledge about childhood autism aimed at early recognition and diagnosis of ASD among healthcare workers¹⁸. It is a self-administered questionnaire that contains a total of 19 questions that is divided into four domains.. Each of the questions has three options to choose from, with only one of these three options being correct. The correct option on each question attracts a score of 1, while the other two incorrect or don't know options each attract a score of 0.

The questionnaire is further divided into four domains. Domain 1 assesses areas of impairment in social interaction and contains eight questions. Domain 2 addresses impairment in areas of communication and language development and contains one question. Domain 3 assesses areas of obsessive and compulsive patterns of behavior found in children with ASD and contains four questions. Domain 4 addresses information on what type of disorder childhood autism is, possible comorbid conditions, and onset of childhood autism in affected children, and contains six questions. Therefore, the KCAHW questionnaire contains a total of 19 questions and possible maximum and minimum total scores of 19 and 0, respectively, when the individual domain scores are added together. Additionally 6 questions added to assess the general information of participants on ASD and scored as similar to the scoring method used in the previous KCAHW, with a maximum score of 6 and a minimum of 0.

In this study, the median KCAHW score of the participants was identified as the benchmark of knowledge among the participants. The median score provides a valid measure of central tendency. Consequently, participants who scored less than the median score were classified as having inadequate knowledge while those with a score equal to or greater than the median were classified as having good knowledge on ASD. Also general information was assessed according to the median score for the 6 items of general information questionnaire.

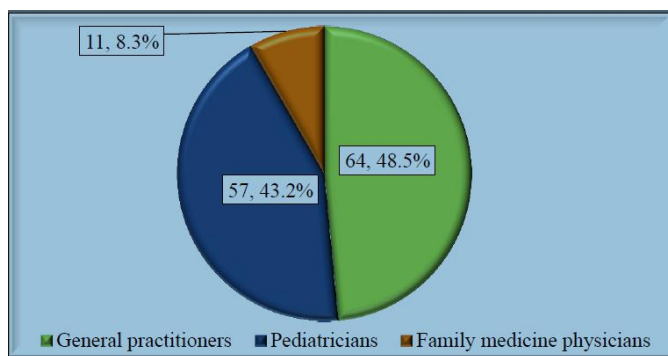
Statistical analysis

The data analysis was done using Statistical Package for the Social Sciences (SPSS) software (version 20). The Chi-square (χ^2) test was used to test the associations between a variables with compliance score. The association was considered to be statistically significant when the p-value was found to be less than 0.05. Also, T-test used to test the difference between means, Mantel-Haenszel test was used to measure the significant of variables accordingly.

Results

In the present study, about 132 physicians of different medical specialty were participated. The percentage distribution of the enrolled physicians is depicted in the Figure 1.

Figure 1. Distribution of participants according to their specialty.



The socio-demographic characteristics of the participating physicians is given in the Table 1.

Table 1. Socio-demographic characteristics of study participants (N=132)

Parameters	Variable	No.	%
Age (year)	≤35	32	24.2
	36 - 40	30	22.7
	41 - 45	20	15.2
	46 - 50	31	23.5

	> 50	19	14.4
Gender	Male	76	57.6
	Female	56	42.4
Marital status	Single	18	14.4
	Married	112	84.8
	Widowed	1	0.8
	Divorce	1	0.8
Having children	Yes	114	86.4
	No	18	13.6
Qualification	Board	52	39.4
	Diploma	16	12.1
	Bachelor	64	48.5
Duration of practice (years)	≤ 10	30	22.7
	11 - 20	66	50.0
	> 20	36	27.3
Duration of practice as specialist (years)	≤ 10	39	57.4
	> 10	29	42.6
Encountered any cases of autism	Yes	75	56.8
	No	57	43.2

Joined a course about psychiatry	Yes	33	25.0
	No	90	75.0

The knowledge about childhood autism among health workers (KCAHW) questionnaire was used in the assessment of the knowledge of participants. All these findings are shown in (Table 3.2).

Table 2. The frequency distribution of responses of participants regarding the domains of KCAHW questionnaire (N=132)

KCAHW Questionnaire Item	Correct response(%)	Incorrect response(%)
Domain 1: Impairments in social interactions		
Marked impairment in use of multiple non-verbal behaviors	126(95.5%)	6(4.5%)
Failure to develop peer relationship	120(90.9%)	12(9.1%)
Lack of spontaneous will to share enjoyment, interest or activities	124(93.9%)	8(6.1%)
Lack of social or emotional reciprocity	124(93.9%)	8(6.1%)
Staring into open space and not focusing on anything specific	96(72.7%)	36(27.3%)
The child can appear as if deaf or dumb	102(77.3%)	30(22.7%)
Loss of interest in the environment and surroundings	117(88.6%)	15(11.4%)
Social smile is usually absent in a child with autism	102(77.3%)	30(22.7%)
Domain 2: Impairment in communication	112(84.8%)	20(15.2%)
Domain 3: Obsessive and repetitive pattern of behavior		

Stereotyped and repetitive movement	102(77.3%)	30(22.7%)
May be associated with abnormal eating habit	61(46.2%)	71(53.8%)
Persistent preoccupation with parts of objects	72(54.5%)	60(45.5%)
Love for regimented routine activities	84(63.6%)	48(36.4%)
Domain 4: Type of disorder, autism and associated comorbidity		
Autism is Childhood Schizophrenia	78(59.1%)	54(40.9%)
Autism is an auto-immune condition	78(59.1%)	54(40.9%)
Autism is a neuro-developmental disorder	70(53.0%)	62(47.0%)
Autism could be associated with Mental Retardation	88(66.7%)	44(33.3%)
Autism could be associated with Epilepsy	45(34.1%)	87(65.9%)
Onset of autism	94(71.2%)	38(28.8%)

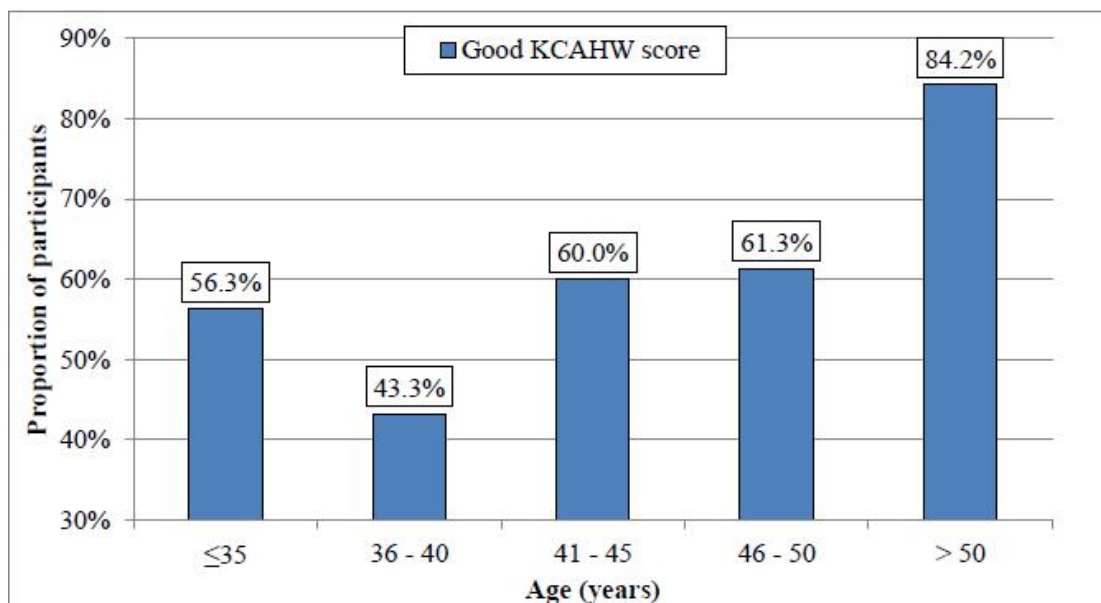
According to the responses of participants about each item and domain, and by calculating the median score for each domain and the total KCAHW, the participants are sub-grouped to have either good (\geq median score) or inadequate knowledge ($<$ median score) on childhood autism. The summation of the total scores or the 19 items of the 4 domains revealed a median KCAHW score of 14 (Range: 7 – 19), nonetheless, only 59.1% participants had a good KCAHW score while 40.9% had inadequate KCAHW (Table 3).

Table 3. Frequency distribution and median score values of domains and total KCAHW questionnaire (N=132)

KCAHW item	Participant's knowledge on autism		Median score (range)
	Good	Inadequate	
Domain 1	87(65.9%)	45(34.1%)	7(4 – 8)
Domain 2	112(84.8%)	20(15.2%)	1(0 – 1)
Domain 3	108(81.8%)	24(18.2%)	2(0 – 4)
Domain 4	105(79.5%)	27(20.5%)	3(0 – 6)
KCAHW	78(59.1%)	54(40.9%)	14 (7-19)

The proportion of participants according to the age is depicted in the Figure 2.

Figure 2. Proportional distribution of good KCAHW score by age of participants showing the increase in good knowledge with the age (n=78).



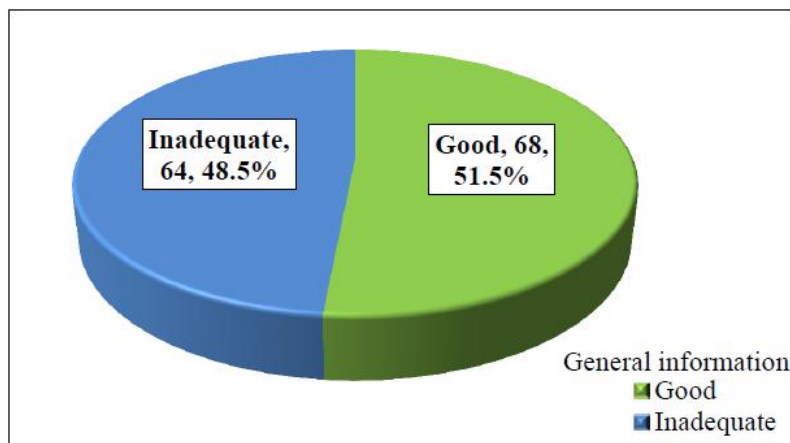
The statistically significant association between the good KCAHW and older age is depicted in the Table 4. Also, significantly found that participants with a good KCAHW score had the longer duration of practice than those with an inadequate KCAHW score.

Table 4. Relationship between KCAHW scores and socio-demographic variables of participants

Parameters	Variable	KCAHW score		p value
		Good(n=78)	Inadequate(n=54)	
Age group	≤35	18(56.3%)	14(43.8%)	
	36 - 40	13(43.3%)	17(56.7%)	
	41 - 45	12(60.0%)	08(40.0%)	0.044
	46 - 50	19(61.3%)	12(38.7%)	
	> 50	16(84.2%)	03(15.8%)	
Gender	Male	44(57.9%)	32(42.1%)	0.75
	Female	34(60.7%)	22(39.3%)	
Children	Yes	68(59.6%)	46(40.4%)	0.74
	No	10(55.6%)	08(44.4%)	
Qualifications	Board	32(61.5%)	20(38.5%)	0.53
	Diploma	11(68.8%)	5(31.3%)	
	Bachelor	35(54.7%)	29(45.3%)	
Encountered a case of autism	Yes	44(58.7%)	31(41.3%)	0.91
	No	34(59.6%)	23(40.4%)	

Specialty	Pediatrician	36(63.2%)	21(36.8%)	0.61
	Family medicine	07(63.6%)	04(36.4%)	
	G.P	35(54.7%)	29(45.3%)	
Practice year		18.6 ± 8.8	15.3 ± 6.4	0.021
Practice year as specialist		11.4 ± 5.4	08.8 ± 3.6	0.035
Joined a course about psychiatry	Yes	21(63.6%)	12(36.4%)	0.54
	No	57(57.6%)	42(42.4%)	

Figure 3. Distribution of the overall general information on autism among the study participants



Discussion

The identification of autism is made by variety of health professionals in multiple setting^{19,20}. The present study revealed that 59.1% participants had good knowledge while 40.9% had inadequate knowledge on Autism, indeed this proportion of inadequate knowledge is high when take in account the availability of information and the growing scientifically sound database on this subject, and may reflect the a differential exposure to updated research in the area of autism and a more diverse concentration of clientele in many articles and published literatures and on the web sites in addition to the widely discussions in the mass media and scientific journals.

The current study reported a significant association between the age of participants and their knowledge scores, where the older age professional were more likely to have good knowledge on autism than the younger group, this might be attributed to the longer period of experience with the advancing age particularly among specialists. This is supported by the significant association between the long year of practice in those with good knowledge compared to those with inadequate knowledge, and also the significantly longer duration of experience as specialist reported in those with a good knowledge than those with inadequate knowledge on Autism, the mean duration was 11.4 ± 5.4 years as compared to 8.8 ± 3.6 years, respectively.

This discrepancy could be due to the presence of continuing medical education (CME) in Iraq and the fact that older age Iraqi health professional still in contact with lectures, conferences, training and teaching more likely than younger GPs and specialist doctors, moreover the older age health care professional had longer duration of experience and might encountered much more cases than younger physicians.

Ethical Issues: Ethical approval was obtained from the Iraqi Ministry of Health- Department of the Arabic Board for health Specialization and from Karbala health directorate. A verbal consent was taken prior to self-administer the questionnaire.

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Disclosure statement: Nil

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