

Awareness of autism spectrum disorder among final year medical students and public health midwives

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Introduction

Studies indicate there is an increasing prevalence of autism spectrum disorders worldwide as well as in Sri Lanka. A study done in Sri Lanka to identify the prevalence of autism spectrum disorder among children indicates that there is 1 child out of 93 children is suffering from autistic spectrum disorder (1).

Early identification of the disease is vital in children with autism spectrum disorder as early intervention is associated with better behavioral adaptation, language, and intelligence (2). The studies have indicated that delayed diagnosis is associated with poor prognosis (3).

The knowledge of the health care professionals is vital for early diagnosis. The field health midwives, play a vital role in early diagnosis as they are the first contact health care professional most of the time. The knowledge of the final year medical students will reflect the knowledge of the junior doctors as there is no training in this field after completion of the medical school.

Studies done in several countries identified a knowledge gap among healthcare professionals which leads to the delays in diagnosis of children with autism (4,5,6).

Methodology

This study was planned to assess the knowledge of diagnostic features and comorbidities of childhood autism among public health midwives and final-year medical students and to identify the association of the knowledge with duration in the service of public health midwives.

This was an institutional-based prospective cross-sectional descriptive study done by the Regional Director of Health Services, Jaffna and the Faculty of Medicine University of Jaffna.

All final-year medical students from the Faculty of Medicine University of Jaffna, and all the public health midwives working under the RDHS office in Jaffna were recruited. A self-administered questionnaire was used to collect the data. The knowledge of autism was assessed using a validated Knowledge about childhood autism among health care workers (KCAHW) questionnaire, an open-access tool. Data was collected after the routine monthly meeting with the RDHS officer for the public health midwives and after the compulsory lecturer for the final year medical students.

The KCAHW questionnaire consists of 4 domains and 19 questions. Each correct answer was given 1 mark and the other two options that were incorrect were given a score of 0. The maximum possible mark will be 19 and the minimum possible mark will be 0. Data was analyzed using SPSS and the mean score was calculated for KCAHW.

An Independent sample t-test was used to compare the difference in knowledge among the group and a p-value < 0.05 was considered significant. Ethical clearance was obtained from the Ethical Review Committee Faculty of Medicine University of Jaffna.

Results

A total of 314, 136 medical students (43%) and 178 public health midwives (57%) participated in the study.

Table 1 demonstrates the percentage of study participants who answered correctly for the different components of the KCAHW questionnaire. They have scored reasonably good scores for the diagnostic component but there is less score for the domain 4 which is the common association of autism.

Table 1. Mean scores of the KCAHW questionnaire

Domains	Correctly answered		Incorrectly answered	
	N	%	N	%
Domain 1 – Reciprocal social interactions Marked				
Marked impairment in the use of multiple non-verbal behaviors such as eye to eye contact, facial expression, body postures and gestures during social interaction	290	92.4	24	7.6
Failure to develop peer relationships appropriate for developmental age	281	89.5	33	10.5
Lack of spontaneous will to share enjoyment, interest or activities with other people	275	87.6	39	12.4
Lack of social or emotional reciprocity	269	85.7	45	14.3
Staring into open space and not focusing on anything specific	234	74.5	80	25.5
The child can appear to be deaf or dumb	207	65.9	107	34.1
Loss of interest in the environment and surroundings	263	83.8	51	16.2
Social smile is usually absent in a child with Autism	193	61.5	121	38.5
Domain 2 – Impairment in communication				
Delay or total lack of development of spoken language	269	85.7	45	14.3
Domain 3 – Restricted repetitive interests and behaviours Stereotyped				
Stereotyped and repetitive movement (e.g. Hand or finger flapping or twisting)	261	83.1	53	16.9
May be associated with abnormal eating habit	189	60.2	125	39.8
Persistent preoccupation with parts of objects	213	67.8	101	32.2
Love for regimented routine activities	82	26.1	232	73.9
Domain 4 – Common Associations Autism				
Autism is childhood schizophrenia	127	40.4	187	59.6
Autism is an auto-immune condition	144	45.9	170	54.1
Autism is a neuro-developmental disorder	247	78.7	67	21.3
Autism could be associated with mental retardation	219	69.7	95	30.3
Autism could be associated with epilepsy	123	39.2	191	60.8
Onset of Autism is usually in infancy	127	40.4	187	59.6

Table 2. Mean score for public health midwives and medical students

	Total participant		Public health midwives		Medical students	
	Mean score	Standard deviation	Mean score	Standard deviation	Mean score	Standard deviation
Domain 1 score	6.42	1.528	6.46	1.552	6.36	1.499
Domain 2 score	.86	.351	0.90	0.302	.80	.400
Domain 3 score	2.37	1.127	2.11	0.920	2.71	1.276
Domain 4 score	3.14	1.481	2.49	1.131	4.00	1.450
Total score	12.79	3.060	11.96	2.491	13.88	3.387

Table 3. Sociodemographic details of the public health midwives

Socio demographical characteristics	Category	N	Percentage (%)
Age group	<20 years	0	0.00
	20-30 years	12	6.74
	30-40 years	101	55.62
	>40 years	65	37.64
Service duration	< 1 year	1	0.56
	1-5 years	16	8.99
	6-10 years	15	8.43
	11-15 years	76	42.70
	16-20 years	42	23.60
	>20 years	26	14.61
	Missing	2	1.12
Previous knowledge status about Autism	Yes	178	100.00
	No	0	0.00
Source of Previous Knowledge	Newspaper	60	33.71
	Television	49	27.53
	Magazine	46	25.84
	Telephone	26	14.61
	Doctor	139	78.09
	Others	59	33.15

The participants scored a mean of 12.79/19 (SD3.06) in the KCAHW questionnaire. The mean score was high for medical students when compared to public health midwives (13.98 Vs 11.96) and the difference was statistically significant ($F=7.403$, $p=0.007$).

Table 3 demonstrates the sociodemographic details of the public health midwives. All the public health midwives had previous knowledge about autism and the doctor was the main source of information (78%). There was no correlation between the knowledge score and the age of the public health midwives. There was a weak positive correlation between the total score and the duration of services (+0.143), but it was not statistically significant ($p=0.058$).

The total mean score was high among the medical students who completed the clinical rotation in psychiatry (15.42 Vs 12.89) and the difference was statistically significant ($F=3.975$ and $p=0.048$).

Discussion

The participants scored a mean of 12.79/19 (SD3.06) in the KCAHW questionnaire. The knowledge score was similar to the studies done among healthcare professionals in other countries as well as in Sri Lanka, the mean score ranged from 8.84 to 15.20 (7-12).

The score of knowledge on autism in our study was almost similar to the knowledge of doctors in a tertiary care hospital (mean score 13.23/19), a study done in Sri Lanka in 2017 (12).

Our study highlighted that more than 50% of participants answered correctly for questions in domains 1,2 and 3 but less than 50% of the study population answered correctly for the questions in domain 4 – the common association of autism. Our findings were supported by the study done in Bangladesh among 2nd to 4th phase medical students, where in domain 4 only 32.6% of students of the 4th phase and 21.5% of other phases

have scored more than the median value revealing the medical students were not familiar with nature, comorbidities and the onset of autism spectrum disorder (9) and the study done in Sri Lanka among doctors also domain 4 scored less (12).

The mean score was high for medical students when compared to public health midwives (13.98 Vs 11.96) and the difference was statistically significant ($F=7.403$, $p=0.007$). The findings are against the study done in Pakistan where the mean score was higher for allied medical professionals than medical professionals (15.20 ± 5.17 Vs 8.84 ± 6.31) (8). Similarly the study done in public health midwives in Sri Lanka which compared the knowledge scores of the doctors also highlighted the mean scores of the public health midwives were high – mean score 13.23/19 (11) In our study also mean score for domain 1 and 2 was higher for the public health midwives when compared to the medical students and domain 3 and 4 is higher for the medical students indicates that public health midwives were better familiar with diagnostic features but not familiar with comorbidities.

Our study has not identified any significant correlation between the knowledge score and the age of the public health midwives or the service duration of the public health midwives. This is supported by the study done in Sri Lanka among the doctors where mean knowledge did not differ significantly with sex ($p=0.377$), age ($p=0.169$), years of experience ($p=0.326$), or the specialty of work ($p=0.614$) (12). The study done in Pakistan revealed highest mean score for participants with experience of 11 to 15 years, while least score was observed in 1-5 years experience group. However, the difference was not statistically significant (8). Similarly our study also identified a weak positive correlation between the total score and the duration of services ($+0.143$), but it was not statistically significant ($p=0.058$).

Our study highlighted the total mean score was high among the medical students who completed the clinical rotation in psychiatry (15.42 Vs 12.89) and the difference was statistically significant ($F=3.975$ and $p=0.048$) which is similar to studies in other countries where students who attend psychiatry postings scored >12 (acceptable knowledge) when comparing the Psychiatric nurses with paediatric nurses, psychiatric nurses scored more than the paediatric nurses (12.11 ± 3.35 Vs 11.37 ± 2.29) (7).

Conclusion

The present study highlighted that there was significant awareness regarding autism among both public health midwives and final-year medical students. The knowledge of diagnostic features of autism was satisfactory when compared to the comorbidities of autism. The knowledge of medical students was high when they completed the psychiatry clinical rotation. There was no

statistically significant correlation between the knowledge score and age or duration of services of the public health midwives.

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