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Investigation of the knowledge levels of nurses and midwives about autism and its early diagnosis

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ABSTRACT

Objective: The aim of this study is to examine the knowledge levels of nurses and midwives working in the field of children's health about autism and its early diagnosis. **Materials and Methods:** This descriptive study has been carried out with 248 nurses and midwives working with children in Gaziantep, Turkey. Data were collected with a questionnaire consisting of 30 questions and it was analyzed by the frequency, mean, t-test and Anova. **Results***:* It has been determined that 55.2% of participants were nurse, and 66.1% of them did not read to literature about autism. It has been determined that the participants' knowledge scores about the autism and its early diagnosis is in moderate level. The ones having graduate and undergraduate degree have higher knowledge and the ones working for more than 11 years and who are older than 33 years old have lower knowledge scores. **Conclusions:** The results of this study have indicated that all nurses/midwives providing service for children should be informed and the nurses/ midwives with low knowledge level should be given priority.

Keywords: Autism, Children, Early diagnosis, Nurses, Midwives.

Introduction

According to the American Psychiatric Association, autism is a disorder having symptoms started in the first years of life, and that is characterized by the lack of social interaction, repetitive behaviors and restricted interests [1,2]. Autism was first described by LeoKannerin 1943. Kanner presented 11 cases that have difficulty in communicating and exhibit repetitive and purposeless behaviors and mentioned about this case as infantile autism [3].The rate of autism has increased significantly in recent years. Centers for Disease Control and Prevention (CDC) has been stated that the rate of autism incidence in the world is 1/88[4] and this rate is 1/50 in children's age group considering all age groups [5].In Turkey, approximately 670,000 individuals affected by autism and 185 000 of them are at the age of primary school [6]. The ratio of autism incidence is higher in boys by 3-4 times than in girl[7, 8]. The age of diagnosis of autism is one of the most hotly debated issues, because the delays in diagnostics are limiting early intervention [9-13]. In Turkey, Erden et al. (2010) have found that the children with autism are diagnosed between 20 and 43 months and the diagnosis age is approximately 34.01 ± 8.76 months [14]. Typical characteristics of autism can be understood more readily after 30 months. Until recently, it was waited to be 3 years old to be diagnosed of the children even admitted early [15]. However, recent studies have shown that autism may be diagnosed less than 3 years old [16-20].Early diagnosis of children with autism and the initiation of treatment process are important in terms of the healthy growth and development of the child. Also, responding positively to the educational interventions by the children with early diagnosis reduces the stress of parents and facilitates the integration process of the disease [16, 21-23].The nurses providing service for healthy or patient children have a key role in identifying the developmental problems by evaluating children's speaking-communication and social skills[24,25]. Parents' doubts about children's

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language, fine motor, cognitive and emotional development are predictive in revealing the real problems and form the first stage of developmental follow-up [26],In the early diagnosis of autism, parents' assessment as well as nurses' assessments has an important place. Furthermore, nurses can contribute to the early diagnosis by empowering parents to catch up early signs of autism. The nurses making healthy children follow-up or the assessment of patient children are in an important place in identification of the children having the symptoms of autism and guiding them to early diagnosis. For this reason, it is important to define nurses' knowledge about autism and its early diagnosis. The aim of study is to examine the knowledge of nurses and midwives about autism and its early diagnosis and the factors affecting them.

Methods

This descriptive study was carried out in public health centers and hospital that serving children in Gaziantep, Turkey. The population of this research consists of the nurses and midwives working in the field of child health and illnesses in public health centers and hospitals (N=490). 360 of totally 490 nurses and midwives were working in the field of child health and 130 of them were working in the field of childhood diseases (pediatric clinics of the hospitals, clinics and pediatric emergency units). The sample of the research consists of totally 248 nurses and midwives, 138 of which are working in the field of child health and 110 of which are working in the field of childhood diseases. Data were collected using a questionnaire consisting of 30 questions prepared in accordance with the relevant literature by researchers. 7 questions on the form include the personal information of nurses and midwives such as marital status, level of education, institution they are working in, occupation and working hours. Four questions on the form are to receive training about autism, monitoring the publications and the status of encountering with the individuals with autism, 11questions are to assess their knowledge about autism, 8 questions are to assess their knowledge levels about the early diagnosis of autism. The correct answers given to knowledge questions about autism were scored to be '5' and the wrong answers were scored to be '0'. The obtained scores were converted to a 100-point system and each nurse / midwife's knowledge score was calculated. The dependent variables of the research are the nurses' and midwives' level of knowledge about the autism. The independent variables are age, marital status, education, profession, institution it is worked in, working time and the status of monitoring the publications related to autism. The data were analyzed with the percentile, mean and standard deviation, independent sample t-test, one-way Anova analysis and Post HocTukey HSD. P< 0.05 level was considered to be significant. Written approval was obtained from Gaziantep Governor's Office; the people to participate in the research were explained about the aim of the research, the expected benefits and about the research and the volunteering of the nurses and midwives are based.

Results

The characteristics of totally 248 participants are presented in Table 1.

Table 1: Demographic and Professional Characteristics of Nurses and Midwives (n=248)

Demographics	N	%
Age (Years old)		
17-24	53	21.4
25-32	92	37.1
33 +	55	22.2
Unknown	48	19.3
Education		
High school	*63*	25.4
Foundation Degree	68	27.4
Bachelor's Degree	111	44.8
Post Graduate	3	1.2
Unknown	3	1.2
Term of Employment		

1-5 years	90	36.3
6-10 years	28	11.3
11 years +	45	18.1
Unknown	85	34.3
Profession		
Midwifery	93	37.5
Nurse	137	55.2
Unknown	18	7.3
Reading to literature about autism		
Yes	81	32.7
No	164	66.1
Unknown	3	1.2
Total	**248**	**100.0**

As Table 1 show, 37.1% of nurses and midwives are in the 25-32 age groups, nearly half of them (44.8%) has bachelor's degree and 36.3% of them are in the first 5thyear of their term of employment. 55.2% of the participants are nurses and only 32.7% of them stated to read publications about autism.

Table 2: The Opinions of Nurses and Midwives of on Their Own Roles in Early Diagnosis of Autism

Opinions of nurses/midwiferies	Number	%
to direct the parents to be aware of the child with autism	67	27
to determine the autism doubts and direct the health organizations	54	21.8
After diagnosis care and therapy role	18	7.2
No opinions	109	44
Total	**248**	**100**

As seen Table 2, 27% of the participants stated their roles about the early diagnosis of autism as "to direct the parents to be aware of the child with autism" and 21.8% of them stated as "to determine the autism doubts and direct the health organizations". Nearly half of nurses and midwives (44%), expressed their own roles in early diagnosis of autism.

Table 3: Knowledge Scores of Nurses and Midwives towards the Early Diagnosis of Autism(n=248)

	Minimum score	Maximum score	mean	Standard Deviation
Knowledge Score of autism	14.29	100	71.31	17.74

As seen in Table 3, the scores received by the nurses and midwives from the knowledge questions about autism and its early diagnosis is 71.30±17.74 on average out of a total of 100 points.

Table 4: The factors affecting the knowledge levels of nurses and midwives about autism and its early diagnosis

The Factors Affecting the Knowledge	N	Mean	Standard Deviation	Statistics	P value
Age (Years old)					
17-24 (1)	53	75.07	14.60		
25-32 (2)	92	74.69	15.83	F=9.530	.000**
33 + (3)	55	63.38	19.35	3<1,2*	
Education					
High school(1)	63	65.19	20.30		
Foundation Degree (2)	68	68.59	16.00	F= 9.561	.000**
Bachelor's and Post Graduate (3)	114	76.25	15.94	3>1,2*	

Term of Employment					
1-5 years (1)	90	76.51	15.41		
6-10 years (2)	28	69.39	18.93	F= 6.363	.002**
11 + years (3)	45	66.03	18.09	1>3*	
Reading to literature about autism					
Yes	81	74.70	17.35	t = 2.107	.036**
No	165	69.65	17.75		
Profession					
Nurse	137	73.77	17.61	t = 1.969	.050**
Midwifery	93	69.35	15.28		

*Post Hoc Tukey HSD **p<0.05

As seen in Table 4, the average autism knowledge scores of the participants at the age of 33 and more were found to be significantly lower than the average scores of both the ages of 17-24 and 25-32 (F = 9.530; p = 0.000). When autism knowledge score of the participants are analyzed according to their education status, it has been seen that the ones graduated from the university and master's degree received significantly higher scores (F= 9.561;p=0.000). The autism knowledge scores of the nurses and midwives working for 11 years and longer was found significantly lower than the autism knowledge scores of the ones working for 1 to 5 years (F= 6.363; p=0.002). Also, the knowledge scores of the ones stated to read publications about autism were found to be significantly higher than the scores of the ones who stating not to read any publication (t = 2.107;p=0.036). Finally, the scores of the nurses were found to be higher than the scores of the midwives (t = 1.969;p=0.050).

Discussion

27% of the nurses and midwives stated their roles in the early diagnosis as to inform the families to be aware of the children with autism and 21.8% of them expressed as to identify the children under the suspect of autism and to direct them to the health institutions. The most important role of nurses in the diagnosis of autism is education [27]. Likewise, nurses and midwives providing services to children are in the position of diagnosing the illness or the ability of developing potential of the incident with risk diagnostics [28]. Nearly half of the participants were seen to express their roles correctly. These results indicate that the nurses and midwives must be informed about their roles in the early diagnosis of autism. The knowledge scores of the nurses/midwives in the 17-24 and 25-32 age groups were found to be higher than the knowledge scores of the nurses/midwives at the age of 33 and more. Similarly, the scores of the ones having working time for 1 to 5 years were found to be higher than the ones working for longer. Having higher knowledge levels of nurses/midwives who have less age and working time in autism and its early diagnosis may be resulted from the fact that knowledge and development about autism have accelerated in recent years [21, 22].That the knowledge level of nurses/midwives having graduate and undergraduate degree about autism and its early diagnosis is significantly higher than the ones having associate degree and graduated from medical vocational school indicates that the higher the education level, the more knowledge level is. Similarly, it is seen that the knowledge scores of the ones who stated to read publications about the relevant subject is significantly higher than the ones who stated not to read any publications. When knowledge levels about autism and its early diagnosis were examined according to the professions, the nurses were detected to receive higher scores than the midwives. In the curriculum of midwifery, the subject of autism is discussed but the midwives make child follow-up in the field of social health for this reason adding the subject of autism to the curriculum of midwives can be beneficial .In order to better fulfill the role of nurses and midwives in the early diagnosis of autism and care, developing their knowledge level on this subject is important. That the knowledge levels of ones older than 33 years old, the ones working for more than 10 years, the ones having high school and associate degree and the ones who do not read any publication about the subject have lower degree indicates that it is required to be given priority to this group in training and informing studies.

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References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, fifth edition(DSM-5). Arlington, VA: American Psychiatric Association, 2013.http://dx.doi.org/10.1176/appi.books.9780890425596
2. Volkmar F, Siegel M, Woodbury-Smith M. et al. Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. J Am Acad Child Adolesc Psychiatry 2014; 53: 237-57. DOI: http://dx.doi.org/10.1016/j.jaac.2013.10.013
3. Kanner L.Autistic disturbances of affective contact. Nervous Child 1943;2: 217−250.
4. Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report 2012.(cited2015 May 8). Available from: http://www.cdc.gov/mmwr/pdf/ss/ss6103.pdf
5. Centers for Disease Control and Prevention. National Health Statistics Reports 2013. (cited 2015 May 8). Available from: http://www.cdc.gov/ nchs/data/nhsr/nhsr065.pdf
6. Ekici ÖK. Otizmi anlamak ve yaşamak: Karmaşık bir gelişimsel bozukluk. TÜBİTAK Bilim ve Teknik Dergisi 2011;44: 70-75(InTurkish).
7. Yearing- Allsopp, M, Rice C, Karapurkar T.et al. Prevalence of autism in a US metropolitan area. Journal of the American Medical Association 2003;289: 49-55. doi:10.1001/jama.289.1.49.
8. Fombonne E. Epidemiology of autistic disorder and other pervasive developmental disorders. The Journal of Clinical Psychiatry 2005; 66: 3-8.
9. Webb PL. Screening for autism spectrum disorders during well-child visits in a primary care setting. The Journal for Nurse Practitioners 2011;7: 229 235.DOI: http://dx.doi.org/10.1016/j.nurpra.2010.07.008
10. Herbert MR, Russo JP, Yang S. et al.Autism and environmental genomics. Neurotoxicology 2006; 27: 671-684.doi:10.1016/j.neuro.2006.03.017
11. Miles JH. Autism spectrum disorders A genetics review. Genet Med. 2011; 13:278-294.doi:10.1097/GIM.0b013e3181ff67ba
12. Blake J, Hoyme HE, Crotwell PL. A brief history of autism, the autism/vaccine hypothesis and a review of the genetic basis of autism spectrum disorders. South Dakota Journal of Medicine 2013; 773: 58-65.
13. LaSalle JM. Epigenomic strategies at the interface of genetic and environmental risk factors for autism. Journal of Human Genetics 2013; 58: 396-401. doi: 10.1038/jhg.2013.49
14. Erden G, Akçakın M, Doğan DG, Ertem İÖ. Çocuk hekimleri ve otizm: Tanıda zorluklar. Türkiye Klinikleri J Pediatr 2010;19: 9-15(InTurkish).
15. Mukaddes MN. Otizm Spektrum Bozuklukları Tanı ve Takip. Nobel Tıp Kitabevleri. İstanbul, 2013(InTurkish).
16. Barbaro J, Ridgway L, Dissanayake C. Developmental surveillance of infants and toddlers by maternal and childhealth nurses in an Australian community-based setting: Promoting the early identification of autism spectrum disorders. Journal of Pediatric Nursing 2011;26: 334-347.doi: 10.1016/j.pedn.2010.04.007
17. Gura GF, Champagne MT, Blood-Siegfried JE. Autism spectrum disorder screening in primary care. Journal of Developmental and Behavioral Pediatrics 2011;32: 48-51.doi: 10. 1097/DBP.0b013e3182040aea
18. Höglund Carlsson L, Gillberg C, Lannero E, Blennow M. Autism: Screening toddlers with CHAT in a child health care programme did not improve early identification. Acta Paediatr 2010;99: 1897-1899.doi: 10.1111/j.1651-2227.2010.01958.x
19. Miller JS, Gabrielsen T, Villalobos M. Et al. The each child study: Systematic screening for autism spectrum disorders in a pediatric setting. Pediatrics 2011; 127: 866-871.
20. Pierce K, Carter C, Weinfeld M. Et al. Detecting, studying, and treating autism early: The one year well-baby check-up approach. Journal of Pediatrics 2011; 159: 458-465.doi:10.1016/j.jpeds.2011.02.036
21. Lord C, Bishop S. Social policy report: Autism spectrum disorders diagnosis, prevalence, and services for children and families. Society for Research in Children Development: Sharing Child andYouth Development Knowledge 2010; 24: 1-27.
22. Bultas, MW. The health care experiences of the preschool child with autism. Journal of Pediatric Nursing 2012;27: 460-470. doi:10.1016/j.pedn.2011.05.005
23. Will D, Barn father J, Lesley M. Self-perceived autism competency of primary care nurse practitioners. The Journal for Nurse Practitioners 2013;9:350-355.doi:10.1016/j.nurpra.2013.02.016
24. Inglese, MD. Caring for children with autism spectrum disorder, partıı: screening, diagnosis, and management. Journal of Pediatric Nursing 2009; 24: 49-59. doi: http://dx.doi.org/10.1016/j.pedn.2008.06.005

25. Masoud A, Roya K, Mohammad-Esmaeil M, et al. Inequality in School Readiness and Autism among 6-Year-Old Children across Iranian Provinces: National Health Assessment Survey Results. Iran J Pediatr2013; 23 (1): 71-78.
26. Glascoe FP. Early detection of developmental and behavioral problems. Pediatrics in Review 2000; 21: 272-279.
27. Igwe MN, Ahanotu AC, Bakare MO. Et al. Assessment of knowledge about childhood autism among paediatric and psychiatric nurses in Ebonyi State, Nigeria. Child Adoles Psychiatry Ment Health 2011;5:1-8.doi: 10.1186/1753-2000-5-1
28. Sayan A. ve Durat G. Risk tanılaması yoluyla otizmin erken teşhisi: hemşirenin rolü. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi 2007;10:105-113(InTurkish).

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