Non Genetic Study for Autism Child in Related to Age And Sex of Autism Child, Parental and Maternal age And Degree of Relative and Family History with the Disease or Any Other Psychological Disorder in Anbar Governorate

Raida Noori Hamid[1], Shakir Mahmood Ali[2], Shaimaa Hamid Mudher[1]

[1]Lecturer, [2]Ass. Lecturer, College of Dentistry, University of Anbar. Iraq

Abstract

Aims of this study were find the relation of the non-genetic factors related to the parents of the autism child, the child himself and the family history in specific points because there is no perfect causes for the autism., the autism child including the age of mother during delivery of these child, the degree of kinds hip between the parents, the sex of the child. The information taking from 80 children present in institute of the Virgin Mary for Autism & Balsam institute for Autistic patients, from both sex, the age of them between 3-16 years who suffer from Autism. Data collected we distributed forms to autistic families for the purpose of taking the information we needed. There is no significance relation between parental or maternal age and autism, male greater than female, family history not effects on the presence or not of autistic disorder.

Keywords: *Autism, non genetic factors, Anbar governorate.*

Introduction

The autism is defined as a severe social problem which marked by difficult communicated with environment or the surrounding people, in the speaking, the repetitive and the behavioral limitations and an strong and over response to any events in the surrounding [1]. The autism is considered as a chronic disorder that could be occurred at early childhood, that divided into three types of disturbances in behaviorwhich are: the social irritability, a speakingproblems and a repetitive form of the behavior [2]. It is also explained as a clinical problems which appear as delayed in development or deviation in the way of development.[3]. In 1990s the reported cases of autism were increased until in 2000s.this result of increasing in number change The numbers of the reported cases of the autism increased dramatically in the 1990s and in the early 2000s.these increasing in number belong to change in the practices of diagnosis,the patterns referral,the time of the diagnosis and the social awareness[4].

The outward appearances of the autistic children may not indicate as a disorder. The diagnosis of the state occur by taking all the information of the patient t, any neurological or physical disturbances. There are many possible causes for autism belong to before the delivery period which are include disturbance of respiratory system, anemia, the mother taking large amount of drug during pregnancy of autistic children, or the occurrence of bleeding after the 1 st trimester and the amniotic fluid defect[5].autism also have a genetic change in spite of there is no one know the number of gene that affected[6].

The common cause of the autisimanomalies of the chromosome 15 and the chromosome 17q21,numerical and formal abnormalities of the sex chromosomes, are the common cause of the autisim.[7] for ASDs the environment also play a role in the development of the disorders . the possible causes for autism spectrum disorder as an environmental factor are radiation and mercury[8]. The studies which talked about consider the MMR vaccination as one causes for autism,another study provide a strong refuse for these hypothesis [9] the mixing of DPT and MMR vaccines may affect the immune system of children that enhance the autistic biomedical cascade [10]. The are many studies suggest the family factors such as the education level, age of child and parents while the age of parents related to many

disorder or health problems such as cancer of childhood period, schizophrenia, death of fetus, however,the relation of parental age and autim still not clear [11].

Another articles study that congenital malformations have appositive relation with low birth weight(<2, 500 g), fetus birth less than 37 weeks the low birth boys according to gender related study say that it is increased risk of autism greater than low birth weight girls (<2,500 g) [12]. When there are many differences between The monozygotic twins this will enhance the non-geneticeffects of the autism [13]. Because of there are many limitations in the studies made before or after the birth for the risk factor in autism this proved the relation between them still unknown [14].

The aim of the study: To find the relation between the non-genetic factors related to the parents of autism child, the child himself and the family history in specific points because there is no perfect causes for the autism.

Research Methodology

The information taking from 80 children present in institute of the Virgin Mary for Autism & Balsam institute for Autistic patients, from both sex, the age of them between 3_16 years who suffer from Autism. Data collected we distributed forms to autistic families for the purpose of taking the information we needed. The sample was divided firstly on the base of age of the autistic child into three groups which are under the age of 5 years, between 5-9 years and above 10 years. In addition the sample divided on the base of sex into two groups which are male and female. In this study the age of parents(father and mother) was taken at the day of the child birth. In addition to that the relative degree was taken for the parents of the autism children (relative or not). Family history with autism or any other psychological disorder was taken.

Results

Statistical package of SPSS-25 (Statistical Packages for Social Sciences- version 25) was used to do analysis for the data.Mean, percentage,frequency,percentage,standard deviation and range are used in presenting the data . Pearson Chi-square test (□2-test) with application of Yate's correction or Fisher Exact test were measure the significance of difference of different percentages (qualitative data). Statistical significance was considered whenever the P value was equal or less than 0.05.

The male was 67 (83.8%) and the female was 13 (16.3). the age was 7 (8.8%) under the age of 5 years and 50 (62.5%) between 5 and 9 years and 23 (28.7) above 10 years old.

		No	%
Age of autistic child (years)	<5y	7	8.8
	5---9y	50	62.5
	=>10y	23	28.7
	Mean±SD (Range)	8.0±2.7 (3-15)	
Sex of autistic child	Male	67	83.8
	Female	13	16.3

In this study the age of mother and father was taken at the day of the child birth and it found that the mother age was less than 20 year for 7 child (8.8%), 20-29 years for 46 child (57.5%), 30-39 years for 25 child (31.3%) and more than 40 years for 2 child (2.5%). The fathers were 20-29 years for 31 children (38.8%), 30-39 years for 42 children (52.5%), more than 40 years for 7 children (8.8%).
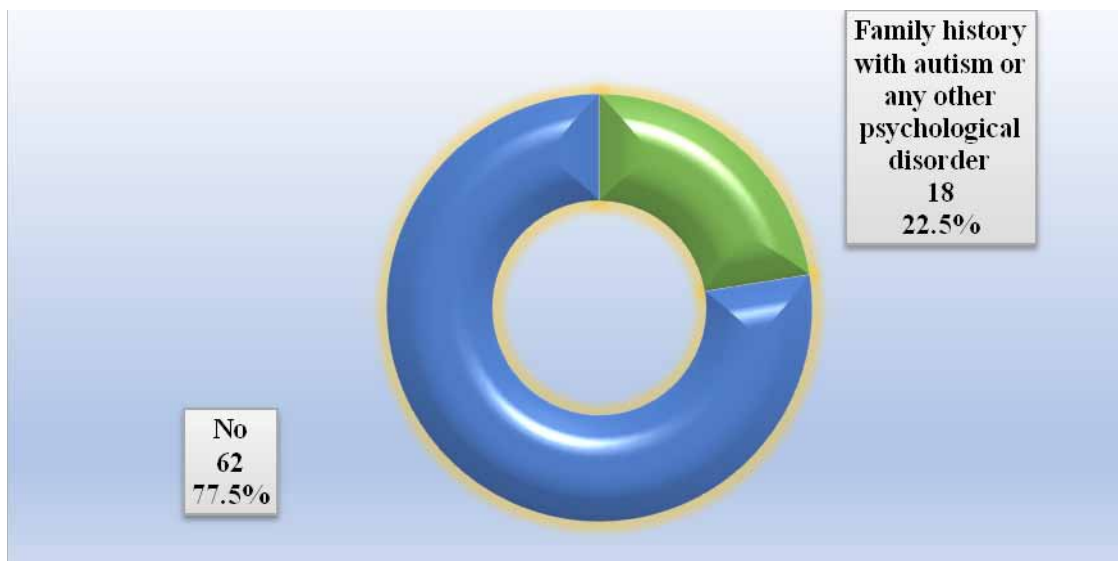
		No	%
Mother age at birth (years)	<20y	7	8.8
	20---29	46	57.5
	30---39	25	31.3
	=>40y	2	2.5
	Mean±SD (Range)	26.8±5.7 (18-45)	

		No	%
Father age at birth (years)	<20y	-	-
	20---29	31	38.8
	30---39	42	52.5
	=>40y	7	8.8
	Mean±SD (Range)	31.3±5.8 (20-48)	

The relative degree was taken for the parents of the autism children (relative or not) and it was found that 26 (32.5%) relative and 54 (67.5%) was not relative. Family history with autism or any other psychological disorder was taken and it was found that 18 (22.5%) with positive history and 62 (77.5%) was with negative history.

		No	%
Parental degree (relative or not)	Yes	26	32.5
	No	54	67.5
Family history with autism or any other psychological disorder	Yes	18	22.5
	No	62	77.5

	Family history with autism or any other psychological disorder				P value
	Yes		No		
	No	%	No	%	
Age of autistic child (years)					
<5y	2	28.6	5	71.4	0.780
5---9y	10	20.0	40	80.0	
=>10y	6	26.1	17	73.9	
Mean±SD	8.0±3.2		8.0±2.6		
Sex of autistic child					
Male	13	19.4	54	80.6	0.132
Female	5	38.5	8	61.5	

		Family history with autism or any other psychological disorder				P value
		Yes		**No**		
		No	**%**	**No**	**%**	
Mother age at birth (years)	<20y	1	14.3	6	85.7	0.734
	20---29	12	26.1	34	73.9	
	30---39	5	20.0	20	80.0	
	=>40y	-	-	2	100.0	
	Mean±SD	26.6±4.5		26.9±6.1		
Father age at birth (years)	<20y	-	-	-	-	0.855
	20---29	7	22.6	24	77.4	
	30---39	10	23.8	32	76.2	
	=>40y	1	14.3	6	85.7	
	Mean±SD	30.7±5.2		31.5±6.0		
Parental degree (relative or not)	Yes	5	19.2	21	80.8	0.627
	No	13	24.1	41	75.9	
*Significant difference between proportions using Pearson Chi-square test at 0.05 level						

		Parental degree (Relative)				P value
		Yes		**No**		
		No	**%**	**No**	**%**	
Age of autistic child (years)	<5y	3	42.9	4	57.1	0.764
	5---9y	15	30.0	35	70.0	
	=>10y	8	34.8	15	65.2	
	Mean±SD	8.4±3.0		7.7±2.6		
Sex of autistic child	Male	22	32.8	45	67.2	0.884
	Female	4	30.8	9	69.2	
Mother age at birth (years)	<20y	4	57.1	3	42.9	0.458
	20---29	13	28.3	33	71.7	
	30---39	8	32.0	17	68.0	
	=>40y	1	50.0	1	50.0	
	Mean±SD	26.5±5.9		27.0±5.7		
Father age at birth (years)	<20y	-	-	-	-	0.048*
	20---29	15	48.4	16	51.6	
	30---39	10	23.8	32	76.2	
	=>40y	1	14.3	6	85.7	
	Mean±SD	29.6±5.7		32.1±5.7		
Family history with autism or any other psychological disorder	Yes	5	27.8	13	72.2	0.627
	No	21	33.9	41	66.1	
*Significant difference between proportions using Pearson Chi-square test at 0.05 level						

Discussions

Among all the professionals there is agreement that the autism is one of the most difficult and puzzling diseases. It is considered as a neuro developmental disorder and characterized by the impaired of social interaction; its prevalence has increased in recent years[15].

In our study the high percentage of patients was between the ages 5-9 years which was 62.5%, while under the age 5 years the percentage was 8.8% and above the age 10 years it was 28.7% and this findings are in disagreement with the findings of Farida El-Baz et al [16] who found 46% of the cases was at the age of 1.5 years and 4% at the age of 4 years. and also in reverse to the findings of Gray and Tonge[17] who found high percent of autism children at the age of 1-2.5 years. In contrast our findings were in agreement with the findings of Paul et al. [18] who reported that the average age of identifications is 5.7 years. This study showed that the percentage of the males was more than the females (males 83.8%, females 16.3) and this was in agreement with the study of Farida El-Baz et al [16] who found that the percentage of the males was 71.3% and the females was 28.7% and this was also consistent with the study of Itzchak et al [19] in which the males was 81% and the females was 19%. Regarding the maternal and paternal age of the autism children at the birth our study showed the high percentage was the age of 20-29 years of the mothers (57.5%) followed by the age of 30-39 years (31.3%) while for the fathers the high percentage was at the age 30-39 years (52.5%) followed by the age of 20-29 years (38.8%) and this was in disagreement with the study of Kolevzon et al [8] who found that the risk of the autism increased with the advanced age of both father and mother. While the study of Marissa et al [20] showed that increased maternal age, regardless the paternal age, may associated with greater risk of autism. Our study dealt with the consanguinity of the father and mother of the autistic children and showed that 67.5% of them are not relative and 32.5% of them are relative and this findings was in agreement with the findings of Farida El-Baz et al [16] in their study who found that 87% of the parents of the autistic children was non consanguineous while Muhle et al [21] showed that the families of the autistic individuals tend to show a set of cognitive disorders which are not seen in the other family groups. This study showed the percentage of 77.5% of the autistic children were with no family history with autism or any other psychological disorder in contrast 22.5% of them were with a history of family autism or psychological disorder and this was in reverse to the findings of SherllyXie et al[22] in their study who suggested that the family history mental or neurological disorders was associated with the increased risk of autism and also Bilder D et al. [23] showed in their study the family history of autism was found in 16% of the cases versus 1%of the controlled cases.

Conclusions

There is no significance relation between parental or maternal age and autism, male greater than female, family history not effects on the presence or not of autistic disorder.

References

1. Chew M, Connoly AN, Streif EM. Brain derived neurotropic factor and autoantibodies to neural antigens in sera of children with autistic spectrum disorders. Landau-Kleffner Syndrome and Epilepsy. Biol Psychiatry 2006; 59(14):354–63.

2. Volkmar FR, Klin A. Issues in the classification of autism and related conditions. In: Volkmar FR, Paul R, Klin A, Cohen D, editors. Handbook of autism and pervasive developmental, neurobiology and behavior. Hoboken, NJ: Wiley; 2005. p. 5–41.

3. Branby G, Abbott A, Sykes N, et al. Candidate – gene screening and association analysis at the autism – susceptibility Locus on chromosome 16p: evidence of association of GRIN2A and ABATAm. J Hum Genet 2005; 76:950–66.

4. Chawarska K, Volkmar FR. Autism in infancy and early childhood. In: Volkmar FR, Klin A, Paul R, editors. Handbook of autism and pervasive developmental disorders, 3rd ed., vol. 1. Hoboken, NJ: John Wiley & Sons; 2005.

5. Rutter M, Siberg J, Oconner T, Simonoff E. Genetics and child psychiatry: II empirical research findings. J Child Psychol Psychol Psychiatry 1999; 40:19–55.

6.   Koea R, Kohnson JK, Koegel RL. Behavioral assessment and curriculum development. New York: Brunner/Mazel; 2005, p. 2– 24. Disord; 16: 385–392.

7.   Geschwind K. Association of fragile X with autism. Am J Psychiatry 2005; 192:142–9.

8.   Kolevzon A, Gross R, Reichenberg A. Prenatal and perinatal risk factors for autism: a review and integration of findings. Arch PediatrAdolesc Med 2007; 161(4):326–33.

9.   Spitzer WO, Mullins ME, Wakeheld ND, Notrie KK, Miyasaka K, Madsen KM, et al. Measles, mumps and rubella vaccination and autism. N Engl J Med 2003; 348:951–4.

10.   Jepson B. Understanding autism: The physiologic basis and biomedical intervention options of autism spectrum disorders. Child Biomed Center Utah 2002:1–35.

11.   Heidi JL, William WE, Kreesten M, Mogens V, Anne VO, Esben A, Diana S, Poul T, Preben Bo Mortensen. Risk factors for autism: perinatal factors, parental psychiatric history and socioeconomic status. Am J Epidemiol 2005; 161(10):916–25.

12.   Rutter M. Incidence of autism spectrum disorders: changes over time and their meaning. Acta Paediatr 2005; 94:2–15.

13.   Paul L, Eva C, Maria C, Christopher G, Henrik A. The genetics of autism spectrum disorders and related neuropsychiatric disorders in childhood. Am J Psychiatry 2010; 167:A30.

14.   Gardener H, Spiegelman D, Buka SL. Prenatal risk factors for autism: comprehensive meta-analysis. Br J Psychiatry 2009; 195(1):7–14.

15.   Kidd PM. Autism, an extreme challenge to integrative medicine. Part I: the knowledge base. Altern Med Rev 2002; 7:292–316.

16.   Farida El-Baz, Nanees Ahmed Ismael, Sahar M. Nour El-Din. Risk factors for autism: An Egyptian study. The Egyptian Journal of Medical Human Genetics (2011) 12, 31–38.

17.   Gray KM, Tonge BJ. Are there early features of autism in infants and preschool children ? Journal of Paediatrics and Child Health. 2001; 37:221–6.

18.   Paul TS, Maureen D, Matthew M, Craig N, David SM, Lisa W, Li-Ching L, Catherine R, Ellen G, Russell K, Jon B, Jennifer PM, Christopher C. Timing of identification among children with an autism spectrum disorder: findings from a population-based surveillance study. J Am Acad Child Adolesc Psychiatry 2009; 48(5):474–83.

19.   Itzchak EB, Zachor DA, Assaf Harofeh. Male:female ratio is related to autism spectrum disorder in the family and to maternal age. Harofeh Medical Center, Zerifin, Israe. Franklin Hall B Level 4 (Philadelphia Marriott Downtown l); 2010.

20.   Marissa DK, Christine F, Diana DBA, Peter SB. Estimated autism risk and older reproductive age. Am J Public Health 2009:1673–9 Muhle R, Trentacoste SV, Rapin I. The genetics of autism. Pediatrics 2004; 113:e472–86, Retrieved, June 30, 2007.

21.   Bilder D et al. Prenatal, perinatal and neonatal factors associated with autism spectrum disorders. Pediatrics 2009; 123:1293.