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Assessment knowledge and attitude among caregivers of children with autism spectrum disorders

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Abstract---Psychiatric disorders are one of the leading causes of disability worldwide, Autism spectrum disorder (ASD) is a “developmental disorder” that is marked by social communication and interaction difficulties, as well as repetitive or restricted activities and interests. The study aims to assess the knowledge and attitude of caregivers and to find out the relationship between the social demographic characteristics and knowledge & attitude of caregivers of child suffering from ASD. The current study has used a descriptive design assess knowledge and attitude among caregivers of children with ASD. Between the 1st of December 2021 and the 2nd of February 2022, this research has been carried out among the caregivers of children with the ASD in Iraq / Najaf, both in the rural and urban areas. A non-probability purposive sample of (52) caregivers were selected from the Imam Hussein Autism Center (IHAC) along with (37) and (15) samples from Imam Ali Institute in Najaf city. The caregivers between the ages of 27 and 36 (46.2%), female caregivers (61.5%) those who are graduated in institute and college (28.8 %) and those with secondary school (28.8 %). They show that the overall assessment of the knowledge of the caregivers of kids with Autism Spectrum Disorders before applying the educational program is (fair) with mean of scores = 1.51 The caregiver, age, level of education, Training on autism spectrum disorder, job and residency were statistically significant while other parameters regarding socio-demographic characteristics of caregivers were not significant, in terms of knowledge skills

Keywords---ASD, knowledge, attitude.

Introduction

Autism spectrum disorder (ASD) is a developmental disorder marked by social communication and interaction difficulties, as well as repetitive or restricted activities and interests (1). Psychiatric disorders are one of the leading causes of disability worldwide, some children may differ markedly as they develop, whether that's because they avert eye contact or interactions with their families or other people, have a specific fascination with certain things, or become distant and socially inactive, well, it's possible that they have infantile autism (ali et al., 2019 and (3). Standardized screening for autism spectrum disorder at 18 and 24 months of age with ongoing developmental surveillance continues to be recommended in primary care (although it may be performed in other settings), because ASD is common, can be diagnosed as young as 18 months of age(4). Previous Pervasive Developmental Disorders, the autism spectrum now includes conditions such as Rett's disorder, childhood disintegrative disorder, and Asperger's disorder, this change aids in resolving issues that arose from attempting to discern between these sometimes-confusing conditions. Furthermore, there is a wide range of behaviors and limits among those diagnosed with autism, ranging from moderate to severe, which is easier to grasp along a continuum (5). The etiology of autism was formerly debated, Bruno Bettelheim proposed a theory that blamed the condition on "refrigerator mothers" and absentee fathers, his theory was that women who were distant and unloving toward their children created an environment that aided in the development of ASD in their children, the burden and responsibility of an autism diagnosis was shifted to parenting approaches, with a focus on mothers as caretakers (6). Many comorbid conditions affect ASD patients, including anxiety, depression, ADHD, and behavioral problems, a total of 59 percent of children with ASD were noticed to have at least one comorbid psychiatric disorder (7). The global prevalence of ASD is approximately around 1%, while estimates in high-income nations are higher, although massive brain damage is not a characteristic of autism, post-mortem, neuroimaging, and electrophysiological studies have revealed modest morphological and functional changes (8). In 2018, it was predicted that one in every 44 children aged 8 have ASD, with prevalence and median age of diagnosis varying greatly between regions, while the general frequency of Although ASD was similar across races and ethnicities, Hispanic children were less likely to have it than White or Black children to be recognized as having ASD at certain sites (9). There is strong evidence that the prevalence of ASD has increased around the world as diagnostic and screening procedures have improved, approximately 52 million people worldwide have been identified as being on the autism spectrum (10). Early intervention for children with autism improves child and family outcomes, and early intervention can maximize long-term outcomes; as a result, it is vital that parents learn about and access programs as soon as feasible (11). It is best practice to empower families of children with autism spectrum disorder through training and educations, parent education and training programs are offered all over the world, while little is known about the characteristics of these programs, as well as notably in nations outside the United States, the study methodologies and outcomes utilized to evaluate them (12). The need is to be a greater understanding of autism. And the goal for individuals to be well-informed is that all individual of autistic children's families face a significant financial and intellectual burden, and the more uninformed they are, the greater

the risk of incorrect diagnosis, making their child more challenging and resistant to therapy (10). Parental assistance and psychoeducational programs can help families satisfy their needs, caregivers want ASD education and information presented in a way that is targeted to their specific requirements and provides guidance on future steps, according to qualitative research on the requirements of parents when their child is diagnosed with ASD, Parent satisfaction with the ASD diagnostic process is impact by the quality of information and help provided during and after diagnosis (13). A broad educational approach is a crucial and liberating first step in guiding parents to acceptance and a recovery process with their child. This may be the sole or primary intervention available to families in low-resource settings (12)

Methodology

Study Design: The current research used a descriptive design to determine the impact of an educational program among caregivers of children with ASD. Between the 1st of December 2021 and the 2nd of February 2022. This research was carried out among caregivers of children with ASD in Iraq / Najaf province.

Administrative Agreements and Ethical considerations: The researcher gets permission from the Nursing Specialties Department at the University of Kufa - Faculty of Nursing. In addition, in order to implement the study questionnaire included in the current study, an official authorization from the Ministry of Planning / Central Council of Statistics was required. Another approval was received from the **Imam Hussein Autism Center in Najaf province, as well as a third from the Imam Ali Institute in order to conduct interviews with caregivers .

The Setting of the Study: At the Imam Hussein Autism Center and the Imam Ali Institute in Najaf (Iraq), the study was done among caregivers of children with ASD.

Study Sample: A non-probability purposive sample of (52) caregivers were selected from Imam Hussein Autism Center (IHAC) was (37) and (15) sample from Imam Ali Institute in Najaf city.

The Study Instrument: This tool consists of two parts:

- **Part I: Socio-Demographic Data:** A socio-demographic characteristics sheet consists of 13 items, which included the caregiver's (gender, age, level of education, number of family, marital status, participation in training sessions about ASD, job, residency area, Housing, physical diseases and psychiatric disorders).
- **Part II: Parent Knowledge and attitude scale:** In order to achieve present study objectives, an educational program constructed and based on the program also a questionnaire has been created and developed as an instrument for data collection. Previous studies, guidelines and books were used in development and construction of the educational program.

Rating and scoring: Knowledge part of the study instrument consist of two types of questions: true-false questions (1,3,5,6,7,9,13,14,15,16) with two responses one correct and one incorrect responses, the correct response was coded with (2) points and the incorrect response coded with (1) point. and multiple-choice questions (2,4,8,10,11,12) with four responses one correct and three incorrect responses the correct response was coded with (2) points and the incorrect

response coded with (1) point. Regarding attitude part used three-point Likert scale (agree, Uncertain, disagree) and scoring was (3) points for agree, (2) point for Uncertain and (1) point for disagree. In this study, when measuring knowledge of the caregivers, it is found that the MS: Mean of Scores was poor at MS = 1-1.33 and fair at MS = 1.34-1.67 while it considered good at MS $\geq$ 1.68. While, in measuring attitude of the caregivers, it is found that the MS: Mean of Scores was poor at MS = 1-1.33 and fair at MS = 1.34-2.66 while it considered good at MS $\geq$ 2.67. (14).

Reliability of the Study Instrument: The questionnaire's content validity was assessed by a panel of (20) experts (with more than four years of experiences in the medical and nursering professions) who were consulted in order to assess the current study questionnaire for its competence, relevance, intelligibility, and clarity in achieving the chosen objectives .Hardcopies of the questionnaire were supplied to all experts, who were asked to assess them to determine the tool's content clarity and suitability

Data collection: The evidence was gathered by dividing the sample into groups and utilizing the designed questionnaire, as well as using the self-reporting technique with the care providers who were included in the study and the Arabic version of the questionnaire. The researcher then administered the questionnaire before and after the educational program, which was separated into four parts, one for each week of the program. After getting verbal consent from the carers to participate of the caregivers answering the questionnaire before and after the program. The data collection process took place between 1st December and 2nd February, 2022.

Results of the Study

The Study Sample Demographic Data

Demographic Data	Rating And Intervals	Freq.	%
Caregiver	Father	14	26.9
	Mother	32	61.5
	Sister	1	1.9
	Others	5	9.6
Age	≤ 26	9	17.3
	27 – 36	24	46.2
	37 – 46	11	21.2
	47+	8	15.4
	Mean	34.83	
	Sd	9.847	
Family member	≤ 3	9	17.3
	4 – 6	36	69.2
	7+	7	13.5
	Single	3	5.8
	Married	46	88.5

Marital Status	Divorced	2	3.8
	Widowed	1	1.9
Level Of education	Illiterate	1	1.9
	Literate	7	13.5
	Primary S.	7	13.5
	Secondary S.	15	28.8
	Institute	7	13.5
	College/High Education	15	28.8
Training	Not Once	40	76.9
	Once	5	9.6
	Two Times	4	7.7
	Three Or More	3	5.8
Job	Employed	26	50
	Free Work	12	23.1
	Unemployed	14	26.9
Residency	Urban	48	92.3
	Rural	4	7.7
House	Freehold	31	59.6
	Rental	21	40.4
Physical Diseases	Yes	8	15.4
	No	44	84.6
psychiatric Disorder	Yes	5	9.6
	No	47	90.4

Table (4.1) provides the statistical distribution of the study sample based on the socio- demographic data, and it illustrates that the caregivers' subgroup has the highest percentage of: caregivers between the ages of 27 and 36 with percentage (46.2%), female caregivers with (61.5%) those who are graduated in institute and college with (28.8 %) and secondary school with (28.8 %), those who are married with (88.5 %) ; those who are employed (50 %) ; those who live in urban areas (92.3 %) ; those who are freehold owning their houses with (59.6 %) ; those who were not trained for autism spectrum disorder with (76.9 %) ; those with no physical disease with (84.9 %) ; those with no psychiatric disorder (90.4 %) .

Table (4.2) The Assessment of the knowledge of caregivers of Kids with autism spectrum disorders

Items	Levels	Freq.	%	MS.	Asses.
1-Autism spectrum disorder is developmental disability.	Fail	20	38.5	1.62	Fair
	Pass	32	61.5		
2-Who are more likely to develop autism spectrum disorder.	Fail	18	34.6	1.65	Fair
	Pass	34	65.4		
3-Autism spectrum disorder is always genetic.	Fail	13	25.0	1.75	Good
	Pass	39	75.0		
4-Which condition is also on the autism spectrum disorder.	Fail	42	80.8	1.19	Poor
	Pass	10	19.2		
5-There are no treatment for	Fail	19	36.5	1.63	Fair

autism spectrum disorder.	Pass	33	63.5		
6-The ASD is the same in every child.	Fail	17	32.7	1.67	Fair
	Pass	35	67.3		
7-There unknown causes of ASD.	Fail	14	26.9	1.73	Good
	Pass	38	73.1		
8-According to the CDC autism spectrum disorder on estimated has many births.	Fail	36	69.2	1.31	Poor
	Pass	16	30.8		
9-Do all children with ASD have same set of characteristics.	Fail	22	42.3	1.58	Fair
	Pass	30	57.7		
10-The ASD is developmental disorder that affect the normal functioning of the	Fail	12	23.1	1.77	Good
	Pass	40	76.9		
11-Early signs of ASD include	Fail	40	76.9	1.23	Poor
	Pass	12	23.1		
12-ASD can be diagnosis as early as	Fail	40	76.9	1.23	Poor
	Pass	12	23.1		
13-Do children with the ASD have delayed language development?	Fail	20	38.5	1.62	Fair
	Pass	32	61.5		
14-children with ASD prefer being alone.	Fail	22	42.3	1.58	Fair
	Pass	30	57.7		
15-The ASD is caused by emotional deprivation in early childhood?	Fail	35	67.3	1.33	Poor
	Pass	17	32.7		
16-Is there currently cure for the ASD?	Fail	34	65.4	1.35	Fair
	Pass	18	34.6		

Freq : Frequency ; MS : Mean of Scores ; Poor : MS = 1-1.33 ; Fair : MS = 1.34-1.67; Good : MS $\geq$ 1.68.

Table (4.2) Shows the descriptive statistics and assessment of the knowledge of caregivers of Kids with the ASD before applying the educational program for the study subjects. This Table affirms that the assessment (means of scores) for the study subjects, it demonstrates that the assessment of the majority items is (fair) for items numbered (1,2,5, 6,9,13,14,16), while it is considered (poor) for the items numbered (4, 8, 11,12,15) ; finally, it is considered (good) for the item numbered (3,7,10) . This assessment is based on the scoring system of the statistical that have demonstrated the total mean of scores equal and more than (1-1.33) as (poor); and those between (1.34-1.67) as (fair), those with scores equal and more than (1.68) as (good).

Table (4.5) The Assessment of the attitude of caregivers of Kids with autism spectrum disorders

Items	Levels	Freq.	%	MS.	Asses.
1-Do you think that children with autism spectrum disorder in reading, math, or writing	1	10	19.2		
	2	21	40.4		

expression is lower than expected for age, formal education, and intelligence?	3	21	40.4	2.21	Fair
2-Are you with the principle of reward and punishment for children with autism spectrum disorder?	1	11	21.2	2.27	Fair
	2	16	30.8		
	3	25	48.1		
3-Do you think the Picture Exchange Communication System for Autism Spectrum	1	12	23.1	2.38	Fair
	2	8	15.4		
	3	32	61.5		
Disorder is effective?					
4-Is music therapy one of the effective interventions for the <u>treatment</u> of autism spectrum disorder?	1	13	25	2.25	Fair
	2	13	25		
	3	26	50		
5-Do you think a gluten-free and casein-free diet affects children with autism spectrum disorder?	1	15	28.8	1.94	Fair
	2	25	48.1		
	3	12	23.1		
6-Do you think that children with autism if they do not respond to their name, by the age of one year (for example, they do not seem to hear)	1	27	51.9	1.77	Fair
	2	10	19.2		
	3	15	28.8		
7-Do you think that a child with autism is upset by small changes in routine?	1	19	36.5	2.19	Fair
	2	4	7.7		
	3	29	55.8		
8-One of the main signs of autism spectrum disorder, hands flapping or spinning in a circle and his answers have nothing to <u>do</u> with the questions?	1	15	28.8	2.25	Fair
	2	9	17.3		
	3	28	53.8		

Freq : Frequency ; MS : Mean of Scores ; Poor : MS = 1-1.33 ; Fair : MS = 1.34-2.66; Good : MS $\geq$ 2.67.

Table (4.5) reveals the descriptive statistics and assessment of the attitude of caregivers of Kids with the ASD prior applying the educational program for the study subjects. This table verifies that the assessment (mean of scores) for the study subjects, it assures that the assessment of the majority items is (fair) for items number (1,2,3,4, 5,6,7,8), while it is considered (poor) for the items number is zero ; finally, it is considered (good) for the item numbered (zero) . This assessment is based on the statistical scoring system that indicated total mean of scores equal and more than (1-1.33) as (poor); and those between (1.34-2.66) as (fair) , those with scores equal and more than (2.67) as (good).

Table (4.4): The Mean rank comparison table for the relationship between Knowledge overall scores and caregivers' demographic data

Items	Levels	Mean Rank	Kruskal-Wallis H*	Value
Caregiver	Father	20.75	5.12	.05
	Mother	29.02		
	Sister	8.00		
	Others	30.20		
Age	<= 26	40.2	7.65	.02*
	27 – 36	36.4		
	37 – 46	26.8		
	47+	26.9		
Family Number	<= 3	1.00	2.4	.27
	4 – 6	5.50		
	7+	5.50		
Ms	Single	18.50	3.06	.14
	Married	26.33		
	Divorced	35.25		
	Widowed	41.00		
Level Of Education	Illiterate	1.50	6.8	.05
	Literate	1.50		
	Primary S.	21.29		
	Secondary S.	16.73		
	Institute	17.29		
	College/Above	25.79		
Training	not once	25.28	7.9	.03*
	once	27.50		
	Two times	35.25		
	Three or more	29.50		
Job	Employed	29.40	5.7	.05
	Free work	29.33		
	unemployed	18.68		
Residence	Urban	25.30	4.03	.04*
	Rural	40.88		
Housing	Freehold	29.48	3.07	.07
	Rental	22.10		
Physical Disease	Yes	29.69	0.43	.51
	No	25.92		
Psychological Disease	Yes	25.40	0.03	.86
	No	26.62		

* Significant at $P < 0.05$; * Normal Distribution has not been achieved

Table (4.4) sheds light on the relationship between the Knowledge overall scores and caregivers' demographic data. It indicates that there is no significant relationship between the Knowledge of caregivers and their demographic data at ($P > 0.05$), except the Residence, it has a significant relationship with Knowledge of

caregivers at (P value = 0.04), Caregiver (P value = 0.05); Age (P value = 0.02); level of education (P value = 0.05) ; training (P value = 0.03); Job (P value = 0.05).

Table (4.5): The Mean rank comparison table for the relationship between attitude overall scores and caregivers' demographic data

Items	Levels	Mean Rank	Kruskal-Wallis H*	Value
Caregiver	Father	23.86	1.24	.43
	Mother	26.38		
	Sister	19.00		
	Others	36.20		
Age	<= 26	32.2	4.59	.22
	27 – 36	33.4		
	37 – 46	26.8		
	47+	26.9		
Family Number	<= 3	1.00	2.6	.26
	4 – 6	5.17		
	7+	5.70		
Marital Status	Single	27.50	6.06	
	Married	25.42		.03*
	Divorced	38.75		
	Widowed	48.50		
Level Of Education	Illiterate	1.00	7.6	.05
	Literate	1.00		
	Primary S.	22.93		
	Secondary S.	15.83		
	Institute	18.00		
	College/ Above	25.43		
Training	Not Once	25.79	4.8	.11
	Once	18.40		
	Two Times	37.88		
	Three Or	34.33		
	More			
Job	Employed	30.04	7.1	.02*
	Free Work	29.58		
	Unemployed	17.29		
Residence	Urban	26.68	0.08	.77
	Rural	24.38		
Housing	Freehold	28.84	1.83	.17
	Rental	23.05		
Physical Disease	Yes	29.56	0.83	.53
	No	25.94		
Psychiatric Disorder	Yes	22.20	0.44	.50
	No	26.96		

* Significant at P<0.05; * Normal Distribution has not been achieved

Table (4.5) shows the relationship between the attitude overall scores and caregivers' demographic data. It assures that there is no significant relationship between attitude of caregivers and their demographic data at ($P > 0.05$), except the Marital Status (P value = 0.03); level of education (P value = 0.05); Job (P value = 0.02).

Discussion

Table (4.1) states that the majority of the subjects (61.5 %) are females of the majority of the subjects. This result come in line with Abdulameer and Al-Dujaili(2022) finding who have revealed that most of the gender of parents (75.4%) subjects are female (mother), also Ji and his colleagues mention that the majority of the gender of parent of children with the ASD (90.9%) is female(16) . Fathers spend most of their time at work and are responsible for providing for their children, while mothers are responsible for the household and child care. As a result, moms are visiting centers for their children's behavioral therapy and treatment.Regarding the age of the caregivers, the predominant age group of the study sample of (46.2 %) is within (26-36) years old and the mean of age group is (34.83) years old. This result agree with Al-Dujaili and Al-Mossawy (2017) result who have found in their survey that the parents with autistic children were younger age 32-38 years with mean (42.1). Macdonald and his colleagues (2013) in their study mentioned that the mean age of parents with child with autism was 30.3 years old (17).Because most of the participants in the study are young people and most young people tend to gain knowledge about the autism spectrum disorder in order to help their children. In relation to the subjects' levels of education, the results assure that the majority of the study sample is of high level of education (28.8) and secondary school (28.8) same result as show in Table (1). This result tallies with Khanna and his colleagues (2012) of caregivers with autism children were at high level of education wit percentage (42.1) . In addition, Keshk and her colleagues (2020) stated that (35.0%) of mothers with autistic children were at moderate, and Bekhet and his collagous ,(2012) caregivers with autism children were at high level of education (37.9%).The study has found a percentage of the high level of education and secondary school is the same. this result means the study participant tend to gain more knowledge about the ASD, obviously thought participant suggestion for researcher another course related to the ASD. Table (1) reveals that the majority of the subjects' marital status with a percentage of (88.5%) are married. This result is consistent along with our culture; where both males and female tend to marry early. This result is similar to that of Mcgrew and Keyes (2014), who found that (87.5%) of the caregivers with autistic children were married. In addition, this result is in line with Lerthattasilp and his colleagues (2015) ,who found most caregiver are married with 60.8% .Generally, this result is normally consistent with our cultural background. Concerning the residency, the majority of the sample with a percentage of (92.3%) liveat urban residential area and the minority of them with a (7.7%) in rural area. As shown in Table (1). This result comes along with Astabrak and Al Dujaili (2017)whose findings indicated that the majority of the study subjects are living in an urban area with a percentage (97.5%) and the remaining are living in the countryside (2.5%).This result may come due to the majority of Al-Najaf population distributed in urban residential areas than rural ones and the study is conducted in the center of Al-Najaf City; therefore, the researcher facing more

participants in urban residential area. Table (4.1) displays that majority of the samples' job (50%) are employed. This finding disagree with the study of who found that (64 %) of samples are employed Al-Dujaili (2015). Supplementary support was found by the study that show Abdulameer and Al-Dujaili (2022) (52.5%) of samples are housewife. Most of the study participant prefer to be employed to have secured kid of living. Concerning the training cycle, the results show that the caregivers without a training cycle account for the largest percentage of those with not training was (76.9). This result agrees with Al-Dujaili and Al-mosway, (2017) in which their study has revealed that (63.2%) of the subjects have no training cycle. and this result disagree with Pandey and Sharma (2018) study in which the highest percentage have training course of (78.7). The reason is otherwise due to the lack of specialized centers for autism and the lack of training courses.

Discussion of the relationship between Knowledge overall scores and caregivers' demographic data

Table (4.4) proves that there is a significant relationship between caregiver item and Knowledge of caregivers at ($P>0.05$), This result agree with Al-Dujaili and Al-Mossawy (2017) the where shows that there is a relationship between the caregiver and psychological burden. Because caregiver for children with ASD intended to have more knowledge to improve general health for their children. Table (4.4) has revealed that there is a significant relationship between age item and overall knowledge of caregivers at ($P>0.02$), this result come in line with Keshk and their colleagues (2020) where show that there is a relationship between age and educational program. The vast majority of young people have the ability to learn and enter training courses for the autism spectrum disorder.

Table (4.4) demonstrates that there is a significant relationship between the level of education item and overall knowledge of the caregivers at ($P>0.05$), This result agrees with Ezzat, (2017) findings that assert there is a relationship between the level of the education and Socio- demographic data. The caregivers who have a higher level of education than the rest tend to have best information and skill in caring their children. Education leads to the increasing trends in awareness autism, and allows diagnosis early, and treatment between educated persons, and their environment.

Table (4.4) show that there is a significant relationship between training item and overall knowledge of caregivers at ($P=0.03$), these result correspond with Abdulameer and Al-Dujaili (2022) is a significant relationship between total score assessment of Kessler Psychological Distress scale and Training about Down Syndrome. They are significantly correlated and the caregivers with no training programs does not improve level of knowledge and attitude.

Table (4.4) study confirm that there is a significant relationship between job item and overall knowledge of the caregivers at ($P>0.05$), these results disagree with Ezzat (2017) study, where most participant were housewife and no statistical significant relationship. Because of the position, the caregivers deal with the change of the child with autism spectrum disorder in an appropriate manner, on

the contrary, the person who is not appointed because of the greater and wider knowledge.

Table (4.4) states that there is a significant relationship between the residency item of knowledge overall of the caregivers and their demographic data at ($P > 0.05$), such result tallies with Al-Dujaily, (2015), Most of the ASD cases were children who live in urban. The city center has many ASD centers than urban area.

Discussion of the relationship between attitude overall scores and caregivers' demographic data

Table (4.5) offers the relationship between the attitude of the overall scores and caregivers' demographic data. It indicates that there is no significant relationship between attitude of caregivers and their demographic data at ($P > 0.05$), except the Marital Status (P value = 0.03); level of education (P value = 0.05); Job (P value = 0.02). The absence of a relationship between the demographic characteristics of the participants in the study and their information after applying the program may be considered positive, meaning that the program was the influenced the knowledge and attitude of the caregiver among children with ASD for obtaining better results. Table (4.5) consolidates that there is a significant relationship between Marital Status item and overall attitude of caregivers at ($P > 0.03$), this result observation by Chandran et al., (2019), All the primary caregivers were married and one of the caregiver was a widow.

The study result shows that there is a significant relationship between the Level Of Education item and overall attitude of the caregivers at ($P > 0.05$), these result coincide with Al- Tameemi et al., (2021), "The aim of this study was to obtain a picture of burden among caregivers raising children with Autism Spectrum Disorder. level of education was found to be significantly associated with overall burden and burden in finances and control of life". This result agrees with to the one mentioned earlier) the significant relationship between Level of Education item and knowledge) their for as for increase knowledge lead to increase attitude.

Table (4.5) verifies that there is a significant relationship between the job item and overall attitude of caregivers at ($P > 0.02$), this result correspond with Ezzat(2017) study that aims to assess the quality of life and subjective burden on family caregiver of children with autism , significant relationship between family caregiver job and burden at $p = 0.005$. This result is similar to the one that is mentioned earlier) significant relationship between job item and knowledge) their for as for increase knowledge lead to increase attitude.

Conclusion

Based on the study results and the discussion, The study confirms that the education program is effective and the knowledge and attitude of caregivers have increased. The Caregiver, age, level of education, training about autism spectrum disorder, job and residency are statistically significant while other parameters regarding socio-demographic characteristics of caregivers are not significant, in relation to knowledge skills. Excepting the marital status, level of education, and

job, most of the socio-demographic factors of autistic children had no impact on caregivers' attitudes. The caregivers were under the age of fifty, and greater than 50% of the caregivers' children were females. The highest percentage of the subjects were married, having a high degree of education and secondary school

Financial Disclosure: There is no financial disclosure.

Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the University Of Kufa- Faculty of Nursing and all experiments were carried out in accordance with approved guidelines.

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