RESEARCH ARTICLE

Assessment of Nurses Knowledge about Autism Spectrum Disorder in Pediatrics Hospital in Kirkuk City

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ABSTRACT

Background: Autism is a neurological disorder that affects the brain and cause of weakness in the formation of social relations, communication skills and language, and emotional and sensory development. Autism can present in all races, social status, religions and classes of people.

Objectives: The study objective is to assess the nurse's knowledge level about autism spectrum disorder and to find out the relationship between nurses knowledge level about Autism Spectrum Disorder.

Methodology: A Descriptive non-experimental study, it was carried out at Pediatrics Hospital in Kirkuk City, samples include nurses who works at Pediatrics Hospital (males and females). The study samples were chosen by non-probability sampling (purposive sample). An instrument was constructed as a questionnaire for the study purpose, the questionnaire consists of (3) domains (Information, Concepts and Facts about Autism Spectrum Disorders, Signs of impairment in social interaction and communication in children with Autism and Disorder in behavioral patterns).

Study Results: The results shows that the most of nurses at age between 20-29 years (63.1%), the highest percentage of them are females with (63.1 %), higher percentage (40 %) from total were at good level of knowledge about autism spectrum disorder, The age group between (20-29 years) were at intermediate and good levels of knowledge with percentage (43.9 %), males were most of them at good level of knowledge with (50 %) and also (50 %) of married nurses at good level of knowledge, nurses who have Bachelor education at good level of knowledge with (46.2%).

Conclusions: The study indicated that the majority of nurses at age between 20-29 years, And most of them are females, common of them married, most common of them with Diploma educational level and highest percentage of them had less than one year of employment in pediatric wards, the majority of nurses at good level of knowledge about autism spectrum disorder, the nurses who their age between (20-29 years) were at higher level of knowledge than other age groups,   the males nurses' knowledge about autism spectrum disorder more than the females,   Study shows that the most of nurses who married and divorced were at higher level of knowledge than unmarried nurses.

Recommendations: The study recommended more studies in same subject with larger sample size and Future studies about another concepts of autism spectrum disorder in Kirkuk Higher Health Institute and other health organizations.
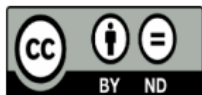
INTRODUCTION

Autism is a neurological disorder that affects the brain and cause of weakness in the formation of social relations, communication skills and language, and emotional and sensory development (National Autism Society, 2019). The Center for Disease Control (CDC), 2014 has reported that one in every 68 children is diagnosed Autism Spectrum Disorder (ASD) in the United States. It occurs four to five times more boys than girls. Autism symptoms appear for the child in early infancy and is characterized by weakness in language, communication and, social skills, and the existence of stereotypes / repeated behaviors.

Autism spectrum disorder was first described in 1943 by the American child psychologist, Leo Kanner. He presented 11 children whose behaviors' were obviously different from those of others. Kanner suspected that they had an inborn feature which had prevented their regular social contacts (Surmen et al., 2015).

Autism terms from the Greek word "auto" means "alone" officially presented by Kanner's 1943. Clinical name, autism or autism spectrum disorders (ASD), is a complex disorder involves abnormal nervous system development (Razali et al., 2013).

Case-Smith & Arbesman, 2018 reported that no cure diagnosis treatment in the autism spectrum ; however, there are many treatments used to treat dysfunctional behaviors promote development and increase independence .

(Ozonoff et al., 2010) reported that the early features of ASD such as lack of social interaction, communication, hyperactivity, attention deficit, seizure disorder , sensory integration disorder, or sleep disturbance often appear earlier and develop for several years. There are also frequent behaviors such as hand clapping or shaking , self-harmful behaviors such as beatings on the head and hand biting, sleep and eating problems, poor communication, isolation, and Intransigence.

Autism can present in all races, social status, religions and classes of people. It can occur in any child and family, so far the main causes of this disorder unknown that is why there is no medical cure completely. The number of children with ASDs have increased during the past decade, and prevalence of autism had risen dramatically, based on (Centers for Disease Control, and Prevention) CDC estimates autism is seen in 1 of every 88 children (Murray et al., 2013).

1.2. Importance of the Study:

Ametepee & Chitivo. 2015 report that international trends show that the spread of autism increase the number of people with autism spectrum disorder.

According to Roberts, (2011) mentioned that current statistics worldwide indicated that the number of children with autism is one out of every 100 people. As a result of the proliferation problem, there are strategies that can be taken by the family to reduce the level of child disability and increase the number of children infected with it. The ability to deal with this publication which is considered a sever handicap because due to the severe lifelong effects on the individual and his or her family. The burden of families with children with autism is an important issue that must be addressed with the parents of children who have been diagnosed with autism .

The evaluation of statistics in health institutions in Iraq is showing an increase in number of autistic children in late years and with no attention and awareness of mothers to the of spread of the disorder. Table (1.1) show how the spread rate of autism in Baghdad and all the provinces of Iraq related to centers of autism.

METHOD

This chapter presents the methods utilized for this study, design of the study, administrative arrangement, the study instruments, validity of the questionnaire, pilot study, reliability of the questionnaire, setting of the study, the target population, sample of the study, data collection method and data analysis.

3.1. Design of the Study:

A Descriptive non-experimental study was design utilized to assess the knowledge nurses about Autism Spectrum Disorder; the study was carried out through the period of Jan 2022 to May 2022.

3.2. Administrative Arrangements:

Before establishing the present study, administrative was arrangement in conducting the study in the higher health institute (Appendix A).

3.3. Setting of the Study:

The study was carried out at Pediatrics Hospital in Kirkuk City. Pediatric Hospital also consider as one the old and major hospital in Kirkuk city, That is established in 1972, It is a special hospital for pediatric that includes 120 beds , which offers to services exclusively to children.

3.4 The Study Population:

It is comprised of nurses who works at Pediatrics Hospital in Kirkuk City.

3.5. The Sample of the Study:

A non –probability / Convenience sampling technique was applied in the present study. All nurses who work in pediatric hospital of Kirkuk city were involved.

The target population in Pediatric Hospital was comprised form nurses who work in pediatric ward are 175; Actually 65 nurses have been selected randomly out of 175 nurses and this represent (37.14 %).

3.5.1. Inclusion Criteria:

Nurses who have interest and agree to be involved in the study. Nurses who work in pediatric wards.

3.5.2. Exclusion Criteria:

Nurses who refused to participate in the study.

3.6. The Study Instrument:

According to literature review of previous studies related Autism Spectrum Disorder an instrument was constructed as a questionnaire for the study purpose (Appendix B). Another format for the socio-economic and demographic data formed which was established to collect demographic data about nurses.

The questionnaire was prepared according to the following steps:

Opinion of specialized experts in the higher health institute.

Extensive review of related literature and previous studies.

After the arrangement of all information obtained above the overall number of items included in the questionnaire (30) items. The questionnaire consists of (3) domains, which are listed below:

Part One: -

The nurses socio demographic characteristics such as (nurses age, gender, place of work ,educational level, marital status , Years of employment in pediatric ward). In Addition , questions such as (Do participate in any training course or workshop related to (ASD) inside the country, Are you attended any training course or workshop related to (ASD) outside the country , During your time working in pediatric ward , how many children care with who have autism spectrum disorder).

Part Two: -

This part is considered as the vital issues of the study regarding the level of the nurses awareness toward Autism Spectrum Disorders, which consists of (30) items and has been divided on three domains:

First Domain: Information, Concepts and Facts about Autism Spectrum Disorders (10) items.

Second Domain: Signs of impairment in social interaction and communication in children with Autism (10) items.

Third Domain: Disorder in behavioral patterns (10) items.

3.7. Rating and Scoring of the Study Instrument:

In order to measure the previous items accurately and statistically, the researcher has followed scale and scores rating in part two of the questionnaire as the following patterns;

Each item has been scaled by three level of Likert scales and scored respectively as follow:

Scales	Scores
Yes	3
Don't know	2
No	1

The overall mean scoring for 30 questions the maximum mean score is (90) while minimum score is (30).

The mean score of 30 questions if equal to (30-59) the nurses have weak Awareness.

The mean score of 30 questions if equal to (60-69) the nurses have acceptable Awareness.

The mean score of 30 questions if equal to (70-79) the nurses have intermediate Awareness.

The mean score of 30 questions if equal to (80-90) the nurses have good Awareness.

3.8. Data Collection Methods:

The data collection process has been carried out from April until May 2022. Data collection was started after obtaining the permission from Pediatric Hospital.

The interviewing was done by the researcher with each selected nurse who work at pediatric hospital to get his /her response and to clarify the items mentioned in the questionnaire form of the study. Each interview took approximately (20-30) minutes with each nurse. All participants were informed that the information will be kept confidential and used just for a scientific purpose.

3.9. Reliability and Validity of the Study Tool

3.9.1. Validity of the Study:

The actual collection of data was done after experts reviewed and content validity was established. Furthermore, changes were made in the questionnaire items according to the recommendations and notes of experts (appendix A).

To investigate the clarity, relevance, and adequacy of the questionnaire in order to achieve the present study′s objectives, content validity for the early developed instrument was determined through the use of panel of experts (Appendix A).

All of them were asked to review the questionnaire. Results indicated that the majority of experts had agreed that questionnaire was appropriately designed and developed to measure the phenomena underlying the study.

In addition to the experts' responses, their suggestions were taken into consideration. So far, their modifications are taken in to consideration and the final copy of the constructed instrument is completed to be a fitting tool for conducting the study.

3.10. Statistical Data Analysis:
3.10.1 Descriptive Data Analysis:
Statistical tables (Frequencies and percentages).
- %: Percentage
- F: Frequency
- N: Total study sample size
3.11. Limitations of the Study:
3.11.1. The sample include only the students of midwifery department.
3.11.2. Time was critical for the researcher.

RESULTS

Table 4.1. Distribution the Result of Demographic Data of the Study Sample:

Demographic Sample		*f.*	%
Age Groups	20-29 years	**41**	**63.1**
	30-39 years	14	21.5
	40-49 years	8	12.3
	50 years and more	2	3.1
Gander	males	24	36.9
	females	**41**	**63.1**
Marital status	Single	14	21.5
	Married	**47**	**72.4**
	Divorced	3	4.6
	widow	1	1.5
Educational level	High certificate	0	0
	Bachelor	13	20
	Diploma	**41**	**63.1**
	Secondary	11	16.9
Years of employment in pediatric wards	Less than one year	**21**	**32.2**
	2-5 years	17	26.2
	6-10 years	17	26.2
	14-11years	5	7.7
	15 years and more	5	7.7
Participate to any training course inside the country	no participate	**47**	**72.3**
	participate in 1	18	27.7
Caring of children with autism spectrum disorder.	No one	**29**	**44.7**
	4-1 children	23	35.3
	5-9 children	7	10.8
	10 and more	6	9.2

f.: Frequency, %: Percentage

Table 4.2. Distribution of the Knowledge Levels Total Scores of the Study Sample as General:

Total Levels of Knowledge							
Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
f.	%	*f.*	%	*f.*	%	*f.*	%
2	3	12	18.5	25	38.5	26	**40**

f.: Frequency, %: Percentage

Table 4.3. Distribution of the Knowledge Levels of the Study Sample Regarding to Age Groups:

Age groups	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	*f.*	%	*f.*	%	*f.*	%
20-29 years	2	4.9	3	7.3	18	**43.9**	18	**43.9**
30-39 years	0	0	6	**42.8**	2	14.3	6	**42,8**
40-49 years	0	0	3	**37.5**	3	**37,5**	2	25
> 49 years	0	0	0	0	2	100	0	0

f. : Frequency , %: Percentage

Table 4.4. Distribution of the Knowledge Levels of the Study Sample Regarding to the Gander:

Gander	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	*f.*	%	*f.*	%	*f.*	%
Male	0	0	4	16.7	8	33.3	12	**50**
Female	2	4.9	8	19.5	17	**41.5**	14	34.1

f. : Frequency , %: Percentage

Table 4.5. Distribution of the Knowledge Levels of the Study Sample Regarding to Marital Status:

Marital Status	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	*f.*	%	*f.*	%	*f.*	%
Married	0	0	3	21.4	4	28.6	7	**50**
Unmarried	2	4.3	8	17	20	**42.5**	17	36.2
Divorced	0	0	1	33.3	0	0	2	**66.7**
Widow	0	0	0	0	1	**100**	0	0

f. : Frequency , %: Percentage

Table 4.6. Distribution of the Knowledge Levels of the Study Sample Regarding to Educational Level:

Educational level	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	f.	%	f.	%	f.	%
Bachelor	0	0	3	23.1	4	30.7	6	**46.2**
Diploma	2	4.9	7	17.1	16	**39**	16	**39**
Secondary	0	0	2	18.2	5	**45.4**	4	36.4

f. : Frequency , %: Percentage

Table 4.7. Distribution of the Knowledge Levels of the Study Sample Regarding to Years of Employment in Pediatric Wards:

Years of employment in pediatric wards	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	f.	%	f.	%	f.	%
Less than one year	2	9.5	2	9.5	9	**42.9**	8	38.1
2-5 years	0	0	1	5.8	8	**47.1**	8	**47.1**
6-10 years	0	0	6	35.3	4	23.5	7	**41.2**
14-11years	0	0	2	**40**	1	20	2	**40**
15 years and more	0	0	0	0	3	**60**	2	40

f. : Frequency , %: Percentage

Table 4.8. Distribution of the Knowledge Levels of the Study Sample Regarding to Participate to any Training Course Inside the Country:

Participate to any training course inside the country	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	f.	%	f.	%	f.	%
no participate	2	4.3	8	17	16	34	21	**44.7**
participate in 1	0	0	4	22.2	9	**50**	5	27.8

f. : Frequency , %: Percentage

Table 4.9. Distribution of the Knowledge Levels of the Study Sample Regarding to Caring of Children with Autism Spectrum Disorder:

Caring of children with autism spectrum disorder.	Knowledge Levels							
	Weak Level of Knowledge		Acceptable Level of Knowledge		Intermediate Level of Knowledge		Good Level of Knowledge	
	f.	%	f.	%	f.	%	f.	%
No one	0	0	9	31	11	**38**	9	31
4-1 children	0	0	3	13	11	**47.9**	9	39.1
5-9 children	0	0	0	0	1	14.3	6	**85.7**
10 and more	2	33.3	0	0	2	33.3	2	33.3

f. : Frequency , %: Percentage

DISCUSSION

This chapter clarify systematically the results and discussion are drawn to a reasonable extent of the results.

The data were analyzed by applying descriptive statistics in order to achieve the objectives of the study.

5.1. Discussion of Demographic Characteristics of the Study Samples:

According to results in table (4-1), this table reveals that the most of nurses at age between 20-29 years with (63.1%) from total sample. And most of them females with (63.1 %).

Regarding to marital status, the highest percentage of study samples (72.4%) were Married.

According to educational level of the nurses. The results shows the most common of them with Diploma (63.1%), and highest percentage of them had less than one year of employment in pediatric wards with (32.2 %).

Also the results show most of them (72.3 %) did not participate to any training course inside the country, and highest percentage of the nurses have no experience of caring of children with autism spectrum disorder (44.7 %).

5.2. Discussion of Distribution of the Knowledge Levels Total Scores of the Study Sample as General:

As show in table (4-2), higher percentage (40 %) from total were at good level of knowledge about autism spectrum disorder.

5.3. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Age Groups:

Table (4-3) indicate that most of the nurses who aged between (20-29 years) were at intermediate and good levels of knowledge with percentage (43.9 %), the age group between (30-39 years): (42.85%) of them at acceptable level of knowledge and also (42.85 %) of them at good levels of knowledge , while the nurses who their age were between (40-49 years) the level of knowledge of them were (37.5%) for both acceptable and intermediate levels. The all of nurses who their age

50 years and More at intermediate level of knowledge with percentage (100 %).

5.4. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Gander:
Regarding to table (4.4) the results shows the males study sample were most of them at good level of knowledge with (50 %), and the female nurses got less scores with males. Higher percentage of them the level of knowledge at intermediate level with (41.5%).

5.5. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Marital Status:
According to table (4-5), the most of study samples who are married at good level of knowledge with percentage (50 %). While the higher percentage of study samples who are unmarried at intermediate level of knowledge (42.5 %). Add to that, the results shows the study sample who are divorced were most of them at good level of knowledge (66.7 %) and (100 %) of widow study sample at intermediate level of knowledge.

5.6. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Educational Level:
Table (4-6) shows the high percentage of nurses who have Bachelor education at good level of knowledge with (46.2%). The study sample with Diploma were at both intermediate and good levels of knowledge (39 %), and (45.4 %) of the study sample who with secondary education at intermediate level of knowledge.

5.7. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Years of Employment in Pediatric Wards:
Regarding to table (4-7), the nurses with Less than one year experiences in pediatric wards (42.9 %) of them at intermediate level of good levels, while the (60 %) of nurses with (15 years and more) at intermediate level of knowledge.

5.8. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Participate to any Training Course Inside the Country:
Table (4-8) shows , the nurses with no participate in training courses (44.7%) of them at good level of knowledge , (50 %) of nurses who participate in one training course at intermediate level of knowledge.

5.9. Discussion of Distribution of the Knowledge Levels of the Study Sample Regarding to Caring of Children with Autism Spectrum Disorder:
Regarding to table (4-9), the nurses with no experiences caring of children with Autism Spectrum Disorder (39 %) of them at intermediate level of knowledge, (47.9 %) of nurses who gave care of (4-1 children) in the past at intermediate level of knowledge.
While the most of nurses who gave care of (5-9 children) were at good level of knowledge with percentage (85.7 %) and (33.3 %) of study sample who had experience of caring 10 and more children with Autism Spectrum Disorder at poor, intermediate and good levels of knowledge.

CONCLUSIONS

According to discussion and interpretation of the study finding, the researcher has come with the following conclusion:
The study shows that the majority of nurses at age between 20-29 years, And most of them are females, common of them married.
The results shows the most common of them with Diploma educational level and highest percentage of them had less than one year of employment in pediatric wards.
Most of nurses did not participate to any training course inside the country, and highest percentage of the nurses had no experience of caring of children with autism spectrum disorder.
The majority of nurses at good level of knowledge about autism spectrum disorder.
Study shows that most of the nurses who their age between (20-29 years) were at higher level of knowledge than other age groups.
The males nurses' knowledge about autism spectrum disorder more than the females.
Study shows that the most of nurses who married and divorced were at higher level of knowledge than unmarried nurses.
The results shows that most of the nurses with Bachelor were at higher level of knowledge than the other education level groups.
The most of the nurses with experience 2-5 years of employment in pediatric wards were at higher level of knowledge than the other groups.

ETHICAL CONSIDERATIONS COMPLIANCE WITH ETHICAL GUIDELINES
Study approval was granted by Human Ethics Committee of Kirkuk (Health) Directorate. The participants were informed about nature of the study, and involvement was voluntarily, and that data would be treated anonymously and confidentially.

AUTHOR'S CONTRIBUTIONS
Mariwan Qadir Hamarash, Mohammed Ismael Ramadan contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

DISCLOSURE STATEMENT:
None to be declared.

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