

Effectiveness of Health Educational Program on Nurses ' Knowledge toward Alternative Communication Strategies for Children with Autism Spectrum Disorder at the Autism Centers in DhiQar Governorate

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Abstract

Aims: This study aimed at evaluate the effectiveness of health education program on nurse knowledge toward alternative communication strategies for children with Autism spectrum disorder at the autism centers.

Methods: The study was designed as a quasi-experiment design using test– retest approach for study group and control group participants employed. The study is carried out at the Autism Centers in Dhi Qar Governorate (Dhi Qar Autism Center - Autism Center in Shatrah) This Centers provide Health care to children with autism spectrum disorder. A non - probability purposive sample selected from nurses who were working at the Autism centers in Dhi Qar governorate. The sample (25) nurses enrolled as a control group and (25) nurses enrolled as a study group. The study group participants were exposed to an educational program. The data collection process uses the self-administrating technique in which the nurse fills the questionnaire form by themselves. Through the descriptive statistic, data were analyzed.

Results: Findings shows there is no statistically significance at pretest period at p. value 0.05., while at posttest-1 period statistically significance differences at p. value 0.05 and statistically significance differences at posttest-2 period at p. value 0.001

Conclusion: Nurses' knowledge who work in the ASD centers before application the health educational program was poor in pre-test, and after Implementation of the program, their knowledge was improved in post-1, and post-2 tests , indicating that nurses' knowledge improved as a result of obtaining the health educational program. Health educational program should be provided for the two nurses working in the centers for Autism Spectrum Disorder, similar to the program in the study group in this study.

Key-words: Effectiveness, Nurses, Communication Strategies, Autism.

INTRODUCTION

The acronym "Autism Spectrum Disorder" (ASD) refers to a category of diverse brain growth disorders, "Autism" is derived from the Greek word "autos" which means "self " it applies to circumstances in which a person's "isolated self " is present, ASD is characterized by difficulties in social interaction, as well as verbal, nonverbal and repetitive motor interaction, It can also be followed by learning disability and physical health issues such as sleep and digestive problems^[1]. Children with autism spectrum disorder also experience difficulty communicating verbally, Augmentative and alternate communication (AAC) technologies may be helpful for children who do not use functional vocabulary^[2]. There is evidence that augmentative and alternative communication (AAC) can enhance a child's quality of life by assisting nonverbal children with ASD in increasing their communication^[3]. The method of acquiring verbal communication skills can be stressful and challenging for many individuals with ASD, Communication is a huge challenge for those on the autism spectrum, and it will take a lifetime, with some children never having speaking skills, There have, however, been several computers, applications, and picture-based communication systems

created to aid in this struggle. This alternate and augmentative communication (AAC) technologies can help with speech and, in some situations, can serve as a bridge to spoken communication ^[4].

METHODOLOGY

Design of the study

The study was designed as a quasi-experiment design using test– retest approach for study group and control group participants employed.

Setting of the Study:

The study is carried out at the Autism Centers in Dhi Qar Governorate (Dhi Qar Autism Center - Autism Center in Shatrah) This Centers provide Health care to children with autism spectrum disorder. Attending to the Autism centers for receiving treatment ,care, and doing full investigations. The services provides for the patient freely. The setting of this Autism centers in Dhi Qar Governorate.

Sample of the Study:

A non - probability purposive sample selected from nurses who were working at the Autism centers in Dhi Qar governorate. The sample (25) nurses enrolled as a control group and (25) nurses enrolled as a study group. The study group participants were exposed to an educational program.

Study instruments

A questionnaire consists of the following parts including:

Part 1: Socio-demographic data of nurses includes gender, age, level of education, social status, years of experience in general nurses and years of experience inside Autism Center, did you participate courses related to (ASD).

Part 2: Nurses' knowledge of the concept of (ASD): Which composed of (20 items) .

Part 3: Nurses' knowledge of alternative communication strategies: Which composed of (21 items) .

Validity and reliability of study questionnaire

A content validity were achieved through a (15) panel of experts and reliability were achieved through a pilot study. It conducted on (10) were selected among nurses concerning with Children Autism Centers in Dhi Qar. Cronbach's Alpha= 85 which indicate a pass questionnaire items.

Data collection:

The data collection process uses the self-administrating technique in which the nurse fills the questionnaire form by themselves. Through the descriptive statistic, data were analyzed.

RESULTS

Table 1: Distribution of The Study Sample by Socio- Demographic Characteristics for (Study and Control Group) (N= 50 Nurses)

Basic Information	Groups	Study group		Control group		Total Sample	
		F	%	F	%	F	%
Age groups	20 - 25	1	4.0	2	8.0	3	6.0
	26 – 30	7	28.0	7	28.0	14	28.0
	31 – 35	9	36.0	11	44.0	20	40.0
	36 – 40	8	32.0	5	20.0	13	26.0
	41 and above	0	0.0	0	0.00	0	0.00
	$\bar{x} \pm S.D.$	29.6 \pm 0.889		27.6 \pm 0.879		28.6 \pm 0.881	
Gender	Male	8	32.0	9	36.0	17	34.0
	Female	17	68.0	16	64.0	33	66.0
Educational Level	High School Nursing	6	24.0	8	32.0	14	28.0
	Diploma(Nursing Institute)	12	48.0	13	52.0	25	50.0

	Bachelor (Faculty of Nursing)	6	24.0	4	16.0	10	20.0
	Postgraduate studies (\geq Master)	1	4.0	0	0.00	1	2.0
Years of Service in Nursing Field	1 - 5	4	16.0	5	20.0	9	18.0
	6 -10	9	36.0	8	32.0	17	34.0
	11 – 15	4	16.0	6	24.0	10	20.0
	16 -20	8	32.0	6	24.0	14	28.0
	20 and above	0	0.0	0	0.00	0	0.0
The Number of Years of Service in the Autism Center	1 – 3	8	32.0	7	28.0	15	30.0
	4 -6	10	40.0	12	48.0	22	44.0
	7 – 9	7	28.0	6	24.0	13	26.0
	10-12	0	0.0	0	0.0	0	0.00
	13 years and more	0	0.0	0	0.0	0	0.00
Social status	Unmarried	8	32.0	8	32.0	16	32.0
	Married	17	68.0	17	68.0	34	68.0
	Absolute	0	0.00	0	0.0	0	0.0
	Widower	0	0.00	0	0.0	0	0.0
Participated in Courses Related to Autism	Yes	16	64.0	17	68.0	33	66.0
	No	9	36.0	8	32.0	17	34.0
Number of Courses	0	9	36.0	8	32.0	17	34.0
	1	15	60.0	16	64.0	31	62.0
	3	1	4.0	1	4.0	2	4.0

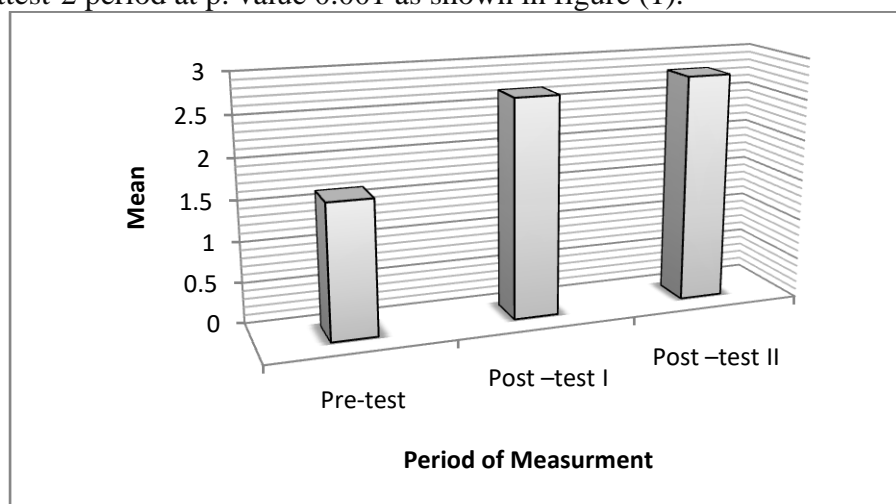
This table revealed that the majority 9 (36.0 %) of nurses in the study group are within the age group (31-35 years) and 11 (44.0 %) of nurses in the control group are within the same age group and 20 (40.0%) of nurses all study sample of in within the age group (31-35 years). Related to the gender the study group were females and 17 (68.0%) of nurses, while 16 (64.0%) in the control group were females. In addition, as for total study sample gender were female 33 (66.0%). Concerning to the educational level, majority of nurses in study group were diploma (nursing institute) graduated 12 (48.0 %), while 13 (52.0%) in the control group were diploma (nursing institute) graduated, in addition for total study sample 25 (50.0 %) were female. In relation to the years of service in nursing, the most of nurses have (6 -10) years in study groups 9 (36.0%), while 8 (32.0 %) in the control group within the same years of services. In addition total study sample 17 (34.0%) have (6-10) years of services in nursing. Regarding to the number of years of service in the autism center, the most of nurses have (4-6) years in study groups 10 (40.0%), while 12 (48.0%) in the control group. In addition total study sample 22 (44.0%) have 1-5 years of service in the autism center. Regarding to social status, the most of nurses were married in study group 17 (68.0 %), while 17 (60.0%) in the control group were married. In addition, total study sample married were 34 (68.0%). Regarding to participated in courses or workshops related to autism spectrum disorder, the most of nurses answer with (yes) study groups 16 (64.0%), while 17 (68.0%) in the control group. In addition total study sample 33 (66.0%) were participated in courses or workshops related to autism spectrum disorder. Regarding to number of courses or workshops related to autism spectrum disorder, the most of nurses answer with (1) courses study groups 15 (60.0%), while 16 (64.0%) in the control group. In addition total study sample 31 (62.0%) were participated in one courses or workshops related to autism spectrum disorder.

Table 2: Period (Pre, Post-1 and Post-2) on Nurses ' Knowledge toward Alternative Communication Strategies for Children with Autism spectrum disorder at the Autism Centers of Study Sample.

Period	Mean \pm S.D.	F	d.f	P. value	Sig
Pre-test	1.6420 \pm 0.11215	1.594	24	0.215	NS
Post –test I	2.6732 \pm 0.17574	3.355	24	0.026	S
Post –test II	2.7932 \pm 0.15871	2.520	24	0.007	HS

$\bar{x} \pm S. D.$ = Arithmetic Mean (\bar{x}) and Std. Dev. (S.D.), F = Fisher test, d.f. = degree of freedom, P = probability value.

Findings shows there is no statistically significance at pretest period at p. value 0.05., while tat posttest-1 period statistically significance differences at p. value 0.05 and statistically significance differences at posttest-2 period at p. value 0.001 as shown in figure (1).

**Figure (1): Nurses ' Knowledge toward Alternative Communication Strategies**

DISCUSSION

Discussion of Nurses' Socio-Demographic Characteristics (table 1):-

The sample included (50) nurses who accepted to participate in the study (25 in the study and 25 in the control group). Nurses' ages ranged from (20) to (41) years and above, (40%) of them aged between (31) to (35) years . This result in line with that by Al-mosawi (2019).who stated that their sample included (25) nurse, also Imran et al. (2011) stated that the mean age of nurses in their sample was (33) years old^[5,6].

Regarding nurses' gender and educational level, (66%) of them were females and (50%) of them were having a diploma degree as academic achievement. This result similar to that by (Will et al.,2013). whose sample included (117) (92.9 %), female nurses^[7].Also De Sena et al. (2015). mentioned that nearly (60%) of nurses in their sample were having a diploma degree as academic achievement^[8].

Concerning years of services in the nursing field and the autism center, nearly (35%) of nurses having (6) to (10) years of services in the nursing field and (44%) of them were having (4) to (6) years of services in the autism center. This result close to that by Igwe et al. (2011). who stated that (77%) of nurses having experience dealing with autistic children^[9].

Apropos of nurses' marital status, (68%) of them were married and only (32%) percent of them were single. This result similar to that by Sampson and Sandra (2018). who stated that nearly (70%) of nurses in their sample were married^[10].

Respecting the participation and number of previous courses of autism for nurses, (66%) of them participated in courses/ workshops and (62%) of them had previously participated in one

course/ workshop. This result agrees with that by Hayat et al. (2019). who stated that (50%) of nurses in their sample have participated in previous courses/ workshops regarding autism^[11].

Discussion Regarding Effectiveness Health Educational Program in Improve of Nurses' Knowledge Levels toward Alternative Communication Strategies for Children with Autism among The Three Periods (Pre, Post-1, and Post-2 Tests for the Study Group)(table 2):-

Represent a comparison between the pre and post-1 test, a comparison between the pre and post-2 test, and a comparison between the post-1 and post-2 test, respectively, these comparisons revealed a significant statistical difference between the pre and post-1 (mean score for pre = 1.64 and post-1 = 2.67), pre and post-2 (mean score for pre = 1.64 and post-2 = 2.79), post-1 and post-2 (mean score for post-1 = 2.67 and post-2 = 2.79) tests, these differences confirmed that nurses' knowledge was greatly improved after the exposure to the educational program. This result agrees with study conducted Welfare Children Teaching Hospital in Baghdad City^[15]. A pilot study who reported a great improvement in nurses' knowledge in the post-1 and post-2 tests with a mean score for pre, post-1, and post-2 = 1.22, 1.68, and 1.81 respectively, as well as mean score for pre and post = 6.73 versus 9.18^[11]. The success of the educational program may be for the following reasons: the high efficiency of the researcher when demonstrating the program contents, ease and smoothness of the scientific material presented, choosing an appropriate language during the presentation that suits all the educational levels, provide the appropriate tools to introduce the program, ongoing support provided by the administration of the Autism Center to the researcher and participated nurses, continuous communication with the researcher for inquiries, and curiosity among nurses to know more, curiosity is a key element that individuals must have to learn more.

The educational program was greatly improved nurses' knowledge as marked in the significant column as well as the good level of knowledge when evaluated, with a mean score for pre, post-1, and post-2 equal to 1.64, 2.67, and 2.79 respectively. This result similar to the instruction using augmentative and alternative communication supports, and results of a pilot evaluation, who noted a good level of knowledge after completing the educational program with a mean score for pre, post-1, and post-2 equal to 0.30, 0.70, and 0.75 respectively, as well as (74%) of health worker, showed a good level of knowledge after the program^[13, 14]. The appearance of high significance in the post-2 test may be due to continuous follow-up by the researcher in enhancing nurses' knowledge as well as their desires to learn more about the alternative communication methods for children with autism. Furthermore, knowing these methods for nurses will make it easier for them to communicate with autistic children without the need to use words, so the program opened a window for them to communicate more effectively and without losing vocal energy.

CONCLUSIONS

Nurses' knowledge who work in the ASD centers before application the health educational program was poor in pre-test, and after Implementation of the program, their knowledge was improved in post-1, and post-2 tests, indicating that nurses' knowledge improved as a result of obtaining the health educational program. Health educational program should be provided for the two nurses working in the centers for Autism Spectrum Disorder, similar to the program in the study group in this study.

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