

Knowledge and Attitude Regarding Autism Among Nurses in Fako Division, Cameroon

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Abstract

Background: Despite the fact that autism is on the rise globally and in Cameroon specifically; few studies have been conducted on the phenomenon. These studies have mostly focused on speech and language development for children. Caring for children with autism spectrum disorders (ASD) is a challenge for nurses and literature reveals a lack of knowledge.

Objectives: To investigate nurses' knowledge and attitude regarding autism

Methods: The study employed a hospital based descriptive cross-sectional design. Purposive and convenient samplings were used to select the study sites and enroll participants to the study respectively. Participants were nurses in the Buea and Limbe Regional Hospitals in the South West Region of Cameroon. Respondents who met the inclusion criteria and gave their consent to participate in the study were selected. The Knowledge about Childhood Autism among Health Workers (KCAHW) questionnaire was adapted and employed to collect data. Data were entered and analysed using Epi Info 7.2.2.2, at $p < 0.05$.

Results: A total of 41 respondents participated in the study. The study revealed that 24.4% of participants were not knowledgeable on ASD, 97.6% had not attended any seminar or read any information on autism, 50% heard of autism in the community and 40.65% of the respondents had positive attitudes towards autism. It also revealed that knowledge on autism had an association ($p < 0.001$) with qualification, years of working experience and their units of work but was not dependent ($p > 0.001$) on gender.

Conclusion: The study concluded that even though more than half of the respondents had basic knowledge on autism, there is still need for autism spectrum disorders to be included in the training curriculum as well as the organisation of seminars for nurses to improve and upgrade their knowledge. This may go a long way to enhance quality care for children with autism in Cameroon.

Keywords: autism spectrum disorders; nurses; knowledge; autism; attitudes

Introduction

Autism (ASD) is a lifelong neurodevelopmental disorder which result in marked speech and language difficulties as well as mental abilities or behaviour [1]. The prevalence of autism is rising at an alarming rate globally [2] and this creates a major concern for quality nursing care in a variety of clinical settings. In 2014, CDC released new data on the prevalence of autism in the United States which identified 1 in 68 children (1 in 42 boys and 1 in 189 girls) as having ASD. In Cameroon, studies have shown that there has been a steady rise in the number of children with autism [3, 4, 5, 6]; in Africa however, the prevalence is uncertain [5]. The reasons for the alarming rate could be partly due to more advanced testing and classification methods and

increasing awareness. Therefore, in response to the rising numbers of individuals being diagnosed with ASD, it is extremely important for nurses to be adequately prepared to meet the healthcare needs of this special population. Nurses working in the paediatric outpatient department, paediatric wards, physiotherapy, paediatric emergency, or the extended immunization unit are most likely to interact with this special group of individuals [7].

Nurses need to be adequately informed and prepared to meet the challenge of providing appropriate care for these special group of persons. It is very

necessary for nurses to be aware of ASD and how to interact properly with this special population in order to render the same high quality care as they do to the rest of society. Many times fear, partly due to the lack of knowledge regarding ASD may affect the amount and quality of healthcare time that is spent with this special group of persons. Literature demonstrates that little or no attention is given to ASD in the undergraduate and postgraduate nursing training programmes [8,7]. It is worth stating that students' education and training would affect their attitudes and practice in future and hence, the outcomes of patient care. Thus, all nurses need to be empowered in order to be knowledgeable and confident in caring for patients with ASD, regardless of their practice setting. Nurses need to have knowledge regarding ASD as they are the ones interacting more with patients compared to other health care providers [9]. A lack of knowledge in regards to ASD can contribute to adverse feelings towards providing care for and interacting with individuals of the ASD population [10]. If nurses are adequately prepared with the necessary skills and knowledge regarding ASD, this unique population will receive the same safe, high quality, competent care as the rest of society, which they are entitled to. Despite increasing awareness of ASD, recent studies reveal nurses' inadequate knowledge on autism and care [7]. Identifying nurses' knowledge gaps is mandatory in order to provide frameworks for equipping them with the necessary knowledge and skills to enhance their ability to interact with this special individuals and provide high quality and safe care. This study sought to investigate nurses' knowledge and attitudes regarding autism, specifically to assess nurses' basic knowledge on autism and common health conditions associated with autism, and to determine if nurses can competently offer care to children with autism. This may provide information that could go a long way to support the need for the inclusion of autism content in the training programmes for nurses [7].

Materials and Methods

A hospital-based cross-sectional study was conducted from the 20th of October, 2019 to 30th of June, 2020 to investigate nurses' basic knowledge and attitude regarding autism. Both qualitative and quantitative approaches were employed to collect and process data. The Knowledge about Childhood Autism among Health Workers (KCAHW) questionnaire developed by Bakare et al, was adapted and used to collect data for this study. It has been previously shown to be an effective tool in measuring knowledge of ASDs among nurses in developing countries [11, 12]. The questionnaire has Cronbach's alpha value of 0.97 and has been established to have good test-retest reliability. The questionnaire had both open and closed ended questions.

The target population was made up of all nurses working in the Buea and Limbe Regional Hospitals in Fako Division, South West Region of

Cameroon. Fako Division is divided into seven municipalities; Buea, Limbe I, Limbe II, Limbe III, Muyuka, Tiko and West coast. These areas are mainly inhabited by the Bakwerians, although many other tribes also reside among them. These hospitals were purposively selected because they serve as referral and teaching hospitals. A sample of 41 participants who were selected by purposive and consecutive convenient sampling completed the study. The nurses were purposively selected to participate in the study according to their availability. All nurses working in the Maternity, Out Patient Department (OPD), Paediatric and Neonatology Units, and who gave their written consent to participate in the study were included.

Data was collected on nurses' basic knowledge on autism, common health conditions associated with autism and the nurses perceived feelings of being able to competently offer care to persons with autism. Participants' knowledge on autism was evaluated using 12 questions each given a point, making a total of 12 points. A score of 0-5 on 12 (00-41.7%) was referred to as not knowledgeable (poor knowledge) while a score of 6-12 (50-100%) was referred to as knowledgeable (good knowledge). Similarly, attitude was scored on a scale of 3, participants with scores of 2 and above on 3 (66-100%) were considered to have positive (good) attitude while those with scores of 1 on 3 (00-44%) had negative (bad) attitude towards autism. Before administering the questionnaire, it was pre-tested by administering five copies to five parents who were not part of the study sample. Their responses confirmed the clarity and validity of the questions. Copies of the questionnaire were then administered to the study participants who completed the various sections of the questionnaire.

This study was authorised by the Department of Nursing Faculty of health Sciences, University of Buea, Cameroon. An official permission was obtained from the directors of the hospitals and also, from the heads of each units to collect data. The participants were assured that the data will be kept confidential and used for research purposes only. In addition, the researcher assured the participants that they will not be exposed to any harm by giving their honest responses regarding knowledge and attitude toward autism.

Results

All the 41 respondents who had heard of autism completed all sections of the questionnaire giving a response rate of 100%. The age range >30years was the most represented 30(75.6%), 33(80.49) were females, 21 (51.2%) were from the neonatology unit, 26(65%) were Bachelor's degree holders, 23(56.1%) had more than 5 years of work experience and 31(75.6%) were employed. Among participants who had heard of autism, 50% said they heard in the health facility, only 1(2.44%) of them had attended a seminar on autism and 15(35.59%) had not encountered autism (Table 1)

Characteristic		N (%)
Age	>30 years	10(24.4)
	<30 years	31(75.6)
Sex	Female	33(80.49)
	Male	8(19.51)
Unit	Neonatology	21(51.2)
	Pediatric	8(19.5)
	OPD	10(24.4)
	Maternity	2(4.8)
Years of Work Experience	<5	18(43.9)
	>5	23(56.1)
Qualification	Nurse Aid	2(5)
	BNS	26(65)
	SRN	3(7.5)
Employment Status	Postgrad	9(22.5)
	Employed	31(75.6)
Heard of autism in	Not Employed	10(24.4)
	Community	9(50%)
Encountered Autism	Health Facility	9(50%)
	Yes	26(65)
	No	26(63.41)
		15(35.59)

Table 1: Demographic Characteristics of Participants

In all, 41 (58.57%) of the 70 participants approached for the study had heard of autism and overall, 24.4% of participants were not knowledgeable on ASD. Slightly above half of them 23(56.10%) defined autism correctly, 15(36.59%) said autism can be identified by abnormal behaviour, repetitive speech and body movements, 33(80.49%) said autism manifests as deficit in social interaction, 29(70.43%) said deficit in communication and 23(56.10%) said repetitive restrictive stereotyped behaviour. About half 21(51.22%) of the participants said the cause of autism is unknown,

22(53.66%) knew common health conditions associated with autism, and 23(56.10%) knew the risk factors of autism (Table 2). It was statistically significant that knowledge on autism had an association ($p < 0.001$) with qualification, years of working experience and their units of work and gender. Bachelor's degree holders were more knowledgeable 21(80.77%), females 27(81.82%) were more knowledgeable than males, and participants who have worked for more than five years 18(81.82) were more knowledgeable (Table 3)

Items on Knowledge		Responses		
		Yes	No	Don't know
Definition	Right	56.10% (23)	43.90% (18)	0.0% (0)
	Correctly characterized autism	56.10% (23)	43.90% (18)	0.0% (0)
Cause/ How to identify Autism	Autism is hereditary	56.10% (23)	29.27% (12)	14.62% (6)
	Abnormal Behaviour	12.20% (5)	00.0% (0)	00.0% (0)
	I Was told	36.59% (15)	0.0% (0)	0.0% (0)
	Repetitive Speech	14.62% (6)	0.0% (0)	0.0% (0)
	Abnormal Behaviour;	36.59%	0.0% (0)	0.0% (0)
	Repetitive Speech/body movement	(15)		
	Unknown	51.22% (21)	34.15.0% (14)	14.62% (6)
	A lifelong disorder	63.41% (26)	36.59% (15)	0.0% (0)
	Knew the risk factors of autism	56.10% (23)	34.15.0% (14)	9.76% (4)
	Knew common associated health conditions	53.66% (22)	17.10% (7)	29.27% (12)
Risk/Signs	Deficit in Social Interaction	80.49% (33)	24.39% (10)	0.0% (0)
	Deficit in Communication	70.43% (29)	30.0% (13)	4.88% (2)
	Repetitive restrictive stereotyped behaviour	56.10% (23)	26.83% (11)	17.10% (7)

Table 2: Participants' Knowledge on Autism

Variable	Knowledgeable (n=31)	Non-knowledgeable (n=10)	P-value
Qualification			<0.001
Nurse AID	2 (100)	0 (0.00)	
BNS/Degree	21(80.77)	5 (19.23)	
SRN	4 (100)	0 (0.00)	
Postgraduate	4(44.44)	5 (55.56)	
Employment Status			<0.001
Unemployed	7 (58.33)	3(41.67)	
Employed	24 (77.42)	7 (18.42)	
Sex			<0.001
Male	4(50)	4(50)	
Female	27 (81.82)	6 (18.18)	
Years of Experience			<0.001
<5 years	13 (68.42)	6 (31.58)	
≥ 5 years	18 (81.82)	4 (18.18)	
Unit of work			<0.001
OPD	1(50)	1 (50.00)	
Neonatology	21(72.41)	8 (27.59)	
Paediatric Unit	8(100)	0 (0)	
Maternity	1(50)	1 (50)	

Table 3: Association between Knowledge and Participants Characteristics

In aggregate, 40.65% of the respondents had positive attitudes towards autism; 38(92.68%) said nurses should care for persons with autism, while 25(60.98) said they cannot competently care for individuals with autism (Table 4).

Items on Attitudes		Responses		
		Yes	No	Don't know
	Nurses should care for persons with autism	92.68% (38)	7.32% (03)	0.0% (0)
	Can competently care for persons with Autism	26.83 % (11)	60.98% (25)	12.20 % (5)
	Attended Seminar on Autism	1(2.44%)	40(97.56)	
	MRS	Positive	Negative	Non-response
		40.65% (50)	55.29% (68)	12.20% (5)

Table 4: Participants' Attitudes on Autism

Reasons why nurses should care for persons with autism include “they should be treated as patients” 9(24.3%), 13(35.15) said “to improve on condition and reduce stigmatisation”, 8(21.6%) mentioned “they deserved to be cared for” while 8 (21.6%) said “it gives them a sense of belonging”. Reasons why nurses should not care for persons with autism was stated as “they are special cases and should be treated as such” (Table 5). The participants thought they can competently render care to persons with autism

for various reasons;” trying to interact with the child, devise a unique nursing care plan, learn to appreciate them and be patient with them” 11 (40.7%), “competent care is offered by team because management is multidisciplinary” 4(14.8%), while reasons competent care cannot be provided include “Not very familiar with the condition, no proper knowledge in the disease, I need more training” 12(44.4%) (Table 6)

Indicators	Reasons	N(%)
Nurses should Care for Persons with Autism	They should be treated as patients	9(24.3%)
	To improve on condition and reduce stigmatisation	13(35.15)
	They deserve to be cared for/ equal health for all	8(21.6%)
	gives them a sense of belonging	8 (21.6%)
	TOTAL	38(100%)
Nurses Should not Care for Persons with Autism	They are special cases, should be treated as such	3(7.30)
	TOTAL	3(100%)

Table 6: Reasons for and against the Provision of Competent Care

Indicators	Reasons	N(%)
Why nurses can provide competent care	Trying to interact with the child	2(7.41)
	Devise a unique nursing care plan	3(11.11)
	Learn to appreciate them and be patient with them	3(11.11)
	I know the various areas of need	2 (7.41)
	Equal health for all	1(3.70)
	Competent care is offered by team Because management is multidisciplinary	4(14.8)
	TOTAL	15(55.54)
Why nurses cannot provide competent	Don't have much knowledge	1(3.70)
	Not very familiar with the condition	1(3.70)
	I need more training	9(33.3)
	No experience in doing that	1(3.70)
	TOTAL	12(44.4)

Discussion

This study aimed at investigating nurses' basic knowledge and attitudes regarding autism. It is worth mentioning that nurses need adequate knowledge and skills in order to competently provide quality care to patients with autism Corden et al [13]. This will go a long way to prepare them to face the challenge of caring for persons with autism.

According to the findings of this study, female respondents were the most represented. This is in line with the study of Mohamed et al [14] and Tasew et al [15] who found in their studies respectively that more than half (60%) and the majority (70.1%) of the respondents were females. Also, our finding agrees with that of Sampson et al [16] where females were most represented. This could be explained by the fact that females are more involved in nursing. Also, it is very clear that since the Florence Nightingale era nursing is a female dominated profession [17]. Similar result was reported by Bofo [18] from his study conducted among nurses in Ghana. In addition, our study revealed that majority of the participants were Bachelor's Degree holders. This could be due to the fact that the status of nursing is fast changing in Africa and in response, many higher institution of learning in Cameroon are training Bachelor's Degree holders in nursing to meet the challenge of the 21st Century. Our finding concurs with the finding of Tasew et al [15] where the majority (64.4%) of the respondents had completed their first degree. Again, our study revealed that more than half of the participants had not encountered autism. This finding could be explained by the fact that many persons with ASD in many Africa countries, Cameroon inclusive are not being diagnosed due to the low level of awareness and inadequate or lack of proper diagnostic measures *Fabo* [3].

Concerning the participants' knowledge on autism, this study showed that generally, more than half participants had basic knowledge on autism. This finding supports that of Corden et al [13] who reported the overall results of their study indicated that health care workers had low to moderate levels of knowledge on autism. Also, the findings of Corsano et al [19] showed that nurses have a basic knowledge of ASD. Again, our finding is congruent with that conducted by Sampson et al [16] who revealed that Psychiatric Nurses as well as Paediatric Nurses had low knowledge on autism.

Furthermore, our study revealed that majority of the participants could define autism correctly, and about half of the participants said the cause of autism is unknown. This is in disagreement with that of Corden et al [13] in which over 40% of respondents attributed the aetiology of autism to supernatural causes such as lineage curses, enemies and the devil. They also reported that over 30% of the participants stated that autism could be prevented by avoiding sin or pleasing ancestral spirits. Our finding also contradicts

McDonnell et al [20] whose participants mentioned that autism could be caused by child neglect. It is worth stating that current studies on autism disagree with these beliefs [21].

This study further revealed that slightly above half of the participants mentioned that autism presents as repetitive speech and abnormal repetitive restrictive stereotyped behaviour while most of them said deficit in social interaction and communication. This finding coincides with that of Tasew et al [15] who found that nurses were knowledgeable regarding the obsessive and repetitive behavioural pattern domain of the core symptoms of autism. This could be due to the fact that nurses may be more familiar with these core symptoms of ASD. Again, our finding is congruent with [Govindan et al \[22\]](#) who found that most of the study participants reported that children with autism have problem in social interaction and communication, why less number knew that they would have specific repetitive restricted pattern behaviour.

Also, the findings of this study showed that slightly above half of the participants knew common health conditions associated with autism. This is incongruent with Corsano et al [19] finding where the nurses obtained lower scores regarding comorbidity and onset of the ASD; however, our finding is similar to that of [Govindan et al \[22\]](#) where most of the study participants knew the comorbid conditions that occur along with autism.

Furthermore, the study revealed that there was a statistically significant difference between knowledge on autism and qualification, years of working experience and participants' units of work as well as gender. Our finding disagrees with those of Sampson et al [16] and Mohamed et al [14] who found that total knowledge scores results revealed that there was no significant difference with health care professionals' gender, job differences and years of experience. However, our study revealed that all the nurses in the Paediatric unit had good knowledge on autism, and this finding is in agreement with that of Corsano et al [19]. Also, Tasew et al [15] found that nurses working in Pediatric and Psychiatric Departments can be considered more knowledgeable of ASD.

As mentioned earlier our study showed an association between working experience and nurses' knowledge on autism; it was statistically significant that those who had more years of working experience were more knowledgeable. This supports the finding of Tasew et al [15] who found that the respondents with more experience had higher mean scores on knowledge regarding autism compared to those with less years of working experience. Similarly, Corsano et al [19] found that older nurses and those who had more experience with children with ASD showed higher scores. Our finding is also in conformity with that of a study conducted in South Nigeria [11]. To further

support our finding, Corden, et al [13] found that nurses with less than six years' experience increasingly demonstrated lack of knowledge regarding the cause of autism. This finding indicates that learning and experience in practice might influence nurses' knowledge. This confirms the fact that a more extended experience of practice in the clinical setting would have a significant impact on the overall quality of nursing care rendered to patients.

Talking about association between knowledge and qualification, this study also revealed a statistically significant difference in knowledge scores among the different levels of qualification for the nurses. It was found that all participants with the State Registered Nursing (SRN) diploma had good knowledge regarding autism compared to participants with Bachelors and Postgraduate degrees where some respondents were not knowledgeable. This finding contradicts that of Tasew et al [15] in which the respondents with a BSc degree achieved higher mean scores than diploma holders. Our finding is also contrary to those of the studies of Keklik et al [23] and Esegbe et al [24] conducted in Turkey and Nigeria respectively which showed that nurses with higher qualifications were found to be more knowledgeable than those with lower qualifications. This difference could be explained by the fact that a more general content is being taught at lower levels of nursing training while a more specialised content is being taught at the postgraduate level. Thus, it is high time we considered the inclusion of developmental disability particularly autism content in higher-level nursing education curricula.

With respect to the participants' attitude toward autism, almost all of the respondents said nurses should care for persons with autism. This is in line with the goal of nursing which is to care for all with diseases and infirmities [25]. More than half of the participants said they cannot competently care for individuals with autism. This finding is in conformity with Singer [26] findings which reveals the importance of nurses receiving education with respect to all forms of disabilities, including other intellectual and developmental, especially ASD. Queisser [27] noted that if nurses are unaware of ASD and how to interact with this special population, one wonders how they can competently render the same high quality of care to them as they would do to the rest of society. It is worth mentioning that the symptoms of ASD may prove to be quite challenging to the nurse, if nurses are not prepared for interacting with persons with autism.

Overall, less than half of the participants had positive attitudes towards autism. This could be due to the fact that fear, secondary to a lack of knowledge regarding ASD, would negatively influence nurses' attitude towards care provision. Chun and Berrios-Candelaria [28] stipulate that the core symptoms of autism; social difficulties, communication impairments and ritualistic or repetitive behaviours, can be very problematic when the individual is exposed to changes in routines, thus, affecting the amount and quality of healthcare time that is spent with these individuals. Therefore, by being aware of these issues, the nurse can proactively prepare for these possible challenges Queisser [27].

This study revealed that participants said reasons why nurses should care for persons with autism include they should be treated as patients, to improve on condition and reduce stigmatisation, they deserved to be cared for and give them a sense of belonging. On the other hand, reasons why nurses should not care for persons with autism was stated as they are special cases, should be treated as such. It is important to state that persons with autism frequently suffer from associated conditions such as gastrointestinal disorders, eating and feeding challenges, seizures, sleep disturbances, attention deficit and hyperactivity disorder (ADHD), and anxiety among others [29]. Thus, they need to receive quality medical care just like their normally developing peers [30].

The study revealed that among participants who said nurses should care for patients with autism, majority said they can competently render care to persons with autism by "trying to interact with the child, devise a unique nursing care plan, learn to appreciate them and be patient with them". This finding suggests that nurses are aware of the primary goal of nursing which is quality care for all. Our finding is in conformity with Corden, et al [13] finding in which studies reviewed demonstrated perceived self-efficacy about autism among health workers across a range of backgrounds. Also, a

few of our respondents said "competent care can be offered by a team because the management of autism is multidisciplinary". This is in accordance with [31] who stipulates that the supports for persons with autism is multidimensional.

This study revealed that majority of the participants said reasons why competent care cannot be provided included the fact that the nurses are not very familiar with the condition, they lack proper knowledge in the disease, and they need more training. This finding could be justified by the fact that awareness and adequate knowledge regarding autism can possibly result in greater confidence in caring for patients with autism. This may in turn boost an individual's belief in their ability to perform specific interventions in their clinical practice. Our finding is in accordance with Corsano et al [19] whose study showed that nurses had difficulties in managing the relationship with children having ASD, and that they sought useful strategies to help out. Also, the authors reported that due to difficulties interacting with persons having autism nurses declared the need for more knowledge about ASD. They said the nurses would like to improve their capacity (through training) in order to better interact with these special group of patients. In like manner Corden, et al [13] found that there was a positive relationship between autism knowledge and perceived self-efficacy. Similarly, Sena *et al* [32] found that the nurses had inadequate knowledge towards ASD due to lack of training. Most of their subjects expressed that they needed further information about the management of children with autism. Hence, continuing education programme toward childhood autism is necessary among nurses to improve on their knowledge.

Conclusion

This study revealed that more than half of the respondents had basic knowledge on autism. The respondents' knowledge level was significantly different among participants' qualifications, units of practice and work experience. Overall, less than half of the participants had positive attitude towards autism. There is therefore, need for autism spectrum disorders to be included in the training curriculum as well as the organization of seminars for nurses to improve and upgrade nurses' knowledge. This may go a long way to enhance quality care for persons with autism in Cameroon. This study which is the first in Cameroon could serve as a reference to initiate further investigation.

Limitations of the Study

Due to the small sample size, the findings may not be generalised, however, the study was conducted in the two hospitals in the South West which serve as referral and teaching hospitals in the South West Region of Cameroon. In addition, some of the respondents took the questionnaire home and return the next day. They might have consulted other sources before completing the questionnaire, hence, their responses might not have revealed the true picture regarding nurses' basic knowledge on autism. However, our findings are very much within the range/in line with documented literature. Also, based on our findings our study suggests the need for awareness and training on the proper care of autism as well as the need for a more robust study in this area

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