ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

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DEPARTMENT OF NURSING AND MIDWIFERY

KNOWLEDGE AND ATTITUDE OF NURSES TOWARDS CHILDHOOD AUTISM AT SELECTED GOVERNMENTAL HOSPITALS ADDIS ABABA, ETHIOPIA, 2016.

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AAU Addis Ababa University

ASD Autism spectrum disorder

BSC Bachelor of health science

CDC Center of disease control

CI Confidence interval

DC Data collectors

DSM Diagnostic stastical manual of mental health feature

MPH Master of public health

NGO Nongovernmental organization

SPSS Stastical package of social science

WHO World health organization

Abstract

Background: Autism is a neuro developmental disorder which occur in early childhood period and it is characterized by altered social interaction, communication problem, repetitive, and stereotyped behavior.

Objective: To assess knowledge and attitude of nurses towards childhood autism at selected governmental hospitals in Addis Ababa, Ethiopia, from March to June 2016.

Methods: Hospital based cross-sectional study design was used. Sample size was calculated by using single population proportion sample formula and the final sample size was 360. Final study subjects were selected by using systematic random sampling method. Data were collected using structured self-administered questionnaires and it was coded and entered to Epi-data version 3.1and exported to SPSS version 21 for analysis. Descriptive statistics such as frequency and percent was carried out and analysis of variance was carried out to compute the association between the dependent and independent variables. P-value less than 0.05 at 95% CI was indicated presence of association between dependent and independent variables. Then turkey post-hoc testing was carried out to identify the significant of group mean difference. P-value less than 0.05 at 95% CI was indicated presence of significant mean difference between dependent and independent variables. Independent t test was also done to see the association between dependent variables and independent variable with two means

Result- The mean score for knowledge related question was 8.79 ± 0.44. .In this study out of 331 nurses 180 [54.35 %] had good knowledge, Age of respondents [F-Ratio = 2.8, P-value = 0. 04], level of education [F-ratio = 13.97, P–value = 0.000] and work experience [F-Ratio = 3.07 P–value = 0.017] had significant association with knowledge of nurses towards childhood autism. Regarding attitude of nurses 178(53.8 %) and have favorable attitude.

Conclusion and recommendation- knowledge deficiency was found in this study which could deprive the quality of care that is given for autistic children. This result can be taken as the predictor of the need to improve knowledge and attitude of nurses towards childhood autism, which could ultimately enhance the quality of care that is given to autistic children.

Key word-Autism**,** knowledge and Attitude

Chapter one: Introduction

1. Background

Autism is a neurodevelopment disorder which is occurring in early childhood period and it persists throughout the life of an individual with the characteristics of altered social interaction, communication problem and repetitive stereotyped behavior(1) . Etiologically autism classified in to three. Symptomatic (unrecognized organic or neurological cause), Cryptogenic (An underlying cause is suspected,) and Idiopathic (ASD for which no evidence of other neurological or biomedical disorder(2).

Even though there is lack of evidence form middle and low income countries World health organization reported that global median prevalence is 62/10 000(1). Different research results also shows that the prevalence increase in alarming rate (3-6).

There is no single known cause for autism but Prenatal, natal and post natal complications which are caused by either Genetic, environmental or physical conditions are reported as risk factors(7-9) .Maternal conditions like advanced age, lack of folic acid and lack of vitamin intake before conception, infection during pregnancy, chronic and metabolic disease are related with prenatal risks(10-12). Natal risks are being premature and delayed crying whereas postnatal complications include, living in high attitude and polluted area(13-16).Being male and auto immune disease is also risk factor for autism (17-18).

Currently the fifth edition of diagnostic and stastical manual of mental features is used for diagnosis of autism(19). According to DSM5 there are two domains which are important for the diagnosis of autism. Domain one is related with Social communication and social interaction and domain two is related with restricted and repetitive patterns of behavior. From this two domains there are five criteria's for the diagnosis of autism. Three criteria from domain one and two criteria from domain two(19) .

Regarding the management of autism behavioral and meditational interventions are used(5, 20) . Behavioral intervention include applied behavioral analysis, occupational therapy and speech therapy whereas meditational interventions specifically antibiotics, antipsychotic and antidepressant are used to treat associated problem or co morbid conditions (21-22).

1.2. Statement of the problem

The global prevalence of Autism spectrum disease is one person in 160 and it accounts for more than 7.6 million disability-adjusted life(1).According to different research findings developed countries are highly affected than developing ones (1, 5, 23-24).The prevalence also varies with sex as males are five times affected than females (1, 5).In addition to this the disease prevalence differs with race and place of residency(25-27).Different studies also assured that white skinned individuals and individuals living urban and air polluted regions are commonly affected than others(7-8, 15).The disease is also highly precipitated when there is vitamin D deficiency (27).

Global figures and trends show that prevalence of autism increased in alarming rate(3) . According to CDC report the prevalence of autism increase by 78 % in 2012 when we compared with that of 2002 (4). Again another research results suggest that in America the average annual increment on ASD prevalence was 9.3% per year from 1996–2010 (6).

Mortality rate in autistic individual increased by three to tenfold than normal individuals due to co morbid conditions, immunity deficiency and communication problem(28).Among co morbid conditions seizure is the leading cause of mortality (29).Whereas gastrointestinal disturbance, autoimmune disorders and metabolic abnormalities has also their own impact(17, 30-32).Not only for this co morbid condition are also responsible for significant functional impairments and long-term health problems has that autistic individual faced throughout their life (32).

Autism has great economic impact both at the family and country level in which the cost also varies depending on the involvement of intellectual disability .The costs expense was for medical, special education, and employment, support and productivity loss(33).

Parents often receiving information from health care professionals on possible red flags seen in their child's development(34).

Nurses are primary health care professionals to come into contact with children to support the child they serve. Due to this Knowledge and attitude of nurses towards autism has significant impact in the prognosis of autism through initiating early recognition and intervention on it.

Even though knowledge of health professionals towards autism is important for good prognosis of autism, Research results shows that health professional have knowledge gap on identification of general characteristics, treatment and prognosis of autism (35-37).

Other researches also show that there is misunderstandings and negative attitude on health professionals towards autism and other mental problems(38-39).This is due to health care workers do not routinely undergoing training in identification of Neurodevelopment disorders such as Autism spectrum disease (1, 40). To address the problems that confronts to health professionals regarding autism improving knowledge and attitude of health professionals has been identified as mandatory (41).Training on the diagnosis and identification of autism spectrum disorders, on ways of interacting with individuals and on tools that are necessary to identify early warning signs(1, 5).Despite this the researcher couldn't see any research that is done in Ethiopia regarding the knowledge and attitude of nurses towards childhood autism. This study will explore the knowledge and attitude of nurses towards autism at the selected hospitals Addis Ababa Ethiopia, 2016.

1.3. Significance of the study

The study was designed to assess knowledge and attitude of nurses towards childhood autism. As indicated by different research results Knowledge and attitude of nurses towards autism has great impact both on the early diagnosis and good prognosis of autism (35-37). Despite this in Ethiopia knowledge and attitude of nurses towards autism spectrum disease is not well documented. Therefore the result of this study will be used as baseline information to other researchers for further study in the area; it can also initiate educational planers to emphasis on autism during curriculum development, Ministry of health and Nongovernmental organizations to facilitate further trainings on it to enhance the knowledge of nurses.

Chapter two: Literature Review

2.1. Introduction

This section reviews the available literature on the topic under the study. It highlights the definition of autism its classification, worldwide epidemiology and different risk factors. In addition to this it has different research results regarding knowledge and attitude of nurses towards autism in different country. Factors affecting knowledge and attitude of nurses, co morbid conditions and diagnostic and treatment part are also included to provide the justification for the study objectives

2.2. Definition and classification of autism

Autism is a complex neurodevelopment disorder which is characterized by impairment in social interaction, communication and inappropriate behavior, interest and activity(1).It is a lifelong disease which occur in all racial, ethnic, and social groups(25-26) .Etiologically autism classified in to three Symptomatic(unrecognized organic or neurological cause),Cryptogenic (which an underlying cause is suspected) and Idiopathic ASD for which no evidence of other neurological or biomedical disorder (2).

2.3. Epidemiology of Autism

According to WHO report global median prevalence is 62/10 000, that is one child in 160 has in Europe, the median rate of Autism is 61.9/10 000 and in Australia half million individuals are affected with autism (20) A Survey which is done in Europe suggests that the prevalence of autism is 99 per 10000 (42).

.According to CDC report the prevalence of autism is different in different states of America According to this report in Maryland state the prevalence differ based on race in which one in 60 white children was identified with ASD, one in 65 black children was identified with ASD, 1 in102 Hispanic children were identified with ASD and 1 in 84 Asian or Pacific Islander children was identified with ASD (5).Where as in North Carolina State shows that one in 58 children was identified with ASD with a proportion of 1 in 35 boys and1 in 179 girls was identified with ASD(5)

Another Study which is done in America in different states shows that in average one in 68 children aged less than 8 years are affected with autism with a proportion of One from 42 boys

and one from 189 females(18). Research result from Asia revealed the prevalence of autism in China is 26.6 per 10000(23).Report from Oman shows that the prevalence f autism is1.2-1.7 per 10000 (24).Prevalence of autism in Africa is not well known (41). But there is Research result from Arabic country which shows the prevalence of autism in Egypt and Tanzania is 33.6 % and 11.5 % respectively(43).

2.4. Risk factors of autism

Research results from America assured that maternal auto antibodies and maternal metabolic disorder like DM hypertension and obesity is a risk factor for autism(12) .

Another Researches which are conducted in America indicate that women who took daily recommended folic acid during the first month of pregnancy decreased the risk of getting autism for their child in the same way Women who took a daily vitamin three months before pregnancy and during the first month of pregnancy were less likely to have a child with autism than women not taking the supplements (10-11) .

Research results from African country shows that maternal vitamin D deficiency and auto immune disorder is a risk factor for autism(17, 44).Residence area like living in high altitude, urban area and air pollution has relation with autism (9, 16).Research results from European country showed that premature birth or birth before37 weeks, advanced maternal age and elective cesarean section are risk factors for autism (20, 45).

2.5. Knowledge of health professionals towards autism

Research which is done in America on knowledge of autism spectrum disorders in potential first contact professionals shows that more than half percent them answered that social interaction impairment, sensory sensitiveness, and stereotype play is there on autistic patients. Less than half percent of the participants answered that autistic children face language delay, inability to focus on a task, have aggressive behavior and intellectual disability is not related with autism and it is not important for the diagnosis of autism (46).

Again it shows that majority of health professionals lack to use DSM-Criteria and characteristics of autism in which 26% of them know the presence of aggressive behavior in autistic children, 24% of them know the presence of deviant behavior, only 15% of them use tools to specify ASD,26% of physicians know medications that are used for the treatment of autism and only18% of them know alternative medications for autism(46).

Research which is done on Pakistan Lahore shows that physicians have good knowledge about autism in which 73.2% of physician respond that social interaction difficulty is a problem of autism, 65.4 % of them respond that autistic child has language delay whereas rigid of stereotyped play activity is identified by 59.7% of the respondents. Need for sameness resistance to change in routine is identified by 53.6% of them(35) .

Research which is done in Nigeria on 50 psychiatry nurses with the title of Knowledge about childhood autism among health workers shows that the nurses have poor knowledge about the Autism. In which more than half of them correctly respond less than half questions which are prepared to access knowledge of them towards autism(36) .

Similarly other research result from Nigeria confirmed that psychiatry and pediatric nurses have poor knowledge regarding autism which is manifest trough fail to recognize early symptoms, fail to treat sever conditions (37). Research in Kenya showed that health professionals have poor knowledge about autism in which they have uncertainty about questions related with Autism (39).

2.6. Attitude of health professionals towards autism

Research result from Sweden shows that mental health nurses have poor attitude in which from 83 nurses which are recruited with country council 5.19 % of nurses shows that intension to interact with mental ill individuals 4.59 % have fear and avoidance open minded (47).

Research which is done in Pakistan Lahore on knowledge and attitude of health professionals towards autism shows that more than half percent of physician respond that autism is occur in mild and sever form, autistic child do not show social attachment ,children with autism are prone to communicable disorder . while Less than half percent of physicians respond that autism is an emotional disorder, autistic individual developmental, retardation, autism is difficult to distinguish autism from schizophrenia, autism is common in higher socio economic and educational status, autism is lifelong disease that autism is lifelong disease(35).

Research which is done in Buthan with the title of attitude of health professionals towards disability shows that 42.69 nurses are favorable attitude about disability and 25.07 are negative thinker while the rest 25 of them have misconception about(38) .

Research which is done in two district of Zambia shows that 43. 2% of them believe that mental ill individuals have unusual behavior 55.8 % of respondents believe that political and individual rights of them must be there suspended whereas the percentages of individuals that answered

mental ill patients should not be treated in the same health facility with the non-mental ill individuals are 67.5 percent.74.7 percent of the respondents believe that working and having children must not be allowed for mental ill individuals .75 percent of the health care staff's shows discriminatory attitude towards mentally ill patients where as 55.8 percent shows separatist attitude (48).

Research result from Pakistan Karachi shows that more than half of the participants belief that autistic children face social detachment even from their parents ,and less than 50 % of the participants believe autism is more prevalent in higher socio economic society ,32.8% of the participants belief that autism is a precursor of schizophrenia(49).Research result from England shows that almost half of the participants doesn't consider dietary intervention as one of treatment option (50)

2.7. Factors affecting knowledge and attitude and practice of health professionals towards autism

According to CDC and WHO reports lack of training was the reason behind poor knowledge of health professionals towards autism(1, 5).Research which is conducted in developed country shows that levels of education has direct relationship with knowledge and positive attitude of nurses towards autism. Nurses who had experience of working in tertiary hospitals has more positive attitude(51).Another research from developed country shows that personal contact and knowledge of nurses about autism has significant effect on autism in addition to age in which (52).

Research which is done in middle income country shows that health care workers in their fourth decade have good knowledge than health care workers younger than them. Those health care workers with less than six years working experience and those with more than twenty years of working experience were likely to have poor knowledge on knowledge questionnaire compared to those with working experience of between six and twenty years in addition to this past involvement of nurses in the management of autism has its own impact(36).Also another Research which is conducted in middle income country shows that work experience has significant relation with the knowledge of autism in which experienced (37).

Research result from Buthan showed that knowledge of nurses have direct impact on the altitude of nurses towards mental illness (38).Research which is conducted in developing country revealed that knowledge and work experience of health professionals towards autism can affect attitude of them (39).

2.8. Co morbidities of autism

Due to different co morbid conditions, Autistic children have three to ten times higher chance of mortality rate than normal population (28).Treating this co morbidity is indirectly improving quality of life both for the autistic children and for the families with autististic child(32).

Research result assured that Seizure is one of the commonest co morbidity which is seen in autistic individuals and it is the leading cause of mortality in autistic children(29).

2.9. Diagnosis criteria and treatment of autism

According to DSM5 there are two domains which are important for the diagnosis of autism. Domain one deals with Social interaction and social communication while Domain two deals with restrictive and repetitive domain. From these two domains five criteria's must be there to diagnose autism, three of three from social interaction and communication and two of four restricted, repetitive behavior (19).

Impairment in social interaction and social communication includes the child lacks eye to eye contact, lack of facial expression gesture while interacting with people, delayed developmental speech or unable to initiate or sustain conversation. The second domain having Repetitive behaviors and stereotype behavior patterns has four criteria namely stereotyped and restricted patterns or interest, abnormal intensity or focus has inflexible adherence to specific, non-functional routine manners and they persistently preoccupied with parts of objects(19).Even though there is no curative management for autism early diagnosis and early intervention can result progress on it (1-2).Research which is conducted in America shows that Music therapy enables nonverbal ASD children to communicate and express themselves nonverbally. Additionally Music therapy assist ASD children to practice interpersonal timing, turn taking, listening and responding to another person are augmented in music therapy with children(53).

Research finding from Israel shows that walking program is important to improve physical condition of ASD individual it also help them to enhance communication skill, positive social behavior sensory skill and academic engagement(54).Research result from Nigeria shows that discrete Trial Teaching and Observational learning techniques for are important in managing children with autism disorder (55).Medical management is also important for the management of co morbid (22)

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2.10. CONCEPTUALFRAMEWORK

Conceptual frame work was developed for knowledge and attitude of nurses towards child hood autism by the principal investigator based on previous studies(35-36, 40).Based on different research result training, previous involvement in the management of autism and socio demographic characteristics such as Age, Gender, Religion, Marital status ,Area of specialty and work experience were identified as a factor for knowledge and attitude of nurses towards childhood autism.

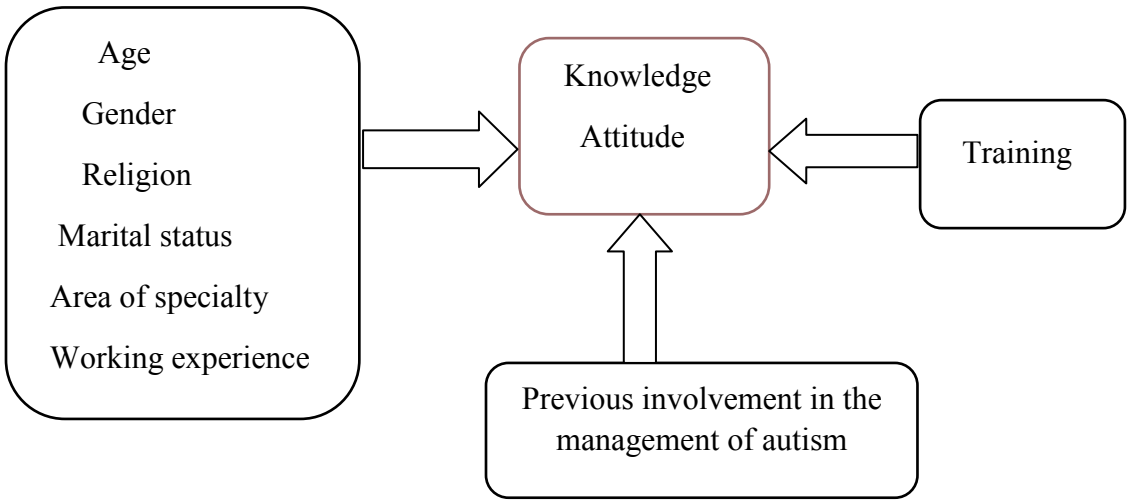

Figure 1.Conceptual frame for knowledge and attitude of nurses towards childhood autism, 2016.

Chapter Three: Objective

3.1. General objective

- ✓ To assess knowledge and attitude of nurses towards childhood autism at selected governmental hospitals in Addis Ababa, Ethiopia, 2016.

3.2. Specific objectives

- ✓ To assess knowledge of nurses towards childhood autism at selected governmental hospitals in Addis Ababa, Ethiopia.
- ✓ To examine attitude of nurses towards childhood autism at selected hospitals in Addis Ababa, Ethiopia.

Chapter Four: Methods and Materials

4.1. Study area and period

The study was conducted at selected governmental hospitals in Addis Ababa, Ethiopia from March one to thirty 2016. Addis Ababa is the capital City of Ethiopia with a population of 3,384,569 according to the 2007 population census (56). Addis Ababa had ten sub-cities at which the City lies at an altitude of 7,546 feet (2,300metres) and is a grassland biome, located at 901‟48”N38044‟24”E9.030N38.740E. The city is surrounded by different Oromia liyu zones in all directions. According to ministry of health human resource unit report Addis Ababa had 12 governmental and nine nongovernmental hospitals. From 12 governmental hospitals eight of them were administrated by Addis Ababa health bureau, four of them were governed with federal government and one was governed under ministry of education. In this twelve hospitals 2250 nurses are abundant.562 nurses were working at black lion hospital, 173 nurses were working at Yekatit 12 hospital, 136 nurses were working at Gandhi memorial hospital and 246 nurses were working in zewditu memorial hospitals.

4.2. Study Design

Institutional based cross sectional study design was conducted among nurses who were working in Addis Ababa selected governmental hospitals.

4.3. Population

4.3.1. Source population

Source populations were all nurses who were working at Addis Ababa governmental hospitals.

4.3.2. Study population

All Nurses who were working at the selected governmental hospitals.

4.4. Inclusion and Exclusion Criteria

4.4.1. Inclusion Criteria

Nurses who were working at the selected hospital.

4.4.2. Exclusion Criteria

- ✓ Nurses who were not present during data collection period (Nurses who were at maternity leave, training and annual leave)
- ✓ Nurses with less than six month work experience

4.5. Sample Size determination

The sample was determined using the formula for estimating a single population proportion.

$$n = \frac{\left(z\frac{\alpha}{2}\right)^2 p(1-p)}{d^2}$$

Where, Z α/2 = is probability coefficient for desired interval [1.96]

n = minimum sample size determined

P =proportion of population possessing characteristics of interest

d = margin of sampling error tolerated (5%),

1-p = proportion of population that do not possess the character of interest.

$$384 = \frac{(1.96)^2 0.5(1-0.5)}{(0.05)^2}$$

Since our total population (N) is less than 10,000, we used correction formula by dividing the sample size obtained above by

nf=$1 + \frac{n_i}{N}$ where

n f= Final sample size

n_i = initial sample size (n_i= 384)

N= Total study population (N) = 2250

$$n_f = \frac{n_i}{1 + \frac{n_i}{N}} = 384/(1 + 384/2250) = 328 \text{ nurses}$$

Considering of 10% non-response rate the final sample size was = 360

4.6. Sampling Technique

From 12 governmental hospitals in Addis Ababa city four of them were selected by lottery method. The number of nurses from each selected hospitals were determined based on their population proportion and each study subjects were selected by using systematic random sampling from the list of nurses from each unit and the first number was selected by lottery method.

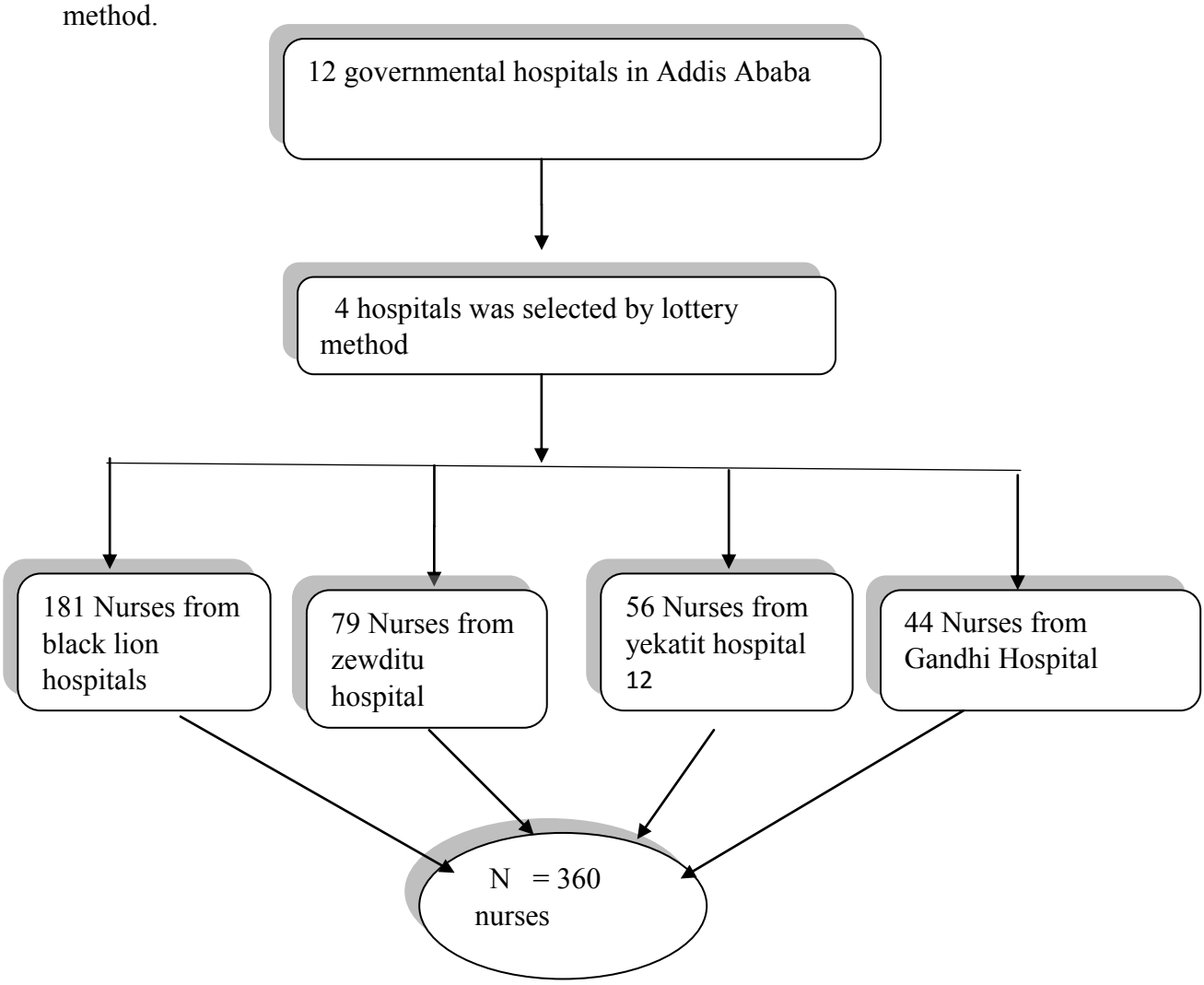

Figure 2: Schematic presentation of sampling procedure of selecting nurses from Addis Ababa governmental hospitals.

4.7. Data collection procedure and instrument

4.7.1. Data collection instrument

Structured questionnaires which were adopted from different literature were used to collect data from nurses at respective selected hospitals by assigned data collectors(57-58).

The questionnaire was used in another study and has been established to have good test-retest reliability, good overall internal Consistency (cronbach's alpha value of 0.97) and it was culturally valid (59). The questioner had three parts. Part one had nine questions which deals about socio economic characteristics of nurses. Part two had 20 questions related to knowledge of nurses towards childhood autism. Part three had 14 questions related with attitude of nurses towards childhood autism.

4.7.2. Instrument

Self-administered questionnaire which was prepared in English language was used.

4.8. Study variables

4.8.1. Dependent variables

Knowledge and attitude of nurses

4.8.2. Independent Variables

Age, gender, Religion, marital status, educational level, area of specialty, year of experience, training, previous involvement in the management of autism.

4.9. Data Quality control

Three data collectors and one supervisor with the qualification of BSc in nursing were trained for one day about the objective of study and ways of handling data.

The instrument was pretested with 5 % of the respondents at Saint Paulo's hospital, which was not included in actual study in order to check clarity, understandability and acceptance.

Based on the result of the pretest the unclear and confused questions were modified accordingly. Data completeness and consistency was checked at daily basis and the collected data were cleaned and compiled by the investigator.

4.10 Data processing and Analysis

The collected data was cleaned and checked for completeness and it was coded and entered to Epi-data version 3.1 to be analyzed by using stastical package for social science(SPSS)version 23.The mean, median and mode score of the total score for nurses on knowledge and attitude related questionnaire were calculated. Various mean scores in relation to the socio demographic variables of nurses were computed by using one way analysis of variance. Then tukey post-hoc testing was carried out to identify the group mean difference. Statistical mean difference declared at p-value less than 0.05.Indepenent t test was also done to see the association between dependent and independent variable with two means. Frequency and percentage distribution of attitude of nurses were also computed. The result was displayed using text, table and pie charts.

4.11. Operational Definitions

Childhood- Age of the child less than13

Good knowledge-Respondents who score above or equal to the mean score of knowledge related questions.

Poor knowledge-Respondents who score below mean score of knowledge related questions.

Favorable attitude–Respondents who scored more or equal to mean score of attitude related questions.

Unfavorable attitude - Respondents who scored below mean score of attitude related questions.

4.12. Ethical consideration

Prior to the study, Ethical clearance was obtained from the Addis Ababa University College of Health Sciences School of allied health science department of nursing and midwifery ethical review committee. Permission was obtained from authorities of each hospital. The protocol and importance of the study was explained to the participants before recruitment into the study, followed by informed consent by participant nurses. All information which was gained from the nurses remained confidential. Coding and aggregate reporting was used to eliminate names and other personal identification of respondents throughout the study process to ensure anonymity.

4.13. Dissemination and utilization of results

The result of the study will be disseminated to Addis Ababa University College of health science school of allied health science department of nursing and midwifery, Addis Ababa University

library, for each selected hospitals, MOH and for other concerned bodies through presentation, hard and soft copy. Attempt will be made for publication of the research on reputable Journal.

CHAPTER FIVE: RESULT

5.1. Result

360 questionnaires were distributed among which 331(92%) of the respondents were participated in. The non-response rate was 8%. Majority of the respondents were females 232(70.1%).The minimum age of the respondent was 20 and the maximum was 54. with the mean age of 28.35± 6. 48. In 95 % of the case out of the hundred the average age of the respondent belong between 21.9 and 34.8 years. Most of the participants were single 195(58.8%) and majority of the respondents were got first degree 213(64.4%).

Table 1: Distribution of Socio demographic characteristics of nurses at selected hospitals Addis Ababa Ethiopia, 2016.

Socio demographic characteristics	**Number**	**Percent**
Age group in years		
20-29	238	71.9%
30-39	64	19.3%
40-49	21	6.3%
50 and above	8	2.4%
Gender		
Male	92	27.8%
Female	236	71.3%
Religion		
Orthodox	210	63.4%
Muslim	48	14.5%
Protestant	57	17.2%
Other	3	3.95
Marital status		
Single	195	
Married	124	58.8%

Divorced	11	37.3% 3.3%
Level of education Diploma Degree Masters	 107 213 6	 32.3% 64.4% 1.35%
Area of specialization Clinical nursing Pediatric nursing Adult nursing Others(advanced diploma)	 313 2 4 5	 94.6% 0.9% 1.8% 1.5%
Working experience (in year) 0.5 - 5 6-10 11-15 16-20 20 and above	 237 47 17 11 18	 71.6% 12.2% 5.1% 3.3% 5.4%
Involvement in short term training Trained Not trained	 7 322	 2.1% 97.3%
Previous involvement in the management of autism Involved Not involved	 18 307	 5.4% 92.7%

5.2. KNOWLEDGE OF PARTICIPANTS ABOUT CHILDHOOD AUTISM

The total of 20 knowledge related questions were divided in to four domains based on the area of their focus. A minimum of 0 and a maximum of 20 score was allowed on the second part of the questionnaire that deals with knowledge. The total mean score on knowledge related question was found to be between 8.35 and 9.23 at 95% confidence level (mean score was 8.79±0.44). The median score was 8 and the mode was 9.

The first eight questions which deals with impairment in the social interactions were categorized under domain one and the mean score belongs 3.75 ± 0.23 at95% CI. In this domain, a total of 53.47% nurses scored at and above the mean score.

The next one question, which deals with questions related to impairment in communication was categorized under the domain two. The mean score was 0.535 ± 0.05 in 95% of hundred cases. Moreover, a total of 53.5% nurses scored at and above the mean score. The next four questions, which deals with obsessive and repetitive characteristics were categorized in the domain three and the mean score was found to be between 1.73 ± 0.13 at 95% confidence interval. Furthermore, a total of 56.2 % nurses score at and above the mean score.

Likewise, the rest of seven questions, which deals with co morbid conditions, curability and the onset of autism were categorized under the domain four. The mean score of this domain was found to be between 2.8 ± 0.17 again at 95% confidence level and 54.8% of respondents scored at and above the mean score.

Table 2: The pattern of score distribution in different domains that describe knowledge of nurses at selected hospitals Addis Ababa Ethiopia, 2016.

Domain	Area of knowledge symptoms question addressed	Total score possible	Mean scores (confidence interval)	Number of nurses who score with in and above the mean
Domain 1	Impairment in social interaction	8	3.75±0.23	177 (53.47 %)
Domain 2	Impairment in communication	1	0.534 ±0.05	177 (53.5%)
Domain 3	Obsessive and repetitive behavioral pattern	4	1.73 ±0.13	186 (56.2%)
Domain 4	What type of disorder autism is and possible associated co morbidity	7	2.8±0.17	181 (54.7%)
Summation of domains 1, 2,3and 4	Summation of scores in the four domains	20	8.79±0.44	208 (62.83%)

5.3. Knowledge of participants about childhood autism

From our statistical analysis, we found a significant association between different age groups distribution and their mean score on the knowledge related questions. The average score of the respondents shows a consistent increment as we proceed from one age group to the other in upward direction (F-Ratio = 2.8, P-value = 0.04).Likewise, a significant association was also found between mean score of the respondents and their year of experience. (F-Ratio = 3.07,P–value = 0.017).

From our statistical result we could also noticed a near significant association between level of education and mean score of the participants on knowledge related questions. Those who had

master's degree were more likely to had higher mean score got higher average sore than other nurses with less educational qualification (F-ratio = 13.97,P–value = 0.000)

Table 3: Mean score comparison of knowledge related questions in relation with the socio-demographic characteristics of the nurses at selected hospitals Addis Ababa Ethiopia, 2016.

Socio demographic variable	**Mean score on knowledge related questionnaire**	**One way ANOVA comparing mean score**
Age groups in years		
20-29	8.63±4.14	F-Ratio = 2.8 P–value = 0.04*
30-39	8.72±4.02	
40-49	9.86 ±3.98	
50 and above.	11.8 ±3.3	
Working experience in years		
0.5-5	8.73 ±4.1	F-Ratio = 3.07 P-value = 0.017*
5-10	7.81 ±3.87	
10-15	10.1± 4.35	
15-20	10.5± 3.75	
20 and above	10.3± 3.6	
Level of education		
Diploma	6.54± 4.15	F-Ratio = 13.97 P-value = 0.000*
Degree	9.79± 3.61	
Masters	14± 3.16	

P value is less than 0.05*

One way ANOVA was performed to see the relation of knowledge of participants with their socio economic characteristics. Then tukey post-hoc testing was carried out to identify significant group mean difference with in different level of education, work experience and Age group of the participants. Mean score level of BSc holders (mean=9.79, SD =4.15) was higher than the mean score level of diploma holders (mean=6.54, SD=3.61) and the difference was significant at p =0.000 with mean difference of 3.378 and at 95% of confidence interval of (2.306 to 4.45).How ever there was no significant mean difference between BSc holders and MSc holders and between diploma holders and masters holders. According to our stastical result mean score of the respondents with 15-20year experience (mean 10.1=SD 4.35) got higher mean score than respondents with experience of 5-10 years (mean7.81=SD 3.84). The mean difference was significant at p =0.046 with the mean difference of 2.736 at 95% CI of (0.02 to 7.2).How ever there was no statically significant difference between other groups. Participants with in age group distribution of 30-39(mean =8.72 SD=4.02) got higher mean score than respondents with in age group of 20-29(mean= 8.63 SD=4.14). The mean difference was significant at p=0.039with mean difference of 0.09at 95% CI (-2.2504, -0.0474).

Table 4: Independent t-test with selected demographic variables of nurses on knowledge related question sat selected governmental hospitals Addis Ababa Ethiopia, 2016.

Variables	**Knowledge scores**	**Mean difference**	**t value**	**p value**	**95 % CI**	
					Lower	**Upper**
Sex Male Female	8.58±4.13 8.86±4.11	-.2861	-0.57	0.578	(- 1.2777	0.7134)
Short term Training Training Non Trained	 11.71 ±4.15 8.74 ±4.10	2.965	1.89	0.059	(-.116	6.048)
Involvement in the management Involved Not involved	 10.22±1.92 8.76±4.18	1.453	1.462	0.145	(-0.5 02	3.409)

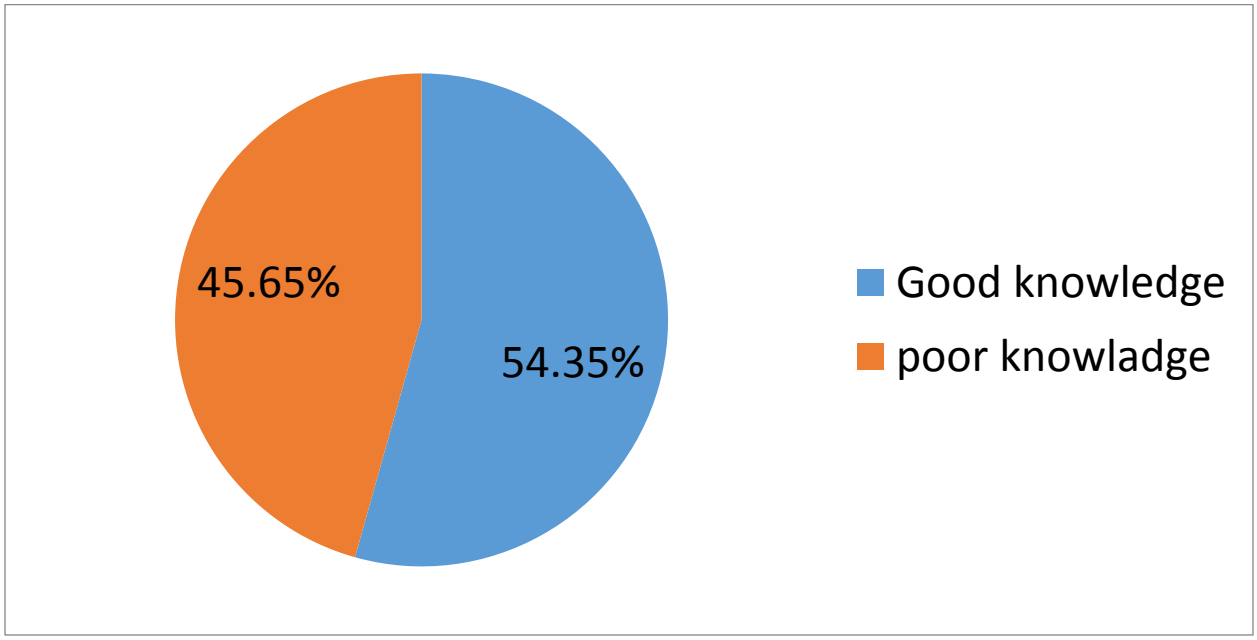

Figure 3: level of knowledge among nurses at selected governmental hospitals in Addis Ababa, Ethiopia 2016.

Table5: Mean score comparison of attitude related questions in relation with the socio-demographic characteristics of the nurses at selected governmental hospitals in Addis Ababa Ethiopia, 2016

Socio demographic variable	**Mean score on Attitude related questionnaire**	**One way ANOVA comparing mean score**
Age groups in years		
20-29	42.43±5.75	
30-39	43.41±5.42	
40-49	43.19±8.64	F-Ratio = 0.568
50 and above.	43.62±4.4	P–value = 0.624
Religion		
Orthodox	42.81±5.53	F-Ratio= 0.264
Muslim	41.15±7.16	P- value=0.851
Protestant	42.4±5.96	
Other	43.16±4.5	
Marital status		F-Ratio=0 .031
Single	42.69±5.72	P -value=0.970
Married	42.73±6.24	
Divorced	42.27±5.87	
Area of specialization		
Clinical nursing	42.63±5.81	
Pediatric nursing	48.5±3.53	F-Ratio =1.19
Adult nursing	45.75±3.40	P value=0.313
Other	45.20±8.4	

Working experience in years		
0.5-5	42.25±5.72	F-Ratio 1=.995 P-value = 0.095
5-10	43.64±5.14	
10-15	45.47±5.63	
15-20	44.90±4.25	
20 and above	42.62±5.87	
Level of education		
Diploma	41.86± 5.08	F-Ratio = 1.52 P-value =0.22
Degree	43.00± 6.25	
Masters	44.16± 5.38	

One way of Anova was done to see association between mean score of the respondents on attitude related questions and their socio demographic characteristics .Even though there was mean difference between Age groups of participants and mean score of attitude related question the difference was not significant .According to their mean score those participants with in 50 and higher age group got high mean score than other participants with age group of 20-29, 30-39 and 40-49. Again, there was no significant mean difference between mean score of the respondents and area of specialization but there was mean score difference. According to their mean score respondents with pediatric specialty got higher mean score than others.

Even though there was no significant relationship between mean score of the respondents and their level of experience, mean score difference was seen on respondents with Experience of 5-10 years got high mean score. Again mean score difference was seen between mean score of respondents with no significant relationship. Nurses with master's educational level got higher mean score than degree and diploma holders.

Table 6: Independent t-test with selected demographic variables of nurses on Attitude related questions at selected governmental hospitals Addis Ababa Ethiopia, 2016.

Variables	**Attitude score**	**Mean Difference**	**t**	**P value**	**95% CI(Upper Lower)**
Gender	43.14±5.99	0.585	0.877	0.432	(-0.85 1.989)
Male	42.57±5.81				
Female					
Training					
Trained	43.57±7.06				
Not trained	42.70±5.83	0.865	0.837	0.699	(-3.573 5.267)
Involvement in the management of autism					
Involved	42.44±4.66				
Not involved	42.80±5.89	-0.362	-0.256	0.798	(-3.147 2.24)

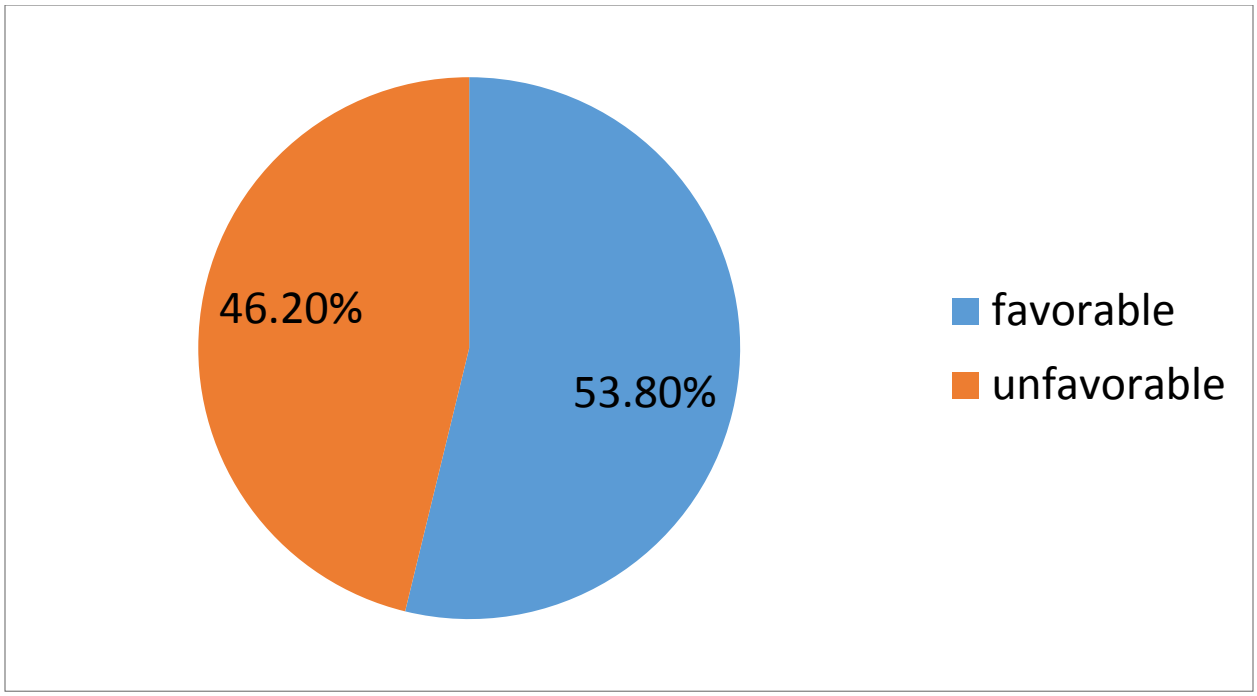

Figure 4: level of attitude among nurses at selected Governmental hospitals in Addis Ababa, Ethiopia, 2016.

CHAPTER SIX: DISCUSSION

6.1. Discussion

In our study the mean score of the respondents on knowledge related questions was 8.79 ±0.44.This mean score was less than the mean score of previous studies which were done in Nigeria (36, 60).The reason for this difference could be due to the difference in work place. Working in pediatric and psychiatric hospitals help nurses to become near to autistic case. Furthermore, the credit hour of psychiatry course and weeks of stay in psychiatric ward could also be the reason behind.

In our study there was significance association between mean score of the nurses on knowledge related questions and age group distribution. A significant mean difference was seen between age group of 20-29 and 30 -39.Age group distribution of 30-39(mean =8.72 SD = 4.02) got higher mean score than respondents with in age group of 20-29(mean= 8.63 SD=4.14) and the mean difference was significant at p=0.039 with mean difference of 0.09 at 95% CI (-2.2504, -0.0474).This result supported by research from Nigeria(36) .Where as other research from ebony state of Nigeria documented that there was no significant association between age of respondents and mean score of the respondents on knowledge related questions (37).The possible explanation for this could be due to the aged ones were highly experienced which help them to be familiarized with different cases including autism or the presence of high possibility for the aged ones to participate in related trainings.

In our study there was also significant association between working experience and knowledge of nurses towards childhood autism. Again a significant mean difference was seen on age group of 5-10 and 15-20. According to our stastical result mean score of the respondents with 15-20yearsexperience (mean 10.1=SD 4.35) got higher mean score than respondents with experience of 5-10 years (mean7.81=SD 3.84) and the difference was significant at p =0.046 with the mean difference of 2.736 at 95% CI of (0.02 to 7.2).This is consistent with study from south Nigeria(36). But it contrast with research report from ebony state of Nigeria in which there was no significant relationship between working experience and mean score of respondents on knowledge related questionnaire(37) .The possible explanation for this could be either due to the experienced ones could have high chance of exposure with autistic case while autistic

children come to health care facility either directly due to autism or due to different co morbid conditions which help them to internalize the sign and symptom of autism.

In this study there was significant association between mean score of the respondents and their level of education. In addition to this significant mean difference was seen between respondents with BSc and Diploma holders in which BSc holders (mean=9.79, SD =4.15) got higher mean score than diploma holders (mean=6.54, SD=3.61) and the difference was significant at p =0.000 with mean difference of 3.378 and at 95% of confidence interval of (2.306 to 4.45).Research from Nigeria also documented similar thing (60-61).

There was mean score difference between respondent's level of education and their mean score on attitude related questions. Those participants with masters' level score more. This had an implication of the need to participate nurses with higher level of education in the care of autistic individuals.

There was mean score difference between respondent's area of specialization and their mean score on attitude related questions. Those respondents with pediatric area of specialty scored more on attitude related questions than others .This could be either due to the depth of pediatrics and psychiatry courses they took during their study. It had an implication of nurses with pediatric specialty could give an evidence based care for autistic children than others.

. 6.2. Strength and Limitation of the study

Strength of the study

- This study was the first in its kind in Ethiopia to investigate the topic so it can serve as a reference and can initiate professionals for further investigation.
- The study use probability sampling technique for selecting participant nurses which aid the generalization of the result.

Limitation of the study

- Lack of previously conducted researches on the topic could bring a limitation to the study.
- The study did not use a qualitative method, which could influence the depth of our explanation of attitude which is complex issue.
- Cross sectional nature of the study design could also be the limitation to the study.
- Response rate of 8% could bring a limitation to our study.

6.3. Conclusion

This study identified that there was knowledge deficiency on nurses about childhood autism. Out of 331 nurses only180 (54.35%) have good knowledge. Age of respondents, level of education and work experience had significant association with knowledge of nurses towards childhood autism .178(53.8%) had favorable attitude. Therefore there is a need to improve knowledge and attitude of nurses towards childhood autism, which could ultimately enhance the quality of care that is given for autistic children.

6.4. Recommendation

In our study knowledge deficiency was seen on nurses regarding childhood autism which could diminish the quality of care that is given for autistic children. To improve the quality of care that is given to autistic children the following recommendation were forwarded for different concerned bodies.

For each selected hospitals

- Should focus on promoting the knowledge and attitude of nurses by facilitating special training.

Curriculum designers

- Should incorporate the topic of autism in psychiatry course and give focus on it to enhance nurses' knowledge about childhood autism.

NGO

- Should facilitate trainings to maximize knowledge of nurses about childhood autism.

Researchers

- To do further studies on the topic with mixed methodology and in other area that helps to explore more.

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ANNEXES

Annex I: Information Sheet

My name is Salem Tasew. I am from Addis Ababa University, college of health science school of nursing and midwifery, Department of pediatric and child health nursing. I am conducting a study for partial fulfillment of master of pediatrics and Child health Nursing. I am here to find out nurses knowledge and attitude towards childhood autism. This helps us to improve the care which is given for autistic children in Addis Ababa governmental hospitals. I would very much appreciate your participation in this survey. You are selected to participate in this study randomly. The following are some general information about the study.

Objectives of the study: The objective of this study is to assess Knowledge and Attitude of nurses towards childhood autism at selected governmental hospitals, Addis Ababa, Ethiopia, 2016.

Participants to be included: Participants to be included in this study are nurses who are working at selected governmental hospitals Addis Ababa, Ethiopia.

Confidentiality: All information you give will be kept confidential and won't be Accessible to any third party; your name won't be registered on the question sheet so that You will not be identified for any reason.

Benefits of the study: For your participation in the study no payment will be granted or Has no any special privilege to you, but participating in the study and giving your genuine Information will provide great input to bring change in quality of health service to Children child health autism.

Risks of the study: There will no potential risks that may cause any harm on study participants in any form.

Consent: Your name will not be written in this form and will never be used in connection with any information you tell us. All information that you gave to as will be kept strictly confidential. You have the right not to participate from the beginning, or you may stop participating at any

time after starting the participation. You won't be forced to give information that you do not know.

Rights as a participant: Your participation in the study will be totally based on your willingness If you have any questions about the study please before to ask and contact me. You can choose not to answer any individual question or all of the questions. However, I hope that you will participate in this survey since your views are important**.** If you fill discomfort to respond to the questioner, please fill free to drop it. This questionnaire will take about 20 minutes.

Annex II: Informed Consent

I have read this form and I understand all conditions stated above. Therefore, I am willing to participate in this study.

Signature _____

Contact Address of the Principal Investigator

Name: Salem Tasew

E–Mail: Salem Tasew@gmail.com

Cell –Phone: 092284646

Data collector: Code_____Name_____signature_____

Supervisor

Name_____signature_____Date_____

Annex III: Questionnaires English Version

Addis Ababa University, College of Health Sciences, School of Allied Health Sciences, department of Pediatrics and Child Health nursing.

Instruction: This questionnaire is designed to collect information from respondents in respect to Assess knowledge and attitude of nurses towards childhood autism at selected hospitals in Addis Ababa, Ethiopia, 2016.

Part I: Questionnaire for socio economic characteristics of the Nurses

S.NO	**Socio demographic information**	**Response**	**Skip rule**
Q101	Age	_____ Year	
Q102	Gender	1.Male	
		2.Female	
Q103	What is your Religion?	1.Orthodox	
		2.Muslim	
		3.Protestant	
		4.other	
Q104	Marital status	1. Single	
		2. Married	
		3.Separated/Divorced	
		4. Widowed	
Q105	What is your Area of specialty?	1.Clinical nursing	
		2.Pediatric nursing	
		3.Adult nursing	
		4. psychiatry nursing	
		5.Other (specify)	
Q106	Working experience	_____year or month	
Q107	What is your Level of Education?	1. Diploma in nursing	
		2. BSc in nursing.	
		3.MSC in nursing	

		4. Other (specify…….	
Q109	Have you attend short term training regarding Autism?	1.I have attend	
		2.I have never attend	
Q110	Do you have previous involvement in the management of autism	1.Yes I have	
		2.No I have not	

Part II Knowledge related questions about childhood autism

S.NO	Knowledge related questions	Response	Skip rule
Q201	Does autism result in Marked impairment in the use of multiple non-verbal behaviors such as eye to eye contact, facial expression, body postures and gestures during social interaction?	1.Yes	
		2.No	
		3.dont know	
Q 202	Does autism cause Failure to develop peer relationship appropriate for developmental age?	1.Yes	
		2.No	
		3.Dont know	
Q203	Does child with autism have Lack of spontaneous will to share enjoyment, interest or activities with other people?	1.Yes	
		2.No	
		3.Dont know	
Q204	Does autism child have Lack of social or emotional reciprocity?	1.Yes	
		2.No	
		3.Dontknow	
Q205	Does autism child Stare into open space and not focusing on anything specific?	1.Yes	
		2.No	
		3.Dontknow	
Q206	Does autistic child can appear as if deaf or dumb?	1.Yes	
		2.No	
		3.Dontknow	

Q207	Does child with autism has Loss of interest in the environment and surroundings?	1.Yes 2.No 3.Dont know	
Q208	Does Social smile is usually absent in a child with Autism?	1.Yes 2.No 3.Dontknow	
Q209	Does autistic child has Delay or total lack of development of spoken language	1.Yes 2.No 3.Dontknow	
Q210	Does autistic child has Stereotyped and repetitive movement (e.g. Hand or finger flapping or twisting)?	1.Yes 2. No 3.Dontknow	
Q211	Does autism associated with abnormal eating habit?	1.Yes 2.No 3.Dontknow	
Q212	Does Autistic child Persistently preoccupied with parts of objects?	1.Yes 2.No 3.Dontknow	
Q213	Does Autistic child Love for regimented routine activities?	1.Yes 2.No 3.Dontknow	
Q214	Does Autism is Childhood Schizophrenia?	1.Yes 2. No 3. Don't know	
Q215	Does Autism is an auto-immune condition?	1.Yes 2.No 3.Dontknow	
Q216	Autism is a neuro-developmental disorder?	1. Yes 2.No 3.Dontknow	

Q217	Autism could be associated with Mental Retardation?	1.Yes	
		2.No	
		3.Dontknow	
Q218	Does Autism could be associated with Epilepsy?	1.Yes	
		2.No	
		3.Dont know	
Q219	At what age the Onset of Autism start?	1.Neonatal age	
		2.Infancy	
		3.childhood	
Q220	Does autism is curable disease?	1.yes	
		2.No	
		3.don't know	

Part III Attitude of nurses towards childhood autism

S.no	Variable	Possible answers	skipping rule
Q301	Do you believe that autism can occur in mild as well as extreme form?	1.Strongly Disagree	
		2.Disagree	
		3.I am not sure	
		4.Agree	
		5.Strongly agree	
Q302	Do you believe that Children with autism usually grow up to be schizophrenic adults?	1.Strongly disagree	
		2.Disagree	
		3.I am not sure	
		4.Agree	
		5.Strongly agree	
Q303	Do you believe that Autism is an emotional disorder?	1.Strongly disagree	
		2.Disagree	
		3.I am not sure	

		4.Agree	
		5.Strongly agree	
Q304	Do you think that Most children with autism are also mentally retarded?	1.Strongly disagree	
		2.Disagree	
		3.Iam not sure	
		4.Agree	
		5.Strongly agree	
Q305	Do you think that Autism is more common among higher socio economic society?	1.Strongly disagree	
		2.Disagree	
		3.I am not sure	
		4.Agree	
		5.Strongly agree	
Q306	Do you think that Autism is a rare condition in Ethiopia as compared to the Western country?	1.Strongly disagree	
		2.Disagree	
		3.I am not sure	
		4.Agree	
		5.Strongly agree	
Q307	Do you believe that Autism is under-recognized and often missed in general practice?	1. Strongly Disagree	
		2. Disagree	
		3. I am not sure	
		4. Agree	
		5.Strongly agree	
Q 308	Do you think that there is a lack of awareness regarding autism among professionals in Ethiopia?	1.Stronglydisagree	
		2.disagree	
		3.I am not sure	
		4.Agree	
		4. strongly Agree	
		5.Strongly agree	
Q309	Do you think that Autism is a communication disorder?	1.Strongly Disagree	
		2 Disagree	

		3.I am not sure	
		4. Agree	
		5.Stronglyagree	
Q310	Do you think that Children with autism do not show social attachments, even to parents?	1.strongly Disagree	
		2. Disagree	
		3. I am not sure	
		4.Agree	
		5.Stronglly agree	
Q311	Do you believe that Autism exists only in childhood?	1.Strongly disagree	
		2.disagree	
		3.I am not sure	
		4.Agree	
		5.Strongly agree	
Q312	Do you believe that With early intervention, the prognosis of individuals with autism is poor?	1.Strongly disagree	
		2.Disagree	
		3.Iam not sure	
		4.Agree	
		5.Strongly agree	
Q313	Do you agree that Parental counseling on training techniques is one of effective treatment of autism?	1.Strongly disagree	
		2.Disagree	
		3.Iam not sure	
		4.Agree	
		5.Stronglly agree	
Q314	Do you believe that Dietary intervention is one of the treatment options?	1.Stronglly disagree	
		2. Disagree	
		3.I am not sure	
		4. Agree	
		5.Stronglyagree	