

**EFFECTIVENESS OF CHILD AND ADOLESCENT  
MENTAL HEALTH EDUCATION ON  
KNOWLEDGE AND ATTITUDES OF NURSES IN  
THE UNIVERSITY COLLEGE HOSPITAL  
IBADAN**

**BY**

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CHILD AND ADOLESCENT MENTAL HEALTH, IN PARTIAL  
FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF  
MASTER OF SCIENCE IN CHILD AND ADOLESCENT MENTAL  
HEALTH OF THE UNIVERSITY OF IBADAN**

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## DECLARATION

This dissertation is submitted in partial fulfillment for the award of a Master of Science degree in child and adolescent psychiatry, university of Ibadan

This study reported here has not been presented to any other university for the award of Master of Science degree or has it been submitted elsewhere for publication.

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Victoria Omotola Onileimo

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## CERTIFICATION

I certify that the study reported in this Project was done by Mrs. Onileimo Victoria of the center for child and Adolescent mental health of the University of Ibadan, Oyo state under my supervision.

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## DEDICATION

This book is dedicated with all affection and awe to God Almighty, to my husband and my loving children

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I am grateful to God for the gift of life and for giving me the grace that saw me through the programme.

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## ABBREVIATIONS

ADN:	Assistant Director of Nursing
ADHD:	Attention Deficit Hyperactivity Disorder
ASCAPAP	Asian Society of Child and Adolescent Psychiatry
BAD	Bipolar Affective Disorder
CASSP:	Child and Adolescent Service System
CNO	Chief Nursing Officer
DSM IV:	Diagnostic and Statistical Manual of Mental Disorders Version IV
ODD:	Oppositional Defiant Disorder
PNO:	Principal Nursing Officer:
SNO:	Senior Nursing Officer
SPSS:	Statistical Package for the Social Sciences
UCH:	University College Hospital
USA:	United States of America
WHO:	World Health Organization
KADS:	Knowledge and Attitude Disorders Scale
MHGAP	Mental Health Gap
RN:	Registered Nurse
RPN:	Registered Pediatric Nurse
PHN:	Public Health Nurse
B.Ed.:	Bachelor of Education

NO I	Nursing Officer 1
NO II:	Nursing Officer 1I
HIV:	Human Immunodeficient Virus
C12ND	Central Ward 2 <sup>nd</sup> Floor
CHOP:	Children Outpatient
NW2:	North West 2
SE2:	South East 2
SEG	South East Ground
SW2:	South West 2
SCBU:	Special Care Baby Unity
OTCHEW:	Otunba Tunwase Children Emergency Ward

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## ABSTRACT

There is a dearth of information on knowledge and the attitudes of the health care service provider regarding mental health issues. The objectives of this research work was to determine the knowledge and attitudes of nurses in the paediatric wards of the University College Hospital, Ibadan in the recognition, assessment and management of children with mental health disorders and to determine the effect of a training intervention on the knowledge, and attitudes of these nurses with regards to child and adolescent mental health.

This was an intervention study. One hundred and forty six (146) nurses were interviewed in all, 68 from the intervention arm and 78 from the control arm. They were interviewed at baseline and post intervention. At baseline, all participants were administered with a sociodemographic questionnaire. The modified Knowledge and Attitude towards child & adolescent disorders scale and Mental Health Gap Action Training programme (mhGap) Developmental & Behavioral disorders module questions were used to assess the knowledge and attitudes of respondents towards child and adolescent mental health disorders. Participants were block-randomized into either the intervention group or the control group based on their wards. Participants in the intervention group received a day training session on child and adolescent mental health and were interviewed post intervention. Chi-square analysis was used for the analysis of all the categorical variables and t test in the comparison of two means. The Wilcoxon signed-rank test was used to compare baseline versus post intervention categorical data within same group. Levels of significance were set at 0.05, 95% confidence interval. All data analyses were by the SPSS (17.0).

Results show that the mean age of the respondents was  $40.7 \pm 7.7$  years, 144 (98.6%) were females, 120 (82.2%) were Christians and 134 (91.2%) were married. Post-intervention, there were significant changes in quite a number of the responses. Some of them were reduction in the proportion of respondents who reported that mental illness is rare in children & adolescents,  $Z = 5.5$ ,  $p < 0.001$  and the proportion of respondents who believed that the root cause of mental disorders in children was a curse on the family,  $Z = 5.5$ ,  $P = 0.001$ , but an increase in the proportion of respondents who reported that imbecility and moron are types of mental disorder found in children,  $Z = 3.6$ ,  $p < 0.001$ , the proportion of respondents who recognized that 20% of children would develop a mental disorder in the course of their lifetime,  $Z = 4.7$ ,  $P = 0.001$ .

There was also a significant difference in the mean post knowledge score between the intervention group ( $95.4 \pm 15.3$ ) and the control group ( $80.1 \pm 14.6$ ),  $t = 8.3$ ,  $p < 0.001$ .

In conclusion, nurses have poor knowledge about aetiology, symptoms and treatment of mental and behavioral disorders in children. However, a one day health education training intervention brought about significant positive changes in some of their original knowledge and attitude. It is thereby recommended that such training intervention should be carried out at regular intervals to reinforce these positive changes.

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## CHAPTER ONE

### INTRODUCTION

#### 1.0 Introduction

The world's population is getting younger every year, the growth of the youth population is fastest in sub-Saharan Africa ("World Population Data Sheet," 2009). Over 20% or 200 million of the population of Africa is between the ages of 15 -25years (Avril, 2008). Studies indicate that one out of every four youths is estimated to meet lifetime criteria for a mental disorder (Merikangas et al., 2009), this suggests that the absolute number of children and adolescents with mental health issues is quite substantial.

Over time it has been well documented that mental healthcare in Africa has been largely ignored (Alem et al., 2008;Gureje and Alem, 2000). Both retrospective and prospective researches have shown that most mental disorders in adults begin in childhood and adolescence. This highlights the importance of gaining understanding of the magnitude, risk factors, and progression of mental disorders in youth (Kessler et al., 2007). The importance of recognizing that children and adolescents are not immune from mental illness cannot be overemphasized.

Child and adolescent psychiatry is a fledgling subspecialty and is largely ignored by policymakers in Africa perhaps with the exception of South Africa. Though progress has been made in recent years with an increasing number of specialists in child psychiatry and the commencement of a master's degree program in child and adolescent psychiatry which is the first in Nigeria at the University of Ibadan in 2012, however most of this progress has been made in tertiary institutions (Gureje and Alem, 2000).



The majority of at risk youths do not have access to the available facilities. The integration of mental health care into the primary health system has been in the fore front of advocacy and policy initiatives in recent years. The idea is to bring mental health care as close as possible to those who need it. In the vanguard of this integrated approach are nurses.

Nurses by virtue of their training and designated functions are well suited to perform the function of increasing awareness of child and adolescent mental health problems to the general public and to health personnel within the community. This is because nurses are more accessible to patients and relatives both in the hospital and in the community. If serious progress must be made in improving the delivery of mental healthcare to children and adolescents it is evident that the knowledge and attitudes of child and adolescent mental healthcare among nurses must be given serious consideration. To be able to do this effectively it is necessary to assess these parameters amongst nurses as well as to determine the impact of intervention on their knowledge attitudes and practice towards child and adolescent mental health.

## **1.2 RELEVANCE OF THE STUDY TO NIGERIA AND WEST AFRICA**

The emphasis on mental healthcare service delivery has shifted from large formal institutions to community based systems globally. Nigeria and West Africa are no exception to this trend. Primary healthcare at the local government level in Nigeria is the mainstay of healthcare delivery to the community. Most primary health care centers are administered by nurses who are specially trained to maximize the benefits of primary healthcare to the general population who otherwise would not be able to access health services. They serve as a point of first contact for those who may require specialist services and act as a kind of liaison between them and the specialists. In Nigeria and West Africa there are few mental health specialists and even fewer experts in child and adolescent mental health care (Aviles et al., 2006). Most of these

specialists are concentrated in a small number of institutions in the urban centers effectively making their services unavailable to the vast majority of children and adolescents who require them. There is also widespread ignorance among the population about the true nature of mental illness. Cultural beliefs aptly demonstrated by a Yoruba adage translated to mean ‘madness does not occur in a child except there are supernatural forces behind it’ also militate against recognition and treatment seeking for mental disorders in children and adolescents. Nurses with their brief to educate and sensitize people about health matters are in a vantage position to provide effective interventions for these problems. Increasing the awareness among public health nurses of the common mental health issues affecting children and adolescents in our environment will go a long way in improving their knowledge, attitudes and practice with regards to child and adolescent mental health care.

However as previously outlined a major drawback in the provision of proper service delivery is the degree of knowledge and the attitudes of the service provider regarding mental health issues. There appears to be very little if any empirical evidence of the degree of knowledge and attitudes of nurses regarding child and adolescent mental health in Nigeria and the West African sub region and the effect of intervention on it.

The information obtained from the results of this study will enable the assessment of the knowledge base as well as attitudes of nurses regarding child and adolescent mental health and the effect of providing information on child and adolescent mental health on their knowledge attitudes and practice. This will hopefully highlight the deficiencies in their knowledge, attitudes and practice and subsequently facilitate the planning of training and sensitization programs for this very important group of health professionals.

### **1.3 AIM:**

To determine the knowledge and attitude of nurses in the recognition, assessment and management of children with mental health disorders and to assess the effect of training intervention in child and adolescent mental health on the general knowledge and attitudes of public health nurses with regards to mental health care of children and adolescents.

### **1.4 OBJECTIVES**

- 1 To assess the knowledge and attitude of nurses in the recognition, assessment and management of children with mental health disorders.
2. To carry out training intervention among Nurses working in pediatric department
3. To determine the effect of training intervention on the knowledge, and attitudes of nurses with regards to child and adolescent mental health.

### **1.5 NULL HYPOTHESIS**

Training intervention will have no significant effect on the knowledge and attitudes of nurses with regards to child and adolescent mental health

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 HISTORICAL PERSPECTIVE AND DEVELOPMENT OF CHILD AND ADOLESCENT PSYCHIATRY

Child and adolescent psychiatry is the subspecialty most directly involved in the provision of child and adolescent mental health care. Its root can be traced back to the specialties of neurology, pediatrics, psychology, sociology and psychiatry amongst others (Remschmidt and Belfer, 2005). The recognition of childhood by society as a special phase of life with peculiar needs and problems is an important precursor to the development of child and adolescent mental health care (Kuczaj, 1991).

In the early stages of the development of psychiatry childhood was completely ignored. Historically significant works such as Kraepelin's psychiatric taxonomy published in 1883 did not mention childhood disorders at all (Kanner, 1960). As time went on the awareness of the significance of childhood disorders and the need for their recognition identification and early intervention gradually increased. By 1882 Johannes Truper had founded a school for the study of childhood mental disorders near Jena in Germany as well as founding an important journal, *Die Kinderfehler* in 1896 focusing on childhood disorders. The term child psychiatry was first used in 1899 in a paper by Manheimer (Manheimer, 1900). The initial attempt to define the parameters of child psychiatry in terms of diagnosis, treatment and prognosis was made by Moritz Tramer a Swiss psychiatrist in 1933. He also founded the journal which later evolved to become the *Acta Paedopsychiatrica* in 1934 (Eliasberg, 1964). The first academic child psychiatry department was founded in 1930 at the Johns Hopkins hospital Baltimore by Leo Kanner who also published the first recognized child psychiatry textbook in 1935. He was the

first to describe the clinical features of infantile autism (Kanner's syndrome), which is also named after him (Neumaker, 2003). Early development of the specialty took place in many other countries during the late 1920s and 1930s though at varying pace. Child psychiatry became a board certifiable specialty in the USA in 1959 (Kutchins and Kirk, 1992). Medication was first used in treatment of childhood behavioral disorders in 1930 by Charles Bradley who used amphetamines in the treatment of 'brain damaged hyperactive children.'

The specialty really began to flourish in the mid-1980s following seminal work carried out by Michael Rutter (Green and Yule, 2001). A comprehensive population survey of 9-11 year olds was carried out in London and the Isle of Wight, the first results appeared in 1970 (Rutter, 1990). Information obtained from subsequent follow-ups of this work provided the basis on which much of present day practice of child and adolescent psychiatry is based. As time progressed systems of care developed albeit at different rates in various regions and countries across the world. In Europe experience in the field has shown that a multidisciplinary approach is an essential requirement for scientific and clinical progress. The number of child psychiatrists and child mental health workers has dramatically increased in the past few decades in Europe though this development is not evenly spread in terms of number of child psychiatrists, organization of departments and services research, training and continuing medical training. The child and adolescent psychiatry section within the union of European medical specialists has developed guidelines for the training of child and adolescent psychiatrists which can serve as a global model (Remschmidt and Belfer, 2005).

In the United States the child and adolescent service system (CASSP) was established in 1984 (Stroul and Friedman, 1986). The principles developed by this system have served as the foundation for child and adolescent mental health delivery in the United States. The child and

adolescent mental health system in the USA is well developed and embraces the principles of multidisciplinary approach, patient and caregiver involvement as well as school and community based interventions (Remschmidt and Belfer, 2005). That being said, it is instructive to note that despite having 6500 practicing child psychiatrists, the USA still falls short of the WHO minimum requirement of two child psychiatrists for every 60,000 children (Remschmidt and Belfer, 2005). In South America a lack of reliable data makes it difficult to appropriately describe the existing systems of care .However the level of development varies from country to country. These services tend to be concentrated in a few academic centers and private facilities usually in urban areas. As at 1997 Venezuela had 51 practicing child psychiatrists and Chile in 2005 had 85 (Rohde et al., 2004).

Child and adolescent psychiatry has developed independently in different countries in Asia, with each country having its special history though the common factor remains that child and adolescent psychiatry is still a sub specialty in its infancy in this region.(Hong et al., 2004) It is only in the recent past that national and international child psychiatry associations such as the Asian society of child and adolescent psychiatry and allied professions (ASCAPAP) established in 1996 have emerged (Remschmidt and Belfer, 2005).

The vast size, large rural population, high prevalence of adolescent suicide and mental health issues among the aboriginal tribes of Australia have driven innovative service development and put Australia in the forefront of research in the field of child and adolescent mental healthcare as well as implementation of effective prevention and treatment programs (Nurcombe, 2004).

In Africa the situation is somewhat different, in the face of the difficulty still being encountered in meeting the basic needs of nutrition, water and sanitation mental health in general

and child mental health in particular has been largely ignored by the relevant authorities (Robertson et al., 2004). Systems of care in Africa are predominantly informal and are provided by family support systems, natural healers and faith based organizations. The formal systems are grossly inadequate and provided by a few state run hospitals and a minute number of private facilities (Robertson et al., 2004). South Africa is about the only country in Africa with a relatively well developed child mental health service delivery system and reliable data base for its assessment (Remschmidt and Belfer, 2005).

## **2.2 EPIDEMIOLOGY OF CHILDHOOD MENTAL DISORDERS**

Mental disorders are common and several large scale surveys since the 1980s support this assertion. WHO reported in 2001 that 450million people globally suffer from some form of mental disorder or brain damage and that 25% of the population will meet criteria at some point in their life (Merikangas et al., 2009). Children make up a significant proportion of the world's population and they are not exempt from being affected by mental illnesses. There are widely varying estimates of the prevalence of mental disorders causing significant functional impairment in children ranging from 3% to 18%. Costello and colleagues proposed a median prevalence estimate of 12% (Costello et al., 2005) as compared to 14.2% proposed by Waddell and colleagues who used a different statistical method (Waddell et al., 2002).

A review by Merikangas and colleagues in 2009 on the epidemiology of child and adolescent mental disorders reported a median prevalence of depressive disorders of 4% with a range of 0.2% to 17%. Recent studies have reported a range of 0.6% in Great Britain to 3.0% in Puerto Rico (Merikangas et al., 2009). Lifetime prevalence rates have been reported to be as high as 23.2% to 33.5% in New Zealand and 43.3% in Oregon. There are conflicting reports on

the gender differences in the prevalence of depressive disorders in preadolescence with some research reporting no differences and others reporting higher prevalence in boys (Merikangas and Avenevoli, 2002). This pattern however reverses during adolescence when the rates of depression are higher among females than males (Wittchen et al., 1998;Cohen et al., 1993).

These differences persist until middle adulthood (Merikangas et al., 2009). The average age of onset for depressive disorder in children and adolescents is between 11 years and 14 years as reported by longitudinal studies of community samples (Lewinsohn et al., 2000). There is a significant change in the prevalence of depressive episodes after the age of 11. The rates of new onset of major depressive disorder episodes(MDD)increase from 1-2% at age 13 to 3%-5% (Lewinsohn et al., 2000). The association between social class and depression among children and adolescents remains unclear. Some studies have reported a lack of association while others reported significant association at least among the most impoverished groups (Costello et al., 2005; Merikangas et al., 2009)

The prevalence of mania, hypomania and bipolar affective disorder in population based studies range from 0% to 0.9% in children aged 14 to 18 year, the lifetime rates have been reported to be between 0.5% to 2% (costello et al., 2004;Lewinsohn et al., 2000).There are no gender differences in the prevalence of bipolar affective disorder (Merikangas et al., 2009). The peak age of onset of BAD as reported by Lewinsohn and colleagues is 14 years in both genders and this decreases gradually afterwards (Lewinsohn et al., 2002).

Anxiety disorders are quite common among children and adolescents consistent with findings in the adult population. The median prevalence rate of all anxiety disorders was reported as 8% in a review by Costello and colleagues in 2005 with a range of 2% to 24%. Generalized anxiety disorder and social anxiety disorder are the two most prevalent among youths and



obsessive compulsive and panic disorders are rare in children under 12. There is no significant difference in average age of onset between boys and girls (Merikangas and Avenevoli, 2000). However girls across all age groups have been shown to have higher rates of anxiety disorders across all subtypes. There are few differences in the distribution of anxiety disorders by ethnicity and social class (Merikangas et al., 1999). Anxiety disorders and all other major classes of mental disorders are closely related. The comorbidity of anxiety disorders and mood disorders is so common that it has been hypothesized that anxiety disorders in early life may be a forerunner of depression in adulthood (Merikangas and Avenevoli, 2002).

Attention deficit hyperactivity disorder (ADHD) has been reported to have a point prevalence ranging from 1.7% to 17.8%, however a median prevalence of 3% have been reported (Merikangas et al., 2009; Costello et al., 2004; Faraone et al., 2003). The prevalence of ADHD in 5-15 year olds was reported by Roberts in 2007 and Canino in 2004 as well as Calinou as 1.23% with a 12 month prevalence of ranging from 2% to 8.7% for ages 4 years to 17 years. Males have been consistently shown to have a higher prevalence of ADHD than females (Roberts et al., 2007; Canino et al., 2004; Froelich et al., 2007). In some other studies, prevalence of 3.62% in boys and 0.85% in girls (Ford et al., 2003), 2.0% in boys and 0.5% in girls (Canino et al., 2004) and 1.5% in boys and 0.3% in girls (Costello E et al., 2003) have been variously reported. Research on the relationship between socio economic status and ADHD has produced conflicting results. (Merikangas et al., 2009). A study by Froelich showed that there is a two fold increase in the prevalence of ADHD amongst the poorest children when compared to the wealthiest children (Froelich et al., 2007). Two other studies by Canino and Calinou showed no association between family income or education and rates of ADHD (Calinou and McClellan, 2004). Froelich and Ford reported lower rates of ADHD among Mexican American

youths living in the USA and Asian youths living in the United Kingdom (Froelich et al., 2007; Ford et al., 2003).

Disruptive behavior disorders have a 12 month prevalence rate of 6% with a range of 5% to 14% according to Costello. (Costello et al., 2004) Conduct disorder prevalence was estimated at 1.5% and oppositional defiant disorder (ODD) 2.3% by Ford as compared with 2.8% to 5.5% for ODD and 2.0% to 3.32% for conduct disorder reported by Roberts in 2007 and Canino in 2004 for children and adolescents in the USA. (Roberts et al., 2007) (Canino et al., 2004) Conduct disorder is more prevalent among boys than girls with several studies showing differences of 3 to 4 times higher rates in boys than girls (Loeber et al., 2000). The differences in ODD prevalence is less clear though some studies have found higher rates in males while others have shown similar rates in both genders (Loeber et al., 2000). No consistent association between socioeconomic status and ethnic origin with disruptive behavior disorders has been found (Roberts et al., 2007; Loeber et al., 2000).

Although a study by Ford showed that Asian children in the UK had lower rates of ODD than non-Asian children (Lahey et al., 1937). Lahey reported that earlier age of onset of disruptive behavior disorders appears to be an important predictor of outcome, suggesting that earlier age of onset is associated with more aggressive behavior (Loeber et al., 2000). These researchers also reported that boys with a diagnosis of ADHD are more likely to have an early onset of conduct disorder. There is a high degree of co-occurrence of conduct disorder and ADHD as well as a strong association between disruptive behavior disorders with mood and anxiety disorders (Merikangas and Avenevoli, 2000). Five percent of youths on the average will suffer from some form of drug or alcohol abuse or dependence with a range of 1% to 24% (Angold and Farmer, 2002; Flisher et al., 1996; Costello E et al., 2003; Canino et al., 2004). The

lower prevalence reported by the last two studies may be due to the lower age range of the samples studied. Between ages 13 and 16 years there is a dramatic increase in 3 month prevalence rate of substance use disorders as shown by the results of the Great Smoky Mountains survey which reported 0.3% at age 13, 1.4% at age 14, 5.3% at age 15 and 7.6% at age 16. Substance use disorders have been found to be more prevalent in white youths and equally distributed by parental social class (Merikangas and Avenevoli, 2000). It has also been reported to have equal prevalence between genders in some studies while others have reported a higher rate in males than females (Robertson et al., 2004).

### **2.3 KNOWLEDGE AND ATTITUDES**

People's beliefs influence their attitudes and ultimately their behavior towards those with mental illness. Personal knowledge about mental illness, relating with someone living with mental illness, cultural stereotypes, media stories and familiarity with institutional practices and restrictions all play a role in determining peoples beliefs and attitudes towards mental illness (Attitudes towards mental illness: results from the behavioral risk factor surveillance system, 2003). These attitudes set the stage for how people interact with, provide for and help support those with mental illness. Attitudes and beliefs also influence the way in which people experience and disclose their illness as well as determine help seeking behavior among both sufferers and carers. When attitudes are positive they result in supportive behavior. Negative attitudes manifest as stigma avoidance and discrimination.

Stigma has been described as a set of negative attitudes and beliefs that motivate the general public to fear, reject, avoid and discriminate against people with mental illness (*Attitudes towards mental illness: results from the behavioral risk factor surveillance system, 2003*). Stigma against people with mental illness is a global phenomenon and has remained prevalent and

persistent over time (Evans-Lacko et al., 2013; Evans-Lacko et al., 2011). Research results have suggested a link between public attitudes and individual experiences of stigma among people with mental health problems with its experience being characterized by shame, blame, secrecy, isolation, social exclusion and discrimination (Evans-Lacko et al., 2011). The WHO has reported a significant relationship between stigma and suffering, disability and poverty as well as being a major barrier to treatment (Read et al., 2006). Stigma remains a major obstacle mitigating against acceptance of mental illness and treatment seeking amongst sufferers as well as inhibiting re integration of those who have recovered from mental illness (Klin and Lemish, 2008; Hugo, 2001; Crabb et al., 2012).

A large community survey of public attitudes towards mental illness in Nigeria conducted by Gureje and colleagues reported poor knowledge regarding causation and widespread negative attitudes towards mental illness in an overwhelming majority of respondents. (Gureje et al., 2005). Most respondents believed that people with mental illnesses are dangerous and not suitable for normal social interaction. Supernatural reasons, illicit drug use, stress and lack of willpower were the most frequently given reasons for the causation of mental illness reported in both South African and Nigerian survey (Gureje et al., 2005). This is notably different from findings in Europe and North America where psychosocial factors are more widely believed to be causative factors for mental illness (Crabb et al., 2012).

Contact between healthcare professionals and people suffering from mental disorders is very crucial to the care and management which such people will receive and this impacts directly on the prognosis and outcomes of their illness. Historically attitudes towards people with mental disorder has been shown to be negative among healthcare professionals (Hugo, 2001; Jorm et al., 1999). It has been reported that the attitudes of mental health professionals was generally

positive with most feeling sympathy and a desire to help sufferers (Gateshill et al., 2011). Nurses and doctors working in psychiatric services have been reported to have more positive attitudes towards mental illness than other health professionals (Vibha et al., 2008; Adebowale and Ogunlesi, 1999). Increased knowledge and contact with people suffering from mental illness were also shown to increase empathy and sensitivity towards those with mental health issues. Negative attitudes from mental health professionals may restrict opportunities for effective treatment.

In a study of Nigerian doctors, it has been reported that majority of the respondents attributed mental illness to supernatural causes. They also regarded those with mental illness as being dangerous and their prognosis poor. Sampled doctors were also found to maintain high social distance from the mentally ill. Factors associated with negative attitudes among doctors include; younger age less than 45 years, fewer years of practice less than 10 years, female sex and not having a family member or friend with mental illness. It was concluded that culturally enshrined beliefs regarding mental disorders are prevalent among Nigerian doctors (Adewuya and Oguntade, 2007).

A search of the literature regarding knowledge and attitudes towards child and adolescent mental health disorders among health professionals in general and nurses in particular yielded little. However taking into consideration the general trends observed it would seem reasonable to assume that the knowledge of nurses in Nigeria towards child and adolescent mental disorders would be less than ideal and that their attitudes towards it would be determined by their degree of knowledge, cultural beliefs and contact with children and adolescents suffering from mental health disorders.

## 2.4 EFFECT OF EDUCATION ON KNOWLEDGE AND ATTITUDES

Stigma is strongly associated with a lack of knowledge and stereotyping. Studies have investigated the effect of intervention in terms of education, and creating awareness on the attitudes of people towards others with special characteristics such as those living with HIV/AIDS, mental illness and intellectual disability (Economou et al., 2011). The general consensus of these studies tends towards the fact that intervention in many cases improves the attitudes of those who receive it, though it may not necessarily completely eradicate their negative attitudes.

A review of the literature shows that training interventions targeted at specific groups have yielded some limited positive effects. Evidence from studies of interventions by education about mental illness suggests that people with a better understanding of mental illness are less likely to endorse stigma and discrimination (Boysen et al 2008). Boysen et al (2008) in an intervention study of training targeted at students found that the intervention yielded some short term positive changes in their attitudes and knowledge towards mental illness and willingness to engage with those with mental illness.

In comparison, Bower in 2001 and Stedman et al in 2000 reported a reduction in use of unnecessary force and an increase in referrals to psychiatric services by police officers who had the benefit of some training in mental health issues. Mass media and multi component campaigns have shown some promising results in terms of positive changes in attitude of society towards mental illness (Rebecca et al 2012).

Ekwueme and colleagues in a study involving primary health workers in Igbo-Etiti reported that intervention caused significant positive changes in all the attitudinal subscales ranging from stereotypy to benevolence (Ekwueme et al., 2008). In another study conducted on the impact of intervention on the knowledge and attitudes towards community health workers in

India, It was found that a minor reduction in stigmatizing attitudes, however they concluded that the study training course demonstrated the potential to be an effective way to improve some aspects of mental health literacy (Armstrong et al., 2011). Likewise, it was noted that when forensic nurses were provided with a better understanding of mental illness and training, they were helped in a broad way that gave them more positive attitudes towards their clients. (Ewers et al., 2006).

However the enduring effects of these interventions have not been extensively studied as these would require longitudinal prospective studies which are by their nature difficult and expensive to carry out. Although, Pinfold and colleagues found that 73% of respondents showed improved attitudes towards mental illness immediately after intervention and 63% 6 months after the intervention in a study among secondary school students in the United Kingdom (Pinfold et al., 2003).

## CHAPTER THREE

### METHODOLOGY

#### 3.1 STUDY SITE

The study was carried out at the University College Hospital Ibadan. The hospital is a tertiary teaching hospital affiliated with the University of Ibadan. It was established by an act of parliament in November 1952 and physical development commenced in 1953. It was formally commissioned in November 1957 and is located in Ibadan the capital city of the old western region and presently of Oyo state in southwest Nigeria.

The hospital is primarily a tertiary institution but has community based outreach centers at Igbo Ora, Abedo, Okuku, Sepeteri, Elesu, and Jago where it offers primary and secondary health care services. These community health services are exclusively anchored by public health nurses. The Hospital has 56 service and clinical departments and runs 96 consultative out-patient clinics a week in 50 specialty and sub-specialty disciplines including child and adolescent mental health. The child and adolescent facility sees an average of 13 patients on every outpatient clinic days, also offers services such as psychotherapy, day care and a community service in the remand home. The facility also have an adjunct clinic with university of Ibadan where adolescent in the university can access mental health care.

The hospital has an in- patient capacity of about 865 beds. It also runs a school of nursing and midwifery and offers training in nursing specialties including public health nursing. UCH currently employs close to 1,145 nurses from which 182 were included in this study.



### **3.2 STUDY DESIGN**

This was an intervention study carried out in three phases, which are at baseline, intervention and post intervention. The intervention was expected to be a guideline training on etiology, symptoms and treatment of behavioral disorders common in child and adolescent mental health disorders. The training was based on the WHO mhGap training module on child and adolescent mental health. Prior to the training, questionnaire on knowledge and Attitude towards child and adolescent disorders scale and mhGap training module on behavioral disorders questions were administered to both the intervention group and the control group.

### **3.3 STUDY POPULATION**

The study population is nurses working in the pediatric department of University College Hospital Ibadan

### **INCLUSION CRITERIA**

All consenting nurses currently working in the department of pediatrics of the University College Hospital Ibadan.

## EXCLUSION CRITERIA

- 1 All nurses who have basic, post-basic or University training in mental health/psychiatry or who have rotated through the psychiatry wards after qualification.
- 2 All nurses who refused to give consent for the study.

### 3.4 SAMPLE SIZE DETERMINATION

The sample size was calculated as follows:

$$n = k \frac{[P_1(1-P_1) + P_2(1-P_2)]}{(P_1-P_2)^2}$$

N=Total sample size

n=Sample size of each group

$$K = (Z\alpha + Z\beta)^2$$

Z $\alpha$ =Standard normal deviate at significance level of 0.05=1.96

Z $\beta$ =Standard normal deviate for power at 80% power=0.84

P<sub>1</sub>=Proportion with outcome in the intervention group=75%

P<sub>2</sub>=Proportion with outcome in the control group=50%

A conservative value of 50% was assumed for outcome in the control group. It is anticipated that the intervention will translate into an absolute change of 25%, thus P<sub>2</sub>=75%

$$n = \frac{(1.96+0.84)^2 [0.75(1-0.75) + 0.5(1-0.50)]}{(0.75-0.25)^2}$$

$$n = 66$$

Adjusting for 15% attrition;

$$n=78$$

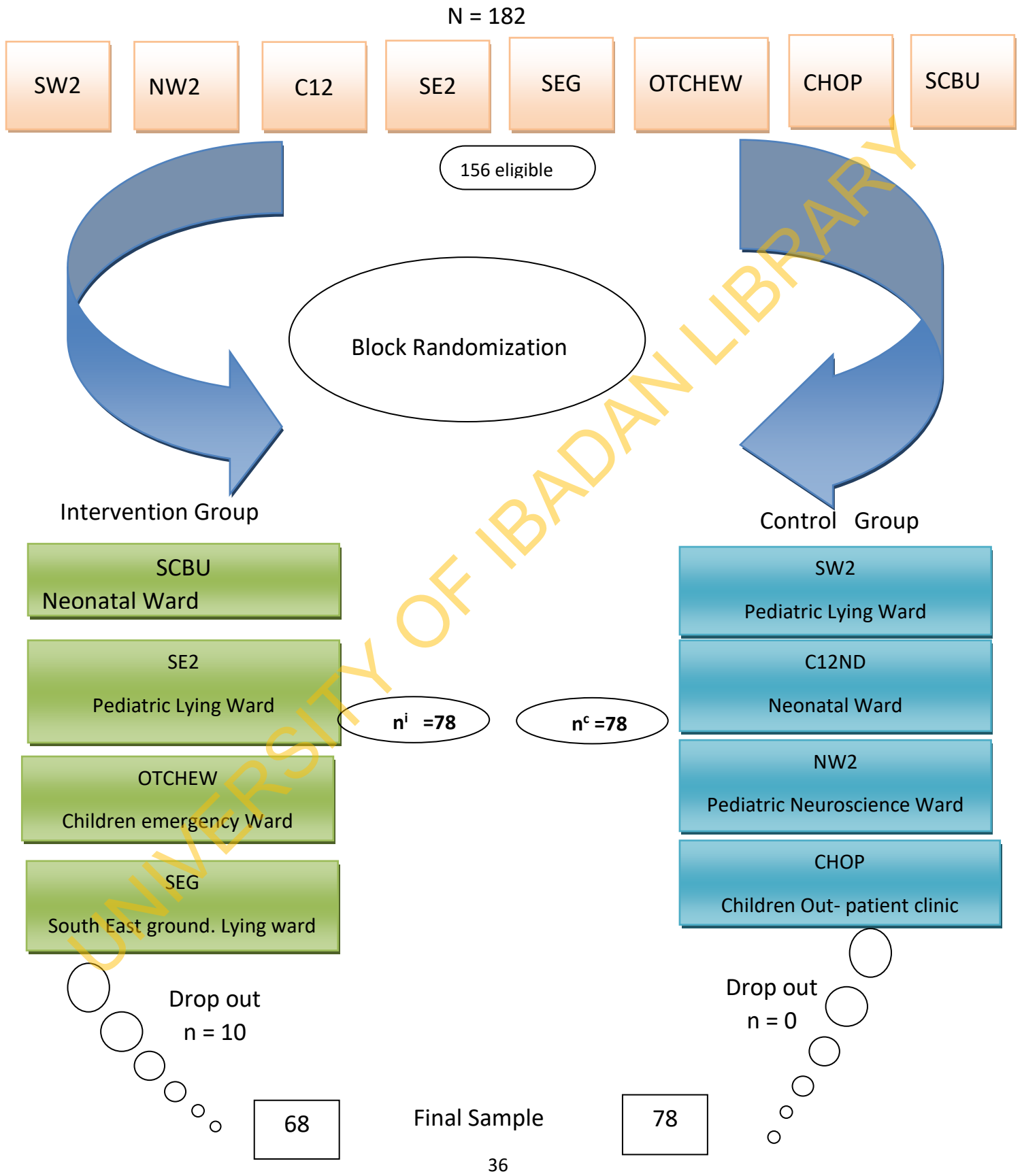
A minimum of 78 subjects was required for each group giving a total sample size of 156.

### **3.5 SAMPLING METHOD**

The nursing population of the University College Hospital Ibadan constitutes the study population. The sample was selected among nurses working in the pediatric department of the University College Hospital (UCH) Ibadan Southwest Nigeria. The Nurses working in the pediatric department were chosen because majority of children and adolescents present to this department both as in-patients and out- patients .Also up to two third of the children on admission will need mental health care. The pediatrics department currently has five lying in wards, two emergency wards and one out patient's clinic. Participants were block-randomized to intervention and control groups based on the geographical location of their wards i.e. east or west within the UCH complex. The wards on the east wing made up the intervention group while the wards on the west wing are in the control group. However the out- patient's clinic which is centrally located was added to the control wards for the purpose of this study.

Data obtained during a preliminary investigation carried out in the nursing department revealed that there are 182 nurses working in the pediatrics department. To select the 156 nurses to participate, the sample size was divided equally between the arms of the study with 78 participants that were matched for age and years of experience. The process of sample selection was shown in a flow chart (figure 1).

**Figure 1: Flow Chart of Sample Selection**



### **3.6 DATA COLLECTION PROCEDURE**

#### **STUDY INSTRUMENTS**

Data collection was carried out by the use of;

1. Self- report socio-demographic questionnaires. An author designed pre- coded, pretested, socio-demographic questionnaire was used to obtain information on age, grade level, gender, marital status, highest level of education, and years of service(Appendix ii).
2. Modified Knowledge and Attitude towards Child and Adolescent Mental Disorders Scale( Appendix iii)
3. Mh GAP training module on Developmental& Behavioral Disorders Questions( Appendix iv)

The questionnaire was developed from a qualitative needs assessment for school mental health research project carried out on school administrators, head teachers and primary school teachers in rural and urban southwest Nigeria by Ibeziako, Omigbodun, Bella, Belfer, 2008. The questionnaire focused mainly on knowledge and attitudes towards Child & adolescent mental health. It was modified to suit the purpose of this study which is to measure knowledge and attitudes of nurses towards mental illness in children and adolescents. WHO mhGap training module on behavioural disorders in child and adolescent mental health questions was developed by the author based on the training module.

#### **3.7 PRE TEST**

A pre-test of the instruments was carried out among 14% of the estimated sample size (20) nurses working in neuroscience unit of UCH. This was to enable the researcher determine the reliability, validity and applicability of the proposed instruments of data collection. During

this period, a modified version of the knowledge and attitude towards child & adolescent mental health disorders scale and Developmental & Behavioural disorders module questions, as well as the sociodemographic questionnaire was administered. During this pre-testing of the instruments, all ambiguous and difficult to understand questions were either modified or excluded.

### **3.8 TRANSLATION OF THE INSTRUMENT**

All the participants in the study were literate as such there was no need for translation of the protocol to the local language.

### **3.9 ETHICAL CONSIDERATION**

Informed consent was obtained from all participants and ethical approval was obtained from the Ethical Review Committee of the Institute of Medical Research and Training, College of Medicine, University of Ibadan. This was done to ascertain that the study had thorough ethical consideration in accordance with experiments involving human beings. All responses were coded and anonymized, serial numbers were strictly used for data entry and analyses.

### **BENEFICIENCE TO PARTICIPANTS**

In the course of the study participants knowledge of child and adolescent mental health was enhanced in the intervention group only.

## **NON MALFICIENCE**

The protocol did not involve any potential for physical, psychological or any other form of harm to the participants. The only inconvenience involved is the time taken for the participation in the research.

## **VOLUNTARINESS**

Participation in the study was entirely voluntary. Consenting participants voluntarily filled informed consent forms. The participants were also informed that they reserve the right to withdraw from the study at any time they so desire.

## **FREQUENCY OF INTERVIEW**

The Knowledge and Attitude towards child and adolescent disorders scale and Developmental and Behavioral disorders module questions was administered twice, at baseline and post intervention. The sociodemographic questionnaire was administered once to all participants.

### **3.10 PROCEDURE**

The study was carried out in two stages, at baseline and post intervention. At baseline, each participant in both control and intervention group was administered the author-designed self-report sociodemographic questionnaire. This was followed by the modified Knowledge and Attitude towards child & adolescent disorders scale and questionnaire based on Mental Health Gap Training programme (mhGap) on Developmental & Behavioral disorders module which were used to assess the knowledge and attitudes of respondents towards child and adolescent mental health disorders. The modality of the intervention was such that nurses from the selected

intervention pediatric wards were pooled together for a one day training session on child and adolescent mental health, using Mental Health Gap Action Training modules. Whenever it was difficult to pool the nurses together because of the nature of their job and schedule of duty, teaching was carried out individually when possible and at the convenience of such nurses. Effort was made so that the research protocol does not interfere with general daily routine of any of the participants.

Participants in the control group received no training but had administered to them the Knowledge and attitude towards child and adolescent disorders scale and mhGap training questions instrument concurrently with the intervention group when their post test was being conducted for the intervention group.

#### **LECTURE SUMMARY/INTERVENTION**

The training session based on the mhGap training module was given once to members of the intervention group. The time of the lecture was slated for 2pm, an overlap between the morning and afternoon duty shift. The venue of the lecture was at the seminar room attached to otubatuwase children emergency ward.

The participants registered as they were coming for the lecture after which they were given the 3 questionnaires to fill. Lectures were given by the author and another person. The first lecture was given by the guest lecturer, on the general frame work on mental illness for 1hour. The author gave the second part of the lecture on the child and adolescent behavioral disorders using the mhGap training modules for 1 hour.



The participants were given time to ask questions and were also evaluated after the lectures. They had the modified knowledge and attitudes towards child and adolescent disorders scale and the mhGap training modules questions on behavioral disorders questions administered to them.

### **3.11 DATA ANALYSIS**

Frequencies, means, and standard deviations were used to summarize socio demographic characteristics all the respondents at baseline. In order to determine the effectiveness of the intervention, data analyses were along three directions.

1. To compare posttest response on knowledge and attitudes to child and adolescent mental health in the intervention group with the post test response in the control group. This was done using the Chi- square analysis.
2. To compare posttest response on knowledge and attitudes to child and adolescent mental health in the intervention group with the baseline knowledge response in the same group. This was done using the .Wilcoxon signed-rank test.
3. The student t test was used to compare pre and post knowledge mean score in the intervention group with the control group, while the paired t test was used to compare baseline and post intervention knowledge and attitude score in the intervention group.

All levels of significance was set at 0.05, 95% confidence interval. Data were analyzed using the statistical package for the social sciences SPSS (17.0)

## CHAPTER FOUR

### RESULTS

#### 4.0

This study was conducted to determine the effect of brief training on the knowledge and attitudes of nurses toward child and adolescent psychiatry. The sample population was selected from nurses working in the pediatrics department of the UCH. There were 146 nurses in the study, that were randomized into the control group consisting of 78 nurses and the intervention group made up of 68 nurses. The results of the study are presented in the text and tables below.

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## **DESCRIPTIVE STATISTICS OF ALL RESPONDENTS: TABLES 1-7**

### **4.1 Sociodemographic characteristics**

Table 1 summarizes the socio demographic characteristics of the respondents. The mean age of the respondents was 40.68 years ( $\pm 7.7$ ). Majority 144 (98.6%) were of female gender, 120 (82.2%) were Christians, 134 (91.8%) were married and only 10 (6.8%) were ADNs, the rest ranked between NO1 and CNO.

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**Table 1:** Socio-demographic Characteristic of Respondents

<b>Socio-demographic Characteristic</b>	<b>Intervention N=68 n %</b>	<b>Control N= 78 n%</b>	<b>Total</b>	<b>%</b>
<b>Age</b>				
25-34	8 (11.8)	24 (30.7)	32	21.9
35-44	30 (44.1)	29 (37.2)	59	40.4
45-54	23 (33.8)	26 (33.3)	49	33.6
55-60	3 (4.4)	3 (3.8)	6	4.1
<b>Sex</b>				
Male	1 (1.5)	1 ( 1.3)	2	1.4
Female	67 (98.5)	77 (98.7)	144	98.6
<b>Religion</b>				
Christianity	55 ( 45.8)	65 ( 54.2)	120	82.2
Islam	13 ( 16.7)	13 ( 19.1)	26	17.8
<b>Qualifications</b>				
Registered Nurse	1(1.5)	2(2.6)	3	2.1
Post basic Nurse	53(78)	75(96)	128	87.7
Graduate Nurse	13(19)	2(2.6)	15	10.3
<b>Current Marital Status</b>				
Married	65 (48.5)	69 (88.5)	134	91.8
Never married	1( 1.5)	6 ( 7.7)	7	4.8
Widow	2 (2.9)	3( 3.8)	5	3.4
<b>Unit</b>				
Neuro pediatrics	-	23 ( 29.5)	23	15.8
Pediatrics	68( 100)	55(70.5)	123	84.2
<b>Rank</b>				
Nursing Officer 1	5 (7.4)	7 ( 9.0)	12	8.2
Nursing Officer	1 ( 1.5)	15( 19.2)	16	11.0
Senior Nursing Officer	17 ( 25)	19 (24.4)	36	24.7
Principal Nursing Officer	16 ( 23.5)	20 (25.6)	36	24.7
Chief Nursing Officer	23 ( 33.9)	13 ( 16.7)	36	24.7
Assistant Director of Nursing	6 ( 8.8)	4 ( 5.1)	10	6.8

**Table 2: Other Socio-demographic Characteristics of Respondents**

Table 2 shows that 78 (53.4%) had been on their present rank for 5 years or less, while 47 (32.2%) had been a specialist nurse for 5 years or less.

<b>Socio-demographic Characteristics</b>	<b>Intervention N=68 n (%)</b>	<b>Control N=78 n (%)</b>	<b>Total</b>	<b>%</b>
<b>Years in Practice</b>				
<10	11( 16.2)	20( 25.6)	31	21.2
10- 19	29( 42.6)	36 ( 46.2)	65	44.5
>20	28( 41.2)	22( 28.2)	50	34.3
<b>Length in Present Rank</b>				
≤ 5	62(91.2)	72( 97.4)	134	91.8
6- 10	6( 8.8)	6( 7.7)	12	8.2
<b>Years of specialization</b>				
< 5	22( 32.4)	25( 32.1)	47	32.2
5 – 10	16( 23.5)	30( 38.5)	46	31.5
11- 15	17( 25.0)	9( 11.5)	26	17.8
16 -20	8( 11.8)	12( 15.4)	20	13.7
>20	5( 7.4)	2( 2.6)	7	4.8

Tables 3 and 4 summarize the frequency of agreement and disagreement with statements pertaining to general knowledge and attitudes of respondents towards mental disorders in children and adolescents in both control and intervention groups, at base line and post –test.

**Table 3: General Knowledge of all Respondents about Mental Disorders at baseline and Post-test**

Knowledge	INTERVENTION				CONTROL			
	Pre		Post		Pre (N=78)		Post (N =78)	
	Agree n (%)	Disagree /Not Sure n (%)	Agree n (%)	Disagree /Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)
<b>Mental illness is rare in children &amp; adolescents</b>	<b>42 (61.8)</b>	<b>26(39.2)</b>	<b>14(20.6)</b>	<b>54(79.4)</b>	51 (65.4)	27(34.6)	49(64.5)	29(35.5)
Children with mental disorders are difficult to interact with	47 (69.1)	21(30.9)	38 (55.9)	30(44.1)	62 (79.5)	16(20.5)	54(71.1)	24(28.9)
Imbecile and moron are types of mental disorder found in children.	<b>46 (67.6)</b>	<b>22(32.4)</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	48 (61.5)	30(38.5)	51(68.0)	27(32.0)
Children and adolescents with mental illness are likely to be violent	56 (82.4)	12(17.6)	54 (79.4)	14(20.6)	60 (76.9)	18(23.1)	58(77.3)	20(22.7)
Mental disorders in children and adolescents can be caused by traumatic events.	57 (83.8)	11(16.2)	59 (86.8)	9(13.2)	72 (92.3)	6(7.7)	72(93.3)	6(6.7)
Children with mental disorders are difficult to interact with	20 (29.4)	48(70.6)	14 (20.6)	54(79.4)	38 (48.7)	40(51.3)	36(48.0)	42(52.0)
For children and adolescents with mental illness their families are to blame for this	3 (4.4)	65(95.6)	5 (7.4)	63(92.6)	2 (2.6)	76(97.4)	1(1.3)	77(98.7)
The root cause of mental illness in children is a curse on the family	<b>6 (8.8)</b>	<b>62(91.2)</b>	<b>1 (1.5)</b>	<b>67(98.5)</b>	14 (17.9)	64(82.1)	11(14.7)	64(85.3)
Children with mental disorders are possessed by demons	20(29.4)	48(70.6)	10 (14.7)	58(85.3)	29 (37.2)	49(62.8)	27(35.5)	49(64.5)
Children and adolescents with mental illness can recover	50 (73.5)	18(26.5)	55 (80.9)	13(19.1)	62 (79.5)	16(20.5)	63(85.1)	15(14.9)
Children and adolescents with mental illness have inherited weak genes from their parents	21 (30.9)	47(69.1)	22 (32.4)	46(67.6)	27 (34.6)	51(65.4)	20(26.3)	58(73.7)
Children and adolescents with mental illness are unpredictable.	45 (66.2)	23(33.8)	38 (55.9)	30(44.1)	61 (78.2)	17(21.8)	50(67.6)	28(32.4)
One in five children and adolescents will develop mental illness over the course of their lifetime.	<b>12 (17.6)</b>	<b>56(81.4)</b>	<b>38 (55.9)</b>	<b>30(44.1)</b>	8 (10.3)	70(89.7)	10(14.7)	68(83.3)
Supernatural power can be used to afflict mental illness on a child or adolescent	<b>26 (38.2)</b>	<b>42(61.8)</b>	<b>5 (7.4)</b>	<b>63(92.6)</b>	37 (47.4)	41(52.6)	31(41.3)	47(58.7)
Mental illness in children and adolescents is caused by spiritual attack	27 (39.7)	41(60.3)	15 (22.1)	53(77.9)	32 (41.0)	46(59.0)	32(42.1)	46(57.9)
Parents with mental illness always transmit these disorders to their children	45 (66.2)	23(33.8)	41 (60.3)	27(39.7)	63 (80.8)	15(19.2)	58(77.3)	20(22.7)
Children and adolescents do not have depression	22 (32.4)	46(67.6)	9 (13.2)	59(86.8)	52 (66.7)	26(33.3)	50(65.8)	28(34.2)
Children do not have psychosis just behaviour problems	<b>25 (36.8)</b>	<b>43(63.2)</b>	<b>11 (16.2)</b>	<b>57(83.8)</b>	56 (71.8)	22(28.2)	50(65.8)	28(34.2)
Mental illness in children and adolescents cannot be treated	8 (11.8)	60(88.2)	16 (23.5)	52(76.5)	12 (15.4)	66(84.6)	10(13.2)	68(86.8)
Poor academic performance is a type of mental disorder	<b>21 (30.9)</b>	<b>47(69.1)</b>	<b>36 (52.9)</b>	<b>32(47.1)</b>	25 (32.1)	53(67.9)	21(27.6)	57(72.4)
Untidy appearance in a child is a sign of mental disorder	18 (26.5)	50(73.5)	21 (30.9)	47(69.1)	20 (25.6)	58(74.4)	18(24.0)	60(76.0)
Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still	27 (39.7)	41(60.3)	15 (22.1)	53(77.9)	43 (55.1)	35(44.9)	48(64.0)	30(36.0)

**Table 4: General Knowledge of all Respondents about Mental Disorders at baseline and Post Test**

Knowledge	INTERVENTION				CONTROL			
	Pre		Post		Pre		Post	
	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
The Juvenile Remand Home is a good place to manage children with mental disorders	11 (16.2)	57 (83.8)	7 (10.3)	61 (89.7)	15 (19.2)	63(80.8)	13(19.4)	65(80.6)
Children with mental disorders should be taken to the church for treatment	6 (8.8)	62 (91.2)	4 (5.9)	64 (94.1)	<b>30 (38.5)</b>	<b>48(61.5)</b>	<b>20(26.3)</b>	<b>58(73.7)</b>
Children with mental disorders should be taken to the mosque for treatment	8 (11.8)	60 (88.2)	5 (7.4)	63 (92.6)	9 (11.5)	69(88.5)	6(8.0)	72(92.0)
Children with mental disorders should be taken to traditional healers for treatment	22 (32.4)	46 (67.6)	22 (32.4)	46 (67.6)	24 (30.8)	54(69.2)	18(23.7)	60(76.3)
Nurses can be trained to manage children with mental illness	55 (80.9)	13 (19.1)	55 (80.9)	13 (19.1)	67 (85.9)	11(14.1)	68(89.5)	10(10.5)
Treating mental illness in children is always very expensive	28 (41.2)	40 (58.8)	38 (55.9)	30 (44.1)	58 (74.4)	20(25.6)	54(71.1)	24(28.9)
Would you feel afraid to talk to children and adolescents with mental disorders	9 (13.2)	59 (86.8)	7 (10.3)	61 (89.7)	19 (24.4)	59(75.6)	15(19.7)	63(79.3)
Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?	20 (29.4)	48 (70.6)	15 (22.1)	53 (77.9)	32 (41.0)	46(59.0)	23(30.7)	55(69.3)
Children with intellectual disability should not be allowed to attend school with normal children	18 (26.5)	50 (73.5)	19 (27.9)	49 (72.1)	27 (34.6)	51(65.4)	25(32.9)	53(67.1)
Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	27 (39.7)	41 (60.3)	36 (52.9)	32 (47.1)	32 (41.0)	46(59.0)	36(48.6)	42(51.4)
<b>Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?</b>	<b>31 (45.6)</b>	<b>37 (54.4)</b>	<b>23 (33.8)</b>	<b>45 (66.2)</b>	23 (29.5)	55(70.5)	24(31.6)	54(68.4)
Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	28 (41.2)	40 (58.8)	36 (52.9)	32 (47.1)	41 (52.6)	37(47.4)	39(50.0)	39(50.0)
Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?	30 (44.1)	38 (55.9)	33 (48.5)	35 (51.5)	36 (46.2)	42(53.8)	33(43.4)	45(56.6)
Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases	43 (63.2)	25 (36.8)	45 (66.2)	23 (33.8)	51 (65.4)	27(34.6)	51(67.1)	27(32.9)
Do you feel child and adolescent mental disorders can be successfully treated in hospital?	58 (85.3)	10 (14.7)	63 (92.6)	5 (7.4)	67 (85.9)	11(14.1)	67(88.2)	11(11.8)
<b>Mental illness can occur in children and adolescents</b>	58 (85.3)	10 (14.7)	65 (95.6)	3 (4.4)	67 (85.9)	11(41.1)	68(93.2)	10(6.8)
<b>Up to 6% of children have psychiatric disorders</b>	17 (25.0)	51 (75.0)	59 (86.8)	9 (13.2)	12 (15.4)	66(84.6)	11(15.5)	67(74.5)
<b>Psychiatric disorders in children are commoner in females than males</b>	4 (5.9)	64 (94.1)	30 (44.1)	38 (55.9)	24 (30.8)	54(69.2)	21(29.6)	57(70.4)

Table 5 below shows the frequency of spectrum of agreement with corresponding statements pertaining to general knowledge and attitudes of respondents towards conduct disorder in both control and intervention groups, at baseline and post –test.

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**Table 5:** Knowledge of all Respondents about Conduct Disorder at Baseline and Post-Test (N = 146)

Knowledge	INTERVENTION				CONTROL			
	Pre		Post		Pre		Post	
	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Conduct disorder occurs more in males than females	<b>19 (27.9)</b>	<b>49(72.1)</b>	<b>60 (88.2)</b>	<b>8(11.8)</b>	24 (30.8)	54(69.2)	30(42.3)	48(57.7)
Up to 4% of children have conduct disorder	<b>16 (23.5)</b>	<b>52(76.5)</b>	<b>55 (80.9)</b>	<b>13(19.1)</b>	<b>5 (6.4)</b>	<b>73(93.6)</b>	<b>15(21.1)</b>	<b>63(78.9)</b>
<b>Symptoms of Conduct Disorder include</b>								
Running away from home	52 (76.5)	16(23.5)	63 (92.6)	5(7.4)	70(89.7)	8(10.3)	61(83.6)	17(16.4)
Lying	55 (80.9)	13(19.1)	63 (92.6)	5(7.4)	65 (83.3)	13(16.7)	64(87.7)	14(12.3)
Stealing	55 (80.9)	13(19.1)	60 (88.2)	8(11.8)	70 (89.7)	8(10.3)	64(87.7)	14(12.3)
Inattention	45 (66.2)	23(33.8)	36 (52.9)	32(47.1)	53 (67.9)	25(32.1)	49(67.1)	29(32.9)
Sadness	<b>42 (61.8)</b>	<b>26(38.2)</b>	<b>29 (42.6)</b>	<b>39(57.4)</b>	57 (73.1)	21(26.9)	50(68.5)	28(21.5)
Truancy	53 (77.9)	15(22.1)	59 (86.8)	9(13.2)	<b>73 (93.6)</b>	<b>5(6.4)</b>	<b>60(84.5)</b>	<b>18(15.5)</b>
<b>Causes of conduct disorder include</b>								
Parents' divorce	57 (83.8)	11(16.2)	63 (92.6)	5(7.4)	70 (89.7)	8(10.3)	62(86.1)	16(13.9)
Criminality in parents	<b>38 (55.9)</b>	<b>30(44.1)</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	29 (37.2)	49(62.8)	34(46.6)	44(63.4)
Desire for attention	<b>34 (50.0)</b>	<b>34(50.0)</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	55 (70.5)	23(29.5)	52(72.2)	26(27.8)
<b>Management of conduct disorder include</b>								
Behavioural modification techniques	57 (83.8)	11(16.2)	62 (91.2)	6(8.8)	70 (89.7)	8(10.3)	62(87.3)	16(12.7)
Cognitive behavioural therapy	<b>42 (61.8)</b>	<b>26(38.2)</b>	<b>60 (88.2)</b>	<b>8(11.8)</b>	47 (60.3)	31(39.7)	47(68.1)	21(31.9)
Group therapy	53 (77.9)	15(22.1)	60 (88.2)	8(11.8)	70 (89.7)	8(10.3)	63(87.5)	15(12.5)
Drugs	39 (57.4)	29(42.6)	37 (54.4)	31(45.6)	65 (83.3)	13(16.7)	60(83.3)	18(16.7)
Casting out evil spirits	22 (32.4)	46(67.6)	16 (23.5)	52(76.5)	38 (48.7)	40(51.3)	39(50.0)	39(50.0)

Table 6 below shows the responses of respondents of the control and intervention group with regards to causes, symptoms and treatment of ADHD at base line and after intervention.

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**Table 6:** Knowledge of All Respondents about Attention deficit hyper activity disorder (ADHD) Pre-Test and Post-Test (N = 146)

Knowledge	INTERVENTION				CONTROL			
	Pre		Post		Pre		Post	
	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Attention deficit hyper activity disorder(ADHD) occurs in children and adolescents	42 (61.8)	16(38.2)	57 (83.8)	11(16.2)	55 (70.5)	23(29.5)	49(68.1)	29(31.9)
ADHD is more common in males than in females	20 (29.4)	48(70.6)	51 (75.0)	17(25.0)	28 (35.9)	50(64.1)	31(42.5)	47(57.5)
ADHD does not occur in adolescents	15 (22.1)	53(77.9)	28 (41.2)	40(58.8)	22 (28.2)	56(71.8)	20(28.6)	58(71.4)
<b>Common signs of ADHD include:</b>								
Impaired attention	44 (64.7)	24(35.3)	56 (82.4)	12(17.6)	<b>63 (80.8)</b>	<b>15(19.2)</b>	<b>50(68.5)</b>	<b>28(21.5)</b>
Over activity	51 (75.0)	17(25.0)	62 (91.2)	6(8.8)	61 (78.2)	17(21.8)	59(80.8)	19(78.5)
Impulsivity	42 (61.8)	26(38.2)	57 (83.8)	42(16.2)	62 (79.5)	16(20.5)	54(75.0)	24(25.0)
Laughing to self	37 (54.4)	31(45.6)	38(55.9)	30(44.9)	51 (65.4)	27(34.6)	51(70.8)	27(29.2)
ADHD is apparent before the age of 6 years	27 (39.7)	41(60.3)	53 (77.9)	15(22.1)	29 (37.2)	49(62.8)	30(44.1)	48(55.9)
<b>Possible causes of ADHD include</b>								
Brain abnormalities	50 (73.5)	18(26.5)	59 (86.8)	9(13.2)	62 (79.5)	16(20.5)	48(55.9)	30(44.1)
Genetic factors	45 (66.2)	23(33.8)	54 (79.4)	14(20.6)	61 (78.2)	17(21.8)	58(79.5)	20(20.5)
Diet	<b>30 (44.1)</b>	<b>38(55.9)</b>	<b>43 (63.2)</b>	<b>25(36.8)</b>	45 (57.7)	33(42.3)	38(48.8)	40(51.2)
Food allergy	25 (36.8)	43(63.2)	30 (44.1)	38(55.9)	29 (37.2)	49(62.8)	29(40.3)	49(59.7)
<b>ADHD is best managed by:</b>								
Medication	34 (50.0)	34(50.0)	42 (61.8)	26(38.2)	52 (66.7)	26(33.3)	45(62.5)	33(37.5)
Punishment	35 (51.5)	33(48.5)	38 (55.9)	30(44.1)	37 (47.4)	41(52.6)	35(44.9)	43(55.1)
Behaviour modification techniques	46 (67.6)	2(32.4)	55 (80.9)	13(61.8)	61 (78.2)	17(21.8)	54(74.0)	24(26.0)

**Table 7** shows responses of all participants to questions on attitudes towards mental disorders in children and adolescents at base line and after intervention.

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**Table 7: Attitude of all Respondents towards Child and Adolescent Psychiatry as Baseline and Post Test8 (N=146)**

Knowledge	INTERVENTION				CONTROL			
	Pre		Post		Pre		Post	
	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
A hyperactive, inattentive child should always be punished	22 (32.4)	46(67.6)	10 (14.7)	58(85.3)	40 (51.3)	38(48.7)	23(31.9)	55(68.1)
Behavioural disorders in children and adolescents are best managed with medication	39 (57.4)	29(42.6)	25 (36.8)	43(63.2)	61 (78.2)	17(21.8)	50(69.4)	28(30.6)
Appropriate behaviour in children and adolescents with behavioural disorders should be rewarded	25 (36.8)	43(63.2)	58 (85.3)	10(14.7)	70 (89.7)	8(10.3)	67(95.7)	11(4.3)
Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	58 (85.3)	10(14.7)	59 (88.5)	9(11.5)	66 (84.6)	12(15.4)	69(95.8)	9(4.2)
Children and adolescents with mental disorder can attend regular school	43 (63.2)	25(36.8)	55 (80.9)	13(19.1)	52 (66.7)	26(33.3)	44(61.1)	34(38.9)
Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	61 (89.7)	7(10.3)	63 (92.6)	5(7.4)	75 (96.2)	3(7.8)	71(98.6)	7(1.4)
Treatment of children and adolescents with mental health problems should be multidisciplinary	52 (76.5)	16(23.5)	63 (92.6)	5(7.4)	63 (80.8)	15(19.2)	59(81.9)	19(18.1)

**COMPARISONS BETWEEN INTERVENTION AND CONTROL GROUP REGARDING KNOWLEDGE AND ATTITUDE AT BASELINE: TABLES 8 -12**

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Table 8 shows the comparisons between the knowledge of respondents in both arms of the study at baseline about mental disorders in general. There are no significant differences in most of the questions except in a few including questions such as: mental disorders in children and adolescents can be caused by traumatic events,  $X^2 = 5.0$ ,  $p = 0.02$ , children with mental disorders are difficult to interact with,  $X^2 = 4.9$ ,  $p = 0.03$ , children do not have depression,  $X^2 = 15.8$ ,  $p < 0.01$ , children do not have psychosis,  $X^2 = 16.7$ ,  $p < 0.01$ . Where a higher proportion of the control group endorsed “agree” as compared with the intervention group.

**Table 8:** Knowledge of All Respondents about Mental Disorders in General at Baseline (Respondents who endorsed ‘Agree’)

Knowledge	Intervention N=68 n (%)	Control N = 78 n (%)	X <sup>2</sup>	p
Mental illness is rare in children & adolescents	42 (61.8)	51 (65.4)	0.1	0.80
Children with mental disorders are difficult to interact with	47 (69.1)	62 (79.5)	1.2	0.20
Imbecile and moron are types of mental disorder found in children	46 (67.6)	48 (61.5)	0.4	0.50
Children and adolescents with mental illness are likely to be violent	56 (82.4)	60 (76.9)	0.0	0.90
Mental disorders in children and adolescents can be caused by traumatic events.	57 (83.8)	72 (92.3)	5.0	0.02
Children with mental disorders are difficult to interact with	20 (29.4)	38 (48.7)	4.9	0.03
For children and adolescents with mental illness their families are to blame for this	3 (4.4)	2 (2.6)	0.02	.70 <sup>FE</sup>
The root cause of mental illness in children is a curse on the family	6 (8.8)	14 (17.9)	1.9	0.20
Children with mental disorders are possessed by demons	20 (29.4)	29 (37.2)	0.7	0.40
Children and adolescents with mental illness can recover	50 (73.5)	62 (79.5)	0.4	0.50
Children and adolescents with mental illness have inherited weak genes from their parents	21 (30.9)	27 (34.6)	0.9	0.80
Children and adolescents with mental illness are unpredictable.	45 (66.2)	61 (78.2)	2.1	0.10
One in five children and adolescents will develop mental illness over the course of their lifetime.	12 (17.6)	8 (10.3)	1.1	0.30
Supernatural power can be used to afflict mental illness on a child or adolescent	26 (38.2)	37 (47.4)	0.9	0.30
Mental illness in children and adolescents is caused by spiritual attack	27 (39.7)	32 (41.0)	0.0	1.00
Parents with mental illness always transmit these disorders to their children	45 (66.2)	63 (80.8)	3.3	0.07
Children and adolescents do not have depression	22 (32.4)	52 (66.7)	15.8	<0.01
Children do not have psychosis just behaviour problems	25 (36.8)	56 (71.8)	16.7	<0.01
Mental illness in children and adolescents cannot be treated	8 (11.8)	12 (15.4)	0.2	0.70
Poor academic performance is a type of mental disorder	21 (30.9)	25 (32.1)	0.0	1.00
Untidy appearance in a child is a sign of mental disorder	18 (26.5)	20 (25.6)	0.01	0.90
Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still	27 (39.7)	43 (55.1)	2.9	0.09

N = Total number sampled, X<sup>2</sup> = Chi square, p = P value

Table 9 shows the knowledge of all respondents at baseline about mental disorders in general. According to the table there are only a few significant differences between the two groups regarding mental disorders in children and adolescents. A higher proportion of the control group reported that children with mental disorders should be taken to the church for treatment  $X^2 = 15.6$ ,  $p < 0.01$  and that treating mental illness in children is always very expensive  $X^2 = 15.2$ ,  $p < 0.01$  when compared with the intervention group. A higher proportion of the control group also reported that psychiatric disorders in children are commoner in females than males  $X^2 13.0$ ,  $p < 0.01$ .

**Table 9:** Knowledge of all respondents about Mental Disorders in General at Baseline (II)

Knowledge	Intervention N=68 n (%)	Control N = 78 n (%)	X <sup>2</sup>	P
The Juvenile Remand Home is a good place to manage children with mental disorders	11 (16.2)	15(19.2)	0.07	0.80
Children with mental disorders should be taken to the church for treatment	6 (8.8)	30(38.5)	15.6	<0.01
Children with mental disorders should be taken to the mosque for treatment	8 (11.8)	9 (11.5)	0.05	0.80
Children with mental disorders should be taken to traditional healers for treatment	22 (32.4)	24(30.8)	0.00	1.00
Nurses can be trained to manage children with mental illness	55 (80.9)	67(85.9)	0.4	0.60
Treating mental illness in children is always very expensive	28 (41.2)	58(74.4)	15.2	<0.01
Would you feel afraid to talk to children and adolescents with mental disorders	9 (13.2)	19(24.4)	2.2	0.10
Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?	20 (29.4)	32(41.0)	1.7	0.20
Children with intellectual disability should not be allowed to attend school with normal children	18 (26.5)	27(34.6)	0.8	0.40
Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	27 (39.7)	32(41.0)	0.0	1.00
Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?	31 (45.6)	23(29.5)	3.4	0.07
Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	28 (41.2)	41(52.6)	1.5	0.30
Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?	30 (44.1)	36(46.2)	0.07	0.80
Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases	43 (63.2)	51(65.4)	0.01	0.10
Do you feel child and adolescent mental disorders can be successfully treated in hospital?	58 (85.3)	67(85.9)	0.02	0.90
Mental illness can occur in children and adolescents	58 (85.3)	67(85.9)	0.02	0.90
Up to 6% of children have psychiatric disorders	17 (25.0)	12(15.4)	1.6	0.20
Psychiatric disorders in children are commoner in females than males	4 (5.9)	24(30.8)	13.0	<0.01

N = Total number sampled, X<sup>2</sup> = Chi square, p = P value



Table 10 shows the knowledge of all respondents at baseline about conduct disorder. According to the table there are a few significant differences between the two groups regarding conduct disorder. A higher proportion of the intervention group agreed that up to 4% of children have conduct disorder,  $X^2 = 7.3$ ,  $p < 0.001$  and that the causes of conduct disorder include criminality in parents,  $X^2 = 4.4$ ,  $p = 0.04$ . On the other hand, significantly higher proportion of respondents in the control group reported that symptoms of Conduct Disorder include truancy,  $X^2 = 6.3$ ,  $p = 0.01$ , desire for attention,  $X^2 = 5.6$ ,  $p = 0.02$ , and that drugs may be used for its treatment  $X^2 = 25.3$ ,  $p < 0.01$ .

**Table 10:** Knowledge of All Respondents about Causes, Symptoms, and Treatment of Conduct Disorder at Baseline

Knowledge	Intervention N=68 n (%)	Control N = 78 n (%)	X <sup>2</sup>	P
Conduct disorder occurs more in males than females	19 (27.9)	24 (30.8)	0.04	0.80
Up to 4% of children have conduct disorder	16 (23.5)	5 (6.4)	7.30	<0.01
Symptoms of Conduct Disorder include				
Running away from home	52 (76.5)	70 (89.7)	3.7	0.05
Lying	55 (80.9)	65 (83.3)	0.03	0.90
Stealing	55 (80.9)	70 (89.7)	1.7	0.20
Inattention	45 (66.2)	53 (67.9)	0.0	1.00
Sadness	42 (61.8)	57 (73.1)	1.6	0.20
Truancy	53 (77.9)	73 (93.6)	6.3	0.01
Causes of conduct disorder include				
Parents' divorce	57 (83.8)	70 (89.7)	0.7	0.40
Criminality in parents	38 (55.9)	29 (37.2)	4.4	0.04
Desire for attention	34 (50.0)	55 (70.5)	5.6	0.02
Management of conduct disorder include				
Behavioural modification techniques	57 (83.8)	70 (89.7)	0.7	0.40
Cognitive behavioural therapy	42 (61.8)	47 (60.3)	-	1.00
Group therapy	53 (77.9)	70 (89.7)	3.0	0.08
Drugs	39 (57.4)	65 (83.3)	25.3	<0.01
Casting out evil spirits	22 (32.4)	38 (48.7)	3.4	0.07

Table 11 shows the knowledge of all respondents at baseline about Attention deficit hyper activity disorder. There are a few significant differences between the two groups regarding Attention deficit hyper activity disorder (ADHD). A higher proportion of the control group recognized impaired attention  $X^2 = 4.0$ ,  $p < 0.05$  and impulsivity as symptoms of ADHD  $X^2 = 4.7$ ,  $p = 0.03$ .

**Table 11:** Knowledge of all respondents about Causes, Symptoms and Treatment of ADHD at Baseline

	<b>Intervention N=68 n (%)</b>	<b>Control N = 78 n (%)</b>	<b>X<sup>2</sup></b>	<b>P</b>
Attention deficit hyper activity disorder(ADHD) occurs in children and adolescents	42 (61.8)	55(70.5)	0.9	0.30
ADHD is more common in males than in females	20 (29.4)	28(35.9)	0.4	0.00
ADHD does not occur in adolescents	15 (22.1)	22(28.2)	0.4	0.50
<b>Common signs of ADHD include:</b>				
Impaired attention	44 (64.7)	63(80.8)	4.00	0.05
Over activity	51 (75.0)	61(78.2)	0.07	0.80
Impulsivity	42 (61.8)	62(79.5)	4.70	0.03
Laughing to self	37 (54.4)	51(65.4)	1.40	0.20
ADHD is apparent before the age of 6 years	27 (39.7)	29(37.2)	0.02	0.90
<b>Possible causes of ADHD include</b>				
Brain abnormalities	50 (73.5)	62(79.5)	0.40	0.50
Genetic factors	45 (66.2)	61 78.2)	2.10	0.10
Diet	30 (44.1)	45(57.7)	2.20	0.10
Food allergy	25 (36.8)	29(37.2)	0.01	0.90
<b>ADHD is best managed by:</b>				
Medication	34 (50.0)	52(66.7)	3.50	0.06
Punishment	35 (51.5)	37(47.4)	0.10	0.70
Behaviour modification techniques	46 (67.6)	61(78.2)	1.60	0.20

N = Total number sampled,  $X^2$  = Chi square, p = P value

Table 12 shows the attitudes of all respondents about mental disorders in general at baseline. There are a few significant differences between the two groups regarding attitudes to mental disorders in children and adolescents. A higher proportion of the control group reported that a hyperactive, inattentive child should always be punished,  $X^2 = 4.6$ ,  $p = 0.03$  and that behavioral disorders in children and adolescents are best managed with medication,  $X^2 = 6.4$ ,  $p = 0.01$

**Table 12: Attitudes of Nurses towards Mental Health Disorders in Children and Adolescents at Baseline**

Attitudes	Group		Statistics	
	Intervention N=68 n (%)	Control N = 78 n (%)	X <sup>2</sup>	P
A hyperactive, inattentive child should always be punished	22 (32.4)	40(51.3)	4.6	0.03
Behavioural disorders in children and adolescents are best managed with medication	39 (57.4)	61(78.2)	6.4	0.01
Appropriate behaviour in children and adolescents with behavioural disorders should be rewarded	58 (85.3)	70(89.7)	0.3	0.6
Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	58 (85.3)	66(84.6)	0.01	0.8
Children and adolescents with mental disorder can attend regular school	43 (63.2)	52(66.7)	0.1	0.8
Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	61 (89.7)	75(96.2)	1.46	0.2 <sup>(FE)</sup>
Treatment of children and adolescents with mental health problems should be multidisciplinary	52 (76.5)	63(80.8)	0.2	0.7

N = Total number sampled, X<sup>2</sup> = Chi square, p = P value

**COMPARISON OF RESPONDENT WHO ENDORSED ‘AGREE’  
PRE AND POST HEALTH EDUCATION INTERVENTION  
(INTERVENTION GROUP): TABLES 13 – 17**

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Table 13 on previous page shows the respondents' knowledge about mental disorders in children and adolescents at baseline and post intervention. According to the table, the proportion of respondents who reported that mental illness is rare in children & adolescents significantly reduced post health education intervention,  $Z = 5.5$ ,  $p < 0.01$ . The proportion of respondents who reported that imbecility and moron are types of mental disorder found in children significantly increased post intervention,  $Z = 3.6$ ,  $p < 0.01$ . There was a significant decrease in the number of respondents who believed that the root cause of mental disorders in children was a curse on the family,  $Z = 5.5$ ,  $P = 0.01$ . A significantly greater number of respondents indicated that 20% of children would develop a mental disorder in the course of their lifetime,  $Z = 4.7$ ,  $P = 0.01$ . Following training a significantly reduced proportion of respondents reported that supernatural powers could be used to inflict mental illness on children and adolescents,  $Z = 3.2$ ,  $P = 0.01$ . The number of respondents who believed that children do not have psychosis reduced significantly after intervention,  $Z = 2.2$ ,  $P = 0.03$ . Poor academic performance was reported as a sign of mental illness by a significantly increased number of respondents following intervention,  $Z = 2.2$ ,  $P = 0.03$ .

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**Table 13: knowledge of intervention group respondents about mental disorder in general (1) at baseline and post intervention**

	Pre		Post		Statistics	
	Agree	Disagree /Not Sure	Agree	Disagree /Not Sure	Z	P
	n (%)	n (%)	n (%)	n (%)		
<b>Mental illness is rare in children and adolescent</b>	<b>42 (61.8)</b>	<b>26(39.2)</b>	<b>14(20.6)</b>	<b>54(79.4)</b>	<b>5.5</b>	<b>&lt;0.01*</b>
Children with mental disorder are difficult to interact with	47 (69.1)	21(30.9)	38 (55.9)	30(44.1)	-1.3	0.21
<b>Imbecile and moron are types of mental disorder found in children</b>	<b>46 (67.6)</b>	<b>22(32.4)</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	<b>3.6</b>	<b>&lt;0.01*</b>
Children and adolescents with mental illness are likely to be violent	56 (82.4)	12(17.6)	54 (79.4)	14(20.6)	0.2	0.90
Mental disorders in children and adolescents can be caused by traumatic events	57 (83.8)	11(16.2)	59 (86.8)	9(13.2)	0.0	1.00
Children with mental disorders are difficult to interact with	20 (29.4)	48(70.6)	14 (20.6)	54(79.4)	1.4	0.20
For children and adolescent with illness their families are to blame for this	3 (4.4)	65(95.6)	5 (7.4)	63(92.6)	0.6	0.60
<b>The root cause of mental illness in children is a curse on the family</b>	<b>6 (8.8)</b>	<b>62(91.2)</b>	<b>1 (1.5)</b>	<b>67(98.5)</b>	<b>5.5</b>	<b>&lt;0.01*</b>
Children with mental disorder are possessed by demons	20(29.4)	48(70.6)	10 (14.7)	58(85.3)	1.6	0.12
Children and adolescents with mental illness can recover	50 (73.5)	18(26.5)	55 (80.9)	13(19.1)	1.1	0.30
Children and adolescent with mental illness have inherited weak genes from their parents	21 (30.9)	47(69.1)	22 (32.4)	46(67.6)	0.1	0.90
Children with adolescent with mental illness are unpredictable	45 (66.2)	23(33.8)	38 (55.9)	30(44.1)	1.1	0.30
<b>One in five children with adolescents will develop mental illness over the course of their lifetime</b>	<b>12 (17.6)</b>	<b>56(81.4)</b>	<b>38 (55.9)</b>	<b>30(44.1)</b>	<b>4.7</b>	<b>&lt;0.01*</b>
<b>Supernatural power can be used to afflict mental illness on a child or adolescent</b>	<b>26 (38.2)</b>	<b>42(61.8)</b>	<b>5 (7.4)</b>	<b>63(92.6)</b>	<b>3.2</b>	<b>0.01*</b>
Mental illness in children and adolescents is caused by spiritual attack	27 (39.7)	41(60.3)	15 (22.1)	53(77.9)	1.2	0.20
parents with mental illness always transmit these disorders to their children	45 (66.2)	23(33.8)	41 (60.3)	27(39.7)	0.01	1.00
Children adolescents do not have depression	22 (32.4)	46(67.6)	9 (13.2)	59(86.8)	1.1	0.30
<b>Children do not have psychosis just behavior problems</b>	<b>25 (36.8)</b>	<b>43(63.2)</b>	<b>11 (16.2)</b>	<b>57(83.8)</b>	<b>2.2</b>	<b>0.03*</b>
Mental illness in children and adolescents cannot be treated	8 (11.8)	60(88.2)	16 (23.5)	52(76.5)	1.3	0.20
<b>Poor academic performance is a sign of mental disorder</b>	<b>21 (30.9)</b>	<b>47(69.1)</b>	<b>36 (52.9)</b>	<b>32(47.1)</b>	<b>2.2</b>	<b>0.03*</b>
Untidy appearance in a child is a sign of mental disorder	18 (26.5)	50(73.5)	21 (30.9)	47(69.1)	0.3	0.80
Using a cane to beat or threaten a child is a way to manage their behavior when they are restless and unable to sit still	27 (39.7)	41(60.3)	15 (22.1)	53(77.9)	0.3	0.80

Table 14 summarizes the differences in the general knowledge of respondents about mental disorders at baseline and after intervention.

**Table 14: knowledge of intervention group respondents about mental disorder in general (II) at baseline and post intervention**

	Pre		Post		Statistic	
	Agree	Disagree/ Not Sure	Agree	Disagree/ Not Sure	Z	P
	n (%)	n (%)	n (%)	n (%)		
The Juvenile Remand Home is a good place to manage children with mental disorders	11 (16.2)	57 (83.8)	7 (10.3)	61 (89.7)	0.01	1.0
Children with mental disorders should be taken to the church for treatment	6 (8.8)	62 (91.2)	4 (5.9)	64 (94.1)	1.5	0.2
Children with mental disorders should be taken to the mosque for treatment	8 (11.8)	60 (88.2)	5 (7.4)	63 (92.6)	0.2	0.9
Children with mental disorders should be taken to traditional healers for treatment	22 (32.4)	46 (67.6)	22 (32.4)	46 (67.6)	0.3	0.8
Nurses can be trained to manage children with mental illness	55 (80.9)	13 (19.1)	55 (80.9)	13 (19.1)	0.4	0.7
Treating mental illness in children is always very expensive	28 (41.2)	40 (58.8)	38 (55.9)	30 (44.1)	1.0	0.3
Would you feel afraid to talk to children and adolescents with mental disorders	9 (13.2)	59 (86.8)	7 (10.3)	61 (89.7)	0.7	0.5
Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?	20 (29.4)	48 (70.6)	15 (22.1)	53 (77.9)	1.2	0.2
Children with intellectual disability should not be allowed to attend school with normal children	18 (26.5)	50 (73.5)	19 (27.9)	49 (72.1)	0.8	0.4
Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	27 (39.7)	41 (60.3)	36 (52.9)	32 (47.1)	1.1	0.3
<b>Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?</b>	<b>31 (45.6)</b>	<b>37 (54.4)</b>	<b>23 (33.8)</b>	<b>45 (66.2)</b>	<b>1.9</b>	<b>&lt;0.05</b>
Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	28 (41.2)	40 (58.8)	36 (52.9)	32 (47.1)	0.4	0.7
Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?	30 (44.1)	38 (55.9)	33 (48.5)	35 (51.5)	0.4	0.7
Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases	43 (63.2)	25 (36.8)	45 (66.2)	23 (33.8)	0.2	0.9
Do you feel child and adolescent mental disorders can be successfully treated in hospital?	58 (85.3)	10 (14.7)	63 (92.6)	5 (7.4)	1.2	0.2
<b>Mental illness can occur in children and adolescents</b>	58 (85.3)	10 (14.7)	65 (95.6)	3 (4.4)	2.6	< 0.01
<b>Up to 6% of children have psychiatric disorders</b>	17 (25.0)	51 (75.0)	59 (86.8)	9 (13.2)	5.4	< 0.01
<b>Psychiatric disorders in children are commoner in females than males</b>	4 (5.9)	64 (94.1)	30 (44.1)	38 (55.9)	5.5	< 0.01

Table 15 illustrates the changes in knowledge of the respondents with regards to conduct disorder following intervention.

**Table 15: Knowledge of Intervention Group Respondents about Conduct Disorder at baseline and Post intervention**

	Pre (N=78)		Post (N=78)		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
<b>Conduct disorder occurs more in males than females</b>	<b>19 (27.9)</b>	<b>49(72.1)</b>	<b>60 (88.2)</b>	<b>8(11.80)</b>	<b>5.3</b>	<b>&lt;0.01</b>
<b>Up to 4% of children have conduct disorder</b>	<b>16 (23.5)</b>	<b>52(76.5)</b>	<b>55 (80.9)</b>	<b>13(19.1)</b>	<b>5.5</b>	<b>&lt;0.01</b>
Symptoms of Conduct Disorder include						
Running away from home	52 (76.5)	16(23.5)	63 (92.6)	5(7.4)	1.6	0.1
Lying	55 (80.9)	13(19.1)	63 (92.6)	5(7.4)	1.6	0.1
Stealing	55 (80.9)	13(19.1)	60 (88.2)	8(11.8)	1.1	0.3
Inattention	45 (66.2)	23(33.8)	36 (52.9)	32(47.1)	0.2	0.9
<b>Sadness</b>	<b>42 (61.8)</b>	<b>26(38.2)</b>	<b>29 (42.6)</b>	<b>39(57.4)</b>	<b>2.9</b>	<b>0.01</b>
Truancy	53 (77.9)	15(22.1)	59 (86.8)	9(13.2)	0.9	0.4
Causes of conduct disorder include						
Parents' divorce	57 (83.8)	11(16.2)	63 (92.6)	5(7.4)	1.1	0.3
<b>Criminality in parents</b>	<b>38 (55.9)</b>	<b>30(44.1)</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	<b>2.8</b>	<b>0.01</b>
<b>Desire for attention</b>	<b>34 (50.0)</b>	<b>34(50.0)</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	<b>3.5</b>	<b>&lt;0.01</b>
Management of conduct disorder include						
Behavioural modification techniques	57 (83.8)	11(16.2)	62 (91.2)	6(8.8)	1.0	0.3
<b>Cognitive behavioural therapy</b>	<b>42 (61.8)</b>	<b>26(38.2)</b>	<b>60 (88.2)</b>	<b>8(11.8)</b>	<b>2.9</b>	<b>&lt;0.01</b>
Group therapy	53 (77.9)	15(22.1)	60 (88.2)	8(11.8)	1.4	0.2
Drugs	39 (57.4)	29(42.6)	37 (54.4)	31(45.6)	1.1	0.3
Casting out evil spirits	22 (32.4)	46(67.6)	16 (23.5)	52(76.5)	0.8	0.4



Table 16 shows the changes in the knowledge of respondents about attention deficit hyperactivity disorder after intervention. A significantly greater proportion of respondents reported that ADHD occurs in children after intervention than before,  $Z = 2.2$ ,  $P = 0.03$ . More of the respondents also indicated that ADHD was commoner in males than females after intervention,  $Z = 5.5$ ,  $P = < 0.01$ . Likewise after intervention a significantly greater proportion of respondents disagreed that ADHD does not occur in adolescents,  $Z = 3.8$ ,  $P = 0.02$ . There was a significantly positive change in the number of respondents who reported impulsivity and over activity as symptoms of ADHD following training,  $Z = 2.6$ ,  $P = 0.01$ . There was also a significant change in the number of respondents who reported that ADHD is apparent before the age of 6 years,  $Z = 3.4$ ,  $P = 0.01$ . There was a significant increase in the proportion of respondents who reported that diet could cause ADHD,  $Z = 2.1$ ,  $p = 0.03$

**Table 16: Knowledge of Intervention Group Respondents about ADHD at Baseline and Post test**

	Pre		Post		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
<b>Attention deficit hyper activity disorder(ADHD) occurs in children and adolescents</b>	42 (61.8)	16(38.2)	57 (83.8)	11(16.2)	<b>2.2</b>	<b>0.03</b>
<b>ADHD is more common in males than in females</b>	20 (29.4)	48(70.6)	51 (75.0)	17(25.0)	<b>5.5</b>	<b>&lt;0.01</b>
<b>ADHD does not occur in adolescents</b>	15 (22.1)	53(77.9)	28 (41.2)	40(58.8)	<b>3.8</b>	<b>0.02</b>
<b>Common signs of ADHD include:</b>						
<b>Impaired attention</b>	44 (64.7)	24(35.3)	56 (82.4)	12(17.6)	<b>2.3</b>	<b>0.02</b>
<b>Over activity</b>	51 (75.0)	17(25.0)	62 (91.2)	6(8.8)	<b>2.5</b>	<b>0.01</b>
<b>Impulsivity</b>	42 (61.8)	26(38.2)	57 (83.8)	42(16.2)	<b>2.6</b>	<b>0.01</b>
Laughing to self	37 (54.4)	31(45.6)	38(55.9)	30(44.9)	1.4	0.10
<b>ADHD is apparent before the age of 6 years</b>	27 (39.7)	41(60.3)	53 (77.9)	15(22.1)	<b>3.4</b>	<b>0.01</b>
Possible causes of ADHD include						
Brain abnormalities	50 (73.5)	18(26.5)	59 (86.8)	9(13.2)	1.6	0.1
Genetic factors	45 (66.2)	23(33.8)	54 (79.4)	14(20.6)	1.4	0.2
<b>Diet</b>	<b>30 (44.1)</b>	<b>38(55.9)</b>	<b>43 (63.2)</b>	<b>25(36.8)</b>	<b>2.1</b>	<b>0.03</b>
Food allergy	25 (36.8)	43(63.2)	30 (44.1)	38(55.9)	0.7	0.5
ADHD is best managed by:						
Medication	34 (50.0)	34(50.0)	42 (61.8)	26(38.2)	1.6	0.1
Punishment	35 (51.5)	33(48.5)	38 (55.9)	30(44.1)	0.5	0.6
Behaviour modification techniques	46 (67.6)	2(32.4)	55 (80.9)	13(61.8)	1.2	0.2

Table 17 illustrates the effect of training intervention on the attitudes of all the respondents about mental disorders in general in children and adolescents. A significantly lower proportion of respondents felt that hyperactive children should always be punished, after the intervention,  $Z = 4.3$ ,  $P = 0.001$ . Likewise a lower number of respondents believed that behavioural disorders in children are best managed with medication, following training,  $Z = 2.3$ ,  $P = 0.02$ . There was a significant increase in the number of respondents who believed that treatment of children and adolescents with mental disorders should be multidisciplinary after the intervention,  $Z = 3.1$ ,  $P = <0.01$ .

**Table 17: Attitude of intervention group respondents about mental disorder in General at baseline and post intervention**

	Pre (N = 68)		Post (N = 68)		Statistics	
	Agree n(%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
<b>A hyperactive, inattentive child should always be punished</b>	22 (32.4)	46(67.6)	10 (14.7)	58(85.3)	<b>4.3</b>	<b>&lt;0.001</b>
<b>Behavioural disorders in children and adolescents are best managed with medication</b>	39 (57.4)	29(42.6)	25 (36.8)	43(63.2)	<b>2.3</b>	<b>&lt;0.01</b>
<b>Appropriate behaviour in children and adolescents with behavioural disorders should be rewarded</b>	25 (36.8)	43(63.2)	58 (85.3)	10(14.7)	<b>6.0</b>	<b>&lt;0.01</b>
Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	58 (85.3)	10(14.7)	59 (88.5)	9(11.5)	1.0	0.3
Children and adolescents with mental disorder can attend regular school	43 (63.2)	25(36.8)	55 (80.9)	13(19.1)	1.3	0.2
Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	61 (89.7)	7(10.3)	63 (92.6)	5(7.4)	0.8	0.4
<b>Treatment of children and adolescents with mental health problems should be multidisciplinary</b>	52 (76.5)	16(23.5)	63 (92.6)	5(7.4)	<b>3.1</b>	<b>&lt;0.01</b>

**TABLES 18 – 22: EFFECT OF HEALTH EDUCATION PRE AND POST; NO INTERVENTION GIVEN (CONTROL GROUP)**

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Table 18 on previous page shows the changes in the responses of the control group respondents about mental health disorders in general, at baseline and post intervention

**Table 18: Knowledge of Control Group Respondents about Mental Disorders in General (I) baseline and Post Intervention**

	Pre (N=78)		Post (N =78)		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
Mental illness is rare in children & adolescents	51 (65.4)	27(34.6)	49(64.5)	29(35.5)	1.2	0.6
Children with mental disorders are difficult to interact with	62 (79.5)	16(20.5)	54(71.1)	24(28.9)	1.6	0.1
Imbecile and moron are types of mental disorder found in children	48 (61.5)	30(38.5)	51(68.0)	27(32.0)	1.1	0.3
Children and adolescents with mental illness are likely to be violent	60 (76.9)	18(23.1)	58(77.3)	20(22.7)	1.4	0.2
Mental disorders in children and adolescents can be caused by traumatic events	72 (92.3)	6(7.7)	72(93.3)	6(6.7)	1.7	0.1
Children who live in poverty are less likely to have with mental disorders than those who don't live in poverty	38 (48.7)	40(51.3)	36(48.0)	42(52.0)	0.1	0.9
For children and adolescents with mental illness their families are to blame for this	2 (2.6)	76(97.4)	1(1.3)	77(98.7)	1.0	0.3
The root cause of mental illness in children is a curse on the family	14 (17.9)	64(82.1)	11(14.7)	64(85.3)	0.1	0.7
Children with mental disorders are possessed by demons	29 (37.2)	49(62.8)	27(35.5)	49(64.5)	1.0	0.3
Children and adolescents with mental illness can recover	62 (79.5)	16(20.5)	63(85.1)	15(14.9)	0.4	0.7
Children and adolescents with mental illness have inherited weak genes from their parents	27 (34.6)	51(65.4)	20(26.3)	58(73.7)	1.5	0.1
Children and adolescents with mental illness are unpredictable.	61 (78.2)	17(21.8)	50(67.6)	28(32.4)	1.8	0.07
One in five children and adolescents will develop mental illness over the course of their lifetime.	8 (10.3)	70(89.7)	10(14.7)	68(83.3)	1.1	0.3
Supernatural power can be used to afflict mental illness on a child or adolescent	37 (47.4)	41(52.6)	31(41.3)	47(58.7)	0.7	0.4
Mental illness in children and adolescents is caused by spiritual attack	32 (41.0)	46(59.0)	32(42.1)	46(57.9)	0.4	0.7
Parents with mental illness always transmit these disorders to their children	63 (80.8)	15(19.2)	58(77.3)	20(22.7)	1.1	0.3
Children and adolescents do not have depression	52 (66.7)	26(33.3)	50(65.8)	28(34.2)	0.3	0.8
Children do not have psychosis just behaviour problems	56 (71.8)	22(28.2)	50(65.8)	28(34.2)	1.9	0.06
Mental illness in children and adolescents cannot be treated	12 (15.4)	66(84.6)	10(13.2)	68(86.8)	0.5	0.7
Poor academic performance is a sign of mental disorder	25 (32.1)	53(67.9)	21(27.6)	57(72.4)	1.1	0.3
Untidy appearance in a child is a sign of mental disorder	20 (25.6)	58(74.4)	18(24.0)	60(76.0)	0.9	0.4
Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still	43 (55.1)	35(44.9)	48(64.0)	30(36.0)	0.1	0.9

Table 19 summarizes the differences in the general knowledge of respondents about mental disorders before and after intervention.

**Table 19: Knowledge of Control Group Respondents about Mental Disorders in General (II) at Baseline and Post -Test**

	Pre		Post		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree /Not Sure n (%)	Z	P
The Juvenile Remand Home is a good place to manage children with mental disorders	15 (19.2)	63(80.8)	13(19.4)	65(80.6)	0.04	0.8
<b>Children with mental disorders should be taken to the church for treatment</b>	<b>30 (38.5)</b>	<b>48(61.5)</b>	<b>20(26.3)</b>	<b>58(73.7)</b>	<b>2.1</b>	<b>0.03</b>
Children with mental disorders should be taken to the mosque for treatment	9 (11.5)	69(88.5)	6(8.0)	72(92.0)	0.9	0.4
Children with mental disorders should be taken to traditional healers for treatment	24 (30.8)	54(69.2)	18(23.7)	60(76.3)	0.7	0.3
Nurses can be trained to manage children with mental illness	67 (85.9)	11(14.1)	68(89.5)	10(10.5)	0.2	0.8
Treating mental illness in children is always very expensive	58 (74.4)	20(25.6)	54(71.1)	24(28.9)	1.0	0.3
Would you feel afraid to talk to children and adolescents with mental disorders	19 (24.4)	59(75.6)	15(19.7)	63(79.3)	1.2	0.2
Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?	32 (41.0)	46(59.0)	23(30.7)	55(69.3)	<b>2.5</b>	<b>0.01</b>
Children with intellectual disability should not be allowed to attend school with normal children	27 (34.6)	51(65.4)	25(32.9)	53(67.1)	0.1	0.7
Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	32 (41.0)	46(59.0)	36(48.6)	42(51.4)	0.2	0.8
Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?	23 (29.5)	55(70.5)	24(31.6)	54(68.4)	0.6	0.5
Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	41 (52.6)	37(47.4)	39(50.0)	39(50.0)	0.6	0.5
Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?	36 (46.2)	42(53.8)	33(43.4)	45(56.6)	0.8	0.4
Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases	51 (65.4)	27(34.6)	51(67.1)	27(32.9)	0.6	0.6
Do you feel child and adolescent mental disorders can be successfully treated in hospital?	67 (85.9)	11(14.1)	67(88.2)	11(11.8)	0.8	0.4
Mental illness can occur in children and adolescents	67 (85.9)	11(14.1)	68(93.2)	10(6.8)	1.1	0.09
Up to 6% of children have psychiatric disorders	12 (15.4)	66(84.6)	11(15.5)	67(74.5)	0.5	0.6
Psychiatric disorders in children are commoner in females than males	24 (30.8)	54(69.2)	21(29.6)	57(70.4)	0.7	0.5

Table 20 shows the significant changes in responses of the control group about conduct disorder, at baseline and post-intervention.

**Table 20: Knowledge of Control Group Respondents about Conduct Disorder at baseline and Post intervention**

	Pre (N=78)		Post (N=78)		Statistics	
	Agree	Disagree/ Not Sure	Agree	Disagree/ Not Sure	Z	P
	n (%)	n (%)	n (%)	n (%)		
Conduct disorder occurs more in males than females	24 (30.8)	54(69.2)	30(42.3)	48(57.7)	1.2	0.2
<b>Up to 4% of children have conduct disorder</b>	<b>5 (6.4)</b>	<b>73(93.6)</b>	<b>15(21.1)</b>	<b>63(78.9)</b>	<b>2.6</b>	<b>0.01</b>
Symptoms of Conduct Disorder include						
Running away from home	70(89.7)	8(10.3)	61(83.6)	17(16.4)	1.7	0.2
Lying	65 (83.3)	13(16.7)	64(87.7)	14(12.3)	1.6	0.3
Stealing	70 (89.7)	8(10.3)	64(87.7)	14(12.3)	1.3	0.3
Inattention	53 (67.9)	25(32.1)	49(67.1)	29(32.9)	0.3	0.6
Sadness	57 (73.1)	21(26.9)	50(68.5)	28(21.5)	1.1	0.3
<b>Truancy</b>	<b>73 (93.6)</b>	<b>5(6.4)</b>	<b>60(84.5)</b>	<b>18(15.5)</b>	<b>3.3</b>	<b>0.01</b>
Causes of conduct disorder include						
Parents' divorce	70 (89.7)	8(10.3)	62(86.1)	16(13.9)	1.7	0.2
Criminality in parents	29 (37.2)	49(62.8)	34(46.6)	44(63.4)	0.3	0.4
Desire for attention	55 (70.5)	23(29.5)	52(72.2)	26(27.8)	0.1	0.6
Management of conduct disorder include						
Behavioural modification techniques	70 (89.7)	8(10.3)	62(87.3)	16(12.7)	1.2	0.4
Cognitive behavioural therapy	47 (60.3)	31(39.7)	47(68.1)	21(31.9)	0.1	1.0
Group therapy	70 (89.7)	8(10.3)	63(87.5)	15(12.5)	0.9	0.6
Drugs	65 (83.3)	13(16.7)	60(83.3)	18(16.7)	0.1	1.0
Casting out evil spirits	38 (48.7)	40(51.3)	39(50.0)	39(50.0)	0.3	0.7

Table 21 illustrates the differences in the responses of the control group respondents during the pre and post-test as regards knowledge about ADHD.

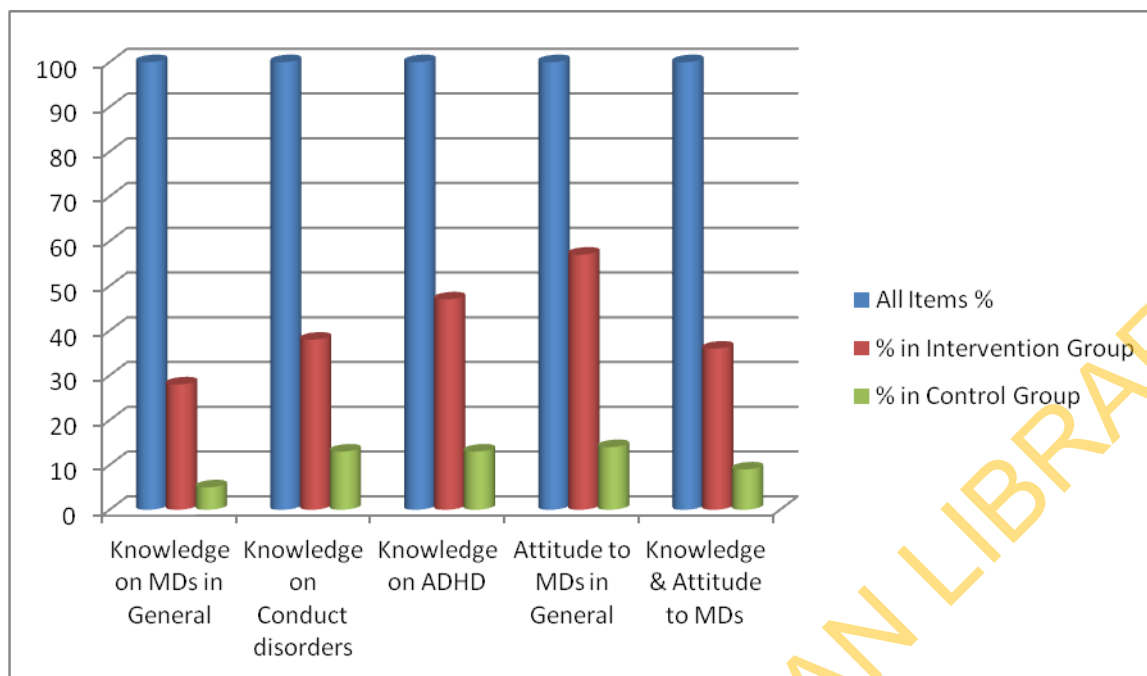
**Table 21: Knowledge of control group about attention deficit Hyperactivity Disorder, at baseline and post intervention**

	Pre (N = 68)		Post (N = 68)		Statistics	
	Agree n (%)	Disagree / Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
Attention deficit hyper activity disorder(ADHD) occurs in children and adolescents	55 (70.5)	23(29.5)	49(68.1)	29(31.9)	1.3	0.2
ADHD is more common in males than in females	28 (35.9)	50(64.1)	31(42.5)	47(57.5)	0.6	0.5
ADHD does not occur in adolescents	22 (28.2)	56(71.8)	20(28.6)	58(71.4)	1.4	0.2
Common signs of ADHD include:						
<b>Impaired attention</b>	<b>63 (80.8)</b>	<b>15(19.2)</b>	<b>50(68.5)</b>	<b>28(21.5)</b>	<b>3.3</b>	<b>&lt; 0.01</b>
Over activity	61 (78.2)	17(21.8)	59(80.8)	19(78.5)	0.8	0.1
Impulsivity	62 (79.5)	16(20.5)	54(75.0)	24(25.0)	1.6	0.2
Laughing to self	51 (65.4)	27(34.6)	51(70.8)	27(29.2)	1.2	0.2
ADHD is apparent before the age of 6 years	29 (37.2)	49(62.8)	30(44.1)	48(55.9)	0.8	0.4
Possible causes of ADHD include						
Brain abnormalities	62 (79.5)	16(20.5)	48(55.9)	30(44.1)	<b>3.1</b>	<b>&lt;0.01</b>
Genetic factors	61 (78.2)	17(21.8)	58(79.5)	20(20.5)	1.1	0.2
Diet	45 (57.7)	33(42.3)	38(48.8)	40(51.2)	2.0	0.05
Food allergy	29 (37.2)	49(62.8)	29(40.3)	49(59.7)	0.9	0.3
ADHD is best managed by:						
Medication	52 (66.7)	26(33.3)	45(62.5)	33(37.5)	0.1	0.3
Punishment	37 (47.4)	41(52.6)	35(44.9)	43(55.1)	1.4	0.2
Behaviour modification techniques	61 (78.2)	17(21.8)	54(74.0)	24(26.0)	0.9	0.7

**Table 22:** Attitudes of Control Group Respondents towards Mental Disorders in General  
At baseline and Post –intervention

ATTITUDE	Pre		Post		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	Z	P
A hyperactive, inattentive child should always be punished	40 (51.3)	38(48.7)	23(31.9)	55(68.1)	<b>2.1</b>	<b>0.02</b>
Behavioural disorders in children and adolescents are best managed with medication	61 (78.2)	17(21.8)	50(69.4)	28(30.6)	1.7	0.3
Appropriate behaviour in children and adolescents with behavioural disorders should be rewarded	70 (89.7)	8(10.3)	67(95.7)	11(4.3)	1.7	0.1
Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	66 (84.6)	12(15.4)	69(95.8)	9(4.2)	1.5	0.2
Children and adolescents with mental disorder can attend regular school	52 (66.7)	26(33.3)	44(61.1)	34(38.9)	0.1	1.0
Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	75 (96.2)	3(7.8)	71(98.6)	7(1.4)	0.1	0.3
Treatment of children and adolescents with mental health problems should be multidisciplinary	63 (80.8)	15(19.2)	59(81.9)	19(18.1)	0.3	0.6





**Figure II: Summary of Number of Items where there was increased knowledge or Change In Attitude in Both Intervention and control group at Post Test using Wilcoxon Signed Rank Test**

Figure II above shows summary of proportion of items where there was increased knowledge or change in Attitude in both intervention and control group at posttest. According to the figure, of the 40 items on knowledge about mental disorders, there was significant increased knowledge in 28% of the items in the intervention group and only 5% in the control group. Also, of the 16 items on knowledge about conduct disorders, there was significant increased knowledge in 38% of the items in the intervention group and only 33% in the control group. Also, of the 15 items on knowledge about ADHD, there was significant increased knowledge in 47% of the items in the intervention group and only 13% in the control group.

In terms of attitude to mental disorders in childhood and adolescents, of the 7 items on attitude to mental disorders, there was significant change in attitude in 57% of the items in the intervention group and only 14% in the control group.

In all, of the 78 items regarding knowledge and attitude to mental disorders in childhood and adolescents, there was significant improved knowledge and change in attitude on 36% of the items in the intervention group post - test and 9% in the control group post test.

**COMPARISONS OF POST TEST KNOWLEDGE  
BETWEEN INTERVENTION GROUP AND CONTROL  
GROUP ABOUT MENTAL DISORDERS IN GENERAL:  
TABLES 23-26**

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Table 23 shows that a significant higher proportion of respondents from the intervention arm have a better knowledge in some of the items evaluated by them regarding mental disorders in children and adolescents when compared with the control arm at post-test

**Table 23:** Comparisons of Post Test knowledge Between Intervention and Control Group (II) About Mental Disorders in General

	Intervention		Control		Statistics	
	Agree n (%)	Disagree /Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	X <sup>2</sup>	P
<b>Mental illness is rare in children and adolescent</b>	<b>14(20.6)</b>	<b>54(79.4)</b>	<b>49(64.5)</b>	<b>29(35.5)</b>	<b>24.7</b>	<b>&lt; 0.001</b>
Children with mental disorder are difficult to interact with	38 (55.9)	30(44.1)	54(71.1)	24(28.9)	2.2	0.1
<b>Imbecile and moron are types of mental disorder found in children</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	<b>51(68.0)</b>	<b>27(32.0)</b>	<b>12.3</b>	<b>0.001</b>
Children and adolescents with mental illness are likely to be violent	54 (79.4)	14(20.6)	58(77.3)	20(22.7)	0.3	0.6
Mental disorders in children and adolescents can be caused by traumatic events	59 (86.8)	9(13.2)	72(93.3)	6(6.7)	0.7	0.4
<b>Children with mental disorders are difficult to interact with</b>	<b>14 (20.6)</b>	<b>54(79.4)</b>	<b>36(48.0%)</b>	<b>42(52%)</b>	<b>9.4</b>	<b>&lt; 0.001</b>
For children and adolescent with illness their families are to blame for this	5 (7.4)	63(92.6)	1(1.3%)	77(98.7%)	2.0	0.1 <sup>FE</sup>
<b>The root cause of mental illness in children is a curse on the family</b>	<b>1 (1.5)</b>	<b>67(98.5)</b>	<b>11(14.7%)</b>	<b>64(85.3%)</b>	<b>6.5</b>	<b>0.01</b>
Children with mental disorders are possessed by demons	10 (14.7)	58(85.3)	27(35.5%)	49(64.5%)	<b>7.1</b>	<b>&lt; 0.01</b>
Children and adolescents with mental illness can recover	55 (80.9)	13(19.1)	63(85.1%)	15(14.9%)	0.04	0.8
Children and adolescent with mental illness have inherited weak genes from their parents	22 (32.4)	46(67.6)	20(26.3%)	58(73.7%)	0.5	0.5
Children with adolescent with mental illness are unpredictable	38 (55.9)	30(44.1)	50(67.6%)	28(32.4%)	0.7	0.4
<b>One in five children with adolescents will develop mental illness over the course of their lifetime</b>	<b>38 (55.9)</b>	<b>30(44.1)</b>	<b>10(14.7%)</b>	<b>68(83.3%)</b>	<b>28.6</b>	<b>&lt; 0.001</b>
<b>Supernatural power can be used to afflict mental illness on a child or adolescent</b>	<b>5 (7.4)</b>	<b>63(92.6)</b>	<b>31(41.3%)</b>	<b>47(58.7%)</b>	<b>18.8</b>	<b>&lt; 0.001</b>
<b>Mental illness in children and adolescents is caused by spiritual attack</b>	<b>15 (22.1)</b>	<b>53(77.9)</b>	<b>32(42.1%)</b>	<b>46(57.9%)</b>	<b>10.3</b>	<b>0.001</b>
parents with mental illness always transmit these disorders to their children	41 (60.3)	27(39.7)	58(77.3)	20(22.7)	<b>2.9</b>	<b>0.1</b>
<b>Children adolescents do not have depression</b>	<b>9 (13.2)</b>	<b>59(86.8)</b>	<b>50(65.8)</b>	<b>28(34.2)</b>	<b>37.0</b>	<b>&lt; 0.001</b>
<b>Children do not have psychosis just behavior problems</b>	<b>11 (16.2)</b>	<b>57(83.8)</b>	<b>50(65.8)</b>	<b>28(34.2)</b>	<b>32.4</b>	<b>&lt; 0.001</b>
Mental illness in children and adolescents cannot be treated	16 (23.5)	52(76.5)	10(13.2)	68(86.8)	2.2	0.1
<b>Poor academic performance is a sign of mental disorder</b>	<b>36 (52.9)</b>	<b>32(47.1)</b>	<b>21(27.6)</b>	<b>57(72.4)</b>	<b>9.3</b>	<b>&lt; 0.02</b>
Untidy appearance in a child is a sign of mental disorder	21 (30.9)	47(69.1)	18(24.0)	60(76.0)	0.8	0.4
<b>Using a cane to beat or threaten a child is a way to manage their behavior when they are restless and unable to sit still</b>	<b>15 (22.1)</b>	<b>53(77.9)</b>	<b>48(64.0)</b>	<b>30(36.0)</b>	<b>21.5</b>	<b>&lt; 0.001</b>

Table 24 shows that a significant higher proportion of respondents from the intervention arm have a better knowledge in some of the items evaluated by them regarding mental disorders in children and adolescents when compared with the control arm at post-test

**Table 24:** Comparisons of Post Test knowledge Between Intervention and Control Group (II) About Mental Disorders in General

	Intervention Group N = 68		Control Group N = 78		Statistics	
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)	X <sup>2</sup>	P
The Juvenile Remand Home is a good place to manage children with mental disorders	7 (10.3)	61 (89.7)	13(19.4)	65(80.6)	0.8	0.4
<b>Children with mental disorders should be taken to the church for treatment</b>	<b>4 (5.9)</b>	<b>64 (94.1)</b>	<b>20(26.3)</b>	<b>58(73.7)</b>	<b>8.9</b>	<b>&lt; 0.01</b>
Children with mental disorders should be taken to the mosque for treatment	5 (7.4)	63 (92.6)	6(8.0)	72(92.0)	0.1	0.8
Children with mental disorders should be taken to traditional healers for treatment	22 (32.4)	46 (67.6)	18(23.7)	60(76.3)	1.1	0.3
Nurses can be trained to manage children with mental illness	55 (80.9)	13 (19.1)	68(89.5)	10(10.5)	0.7	0.4
Treating mental illness in children is always very expensive	38 (55.9)	30 (44.1)	54(71.1)	24(28.9)	2.2	0.1
Would you feel afraid to talk to children and adolescents with mental disorders	7 (10.3)	61 (89.7)	15(19.7)	63(79.3)	1.6	0.2
Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?	15 (22.1)	53 (77.9)	23(30.7)	55(69.3)	0.7	0.4
Children with intellectual disability should not be allowed to attend school with normal children	19 (27.9)	49 (72.1)	25(32.9)	53(67.1)	0.1	0.7
Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	36 (52.9)	32 (47.1)	36(48.6)	42(51.4)	0.4	0.5
Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?	23 (33.8)	45 (66.2)	24(31.6)	54(68.4)	0.1	0.8
Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	36 (52.9)	32 (47.1)	39(50.0)	39(50.0)	0.04	0.9
Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?	33 (48.5)	35 (51.5)	33(43.4)	45(56.6)	0.3	0.6
Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases	45 (66.2)	23 (33.8)	51(67.1)	27(32.9)	0.01	0.9
Do you feel child and adolescent mental disorders can be successfully treated in hospital?	58 (85.3)	10 (14.7)	67(88.2)	11(11.8)	0.02	0.9
Mental illness can occur in children and adolescents	58 (85.3)	10 (14.7)	68(93.2)	10(6.8)	0.01	0.9
Up to 6% of children have psychiatric disorders	17 (25.0)	51 (75.0)	11(15.5)	67(74.5)	2.1	0.1
<b>Psychiatric disorders in children are commoner in females than males</b>	<b>4 (5.9)</b>	<b>64 (94.1)</b>	<b>21(29.6)</b>	<b>57(70.4)</b>	<b>9.9</b>	<b>0.001</b>

Table 25 shows that a significant higher proportion of respondents from the intervention arm have a better knowledge in some of the items evaluated by them regarding conduct disorders in children and adolescents when compared with the control arm at post-test

**Table 25:** Comparisons of Post Test knowledge Between Intervention and Control Group about Conduct Disorder

	Intervention Group (N=68)		Control Group (N=78)		Statistics	
	Agree	Disagree/ Not Sure	Agree	Disagree/ Not Sure	X <sup>2</sup>	p
	n (%)	n (%)	n (%)	n (%)		
<b>Conduct disorder occurs more in males than females</b>	<b>60 (88.2)</b>	<b>8(11.8)</b>	<b>30(42.3)</b>	<b>48(57.7)</b>	<b>36.0</b>	<b>&lt; 0.001</b>
<b>Up to 4% of children have conduct disorder</b>	<b>55 (80.9)</b>	<b>13(19.1)</b>	<b>15(21.1)</b>	<b>63(78.9)</b>	<b>53.0</b>	<b>&lt; 0.001</b>
Symptoms of Conduct Disorder include						
<b>Running away from home</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	<b>61(83.6)</b>	<b>17(16.4)</b>	<b>4.9</b>	<b>0.03</b>
Lying	63 (92.6)	5(7.4)	64(87.7)	14(12.3)	2.7	0.09
Stealing	60 (88.2)	8(11.8)	64(87.7)	14(12.3)	0.7	0.4
Inattention	36 (52.9)	32(47.1)	49(67.1)	29(32.9)	1.1	0.3
<b>Sadness</b>	<b>29 (42.6)</b>	<b>39(57.4)</b>	<b>50(68.5)</b>	<b>28(21.5)</b>	<b>5.9</b>	<b>0.01</b>
Truancy	59 (86.8)	9(13.2)	60(84.5)	18(15.5)	1.7	0.2
Causes of conduct disorder include						
<b>Parents' divorce</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	<b>62(86.1)</b>	<b>16(13.9)</b>	<b>4.1</b>	<b>0.04</b>
<b>Criminality in parents</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	<b>34(46.6)</b>	<b>44(63.4)</b>	<b>34.5</b>	<b>&lt; 0.001</b>
<b>Desire for attention</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	<b>52(72.2)</b>	<b>26(27.8)</b>	<b>13.2</b>	<b>&lt; 0.01</b>
Management of conduct disorder include						
Behavioural modification techniques	62 (91.2)	6(8.8)	62(87.3)	16(12.7)	3.0	0.08
<b>Cognitive behavioural therapy</b>	<b>60 (88.2)</b>	<b>8(11.8)</b>	<b>47(68.1)</b>	<b>21(31.9)</b>	<b>6.3</b>	<b>0.01</b>
Group therapy	60 (88.2)	8(11.8)	63(87.5)	15(12.5)	1.0	0.3
<b>Drugs</b>	<b>37 (54.4)</b>	<b>31(45.6)</b>	<b>60(83.3)</b>	<b>18(16.7)</b>	<b>7.2</b>	<b>&lt; 0.01</b>
<b>Casting out evil spirits</b>	<b>16 (23.5)</b>	<b>52(76.5)</b>	<b>39(50.0)</b>	<b>39(50.0)</b>	<b>9.7</b>	<b>0.001</b>

Table 26 shows that a significant higher proportion of respondents from the intervention arm have a better knowledge in some of the items evaluated by them regarding ADHD disorders in children and adolescents when compared with the control arm at post-test

**Table 26:** Comparisons of Post Test knowledge Between Intervention and Control Group about ADHD

	INTERVENTION		CONTROL		Statistics X <sup>2</sup>	p
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)		
<b>ADHD occurs in children and adolescents</b>	<b>57 (83.8)</b>	<b>11(16.2)</b>	<b>49(68.1)</b>	<b>29(31.9)</b>	<b>7.0</b>	<b>&lt; 0.01</b>
<b>ADHD is more common in males than in females</b>	<b>51 (75.0)</b>	<b>17(25.0)</b>	<b>31(42.5)</b>	<b>47(57.5)</b>	<b>3.3</b>	<b>0.07</b>
<b>ADHD does not occur in adolescents</b>	<b>28 (41.2)</b>	<b>40(58.8)</b>	<b>20(28.6)</b>	<b>58(71.4)</b>	<b>5.2</b>	<b>0.02</b>
Common signs of ADHD include:						
<b>Impaired attention</b>	<b>56 (82.4)</b>	<b>12(17.6)</b>	<b>50(68.5)</b>	<b>28(21.5)</b>	<b>5.2</b>	<b>0.02</b>
<b>Over activity</b>	<b>62 (91.2)</b>	<b>6(8.8)</b>	<b>59(80.8)</b>	<b>19(78.5)</b>	<b>5.1</b>	<b>0.02</b>
Impulsivity	57 (83.8)	42(16.2)	54(75.0)	24(25.0)	2.1	0.2
Laughing to self	38(55.9)	30(44.9)	51(70.8)	27(29.2)	1.1	0.3
<b>ADHD is apparent before the age of 6 years</b>	<b>53 (77.9)</b>	<b>15(22.1)</b>	<b>30(44.1)</b>	<b>48(55.9)</b>	<b>21.5</b>	<b>&lt; 0.001</b>
Possible causes of ADHD include						
<b>Brain abnormalities</b>	<b>59 (86.8)</b>	<b>9(13.2)</b>	<b>48(55.9)</b>	<b>30(44.1)</b>	<b>10.6</b>	<b>0.001</b>
Genetic factors	54 (79.4)	14(20.6)	58(79.5)	20(20.5)	0.5	0.5
Diet	43 (63.2)	25(36.8)	38(48.8)	40(51.2)	2.5	0.1
Food allergy	30 (44.1)	38(55.9)	29(40.3)	49(59.7)	0.5	0.5
ADHD is best managed by:						
Medication	42 (61.8)	26(38.2)	45(62.5)	33(37.5)	0.1	0.7
Punishment	38 (55.9)	30(44.1)	35(44.9)	43(55.1)	1.4	0.2
Behaviour modification techniques	55 (80.9)	13(19.1)	54(74.0)	24(26.0)	2.0	0.2

Table 27 shows that a significant higher proportion of respondents from the intervention arm have a better attitude in some of the items evaluated by them regarding mental disorders in children and adolescents when compared with the control arm at post-test

**Table 27:** Comparisons of Post Test Attitude between Intervention and Control Group about Mental Disorders in General

	Intervention Group		Control Group		Statistics X <sup>2</sup>	p
	Agree n (%)	Disagree/ Not Sure n (%)	Agree n (%)	Disagree/ Not Sure n (%)		
<b>A hyperactive, inattentive child should always be punished</b>	<b>10 (14.7)</b>	<b>58(85.3)</b>	<b>23(31.9)</b>	<b>55(68.1)</b>	<b>4.5</b>	<b>0.03</b>
<b>Behavioural disorders in children and adolescents are best managed with medication</b>	<b>25 (36.8)</b>	<b>43(63.2)</b>	<b>50(69.4)</b>	<b>28(30.6)</b>	<b>9.8</b>	<b>0.001</b>
Appropriate behaviour in children and adolescents with behavioural disorders should be rewarded	58 (85.3)	10(14.7)	67(95.7)	11(4.3)	0.02	0.9
Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	59(88.5)	9(11.5)	69(95.8)	9(4.2)	0.0	1.0
Children and adolescents with mental disorder can attend regular school	55 (80.9)	13(19.1)	44(61.1)	24(38.9)	3.7	0.05
Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	63 (92.6)	5(7.4)	71(98.6)	7(1.4)	0.0	1.0
<b>Treatment of children and adolescents with mental health problems should be multidisciplinary</b>	<b>63 (92.6)</b>	<b>5(7.4)</b>	<b>59(81.9)</b>	<b>19(18.1)</b>	<b>6.5</b>	<b>0.01</b>

Table 28 summarizes knowledge and attitude scores of all respondents. There was a significant difference in the mean post knowledge score between the intervention group and the control group,  $t = 8.3$ ,  $p < 0.001$ . However, there was no significant post attitude score between intervention and control group.

**Table 28: Knowledge and Attitude Scores**

	N	Mean	Std. Deviation	t	p value	95% Confidence Interval for Mean
<b>Pre Knowledge score</b>						
Control	78	85.68	11.24			83.1 - 88.2
Intervention	68	89.63	12.61	4.01	0.05	86.6 - 92.7
<b>Total</b>	<b>146</b>	<b>87.52</b>	<b>12.02</b>			<b>85.6 - 89.5</b>
<b>Pre Attitude Score</b>						
Control	78	9.92	4.82	1.74	0.2	4.0 - 14.0
Intervention	68	10.38	4.01			4.0 - 14.0
<b>Total</b>	<b>146</b>	<b>10.13</b>	<b>4.49</b>			<b>4.0 - 14.0</b>
<b>Post Knowledge score</b>						
Control	78	80.14	14.63	8.34	< 0.001	76.8 - 83.4
Intervention	68	95.36	15.03			91.7-99.0
<b>Total</b>	<b>146</b>	<b>87.23</b>	<b>16.62</b>			<b>84.5 - 89.9</b>
<b>Post Attitude Score</b>						
Control	78	11.11	2.15			6.0 - 14.0
Intervention	68	11.51	2.07	1.29	0.3	6.0 - 14.0
<b>Total</b>	<b>146</b>	<b>11.30</b>	<b>2.12</b>			<b>6.0 - 14.0</b>
<b>Pre Attitude Score</b>						
Intervention	68	10.38	4.01	1.06	0.4	4.0 - 14.0
<b>Post Attitude Score</b>						
Intervention		11.51	2.07			6.0 - 14.0
<b>Total</b>						
<b>Pre Knowledge Score</b>						
Intervention	68	89.63	12.61			86.6 - 92.7
<b>Post Knowledge Score</b>						
Intervention	68	95.36	15.03	4.61	0.03	91.7-99.0
<b>Total</b>						



## CHAPTER FIVE

### DISCUSSION, CONCLUSION AND RECOMMENDATION

#### 5.1 Discussion

This study was designed to determine the knowledge and attitude of nurses and the effect of training intervention in the recognition, assessment and management of children with mental health disorders. Briefly stated, results indicated that respondents in both intervention and control arms of the study have similarities and differences regarding their knowledge and attitude to children and adolescents with mental disorders. The effect of health education intervention was such that there was a significant increase in knowledge and not in attitude towards child and adolescents with mental disorders.

The results of this study are discussed therein based on available literature from other parts of the world.

#### Socio-demographic Characteristics

The sociodemographic characteristics of all the respondents show that 1 of every 10 of them are between 35 and 54 years of age. This age bracket illustrates their viability for health education intervention in having many more productive service years in which to put what they learnt into their respective nursing practice. This is evident by the finding that only about a little over a third had spent more than 20 years in practice and the majority, 9 of every 10 had spent less than 10 years in their unit.

In terms of their gender and marital status and rank, 9 of every 10 nurses were women and were also married and the distribution of their rank was almost “normal”. These findings are at variance with those from their counterparts at the Oyo State Hospital, Ring Road, Ibadan where

about two-thirds of the nurses were women, a little over two-thirds were married and the distribution of their ranks positively skewed (Lasebikan and Oyetunde 2012), suggesting a preponderance of older rank nurses.(Lasebikan and Oyetunde, 2012). These sociodemographic differences may be adduced to poor retention rate of younger nurses in the services of Oyo state due to poor condition of service.

The intervention and control arms of the study were found have similar sociodemographic characteristics except for their ranks where control arm reported more junior nurses within the rank of the nursing officers 1 and the intervention group in the rank of CNOs. This finding may suggest differences or heterogeneous distribution of nurses within the University College Hospital, Ibadan.

### **Knowledge of All Respondents about Mental Disorders in General at Baseline**

Results from the present study show similarities and significant differences in the knowledge of all respondents about mental disorders in general at baseline between the control and the intervention group in certain areas. Questions where there are significant differences in responses are: mental disorders in children and adolescents can be caused by traumatic events, children with mental disorders are difficult to interact with, children and adolescents do not have depression, children do not have psychosis just behaviour problems, children with mental disorders should be taken to the church for treatment, treating mental illness in children is always very expensive, Psychiatric disorders in children are commoner in females than males. In these questions respondents from the control group reported higher scores. This suggests that nurses have different knowledge about etiology of mental disorders in children and adolescent which may be a reflection of different background during the nursing training.

### **Knowledge of All Respondents about Conduct Disorders at Baseline**

Results from the present study show similarities and significant differences in the knowledge of all respondents about conduct disorders at baseline between the control and the intervention group in certain areas. Questions where there are significant differences in responses are: Up to 4% of children have conduct disorder, symptoms of conduct disorder include truancy, causes of conduct disorder include criminality in parents, and drugs can be used in the management of conduct disorder. This suggests that nurses have different knowledge about etiology of conduct disorders in children and adolescent which may be a reflection of different background during the nursing training. Moreover, there are some questions where a higher percentage of intervention group endorsed “agree”.

### **Knowledge of All Respondents about Attention Deficit Hyper activity Disorder (ADHD) at Baseline**

Results from the present study show similarities and significant differences in the knowledge of all respondents about attention deficit hyper activity disorder at baseline between the control and the intervention group in certain areas. Questions where there are significant differences in responses are: Common signs of ADHD include impaired attention, impulsivity. This again suggests that nurses have different knowledge about etiology of ADHD in children and adolescent which may be a reflection of different background during the nursing training.

Some of the views expressed by the respondents regarding causes of mental disorders in children are strongly associated with stigmatizing attitudes to mental illness (Bhugra, 1989),(Hayward and Bright, 1997),(Haghighat, 2001). This suggests that knowledge about mental illnesses in children among nurses is very poor in the University College Hospital Ibadan and this may be

generalizable to non- mental health nurses in other parts of Nigeria. Some of the views may imply that mental illnesses in children are self-inflicted. Such a view is more likely to elicit condemnation rather than understanding or sympathy,(Weiner et al., 1988). A supernatural view of the origin of mental disorders in children may imply that orthodox medical care would be inappropriate and help would be more likely sought from spiritualists and traditional healers. Indeed, this has been the practice in Nigeria (Gureje et al., 1995),( Lasebikan et al 2012).

### **Attitudes of All Respondents about Mental Disorders in General at Baseline**

Results from the present study also show similarities and significant differences in the attitude of all respondents about mental disorders in general at baseline between the control and the intervention group in certain areas. Questions where there are significant differences in responses are: a hyperactive, inattentive child should always be punished and behavioral disorders in children and adolescents are best managed with medication. These diverse opinions are also a reflection of varying background and knowledge regarding mental health issues in children and adolescents.

These findings suggest a widespread stigmatization of mental disorders in children and adolescents among the study population. Negative attitudes to mental disorders in children may be fuelled by notions of causation that suggest that children with mental disorders may be afflicted with demons or could have been cursed. Findings from the present study are very similar to those from a community household survey,(Gureje et al., 2006).

These results corroborate earlier ones conducted in North America and Western Europe which also suggest that stigma is a major problem in the community (Taylor and Dear 1980; Brockington 1993; Huxley 1993; Jorm et al., 1999; Crisp et al., 2000). Negative views regarding

children with mental disorders often lead to discrimination, there is little wonder that studies have also shown that people with mental health problems living in the community experience rampant harassment (Kelly and McKenna 1997; Berzins et al., 2003). Some other studies conducted in Africa have suggested that the experience of stigma by people with mental illness may be common (Awaritefe and Ebie 1975; Shibre 2001).

This is the first study of this kind in Nigeria specifically among professionals such as nurses. This has greatly limited comparability. Some previous studies have been carried out on a different population (Binitie 1970; Awaritefe and Ebie, J, 1975; Odejide and Olatawura, 1979), or among relatives of people with mental illnesses in general and not in children specifically (Shibre et al, 2001).

### **Attitudes towards people with mental illness**

The negative views expressed by respondents were indicative of the degree of tolerance they might have of children with mental disorders. Their views that punishment is a form of treatment for them are an expression of some form of resentment of children with mental illness (Hayward and Bright, 1997; Corrigan and Watson, 2002). The poor attitude of nurses to children with mental disorders as reported in this study in which about half expressed that punishment is a form of treatment is at variance with the expectation from them given reports that negative attitude to mental illness may be less pervasive among the well-educated (Odejide and Olatawura, 1979).

### **Effect of Health Education Intervention**

The effect of health education intervention was demonstrated by reduction in proportion of nurses who reported that mental illness is rare in children & adolescents, increase in proportion

of nurses in the intervention group who reported that imbecile and moron are types of mental disorder found in children, reduction in the proportion of respondents in the intervention group who reported that the root cause of mental illness in children is a curse on the family. Previous studies have shown that children with mental disorders often expose to stigmatization in the communities (Hayward. 2001, Klin et al), increase in proportion of respondents in the intervention group who reported that one in five children and adolescents will develop mental illness over the course of their life time. studies have shown that 20% of children and adolescent of the population will meet the criteria for mental illness in their life time( Ibeziako et al 2008) , reduction in proportion of respondents who reported that supernatural power can be used to afflict mental illness on a child or adolescent, reduction in proportion of respondents who reported that Children do not have psychosis just behavior problems in the intervention group, increase in proportion of respondents who reported that poor academic performance is a type of mental disorder in the intervention group. This respond are also on the same wave length with previous studies on the British child and adolescent mental health. (Ford et al 2003). There was also an increase in the opinion of those who reported that mental illness can occur in children and adolescents and those who reported that psychiatric disorders in children are commoner in females than males post intervention (Merikangas et al 2009). Posttest also shows an increase in those who gave the following reports about conduct disorder: conduct disorder occurs more in males than females, lying is a symptom of conduct disorder, criminality in parents and desire for attention are symptoms of conduct disorder, cognitive behaviour therapy and group therapy are treatments of conduct disorder. This is consistent with findings in a review of conduct disorder in the past ten years (Loeber et al 2000),

In terms of ADHD, there was also an increase in the following responses post intervention: Attention deficit hyper activity disorder (ADHD) occurs in children and adolescents, ADHD is more common in males than in females; ADHD does occur in adolescents, ADHD is apparent before the age of 6 years. Impulsivity and over activity are symptoms of ADHD. This responds agreed with the findings in a study carried on the prevalence, recognition and treatment of ADHD in America. (Froelich et al 2007).

Regarding post intervention attitudes of nurses towards children with mental disorders, there was a significant change in the following areas: a hyperactive, inattentive child should always be punished, behavioral disorders in children and adolescents are best managed with medication, and treatment of children and adolescents with mental health problems should be multidisciplinary. This collaborate the findings of Binitie, A.O., 1970, when he looked at the attitude of educated Nigerians to psychiatric illness.

Among the control group where no intervention was made, although there were some significant changes in their view regarding mental disorders in children when accessed at the phase two of the study, these effects were not comparable in magnitude with those achieved by health education intervention. This implies that health education intervention was an effective approach in improving knowledge and attitude of nurses to mental disorders in children. This is in agreement with the study on the impact of educational intervention on secondary school student attitudes to schizophrenia in a class room. (Economou et al 2011).

The present study shows a significant difference in the mean post knowledge score between the intervention group and the control group. It also shows a significant mean difference between the pre and post knowledge score in the intervention group. These findings suggest that the one day training was effective in improving the knowledge of the participants regarding mental health issues in children and adolescents. However, there was no significant post attitude score between intervention and control group (Odejide et al 1979). This finding suggests that attitudinal change

may be more difficult to achieve. This suggests that the intervention may require reinforcement at regular interval in order to bring a sustainable attitudinal change about the subject matter. (Mohr DC, et al 2008)

### **Why are some questions resistant to quick change in knowledge?**

Reavley and colleagues in 2012 recognized that although education and awareness may play a role in improving mental health literacy, it is likely that, to achieve changes, interventions would need to be more personalized and intensive. Recall of intervention elements would be strengthened by reinforcement of the intervention elements either via telephone text messages since they are cheap or through electronic mails since they are free. This is justifiable taking into consideration the very high number of mobile phone users in Nigeria, second in Africa (Okoro et al 2010). Telephone delivery of treatment may reduce attrition (Mohr et al 2008). Telephone care is a recognized component of collaborative care models that integrate mental health into primary care settings (Gilbody et al 2010).

### **Strength and Caveats in Interpreting the Findings**

The method of the data analysis which was carried out between intervention group and control group and also between intervention group at baseline and post intervention is an important strength of the study. The analysis pre and post intervention removed selection bias that could have been introduced into the result by the selection of both groups.

On the other hand, in interpreting the results of this study cognizance should be taken of its limitations. First is the block randomization which favours participants in same group to have similar and close views about some of the elements of intervention because of same working wards. The process of randomization if blinded and individualized could be a better option.



Also, the sample was derived from a representative sample of the nurses in the University College Hospital, UCH Ibadan. These nurses do not have a post basic training in mental health. Their knowledge of psychiatry is limited to that received during their basic training. Their views may not necessarily reflect the views of the other nurses in Nigeria or other medical professionals who are in the public health industry. Their views could also differ from that of the general population who do not have a formal nursing or medical training.

High variations in responses may be due to the heterogeneous nature of nurses working in the UCH, the hospital being a federal government institution. Thus, these findings may reflect the cultural diversity of Nigeria, a country with dissimilar access to mental health services (Ayonrinde et al., 2004) or may be a reflection of different types of exposure to basic mental health nursing training. Nevertheless, a few studies conducted among community samples in Nigeria, suggest that the findings in this research work with regard to widespread poor knowledge of and attitude towards mental illnesses in children may not be peculiar to the Yoruba ethnic group (Binitie, 1970; Awaritefe and Ebie, 1975). Also, in expressing their views respondents might have done so with a mind-set that mental disorders are synonymous with psychosis.

This study is also limited by the sample size. Future studies require needs to employ a larger sample size in order to improve the generalizability of the results to a larger nursing population.

## LIMITATION OF STUDY

A few limitations were noted during the study.

- It was difficult getting the Nurses together for the intervention lecture, thus the lecture had to be giving more than once.
- It was difficult to prevent contamination among the control and intervention group.
- Some nurses were moved from their ward to another during the time of the research.

## 5.2. CONCLUSION

Negative views about individuals with mental illness were widely held. The findings of this study at baseline do not support the claim that mental illnesses in general and specifically in children is better understood by the educated (Odejide&Olatawura, 1979).

The effect of our intervention was demonstrated by significant change in some of the views of the respondents regarding mental illnesses in children. A significant impact was not made regarding some other views. This may be adduced to several reasons; one is deeply ingrained opinion which a onetime intervention may not be sufficient to change, or even to short a period between the baseline and the intervention for them to comprehend the content of the intervention. This implies that for the outcome to be significant in this instance effect of intervention, the intervention may require further reinforcement.

### 5.3. RECOMMENDATION

The results of this study show that the nurses have poor knowledge and inappropriate attitudes about child and adolescent mental health.

- Further research in this area should be carried out among all the nurses so that the results would be more generalizable.
- Child and adolescent mental health should be included in the nursing curriculum.
- Future studies may need to increase time allocated for the intervention and also reinforce such intervention with other cost effect approaches such as telephone messages or electronic mails.
- The Centre for child and adolescent mental health should put in place a vigorous training and advocacy program with regards to child and adolescent mental health. This will further increase the knowledge base and hopefully improve the attitude of staff and the general public towards mental health problems of children and adolescents.

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## APPENDIX 1

### EFFECTIVENESS OF HEALTH EDUCATION ON KNOWLEDGE AND ATTITUDES OF NURSES IN THE UNIVERSITY COLLEGE HOSPITAL IBADAN

#### QUESTIONNAIRE

#### SOCIO-DEMOGRAPHIC

#### SECTION ONE

#### INTRODUCTION

Thank you for agreeing to participate in this survey which I am conducting among nurses working in the Department of Pediatrics. All responses will be treated with confidentiality and respondents will remain anonymous.

SERIAL NO                      DATE OF INTERVIEW                      PHONE NO

Write or tick the appropriate answer in the space provided:

- 1      Age at last birthday:
- 2      Sex:    ( ) Male          ( ) Female
- 3      Religion:    ( ) Christianity          ( ) Islam          ( ) Others Please Specify. \_\_\_\_\_  
Please write the exact name of your place of worship: \_\_\_\_\_
- 4      Marital Status:  
          ( ) Married    ( ) Never Married    ( ) Separated  
          ( ) Divorced    ( ) Widowed          ( ) Cohabiting

#### Career

- 5      How many years have you been a practicing nurse?
- 6      Please write down all your qualifications: \_\_\_\_\_
- 7      What unit are you currently working in?
- 8      How long have you been working in that unit?
- 9      What is your present rank? :

NO 2	
NO1	
SNO	
PNO	
CNO	
ADN	
- 10     How Long Have You Been In Your Present Rank
- 11     What is your nursing specialty?
- 12     How long have you been a specialist nurse?

## General Knowledge and Attitude Questions

<b>SECTION TWO</b>				
<p>The following statements are commonly held beliefs about child and adolescent mental health and illness. Can you tell us whether you personally agree or disagree with each statement? Please feel free to express your views about this issue. Please tick the box which best agrees with your views.</p>				
	K	Agree	Disagree	Not Sure
1	Mental illness is rare in children & adolescents			
2	Children with mental disorders are difficult to interact with			
3	'Imbecile' and 'Moron' are types of mental disorders found in children			
4	Children and adolescents with mental illness are likely to be violent			
5	Mental illness in children can be caused by traumatic events			
6	Children who live in poverty are not any more likely to have mental illness than children who do not live in poverty			
7	For children and adolescents with mental illness their families are to blame for this			
8	The root cause of mental illness in children is a curse on the family			
9	Children with mental disorders are possessed by demons			
10	Children and adolescents with mental illness can recover			
11	Children and adolescents with mental illness have inherited weak genes from their parents			
12	Children and adolescents with mental illness are unpredictable.			
13	One in five children and adolescents will develop mental illness over the course of their lifetime.			
14	Supernatural power can be used to afflict mental illness on a child or adolescent			
15	Mental illness in children and adolescents is caused by spiritual attack			
16	Parents with mental illness always transmit these disorders to their children			
17	Children and adolescents do not have depression			
18	Children do not have psychosis just behaviour problems			
19	Mental illness in children and adolescents cannot be treated			
20	Poor academic performance is a type of mental disorder			
21	Untidy appearance in a child is a sign of mental disorder			
22	Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still			
23	The Juvenile Remand Home is a good place to manage children with mental disorders			
24	Children with mental disorders should be taken to the church for treatment			
25	Children with mental disorders should be taken to the mosque for treatment			
26	Children with mental disorders should be taken to traditional healers for treatment			
27	Nurses can be trained to manage children with mental illness			
28	Treating mental illness in children is always very expensive			

	A	Agree	Disagree	Not Sure
29	Would you feel afraid to talk to children and adolescents with mental disorders?			
30	Would you be upset or disturbed if your child or relative were in the same school or in the midst of children and adolescents with mental disorders?			
31	Children with intellectual disability should not be allowed to attend school with normal children			
32	Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?			
33	Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness?			
34	Would you be comfortable to have children and adolescents with mental disorders as patients under your care?			
35	Do you feel children and adolescents who are mentally ill should be nursed with other children with physical illnesses?			
36	Child and adolescent mental health problems can be prevented within the same public health framework as communicable diseases			
37	Do you feel child and adolescent mental disorders can be successfully treated in hospital?			
38	What words would you use to describe a child or adolescent with mental disorders?			

## Questions on Behavioural Disorders

### SECTION THREE

Please tick the box which best agrees with your views.

	<b>K</b>	<b>Agree</b>	<b>Disagree</b>	<b>Not Sure</b>
1	Mental illness can occur in children and adolescents			
2	Up to 6% of children have psychiatric disorders			
3	Psychiatric disorders in children are commoner in females than males			
4	Conduct disorder occurs more in males than females			
5	Up to 4% of children have conduct disorder			
6	The following are symptoms of conduct disorder			
	a Running away from home			
	b Lying			
	c Stealing			
	d Inattention			
	e Sadness			
	f Truancy			
7	Possible causes of conduct disorder include			
	a Parental divorce			
	b Criminality in father			
	c Desire for attention			
8	Conduct disorder can be managed by			
	a Behavioural modification techniques			
	b Cognitive behavioural therapy			
	c Group therapy			
	d Drugs			
	e Casting out evil spirits			
9	Attention deficit hyper activity disorder(ADHD) occurs in children and adolescents			
10	ADHD is more common in males than in females			
11	ADHD does not occur in adolescents			
12	Common signs of ADHD include:			
	a Impaired attention			
	b Over activity			
	c Impulsivity			
	d Laughing to self			
13	ADHD is apparent before the age of 6 years			
14	Possible causes of ADHD include			
	a Brain abnormalities			
	b Genetic factors			
	c Diet			
	d Food allergy			
15	ADHD is best managed by:			
	a Medication			
	b Punishment			

	c Behaviour modification techniques			
	A	T	F	N
16	A hyperactive, inattentive child should always be punished			
17	Behavioural disorders in children and adolescents are best managed with medication			
18	Appropriate behaviours in children and adolescents with behavioural disorders should be rewarded			
19	Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders			
20	Children and adolescents with mental disorders can attend regular school			
21	Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children			
22	Treatment of children and adolescents with mental health problems should be multidisciplinary			

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Base Course  
General framework for  
working with children  
and adolescents

## What mhGAP mental, neurological and substance use disorders occur in children and adolescents?

- Depression (most common)
- Epilepsy
- Developmental disorders
- Behavioural disorders
- Psychosis
- Alcohol use disorder
- Substance use disorder



## Common presentations in children

- Delay in capacity to walk, language delay, difficulty in interaction with peers
- Repetitive and odd movements or behaviour
- Difficulty in learning, low performance at school
- Hyperactivity
- Difficulty staying focused on a task and paying attention
- Irritability
- Depressed mood
- Somatic complaints (headache, stomach ache, etc.)
- Reduced appetite
- Sleeping problems
- Convulsions

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## Common presentations in adolescents

- Problem behaviours, impulsivity
- Hyperactivity
- Poor focus and concentration
- Sudden changes in behaviour
- Learning difficulties
- Loss of interest in activities, decreased energy
- Reduced self-esteem
- Reduced appetite
- Sleeping problems
- Hearing voices or seeing things that are not there
- Convulsions

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## Common presentations in adolescents

- Problem behaviours, impulsivity
- Hyperactivity
- Poor focus and concentration
- Sudden changes in behaviour
- Learning difficulties
- Loss of interest in activities, decreased energy
- Reduced self-esteem
- Reduced appetite
- Sleeping problems
- Hearing voices or seeing things that are not there
- Convulsions

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## Mental, neurological and substance use disorders are important in children and adolescents

- Mental health problems are common in children and adolescents!
- Ten to twenty percent of children and adolescents have significant psychosocial distress or mental health problems
- Half of all lifetime cases of mental disorders start by age 14; 70% by age 24
- Suicide is the third leading cause of death among adolescents

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## The effects of mental, neurological and substance use disorders

- Children and adolescents with such disorders often have difficulties with
  - Development
  - Sense of well-being
  - Education
  - Social activities
  - Employment
  - Exposure to abuse and neglect
- The families/carers often experience stress and financial strain
- Mental disorders are the leading cause of disability in adolescents worldwide

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## What challenges do you face in assessing and managing mental, neurological and substance use conditions in children and adolescents?

- Carer/adolescent refuses to talk about mental health
- Carer/adolescent has unrealistic expectations about management outcomes
- Carers present mental health or substance abuse problems
- Child/adolescent is being neglected or abused
- Carers and their children are victims of stigma and isolation

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## Main entry points to care

- Concerns expressed by carers
- Complaints reported by child/ adolescent
- Concerns expressed by teachers
- Problem identified during wellchild visit
- Problem identified during sickchild visit

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## Your role

- Recognize mental, neurological and substance use conditions in children and adolescents during your daily practice
- Assess and manage these priority conditions using the mhGAP-IG
- Inform carers and children/adolescents as appropriate and engage them in the management plan
- Explore resources, support carers, coordinate interventions with other services
- You can ensure timely recognition and early intervention

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## Group work

- What is different about the assessment and management of mental, neurological and substance use disorder in children and adolescents as opposed to adults?
- What are the practical implications?

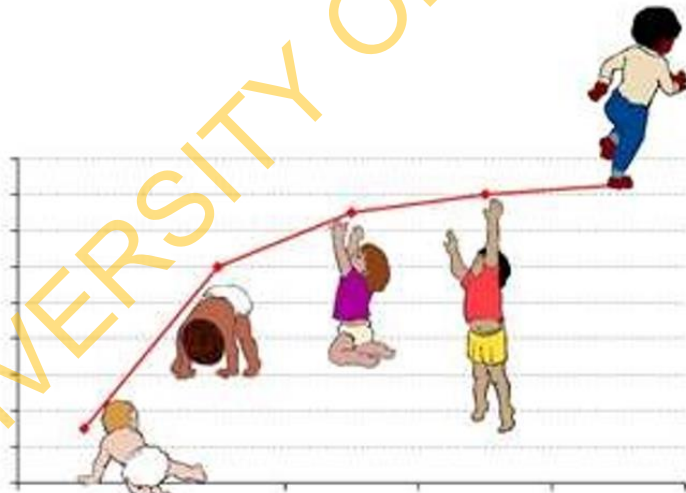


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## Special considerations for assessment of children: Children grow and develop...



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## Special considerations for assessment of children

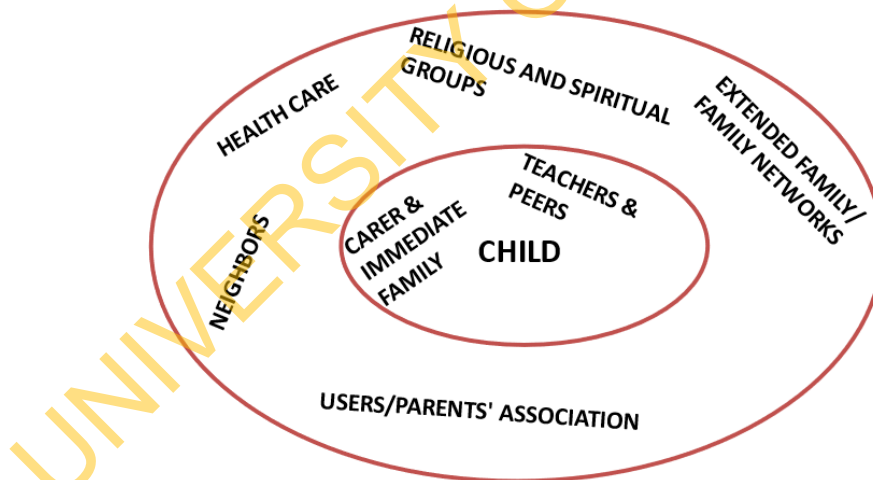
- Expectations about what is 'normal' vary according to stage of development
  - Symptoms for disorders may vary according to age and stage of development
- The capacity to understand the problem and to participate in decision making for treatment evolves with age
  - It will be necessary to adapt your language to the developmental stage
  - When talking to adults, never forget that the child is in the room! Be conscious of the child's level of understanding
  - Allow opportunities for them to express concerns in private

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**Special considerations for assessment of children:**  
Children do not grow and develop in isolation. Their immediate and broader environment plays an important role



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## Special considerations for assessment of children

- The mental health of children is closely related to the mental health of the carer. Assess carers' mental health needs
- Explore available resources within the family, school and community. Carers and teachers are often your best allies!
- Explore negative factors affecting mental health and wellbeing
- Children and adolescents are vulnerable to human rights violation. Ensure access to education and appropriate health care

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## Special considerations for assessment of adolescents

- Distressing and disruptive emotions, thoughts and behaviours are common among adolescents, are only a disorder when symptoms persist over time and affect daily functioning
- Adolescents are prone to risky behaviours when stressed. They need education about risky behaviours and support during life changes
- Adolescents may be difficult to reach as they often do not seek help. It is important to connect with health services and schools
- It is especially critical to ensure confidentiality in this age group

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## General framework for working with children and adolescents - Key messages

- Recognize common presentations for mental, neurological and substance use disorders
- Assess the problem (keeping in mind the child's age and the impact of the problem on daily functioning)
- Explore the presence of negative factors in the environment
- Explore available resources at individual, family and community levels
- Develop a management plan in line with the mhGAP
- Support carers
- Coordinate with other services and schools



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Field test version-1.00 May 2012  
DO NOT UPLOAD ON THE INTERNET



Base Course  
Behavioural  
Disorders



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## Contents (Behavioral Disorders)

- A. Introduction (20 min)**
- B. Learning objectives
- C. Introduction to assessment and management of ADHD
  - Key actions
  - 1. Establish communication and build trust (5min)
  - 2. Conduct assessment (20 min)
  - 3. Plan and start management (25 min)
  - 4. Link with other services and supports (10 min)
  - 5. Follow up (25 min)
- D. Introduction to assessment and management of conduct disorder (25 min)

Total time: 2hours 10min



## Problem Behaviours and Behavioural Disorders

- Problems related to over-activity, inattention or dissocial behaviour are common among children and adolescents
- Only when these behaviours are very severe and influence children's ability to perform daily activities (e.g. learning, playing and interacting with peers) they may be defined as 'behavioural disorders'



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## Problem behaviours- Case 1

- Azeez is 7 years old. He is not able to sit still for more than few minutes, both at home and at school
- He never finishes anything, be it a game or homework
- What would people from your communities call these problem behaviours?
- What advice would they be likely to give to Azeez's parents?



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## These problem behaviours can be defined as:

- **Excessive over-activity:**  
excessive running around, extreme difficulties remaining seated, excessive talking or making continuous movements with fingers or feet
- **Excessive inattention:**  
the child is often unable to complete one task and is frequently switching to others



## Behavioural disorder related to attention deficit and hyperactivity (Attention Deficit Hyperactivity Disorder/ADHD)

- The main features are impaired attention and overactivity that affect child's functioning in daily life and learning.
- It is common  
5-8 %, especially in boys
- What is the cause?  
ADHD may have a genetic component, but it is not clear exactly what causes it.



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## Why do you need to know about ADHD?

- When children with ADHD are not recognized, they may be mislabelled naughty and irresponsible and be blamed and punished for their behaviours
- Punishment can worsen their behaviour
- When children with ADHD do not receive care and support, they may drop out from school



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## Problem behaviours- Case 2

- John, a 13 year old boy, has been skipping lessons over the last few months and has stolen quite a large amount of money from home
- According to his teachers, he is aggressive with other classmates and difficult to manage.
- Do you know any adolescents with similar problem behaviour?
- Did they/their parents seek help at the health facility?



**These problem behaviours can be defined as:  
dissocial, aggressive and disobedient behaviour**

- The adolescent has frequent and severe anger reactions, cruel behaviours
- The adolescent may steal or continually disobey adults



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## Behavioural disorder related to dissocial, aggressive and disobedient behaviour (conduct disorder)

- Main features are repetitive and persistent dissocial, aggressive or defiant conduct
- Is conduct disorder common?  
4-10%, especially in boys
- Caused by both genetic vulnerability and difficult psychosocial environments (exposure to violence, neglect, parents' mental or substance use disorder)



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## Why do you need to know about conduct disorder?

- When children/adolescents with conduct disorder do not receive appropriate care and support, they may drop out of school
- They are at increased risk for depression
- They are also at increased risk of having alcohol, drug use and criminal problems



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## Learning objectives

- To be able to engage children/adolescents, carers and teachers in assessment and management of behavioural disorders
- To be able to assess and manage children and adolescents with ADHD and conduct disorders
- To be able to assess and manage psychosocial stressors
- To be able to provide support for carers
- To be able to mobilize available resources in the family and community
- To be able to follow up children with ADHD and conduct disorder and know when a consultation/referral to a specialist is needed



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## Establish communication and build trust

- Greet the carer and the child/adolescent and ask the reason for the visit
- Listen carefully and express understanding
- Before asking about the problem behaviour in more detail, ask generic question about the child/adolescent's health, education, recreational activities or family
- Make your office child-friendly
- Use simple language and make an effort to engage the child



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## Establish communication and build trust

- Give both the carer and the child/adolescent the opportunity to explain the problem. Allow older children/adolescents and carers the opportunity to talk with you in private
- Do not use negative terms to define the problem behaviour (e.g. 'lazy') and prompt the carer to avoid it as well
- Make every effort to ensure that carer has a positive and supportive attitude toward the child/adolescent
- Ask about the child's and carer's health and feelings
  
- Are there any questions or comments on this section?



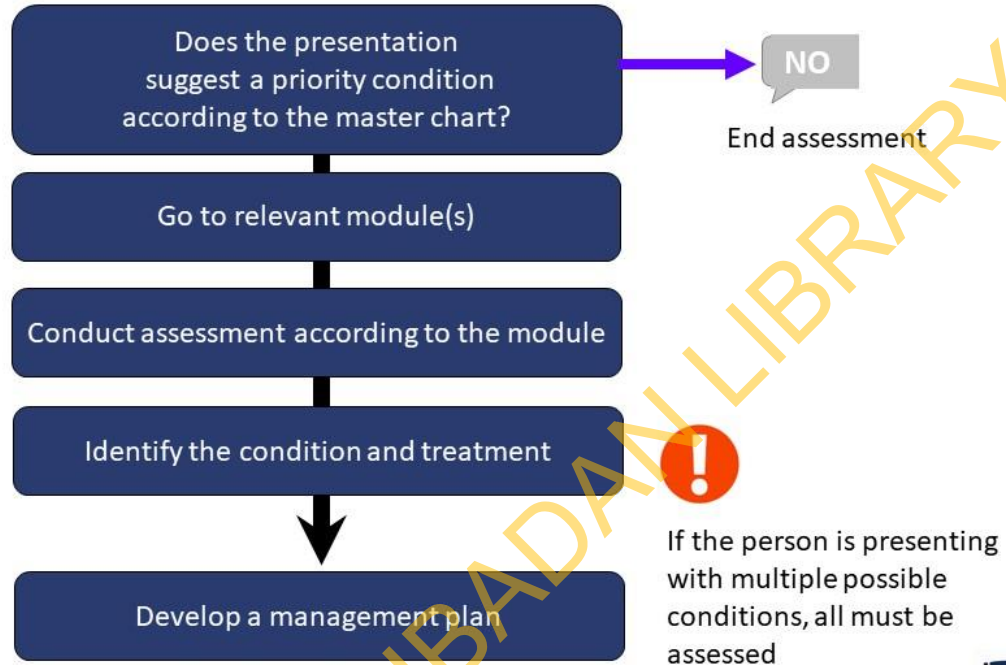
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## Process of assessment



## Case 1: What disorder do you suspect ?

- Solomon, a 6 year old boy, has been brought to the health centre by his mother because he is having difficulties at school
- His teacher reports that Azeez never sits still. In class, he keeps changing position or playing with objects on his desk
  - **Excessive overactivity**
- He is not able to focus on an assignment for more than few minutes and often forgets to do the homework
  - **Excessive inattention and absent-mindedness**



## Common Presentation for Behavioural Disorders- ADHD

- Excessive inattention and absent-mindedness repeatedly stopping tasks before completion and switching to other activities
- Excessive over-activity: excessive running around, extreme difficulties remaining seated, excessive talking or fidgeting
- Excessive impulsivity: frequently doing things without forethought
- Repeated and continued behaviour that disturbs others (e.g. unusually frequent and severe temper tantrums, cruel behaviour, persistent and severe disobedience, stealing)
- Sudden changes in behaviour or peer relations, including withdrawal and anger



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## Assessment tasks for ADHD

- Ask about problems with inattention and overactivity
- Assess if symptoms are persistent, severe and causing disruption in child functioning
- Explore the impact of environmental stressors
- Rule out medical conditions or other priority conditions



## Ask for problems with inattention and overactivity

1. Does the person have problems with inattention and overactivity?

**Ask person and carer about:**

» **Inattention**

- » Premature breaking off from tasks
- » Leaving tasks unfinished
- » Frequent changing from activity to activity

» **Hyperkinesia:**

- Over-activity (excessive for the context or situation)
- Difficulty sitting still
- Excessive talking or noisiness
- Fidgeting or wriggling



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## How should you ask about over-activity and inattention

- What can you ask a carer in order to explore about over-activity and inattention?
- What can you ask a child?
- Two situations:
  - The child is 5 years old
  - The child is 9 years old



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## True or False?

- If child has a problem related to overactivity and inattention, you can say that the child has ADHD.

**False!**

*Remember: most children with problem behaviours do not have behavioural disorders.*

- The diagnosis of ADHD requires that the problem behaviour is persistent over time and that it occurs in different contexts
- Children grow and change rapidly. Problem behaviour may only be temporary
- If the behaviour only occurs in one context, consider addressing factors specific to that situation



## Assess if symptoms are persistent over time and in different contexts

- When did the symptoms of excessive overactivity and inattention start?
- How long did they last? (more than 6 months?)
- Is the child able to focus attention on tasks at school?...What does the teacher say?
- Ask the child and carer if appropriate
- You may wish to investigate with teachers and other family members



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## Assess the severity of symptoms and their impact on child functioning

- Assess if over-activity and inattention are excessive according to the child's age and developmental level
- Younger children have difficulties in sustaining attention
- Ask about school performance and the child's daily routines. Are they affected by the overactive behaviour and inattention?



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## When should you consider ADHD?

**If several symptoms are present and**

- » Persist in multiple settings
- » Exceed those of other children of the same age and intelligence level
- » Started before age 6
- » Lasted at least 6 months
- » Cause significant disruption in child functioning

consider **Attention Deficit Hyperactivity Disorder (ADHD)**



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## Explore the impact of environmental stressors

### » Explore the impact of:

– Social, familial and educational or occupational factors

- Parental discord
- Financial problems
- Parental mental disorders
- Parental problems with alcohol or substance use
- Harsh punishment and negative attitude towards the child
- Exposure to bullying or violence



## Rule out other priority conditions that can present with similar problem behaviours (excessive agitation or irritability)

- Low energy; fatigue; sleep or appetite problems
- Persistent sad or anxious mood **irritability**
- Low interest or pleasure in activities that used to be interesting or enjoyable
- Multiple symptoms with no clear physical cause (e.g. aches and pains, palpitations, numbness)
- Difficulties in carrying out usual work, school, domestic or social activities

DEP

- Appearing to be under the influence of alcohol (e.g. smell of alcohol, looks intoxicated, hangover)
- Presenting with an injury **Agitation occurs in alcohol withdrawal**
- Somatic symptoms associated with alcohol use (e.g. insomnia, fatigue, anorexia, nausea, vomiting, indigestion, diarrhoea, headaches)
- Difficulties in carrying out usual work, school, domestic or social activities

ALC

- Appearing drug-affected (e.g. low energy, **agitated, fidgeting, slurred speech**)
- Signs of drug use (injection marks, skin infection, unkempt appearance)
- Requesting prescriptions for sedative medication (sleeping tablets, opioids)
- Financial difficulties or crime-related legal problems
- Difficulties in carrying out usual work, domestic or social activities

DRU



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## Review of assessment algorithm

- Does the child have problems with inattention and over-activity? **YES**
  - Are symptoms persistent, severe and causing disruption in child functioning? **YES**
  - Explore the impact of environmental stressors
  - Rule out medical conditions or other priority conditions
- Consider ADHD if the answers to both is yes
- Explore ways to address environmental stressor as part of management plan
- Manage or refer

## Exercise: Assessment

- You will now read a case. Please see your handout for details.
- You will have to decide:
  - how to define the problem
  - if there are challenging factors at home or at school that need to be addressed



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## A child/adolescent has ADHD: what do you do?

### PSYCHOSOCIAL INTERVENTIONS:

- Provide family psychoeducation:
  - Explain the problem and provide guidance to the child and families
  - Support family to handle social and familial problems affecting child's behaviour
  - Provide support to carers for their personal, social and mental health needs
- Give advice to the child's teachers



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## Why do we need to do these psychosocial interventions?

ADHD symptoms trigger negative and unhelpful reactions in families and teachers which can worsen problem behaviour and influence child's functioning, wellbeing and learning. Psychosocial intervention can interrupt this vicious cycle



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## What about drugs?

- Pharmacological treatment for ADHD has to be initiated by a specialist
- It may cause severe side effects and requires close medical follow up

Non-specialized health staff should not prescribe medication for treatment of ADHD!

Medication should only be prescribed by specialists



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## Provide family psychoeducation

- Parents are key partners in treatment plans
- They need to be empowered, not blamed

They need:

- **INFORMATION** for improved adherence to treatment plans and better attitudes towards children
- **SKILLS** for improved management of children's behaviour and capacity to support children's efforts
- **SUPPORT**



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## Providing family psychoeducation

- What would you say to the parent of a child with ADHD?
- What are the key messages to improve his/her understanding of the problem and capacity to better manage the behaviour?



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## Key messages to carers of children with ADHD

- The child with ADHD is experiencing challenges in everyday activities and learning
- The child is often blamed for 'bad' behaviour and laziness:
- Explain that the child/adolescent has a health problem and that the behaviours are not intentional
- Emphasize the good qualities of the child/adolescent while identifying weaknesses
- Reassure the child and parents that you can help them improve behaviour and learning, but the improvement will require their commitment and motivation
- Encourage regular sports or physical activity



## Key messages to carers of children with ADHD- cont'd

Encourage parents to:

- **Reduce stimulation:** for example, only give one toy or task at a time.
- **Help the child stay focused:** monitoring homework will make it easier to avoid distraction
- **Avoid punishment:** the behaviour may worsen
- **Praise every effort and achievement:** the child needs to feel that progress is being made
- **Advocate at school:** ensure that children are supported in their efforts to learn



## Advice for teachers

» Contact the person's teacher (if the person goes to school and consent is given by the person and carer), provide advice and plan for special educational needs. » BEH 2.2

**What advice for teachers?**



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## Advice for teachers

- Establish short, simple classroom rules. State them in positive terms that convey what you want students to do
- Make classroom activities consistent and predictable
- Children with ADHD require more supervision than their peers because of their forgetfulness and distractibility. Help these students by pairing them with classmates who can remind them of homework and classwork, and using student partners to team up on a project
- Ask the child to sit at the front of the class
- Provide frequent, positive feedback





## Advice for teachers

- Provide visual cues and reminders about following activities, classroom rules, and homework
- Promote active learning
- Provide opportunities for physical action and let the children play during breaks
- Give the child extra time to understand the assignments
- Break long assignments into smaller pieces
- Look for bullying and take appropriate action to stop it
- Consult often with parents



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## RECALL: Problem Solving

### Identify and define the problems

- Is the family facing any social or familial problems? (e.g. parental discord, socioeconomic problems, violence, alcohol or substance use, parental mental disorders)
- Which problems are affecting child's behaviour

### Summarize the problems and choose one to focus on

- Select a problem that is affecting child's daily life and can be improved in the short term

### Analyze the problem

- How is the problem affecting the child's behaviour?
- How is the problem affecting the family?



# Problem solving

## Identify possible solutions

- Explore available resources in the family and community: Who could be available or mobilized to help?
- What were previous attempts to solve the problem?

## Select and plan the solution

- Plan the specifics of how to carry out the solution
- Set targets that are achievable before the next follow up visit
- Make a back up plan in case the solution is not effective

## Implement and evaluate the solution

- During follow up visits:
- Evaluate how well the person managed in following the plan and whether the problem improved
- Reassess the situation and if new goals and strategies need to be set

## Contents (Behavioral Disorders)

- A. Introduction
- B. Learning objectives
- C. Introduction to assessment and management of ADHD
  - Key actions
  - 1. Establish communication and build trust
  - 2. Conduct assessment
  - 3. Plan and start management
  - 4. Link with other services and supports**
  - 5. Follow up
- D. Introduction to assessment and management of conduct disorder



## Link with other services and supports

**In your context what type of services and support are available for children/adolescents with ADHD and their families?**

**Education:**

- Do teachers know how to help children with ADHD?
- Is there any 'support' teacher?

**Health care:**

- Are there professionals that can teach specific skills to parents to better support child's learning?
- Psychologists who can work with children/adolescents' to improve their social skills and behaviours?
- Who can you consult in case there is no improvement over a period of 6 months?



## Link with other services and supports

**In your context what type or services and support are available for children/adolescents with ADHD and their families?**

### **Social services and child protection**

- What social services for families in need?
- Who do you consult in case the child is being maltreated, neglected or bullied?

### **Informal resources**

- Who else in the family and community can be involved in the management plan and support the carer?



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## Follow up

Follow up children with ADHD every 3 months in order to:

- Monitor progress with child's behaviour, learning and performing daily activities
- Boost children's and parents' efforts
- Help find solution to new challenging situations
- Refer to other services when needs arise

CONSULT/REFER TO A SPECIALIST IF THERE IS NO  
IMPROVEMENT AFTER 6 MONTHS





## Role play

- The mother of Eyob, a 5 year old boy, asks your advice about her son's behavior.
- Eyob is always moving around and unable to sit at the table with the other siblings during meals.



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## Key messages

- Children, carers and teachers play a critical role in the assessment and management of ADHD
- It is important to assess how the problem behaviour affects the child's daily life and learning
- The child's behaviour may affect the carers' own psychosocial well-being and social life
- Health workers can help by explaining the health problem, providing advice to carers and teachers, mobilizing supports and linking with other services
- If the problem behaviour does not improve over a period of six months, consult/refer to a specialist



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## Recall: Behavioural disorder related to dissocial, aggressive and disobedient behaviour (conduct disorder)

- The child/adolescent has frequent and severe anger reactions, cruel behaviours, he may steal or continually disobey to adults.
- When children/adolescents with conduct disorder do not receive appropriate care and support, they may drop out of school
- They are at increased risk for depression
- They are also at increased risk of having alcohol, drug use and criminal problems
- Challenging family environment (e.g. domestic violence, neglect, substance use conditions in parents) increases children's risk for conduct disorders



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## RECALL: Communicating with adolescents

- Allow them an opportunity to talk alone
- Explain that you wish to help
- Explain that everything will be confidential.
- Their concerns may not be the same as their carer, try to learn what they are
- Try to give them choices and include them in making decisions
- Speak positively about them in front of them and the carer
- Show respect, do not judge them



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## Case Demonstration

- Nurse Ruth, Senait and John

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## Case Discussion

- Do you know of similar situations?
- What important information about the problem emerged during the visit?
- What important messages were given to the adolescents? And the carer?



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## Assessment

Key information:

- Is the behaviour SEVERE (exceeding what you would consider 'normal' behaviour for that age)? Did it occur once or in more occasions? Is the behaviour affecting school performance ?
- Is there any severe problem in the family or at school (parents' illness, parents using harsh punishment, bullying)?
- Is the child having problems with alcohol and drug use?
- Is the child having any medical problem?
- Is the child depressed?



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## Management

- Educate adolescent about risky behaviours and praise negative behaviours they have NOT engaged in
- Educate the carer about using rewards and avoiding negative terms and punishment
- Look for positive qualities and skills that can be reinforced
- Reassure the child/adolescent and parent that the situation can improve and will require their commitment and motivation
- Engage the adolescent in the decision making process and provide choices
- Focus on improving only 1-3 things at a time
- Praise the effort of the child/adolescent and the carer

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## Management

- Create a network of support with the parent, school, community, child/adolescent, and provider- assign a task to everyone involved
- Do not prescribe medicines
- Offer follow up
- Refer to a specialist if you suspect the child is being abused or bullied or if the situation does not improve
- Offer support to carers and manage any mental or substance use condition



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## Link with other services

**In your context, what type of services and support are available for children/adolescents with behavioural problems and their families?**

**Education:**

- How do schools manage school absences?
- Do schools notify parents about missed school days or misbehavior?

**Health care/Specialists:**

- Who would you refer to if there is no improvement or if there are multiple problems?

**Social Services/Legal Services:**

- How is adolescent criminal behavior handled in your community?

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