EFFECT OF A MENTAL HEALTH TRAINING PROGRAMME ON SCHOOL CHILDREN'S PERCEPTION OF MENTAL ILLNESS IN ADO-ODO OTA, OGUN STATE, NIGERIA

BY

ADEOLA OLUWAFUNMILAYO, ODUGUWA

B.Sc. Ed. (Lagos)

Matriculation number: 177198

A Project submitted to the Centre for Child and Adolescent Mental Health, University of Ibadan, in partial fulfilment of the requirements for the degree of Master of Science in Child & Adolescent Mental Health of the University of Ibadan.

JUNE 2015

CERTIFICATION

I certify that the conduct and write-up of the study reported in this dissertation were carried out by Adeola Oluwafunmilayo, Oduguwa in the Centre for Child and Adolescent Mental Health, University of Ibadan under my supervision.

Supervisor

Professor OlayinkaOmigbodun

MBBS (Ibadan), MPH (Leeds), FMCPsych, FWACP
Professor of Pscyhiatry
College of Medicine
University of Ibadan, Nigeria

DEDICATION

I dedicate this work to people living with mental illness who have had to endure one form of discrimination and stigmatization or the other.

ACKNOWLEDGEMENTS

To the only wise God who gives life to, and cares for every living creature, even me, I doff my hat in adoration of your awesomeness.

Special thanks to my mother, and indeed every member of my family whose caring hands and hearts have carried me this far. I thank them for those words of encouragement and prayers, and their patience with me all through the journey towards the attainment if this Master of Science in Child and Adolescent Mental Health (MSc. CAMH) degree. I could not have begun, much less succeed at it without them.

I appreciate Professor Olayinka Omigbodun who was much more than a Supervisor to me. It was a sweet privilege working under her supervision. I am grateful to her for her unrelenting support, guidance and words of encouragement to me throughout the course of the MSc. CAMH programme and especially during this research work.

Many thanks to my 'school father': Mr. Samuel Shofuyi, members of the pioneer set of the MSc. CAMH programme: Dr. Adejumo Rotimi, Dr. Adeniyi Yetunde and Dr. Bella-Awusah Tolulope, and these gracious statisticians: Dr. Joshua Akinyemi, Dr. Babatunde Adedokun and Ms. Linda Ugalahi. I appreciate the priceless and countless advice they provided particularly during this research work. Their wealth of knowledge and expertise kept me abreast always.

I thank Ms. Adedamola Adewale and Ms. Olutosin Sanyaolu and my very special friend: Mr. Nathaniel Olaoluwa Oladubu for the support and clarifications they provided during the conduct of this research and knotty periods of my data analysis and write-up.

I am very much thankful to the School Principals who gave me the permission to conduct,.,,,, this research in their schools and the students who volunteered to participate in the study.

Finally, to everyone who in one way or the other contributed to the success of this work, I am absolutely grateful.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figures **Page number**

ACRONYMS

CAMH	Child and Adolescent Mental Health
JSS	Junior Secondary School
KASDS	Knowledge, Attitude & Social Distance Scale
LGA	Local Government Area
PTSD	Post Traumatic Stress Disorder
SEF	Student Evaluation Form
SHQ	School Health Questionnaire
SSS	Senior Secondary School
WHO	World Health Organisation
WPA	World Psychiatric Association

ABSTRACT

Introduction

As many as one out of every four people will experience mental illness in the course of their lifetime. Persons with mental illness are often at a higher risk for a low quality of life, difficulties with learning impacting on educational attainment, lowered productivity, poverty, social problems, exposure to physical, emotional and sexual abuse, and other health problems on a long and short term basis. Despite these known and established facts, there are widespread misconceptions about mental illness across cultures, age groups and gender, often associated with negative attitudes and behaviour towards persons with mental illness.

Childhood has been recognized as a period where attitudes, beliefs and concepts about the world are formed. Therefore providing correct information to this age group may serve as a form of early intervention that will help to shape their perception of mental illness before they reach adulthood where opinions are fully formed and difficult to change.

This study therefore evaluated the effectiveness of a mental health training programme on school children's knowledge of mental illness, as well as their attitude and social disposition towards persons with mental illness.

Methodology

This was a quazi-experimental study carried out in Ado-Odo Ota local government area (LGA), Ogun state, Southwest Nigeria. Schools in two administrative wards that were about 2 kilometres apart were allocated into Control and Intervention groups respectively. A total of 205 secondary school children participated in the study. At baseline, both study groups completed the School Health Questionnaire (SHQ) and the Knowledge, Attitude and Social Distance (KASD)

questionnaire. The Intervention group received a 5-hour training programme on mental health awareness, which utilised multiple teaching methods such as lectures, discussion and drama. At immediate-post intervention, both groups completed the KASD questionnaire and at 3 weeks post-intervention, only the intervention group completed the KASD questionnaire and a Student Evaluation Form (SEF) which assessed the relevance of the training programme.

Data analysis

Socio-demographic characteristics of respondents were analyzed and presented in frequencies and percentages. Socio-demographic factors associated with baseline knowledge of mental illness, attitude and social distance towards persons with mental illness, as well as the difference in knowledge, attitude and social distance between the participants in Control and Intervention groups before and after training were assessed using Chi-square. The difference in mean knowledge, attitude and social distance scores between the control and intervention groups was evaluated using the Independent Sample t-test. Students' evaluation of the training programme was presented in frequencies and percentages.

Result

Using the mean score and 2 standard deviations obtained from the knowledge items of the KASD as an average score, 39.6% scored above average at baseline, 34.7% had an average score and 25.7% scored below average. Over half scored in the 'indifferent' to persons with mental illness (57.9%) range on the attitude items and on social distance items (57.7%). There was a positive change in the knowledge (mean scores: baseline=21.0; immediate post-training=26.2; 3-weeks post-training=25.8; $p<0.001$) and attitude (mean scores: Baseline 4.8; Immediate post-training=5.8; 3-weeks post-training=6.1; $p=0.004$) of participants in the Intervention group

between baseline and at immediate-post-training assessments, which was sustained at 3 weeks post-training. Majority (98.8%) of the children reported that the training was useful to them and that they learnt most from lectures (48.5%) and drama (33.7%) and least from group discussion (3.6%). The children also reported that they enjoyed drama (38.6%) and lectures (38.6%) equally but enjoyed group discussion the least (7.2%).

Conclusion

Compared to a previous study among school children in this environment which obtained only a change in knowledge, this study revealed sustained change in both knowledge of mental illness and attitude towards persons with mental illness at 3-weeks post-intervention. Multiple methods of teaching including the use of drama, and an increased number of training sessions may be responsible for producing and sustaining the positive change observed in the children's knowledge and attitude.

Furthermore, participants indicated that they enjoyed and learned more from the drama sessions and that television and home videos were a major source of their information about mental illness. Hence, mental health professionals may need to partner with the film industry in the production of films and home videos that contain mental health themes in order to project mental health and illness in the right perspective not only to young persons but also to the general populace.

Keywords

Mental health training programme, mental illness, effectiveness, young people, knowledge, attitude, social distance.

CHAPTER 1

Introduction

1.1 Background

According to the World Health Organization (WHO), health is a state of complete physical, mental and social well-being, and not just the absence of disease or infirmity (WHO, 1946). The recognition of the importance of mental health as an integral part of the total well-being of a person was further emphasized in 2006 by WHO's statement: '*No health without mental health*' (WHO, 2014). Consequently, mental health refers to an individual's ability to function successfully in the thought, mood and behavioural realms, which lead to productive activities and fulfilling relationships (Sadock and Sadock, 2007). On the other hand, mental illness is characterized by significant impairment of an individual's cognitive, affective or relational abilities (Jake 1998).

Several studies estimate the lifetime prevalence of mental illness to be 25% (Omigbodun*et al.*, 2008; Merikangas *et al*., 2009). A global study carried out by the WHO in 2000 revealed a 10% point prevalence of mental illness (WHO, 2003). Mental illness affects both males and females of all ages. Some mental illnesses are more common in one sex than the other, and more peculiar to a certain age group than the other. For instance, Attention Deficit Hyperactivity Disorder (ADHD), a type of mental illness, is more common in boys than in girls with a ratio of four to one (4:1) (Merikangas *et al*., 2009) while dementia occurs among older people (Patel, 2008). People with mental illnesses experience a myriad of distressing circumstances which put them at a higher risk for experiencing low quality of life, difficulties in education, lowered productivity, poverty, social problems, exposure to abuse, and various forms of health problems (WHO, 2003)

Despite these known and established facts about mental illness, there is a widespread misconception across culture, age groups and gender (Omigbodun *et al*., 2008; Gureje *et al*., 2005; Pinfold *et al*., 2003; Bella *et al.,* 2011). Misconceptions about mental illnesses are often closely associated with negative attitudes and social distance towards people who are affected (Wahl *et al*., 2011). For example, in certain communities, mental illnesses are believed to be a punishment from the gods, an evil spell, a curse or a repercussion from a wrong deed (Gureje *et al.*, 2005; Ewhrudjakpor, 2009). Hence, people with mental illnesses are considered to be dangerous, unpredictable and incompetent (Dogra *et al*., 2011).

In a study carried out among an adult population in Nigeria, misconceptions and harmful beliefs about mental illnesses were associated with negative attitudes towards people who were affected (Gureje *et al.*, 2005). Studies carried out among younger people also report a similar trend. A study carried out in the United Kingdom found that secondary school children used 270 terms to describe people with mental illnesses and that most of these terms were derogatory (Pinfold *et al.*, 2003). A study carried out among Nigerian secondary school children reported that up to 80% of the participants believed that people with mental illnesses were difficult to talk to or were likely to become violent and over half (55.6%) reported that they would be upset or disturbed if they were 'in the same class with a person with a person with mental illness' (Dogra *et al*., 2011). Even among health professionals who are expected to know better than the general population, stigmatization of mental illness and people with mental illness was found to be common (Abbey *et al*., 2011, Thornicroft *et al.,* 2010).Studies reveal that once a person is diagnosed as having a mental illness, subsequent visits for physical health complaints are considered as another psychiatric episode and the patient is referred to the psychiatrist without any investigation (Abbey *et al*., 2011).

Children have been recognized as agents of change and can become a major source of information in their community (Rahman *et al.,* 1998). Moreover, the period of childhood is a foundational period during which the roots of most beliefs are established (Wahl *et al*, 2011). Hence, addressing negative perceptions of mental illness in childhood before they become crystallized in adulthood may be rewarding (Wahl *et al*, 2011).

Hence, in recent times, the quest to improve perceptions towards persons with mental illness among the general public have included children (World Psychiatry Association, 2005). Studies carried out among young populations have recorded significant successes in increasing mental health literacy and reducing negative attitudes and social distance towards people with mental illness (Pinfold *et al*., 2003; Bella *et al.*, 2011; Wahl *et al*., 2011).

1.2 Justification

Corrigan *et al.*,(2001) identified 3 major strategies fordealing with psychiatric stigma and discrimination namely: protest, contact and education (Corrigan *et al*., 2001). Most interventions aimed at improving the public's perception towards persons with mental illness have utilized one or more of these strategies with unique flexibilities to suite their target group and have reported significant improvement.

Among the young population in developed countries, one study employed the use of contact and education strategies to improve participants' perception such that a group of the participants received lectures delivered by persons who were living with mental illness and had been able to successfully manage with itwhile another group was lectured by persons without mental illness (Pinfold *et al.,* 2003). This study reported significant positive change in the participants'

perceptions towards persons with mental illness (Pinfold *et al.*, 2003). Another study carried out in the United States of America (USA) which, utilized educational strategies and incorporated activities such as games and story-telling also reported significant positive change in the participants' perception of people with mental illness (Wahl *et al.*, 2011).

Very few studies carried out in developing countries have followed the same trend and recorded similar findings. For instance, in Pakistan, lectures, short plays and skits, and posters were incorporated into the mental health educational strategy for school children (Rahman*et al.*, 1998). There was a significant positive change in the mental health awareness of the study participants. In Nigeria, the few studies carried out have proven that increasing the mental health awareness of young people using educational strategies such as focus group discussions and lectures is an effective way to tackle negative perceptions of mental illness (Bella *et al.*,2014). While drama has been identified as an effectual means of challenging public views about mental illness and achieving sustained positive behaviour (Omigbodun, 2000 citing [Seguin and Rancourt, 1996]), it remains an unexplored area in the interventions towards improving perceptions of mental illness and persons with mental illness. Therefore, in addition to examining the effect of short lectures and group discussions, this study shall also examine the effect of drama on young persons' knowledge of mental illness, and attitude and social distance towards persons with mental illness.

1.3 Aim of the study

This study aimed to determine the effectiveness of a mental health training programme on the knowledge of mental illness, and attitude and social distance towards persons with mental illness among secondary school children in Ado-Odo Ota Ogun State, Southwest Nigeria.

1.3.1 Specific objectives

The objectives of this study are to determine, among secondary school children in Ado-Odo Ota, the following:

1 The baseline knowledge of mental illness, and attitude and social distance towards persons with mental illness

2 Socio-demographic factors associated with the baseline knowledge of mental illness, and attitude and social distance towards persons with mental illness

3 The change in knowledge of mental illness, and attitude and social distance towards persons with mental illness from the baseline period to after the mental health training intervention

4 The students' evaluation of the effectiveness and relevance of the training programme

1.4 Null hypotheses

The null hypotheses that were tested in this study among secondary school children in Sango Ota wereas follows:

1. There is no significant relationship between the socio-demographic factors of secondary school children and their baseline knowledge of mental illness, and attitude and social distance towards persons with mental illness.
2. There is no significant difference between the knowledge of mental illness, and attitude and social distance towards persons with mental illness among from the baseline period to after a mental health training intervention.

1.5 Primary outcome measures

- Change in knowledge of mental illness: participants' scores on the Knowledge items of the KASD scale
- Change in attitude towards people with mental illness: participants' scores on the Attitude items of the KASD scale
- Change in social distance towards people with mental illness: participants' scores on the social distance items of the KASD scale

Word count: 1385

CHAPTER 2

Literature review

2.1 Introduction

Mental illness accounts for five of the ten leading causes of disability worldwide with unipolar depression at the top of the list (WHO, 2010). Alcohol use problems rank fourth, self-inflicted injuries ranks fifth, manic depression ranks sixth and schizophrenia ranks ninth.

2.2 Concept and types of mental illnesses

Like the phrase 'physical illness', the phrase 'mental illness' refers to a collective term used to categorize a varying number of conditions that impair an individual's ability to function in the realm of thought, mood and action. Studies suggest the 50% of adult psychiatric illnesses start before the age of 14 years (Kessler *et al*, 2007).

There are several types of mental illness. Each mental illness or mental disorder has diagnostic features by which it is identified. Although, mental illness can be diagnosed at any point in an individual's life, most mental illnesses have their onset in childhood (WHO 2011). For instance, psychosis affects one in 100 people and it is most likely to be diagnosed in young adults. It is characterized by disorders of thought such as delusions and disorders of perception such as hallucinations.

2.2.1 Depression

The core features of depressionare low mood or irritability especially in adolescents, low energy and loss of interest (WHO, 2008). According to WHO, over 350 million persons worldwide suffer from depression irrespective of their ages (WHO, 2012) and itis responsible for more years lost to

disability when compared with other conditions (Smith, 2014). The rate of depression is higher among females compared to males and among the elderly when compared with younger populations (WHO, 2012).Furthermore, variations exist within gender. More females experience depression at mid puberty and through adult life while more males experience depression before they reach adolescence (Pinccinelli*et al.*, 2000).

Other factors also seem to contribute to the prevalence of depression. For instance, in South Africa, a national household survey carried out between 2002 and 2004 found higher rates of depression among persons with low educational status in addition to an overall 9.7% lifetime prevalence of major depression and a one year prevalence of 4.7% (Tomlinson *et al*., 2009). Also, in a study carried out to determine the prevalence of depression in Nigeria, results revealed higher rates of depression among rural dwellers when compared with urban dwellers (Amoran *et al.*, 2007).

2.2.2 Psychosis

Psychosis is characterized by both negative and positive symptoms, which include hallucinations, delusions, anhedonia, disordered thoughts, social withdrawal, among others (WHO, 2011). The lifetime prevalence of psychosis ranges from 0.5% to 1.5% and it is equal in both males and females (Jakes, 2012). As at 2011, about 24 million people worldwide were living with psychosis (WHO, 2011). Psychosis is enlisted among the top 10 causes of disability and it results in suicide in about 10% of its sufferers (Jakes, 2012). Higherrates of psychosis have been found in urban areas, developed countries and among the lower socioeconomic classes (Jakes, 2012).

In a community-based survey conducted in Nigeria, the prevalence of psychosis was found to be 2.1% and it was more common among urban dwellers than rural dwellers (Gureje*et al*, 2010). No

gender differences were found but persons between ages 20 to 44 years had higher rates of psychosis (Gureje*et al*, 2010).

2.2.3 Substance abuse

Globally, about 90 million people are affected by substance abuse disorder (WHO, 2012). Substance abuse occurs when continuous use of alcohol and drugs or both results in substantial impairment in the delivery of daily activities and other health complications (American Psychiatric Association, 2013). Young people have been found to be at a higher risk of substance abuse as a result of peer pressure (Ndinda*et al.*, 2013). Furthermore, reports suggest that about 2% to 9% of teenagers worldwide abuse cannabis (Thompson, 2013).

Statistics from the United States of America show a 12-month prevalence of 8.5% for substance abuse disorder (SAMSHA, 2014). Of these, 12.6 had both drug and alcohol use disorders, 20.3% had only drug use disorders and 67.1% had alcohol but not drug use disorders (SAMHSA, 2014). Typically, the onset of substance abuse is as early as 12 years of age (SAMHSA, 2014), and males were twice more likely to have a substance abuse disorder than females (SAMHSA, 2014).

In Africa, people with substance abuse disorder have been estimated to be 28 million (Ndinda, 2013). In a nationwide survey conducted in South Africa, the ratio of urban to rural dwellers who abused drugs was estimated to be 2.3:1while 16% of teenagers abused prescription drugs and 0.2% to 11.1% abused inhalants (Thompson, 2013).

In Nigeria, a study carried out among public secondary school students showed that 33.8% of the students abused drugs while commonly abused substances were alcohol and cigarette (Ekpenyong,

2012). More statistics reveal that the lifetime prevalence of cannabis abuse in Nigeria is 10.8% (Mamman *et al*., 2014). The rate of drug abuse was estimated to be higher in males (94.2%) thanin females (5.8%) and the age of onset of drug abuse ranged from 10 to 29 years (Mamman *et al*., 2014).

2.2.4 Suicide and self harm

Suicide rates in the world are reported to beon the increase. Globally, about 16 people in every 100 000 commit suicide, that is, one death occurs from suicide every 40 seconds and these rates have been found to be highest in the elderly (Jans,T., 2013). In a global study carried out in 2008, the lifetime prevalence of suicidal ideation, plans, and attempts was 9.2%, 3.1% and 2.7% respectively with risk factors including being female, young age, low educational status, being unmarried, and having a mental disorder (Nock *et al*., 2008). Overall, rates of completed suicide are higher in males than in females across all age groups in the ratio of about 4:1.

The gender ratioof suicidal behaviour has been found to vary between countries. In a developed country like Turkey, the male to female ratios is 0.6:1 for ages less than 15 years and 1.1:1 for ages 15-19 years. In Africa, a study of the prevalence of suicide in arecent Nigerian study found that over 20% of adolescents aged 10- 17 in Ibadan reported suicidal ideation and approximately 12% had attempted suicide in the last year (Omigbodun *et al*, 2008). In one Zambian school based health study, 31.3% of adolescents reported suicidal ideation in the last 12 months and ‘worry’, ‘sadness’, ‘hopelessness’, ‘ever been drunk’ and ‘use of marijuana’ were associated with suicidal ideation (Muula *et al*, 2007). Similarly, in rural Uganda the 12-month prevalence of suicidal ideation among adolescent students was 21.6% (Rudatsikira *et al*, 2007). Being female, increasing

age, cigarette smoking, alcohol use, having been bullied, loneliness, significant worry and lack of parental supervision were associated with suicidal ideation.

Self-harm is characterized by the deliberate act of inflicting physical pain on oneself in an attempt to manage emotional pains or communicate distress to others (Klonsky, 2007). In an Australian study, rates of self-harm were higher in females than males and in persons aged 15to 65 years when compared with persons aged 0-14 years of age.

2.2.5 Post Traumatic Stress Disorder (PTSD)

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR) (American Psychiatric Association, 2000), Post-Traumatic Stress Disorder (PTSD) is a severe psychiatric disorder that may occur after a traumatic experience that involves actual or threatened death or serious injury, or other threats to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person (American Psychiatric Association, 2000. Such threatening experiences may be rape, physical attack, natural disasters, automobile accidents, military combat, or terrorist attacks(American Psychiatric Association, 2000).

The prevalence of PTSD varies among age groups and gender andit is often related to the impact oflevel exposure to a traumatic event (Green., 1991). In a study carried out among children aged 2 to 15 who had been exposed to a dam collapse, girls showed more PTSD symptoms than boys while the younger population showed fewer PTSD symptoms than the older population (Green., 1991). Another study conducted in the United States revealed a 7 to 8% lifetime prevalence of PTSD with rates higher in females than in males (Tull, 2015).

In South Africa, a country that has experienced apartheid and political violence, the lifetime prevalence of PTSD among the general population was estimated to be 2.3% with a 12-month prevalence of 0.7% and a conditional prevalence of 3.5% after exposure to trauma. There was no statistical significant difference in age and gender of persons with PTSD (Atwoli, *et al*, 2013).

Nigeria as a nation has experienced a number of traumatic events including ethno-religious conflicts, political conflicts, terrorist attacks, kidnappings and the recent Ebola scourge, among others. In recent years, these traumatic events have increased drastically and have led to a relatively high number of Internally Displaced Persons (IDPs) in certain areas of the country (Sheik *et al.*, 2014).

In a study carried out in North-central Nigeria among adults who had been exposed indirectly to traumatic events such as witnessing the killing of another person and destruction of properties, the prevalence of PTSD was as high as 68.1% among the respondents (Tangarum *et al.*, 2014). In another study carried out in Northwest Nigeria among IDPs who had been displaced as a result of post election violence in 2011, the prevalence of PTSD was as high as 79.1 (Sheik, *et al.*, 2014).

2.3 Effects of mental disorders on patients and their families

The effect of mental disorders on individuals and their families varies. Kessler *et al.* (1995) found that persons with mental disorders were less likely to begin or complete formal education when compared with their peers without mental illness. Similarly, in a study carried out in Southwest Nigeria among secondary school children, depression was associated with poor academic performance and substance abuse (Omigbodun, 2000) United States of America (USA) among persons with mental disorders reported lowered individual productivity as a result of unemployment, missed work, and reduced productivity at work (Marcotte *et al.*, 2001).

Furthermore, families of persons with mental illness have higher rates ofdistress as they often have to shoulder the financial costs of the mental illness, take permission off work so as to accompany the patient to clinical appointments and may become victims of abuse by the person with mental illness (Baronet, 1999). In a study carried out among families of persons with mental illness in South Africa, majority of the care givers reported that their own physical and mental health was at risk and that they faced social isolation because they were often overwhelmed with caring for the person with mental illness and hadno energy or enthusiasm left to socialize (Mavundla *et al.*, 2009). Even in communities where the extended family structure encouragesthe sharing of caregiver responsibilities, significant level of stress werereported among caregivers and this was associated with limited financial and medical resources (Seloilwe, 2006).

2.4 Effects of mental disorders on society

Mental disorders impact the society in various ways. For example, in order to provide appropriate, acceptable and accessible health care services for persons with mental disorders, the government has to spend more (WHO, 2003). Also, mental disorders often lower the productivity of individuals and thus reduce the productivity of available human resources in the society (Kessler and Frank, 1997). In addition, mental illness is associated with high morbidity and mortality rates in a community (WHO, 2003). One reason for this is that mental illness is associated with increased likelihood of non-adherence to medical regimens, which may lead to complications and death (WHO, 2003). Similarly, maternal depression increases the risk of low birth weight, childhood health problems as well as “incomplete immunization” among infants which subsequently increases their risk for childhood mortality (Patel, 2008).

2.5 Perceptions of mental illness among children and adolescents

Studies in both developed and developing regions of the world reveal that children and adolescents tend to exhibit poor knowledge about mental health and illness and also display negative attitudes and social distance towards people with mental illness (Dogra *et al.,* 2011). For instance, studies carried out in developed countries report low knowledge of mental health and illness as well as factual ignorance about mental illness among young people (Pinfold *et al*., 2003; Rose *et al*, 2007). The few studies that exist in developing countries report similar findings. In Pakistan, reports from school children revealed poor knowledge of mental illness. An exploration of the individual items in a Nigerian study carried out among secondary school students revealed that over half of the participants were uncertain about the prevalence of mental illness, were unable to identify depression as a mental illness and mentioned spiritual attacks as a cause of mental illness. About one third did not think that mental health problems werecaused by stress and were unsure about the treatability of mental illness and over one-tenth believed that mental disorder could not be treated (Dogra *et al.,* 2003).

A significant proportion of the participants in the latterstudy believed that persons with mental illnesses are unpredictable, weak and to be blamed for their predicament. Over half of them said that they would certainly feel afraid to talk to someone with mental health problems, be embarrassed if friends knew someone in their family had mental health problems and would definitely not be able to be friends with a person with mental illness (Dogra *et al.*, 2003).

Knowledge of mental illness, attitude and social distance towards people with mental illness among young people seem to vary across gender. For example, Rose *et al*., (2007) and Ng and Chan (2000) reported that males showed significantly lower recognition of symptoms associated

with mental illness. Williams and Pow (2007), also reported that boys had lower levels of knowledge and different sources of mental health information than girls. This study further reported that more boys exhibited negative behaviour and were light-minded about the need to understand mental illness or to gain further knowledge of mental illness. InaNigerian study ofschool children, boys were reported to be less knowledgeable about mental health problems than girls. The boys were more likely to agree with incorrect factual statements about mental illness, while the girls ticked the 'not sure' responses more than the boys (Dogra *et al.*, 2003). A possible reason given for this is that the girls may have been less confident of their responses and perhaps more willing to admit so (Dogra *et al.*, 2003).

2.6 Mass media and information

Brawley and Brawley in 2003 suggested that people's opinion about reality stems from their own experience, which is shaped by interactions with primary groups (family and friends); secondary groups (schools, churches and government agencies); and the mass media. The mass media refers to any means of communicationtargeted at very large number of people.Examples of mass media includetelevision, radio, newspapers, billboards, and the internet.Over the years, studies have shown that the mass media has a significant effect on people's perspectives about the concepts and the world around them, including mental illness.

2.6.1 Depiction of mental illness and persons with mental illness by the mass media

In the descriptions of mental illness and persons with mental illness, the media serves as a primary source of public information (Edney, 2004 citing [Borinstein, 1992; Philo, 1994; Kalafatelis and Dowden, 1997; and Coverdale *et al.*, 2002]). On very few occasions, the mass media appears to

give a clear and accurate description of certain mental illnesses (Perkins and Francis 2012 citing [Goulden *et al*., 2011, Bengs *et al*., 2008, Rowe *et al*., 2003]).

However, the mass media describes mental illnesses predominantly as defying clear meaning, and are thus inexplicable, unpredictable, and precarious (Evans, 2004). Surprisingly, one of the synonyms for the word 'unstable' as suggested in the WordWeb dictionary is 'mentally ill'. A review of literature reported that persons with mental illness are depicted as one-dimensional entities consumed by the ills of mental illness without consideration of possible positive attributes that these characters may possess (Edney, 2004). For instance, Holman in 2011 reported that the symptoms of postpartum disorders were amplified by the media and were likely to centre on women who had perpetrated violent acts against their children (Holman, 2011). Other features used to portray persons with mental illness include crime, danger, helplessness, hopelessness, homelessness, poverty, and loneliness (Edney, 2004).

In most African countries, television and home videos serve as the main source of knowledge and information(Dogra*et al.*, 2011). In recent times, Nigeria has witnessed an increase in the demand for popular locally produced films that often present persons with mental illness as psychotics, laughing and talking to themselves, temperamental, looking untidy and extremely disorganized (Aina, 2004).

2.6.2 The effect of mass media on young people's perception of mental illness and persons with mental illness

In a Scottish study carried out as early as 1994 among members of the general population and mental health service users, about half of the participants associated serious mental illness with crime and violence and admitted that the media had led them to make this decision (Philo *et al.*, 1994).

Similarly, in a study carried out among young people in the USA, participants who rated the media as a central source of their perception aboutmental illness had a higher desire for social distance from persons with mental illnesses (Granello*et al*, 1999). Also, in 2006, Dietrich carried out a study among students aged 13-18years to determine the effect of a newspaper article that linked persons with mental illness with violent crime and the impact of an article that provided factual information about schizophrenia on the students' attitudes toward people with mental illness (Dietrich *et al.*, 2006). This study reported that respondents who read the article that linked persons with mental illness with violent crime exhibited a higher tendency to describe persons with mental illness as dangerous and violent. Conversely, respondents who read the informative article used terms like 'violent' or 'dangerous' less often (Dietrich *et al*., 2006).

Reports from developing countries show consistency with those from developed countries. In Nigeria, findings suggest that children's negative perspective of mental illness is probably due to an increase in the negative representations of persons with mental illness by the mass media (Dogra *et al*., 2011).

2.7 Changing perceptions about mental illness

In recent times, there have been quite a number of attempts to tilt the public view of mental illness and persons with mental illness in a positive direction using various methods categorized into 3 broad groups namely: contact, protest and education. Studies have used a rich and diverse combination of these methods and have reported positive changes that were often sustained over time.

2.7.1 Interventions among young people aimed at changing their perceptions about mental illness.

In one study conducted among student nurses, participants were divided into groups and were exposed to similar themes on mental illness and persons with mental illness but the content was delivered using different strategies (Clement *et al*., 2011). There were 3 groups in all and each group was exposed to either one or a combination of the following: a DVD of service users/informal carers who talked about their experiences, a live presentation, and a lecture (Clement *et al*., 2011). This study reported positive changes in attitudes, emotional reactions and intended proximity towards persons with mental illness, as well as knowledge of mental illness among all the groups of participants immediately after the intervention and at 4-month follow-up (Clement *et al.*, 2011).

Another study considered the effect of a one-time contact-based educational intervention on the stigmatization of mental illness among medical students and compared this with a multimodal undergraduate psychiatry course at the University of Calgary, Canada that integrates contact-based educational strategies (Papish *et al*., 2013). Both groups had a significant reduction in their stigma scores at the end of the course (Papish *et al*., 2013). The study further revealed that students were more confident to work with persons with mental illness and more interested in pursuing a psychiatric career (Papish *et al*., 2013). In a comparative study between first and second year medical students who had received no psychiatric training, and interns who had completed their 2 weeks compulsory psychiatric posting, the interns showed more tolerance for persons with mental illness than the second year medical students (Gulati *et al.*, 2014).

In Nigeria, Bella *et al*., (2014) carried out an interventional study among secondary school students using lectures and focus group discussions, and reported a significant positive change in the mean scores on knowledge scores immediately and 6 months after administering the intervention (Bella *et al*, 2011).

2.7.2 The use of drama as a tool for promoting positive perception about mental illness

Drama cuts across every sphere of life and has been recognized as an effective tool in engaging target populations and getting them to discuss sensitive issues about topics of concern (Omigbodun, 2000). It also serves as a platform for revealing facts about such topics without the audience feeling threatened (Omigbodun, 2000). Although, the use of drama has been extensively explored in dealing with the stigmatization of physical health conditions such as HIV/AIDS, family planning, brain injury and end-of-life care (Babalola, 1993; Rossiter *et al*., 2008; Lorenz *et al*. 2004), its impact in the mental health field requires more attention (Omigbodun, 2000).

Studies that have examined the use of theatre to combat the stigmatization of mental illness have reported significant reduction in the stigmatization of mental illness among young persons (Faigin and Stein 2008; Roberts *et al.* 2007; Twardzicki 2008). Another study that assessed the impact of a mental health festival that combined tougher multiple arts-based interventions, reported modest positive impacts (Quinn *et al.* 2011). In 2014, Michalak *et al.*, considered the impact of a one-woman stage play on attitudes towards bipolar disorder among persons with bipolar disorders who were aged between 21 and 71years and healthcare providers. This study reported enduring and broadly positive attitudes towards mental illness inboth groups (Michalak *et al*., 2014).

2.8 Relevance of the study to Child and Adolescent Mental Health (CAMH) in Africa

This study will add to the body of knowledge in CAMH as regards the quest to tilt children's perspective about mental illness and persons with mental illness in a positive direction. It will also contribute to the platform of options in the choice of appropriate interventions that are not only suitable for children and adolescent, but also effective.

Word count: 3691

CHAPTER 3

Methodology

3.1 Study location

This study was carried out in five private secondary schools in Ado-Odo, one of the 19 local government areas (LGA) in Ogun state, Southwest Nigeria. Ado-Odo is the second largest LGA in Ogun state with a landmass of 1,263 square kilometres and an estimated population of five hundred and twenty seven thousand, two hundred and forty two (526,565) (Oluyemi, 2015). This LGA, rated the most populous and industrialized LGA in the state is located within the tropical zone lying between 60 470N of the equator and 20 33° E and 30 18° E of the Greenwich Meridian

(Oluyemi, 2015). It is divided into 16 administrative or political wards. It shares boundaries with Lagos State in the South, Yewa South and Ifo local government in the West and Ipokia local government in the North East (Oluyemi, 2015). The Awori people, a subset of the Yoruba ethnic group and the original inhabitants of the area mainly populate this area. Ado-Odo LGA inhabitants are primarily farmers who produce cash and food crops such as cocoa, kola nut, palm oil, coffee, cassava, timber, maize, and vegetables (Oluyemi, 2015).

In Ado-Odo Ota, both informal and formal institutions provide the inhabitants avenues to acquire skills for a productive life in the future. Informal education is often provided by small-scale business owners in form of apprenticeship, which usually spans a period of 1 to 2 years after which the apprentice is sent forth with a certificate of mastery and is expected to profit with the skills learnt. Formal education is available right from pre-nursery through post–secondary levels. Typically, children begin schooling as early as 2 years of age, graduate from secondary school (equivalent to high school) between ages 14-18 and proceed to post-secondary schools or take up jobs to support family income depending on the financial capacity of the family.

Government-owned and private-owned schools use the same educational curriculum to provide education at primary, secondary, and post-secondary levels. Typically, a school year is divided into 3 terms at the end of which successful students are promoted to the next class. Most schools resume at 8 am in the morning and close at times ranging from 2pm to 4pm. This includes extra lesson periods. Majority of the schools are co-educational day schools. Government schools provide education at a minimal cost and as a result they have larger population sizes than private schools. At the primary school level, there are 116 government-owned schools and over 400 private-owned schools. At the secondary school level, there are 39 government-owned schools and

145 private-owned schools. The student population in government schools ranges from as high as 1000 to 3000 per school compared to just about 150 to 500 in a private school.

3.2 Study design

The study employed a quazi-experimental design. Data was collected from participants using self-administered questionnaires and the researcher provided assistance when necessary.

3.3 Study population

The study population consisted of children in private secondary schools in Ado-Odo Ota LGA because at the time of the study all public schools in the state were closed because of prolonged teacher strike.

Inclusion criteria:

The following were the criteria for recruiting a participant into the study:

– Children between the ages of 10-17 years

– Children who provide assent and whose parents give consent

Exclusion criteria

The following were the criteria for excluding participants from the study:

– Children whose parents refused to give consent

– Children whose involvement in other school activities made it difficult for them to participate in the study

3.4 Sample size

Five private secondary schools were randomly selected from Ado-Odo Ota LGA. Using a significance level of 5% and a power of 90%, the sample size for the number of students recruited for the study was determined using the OpenEpi (Dean *et al*., 2014) software used for calculating sample size.

The following parameters were used:

$\boldsymbol{\sigma}$= standard deviation of the post intervention knowledge score of the control group

$\boldsymbol{\sigma}_2$= standard deviation of the post intervention knowledge score of the intervention group

d = adjusted mean difference of the control and intervention groups

Based on the findings of Bella *et al*., (2014) who reported the following figures for the parameters listed above:

$\boldsymbol{\sigma}$= 2.7

$\boldsymbol{\sigma}_2$ = 1.9

d = 1.25

N was calculated to be 73.8

Adjusting for attrition at 10%,

N = 73.8 + (10/100 x 73.8)

N= 82 per group

3.5 Sampling technique

Selection of students into the study was by multistage random sampling. Ward 3 and Ward 16 were selected from the 16 administrative wards that make up Ado-Odo Ota LGA to respectively serve as Intervention and Control sites for the study. Selection was based on their distance apart from each other and that they were situated in urban locations. This was to ensure that there was no contamination of participants in the Control and Intervention groups during the course of the study and to ensure that both groups had similar communal characteristics. The selected wards were about 2 kilometres away from each other.

At the initial phase of this study, two private secondary schools were randomly selected from each of the two wards making a total of 4 private schools. Forty-one (41) students were then selected in each school from Senior Secondary School 1 (SSS1) (Equivalent to 10 years of formal schooling) through to Senior Secondary School 3 (SS3) (Equivalent to 12 years of formal schooling) by balloting.

At the post-intervention stage of study in one of the schools in the Intervention group, about 40% of the study participants dropped out as a result of their engagement in other school activities. This was unforeseen by the researcher at the time of recruitment and was attributed to the uncertainties of the general elections scheduled to hold in the country at that time.

The researcher therefore selected an additional school for the Intervention arm within the same administrative ward as the other two Interventional schools and 41 students were selected in this school using the same procedure as in the previous schools.

Therefore, the total number of students recruited into this study was 205. There were 82 students in the Control group and 123 students in the Intervention group.

Figure 3.1 below describes the distribution of study participants across the schools. An equal number of students was recruited from each school.

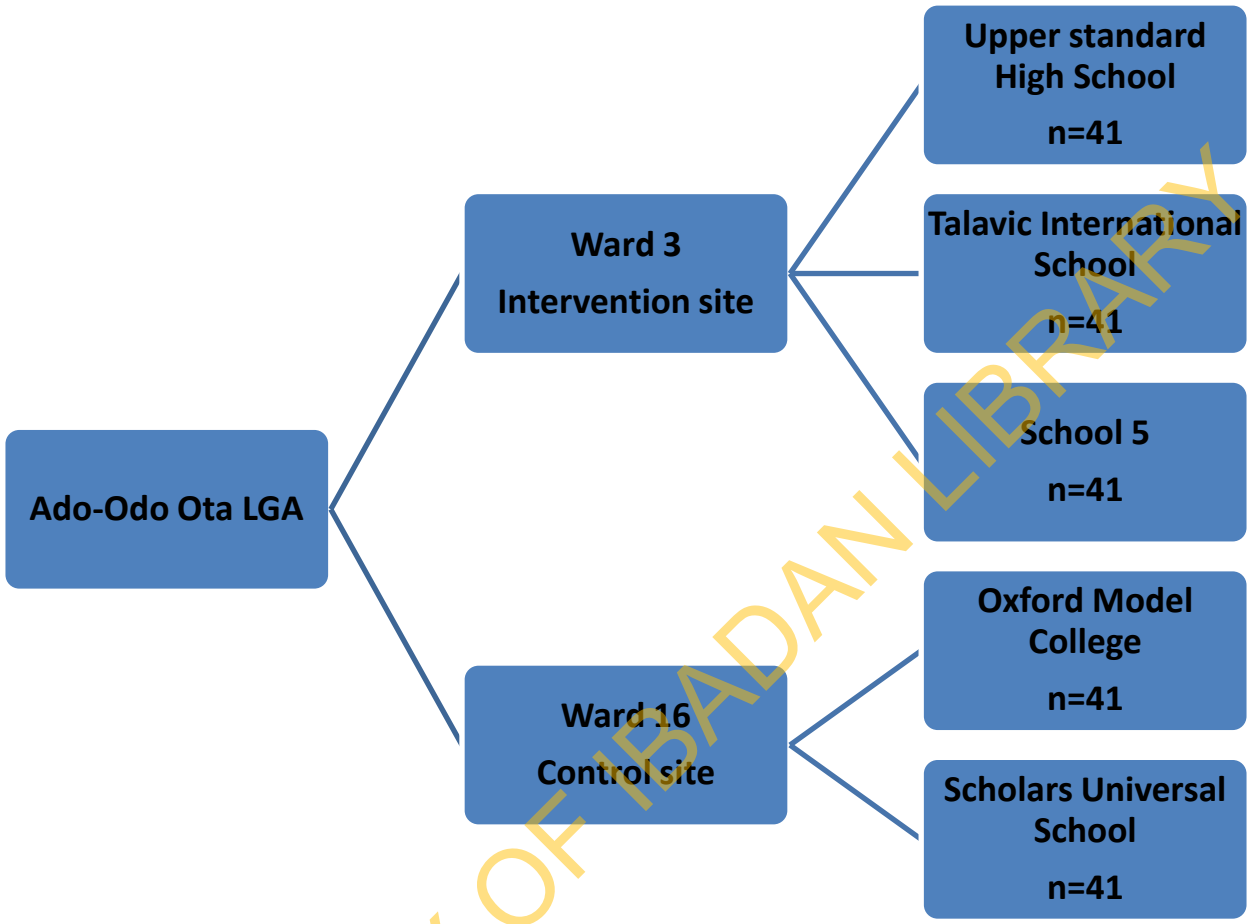

Figure 3.1: Outline of the distribution of study participants

3.5.1 School information

The table below describes the background information of the schools selected for this study. These schools were quite similar in terms of the number of students and staff strength.

See Table 3.1 below.

Table 3.1: School information

Name of School	Number of Students in the School	Number of Staff
Upper Standard High School	150	22
Talavic International School	399	21
School 5	125	20
Oxford model college	155	20
Scholars Universal Secondary School	152	21
Total	**981**	**104**

Note: The original name of school 5 is not included in this write-up because the school authority specifically requested that the school should be treated as anonymous.

3.6 Study instruments

Information was collected from the respondents using the following instruments (See Appendix):

a. School Health Questionnaire (SHQ) (See Appendix III)

This is a 40-item questionnaire designed by Omigbodun and Omigbodun 2004. It obtains information about respondent's personal, family and school life. It is written in both English which is the official language in Nigeria and Yoruba language; one of the 3 most common native languages in Nigeria, for ease of administration and ensuring that respondents understand the questions.

For the purpose of this study, the questionnaire was adjusted to a 29-item questionnaire.

b. Knowledge, Attitude and Social Distance Questionnaire (KASD) (See Appendix IV)

This questionnaire consists of 3 major themes that obtain information on knowledge about mental illness, attitude and social distance towards persons with mental illness. The questionnaire was initially designed for use among secondary school students in the United Kingdom (UK) (Pinfold *et al*., 2003) based on an instrument piloted in the World Psychiatric Association's anti- stigma schools project in Canada (WPA, 2000). This instrument has been modified, adapted, translated and validated for use in Nigeria (Bella *et al*., 2011).

Some modifications were made to this instrument based on the findings of Bella *et al*, (2011) that some terms and questions were confusing to the respondents. For instance, the respondents confused the term 'mental health problems' with 'mental health' because of the term 'health' that both terms shared in common. Hence, the term 'Mental illness' was suggested as a clear distinction from the term 'Mental health' and was used in this study.

Also, the terms 'Schizophrenia' and 'Split personality' were found to be unfamiliar to respondents in this cultural setting. Thus, 'Schizophrenia' was replaced with 'Psychosis' and the question on 'split personality' was removed from the questionnaire.

Moreover, in addition to the questions on depression contained in the questionnaire, questions assessing the respondents' understanding of Post Traumatic Stress Disorder (PTSD), Psychosis, Substance abuse, Suicide and Self-harm were included as these mental illnesses were selected to be addressed in the intervention programme that was administered to the intervention group.

Rationale for the additional areas of focus

The reasons why these additions were made are because depression and substance abuse have been reported as the most common mental illnesses among the adult population in Nigeria (Gureje *et al*., 2006) while psychosis is regarded as the most stigmatized. Similarly, in light of the increasing rate of traumatic events in the country, more people are prone to experience trauma-related mental health problems such as PTSD (Tangarum *et al*., 2014). Furthermore, among Nigerian adolescents, a 1-year period prevalence of 20% was reported for suicidal ideation and 12% for actual suicide attempt (Omigbodun *et al*., 2008).

All knowledge and attitude statements were rated on a Likert scale of 'agree' 'disagree' 'not sure'. Questions on social distance were rated 'definitely' 'probably' 'probably not' and 'definitely not'.

c. School Evaluation Form (SEF) (See AppendixV)

This is a 9-item questionnaire designed to collect information about the relevance of the training session provided to the intervention arm. It consists of both quantitative and qualitative aspects.

3.7 Study procedure

Ethical approval to conduct the research in schools was obtained from the Ogun State Ministry of Education while permission to conduct the study was obtained from respective school Principals.

Each school was visited prior to the commencement of the study to ensure the following:

- Promote familiarity with the school
- Explain the content of the research project
- Randomly select students into the study
- Distribute the consent forms for the students to take to their parents. This gave enough time for the students to return the forms and for necessary replacements to be made
- Structure the course of data collection and training as it applied to each school.

Each school had either a hall or a large classroom, which made it easy to address all the participants in each school at the same time.

At baseline, participants in both control and intervention groups completed the School-Health Questionnaire (SHQ) and the Knowledge, Attitude and Social Distance questionnaire (KASD). This took about 40-50 minutes.

Furthermore, participants in the intervention group received the mental health-training programme after which both groups filled the KASD questionnaire again. At3 weeks post-intervention, the KASD questionnaire was administered to participants in the Intervention group only. It took about 15-20minutes for participants to complete the KASD questionnaire at immediate- and 3 weeks post-test. One reason for this may be because the respondents were more familiar with the questions.

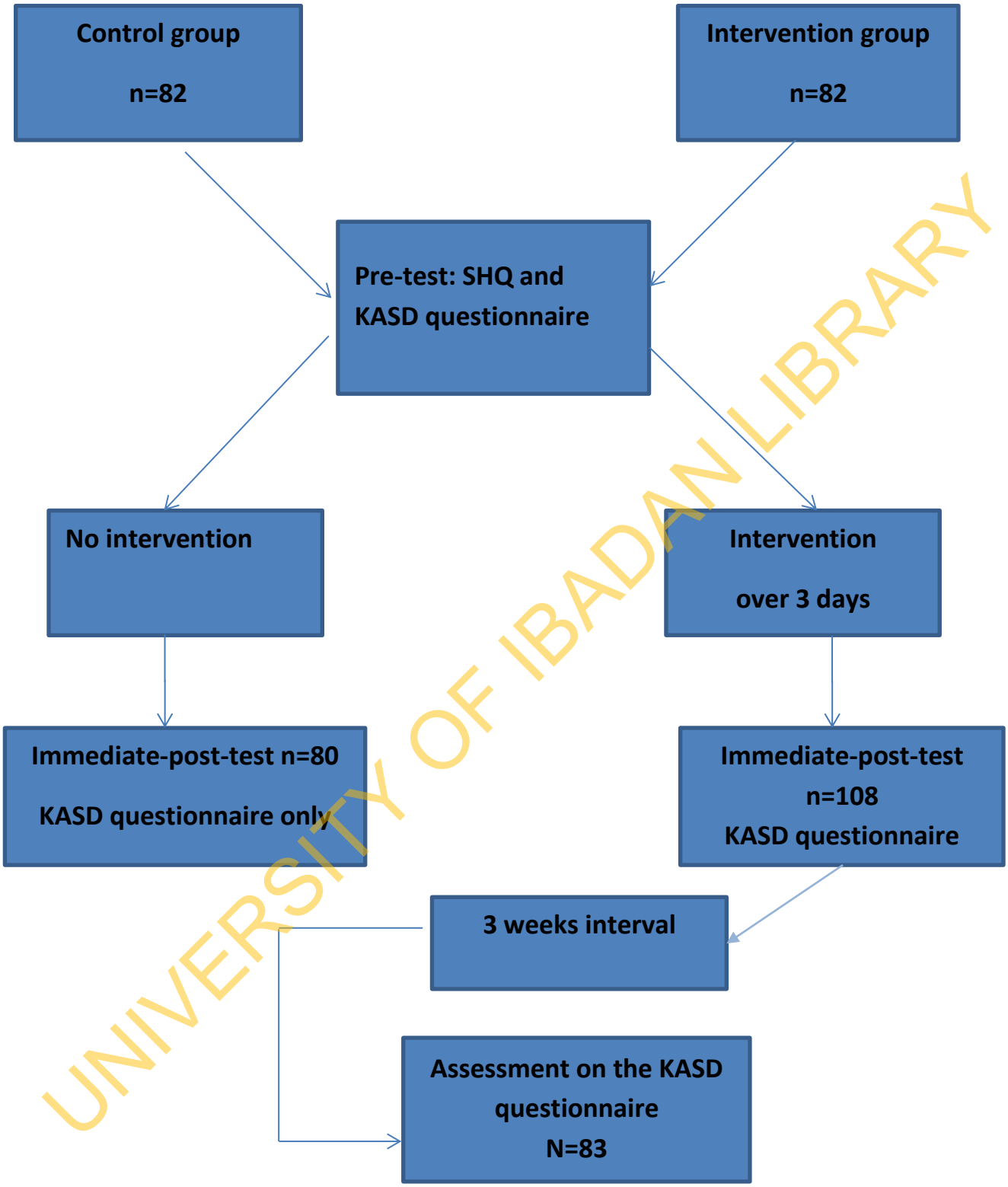

Figure 3.2: Outline of Study Procedure

3.7.1 The Pilot study

Prior to the commencement of the study, the study instrument was tested among about 5% of the sample size estimated for this study. Children within ages 10 and 17 were randomly selected for this phase. Participants noted that the questions were clear and that the training manuals were easy to read and understand. The socio-demographic characteristics of the participants are presented in Table 3.2 below.

Table 3.2: Socio-demographic characteristics of respondents in the Pilot study

N=9

Variable	Frequency	%
Age		
10-14	6	66.7
15-17	3	33.3
Gender		
Male	6	66.7
Female	3	33.3
Family type		
Monogamous	7	77.8
Polygamous	2	22.2

3.7.2 The Intervention

The training manual (See Appendix VI) for the intervention was adapted from the 'Training Materials for Multipurpose Care Workers in Developing Countries' by Omigbodun and Adejumo (2012), and the 'Teachers' Knowledge, Attitude & Practice Questionnaire' developed by Adejumo, (2014).The manual and questionnaire contain case vignettes that describe presentations, causes and treatment of mental illness in ways that are simple and familiar to respondents.

Adaptations made to suit the purpose and target population in this study include the following:

a. Five case vignettes illustrating the 5 mental illnesses that were the focus of this study namely, Psychosis, Depression, Suicide and Self harm, PTSD and Substance Abuse were selected from the manual, questionnaire and from real life case histories (See appendix). These case vignettes highlighted the symptoms and factors that may have caused the illnesses.

b. Two case vignettes that highlighted myths associated with mental illness, appropriate places to seek for mental health care and appropriate behaviour towards persons with mental illness were created.

c. A drama sketch titled 'It is Possible', based on one of the 2 case vignettes above was created.

These case vignettes made up the training materials and were provided for each participant in the intervention arm of the study. The drama was acted out by a total of 17 volunteers among the participants while the others watched.

The researcher delivered the entire training programme in a 3-4 hour session run over two-three days as permitted by each school. Teaching aids included Power-points and Flip Charts while the

teaching methods included interactive sessions, lecture, small group sessions and questions and answers.

See Appendix VII for the Training Programme schedule

3.8 Data management

A total of 205 students were recruited into the study. There were 82 students in the Control group and 123 students in the Intervention group. However, during data cleaning, 1 case was excluded from the control group and 2 cases from the intervention group because they were above 17 years of age.

The Intervention group received a mental health-training programme over 3 sessions. Only 108 students were available at immediate-post intervention and 83 at 3 weeks-post intervention.

There were 81 students in the Control group at baseline. Only 80 students were available for the immediate-post-test. (See Figure 3.3)

The students' responses to the Likert scale-based questions were coded and entered into a computer and cleaned. Entry and analysis were done using the Statistical Package for Social Sciences (SPSS), version 16.0 software. Socio-demographic characteristics of the respondents' were examined and presented in frequencies and percentages and the comparison between the Control and Intervention groups was done using Chi-square statistics at a significance level of 0.05.

Evaluation of the baseline responses of participants in the Control and Intervention groups on the Knowledge, Attitude and Social Distance (KASD) items was done using Chi-square statistics.

Comparison of participants' responses on the knowledge, attitude and social distance scale between the Intervention and Control groups at baseline and at immediate-post-test was examined using the Chi-square statistics, Evaluation of the responses of students in the Intervention group at baseline and at immediate-post intervention on the knowledge, attitude and social distance items was examined using the McNemers test.

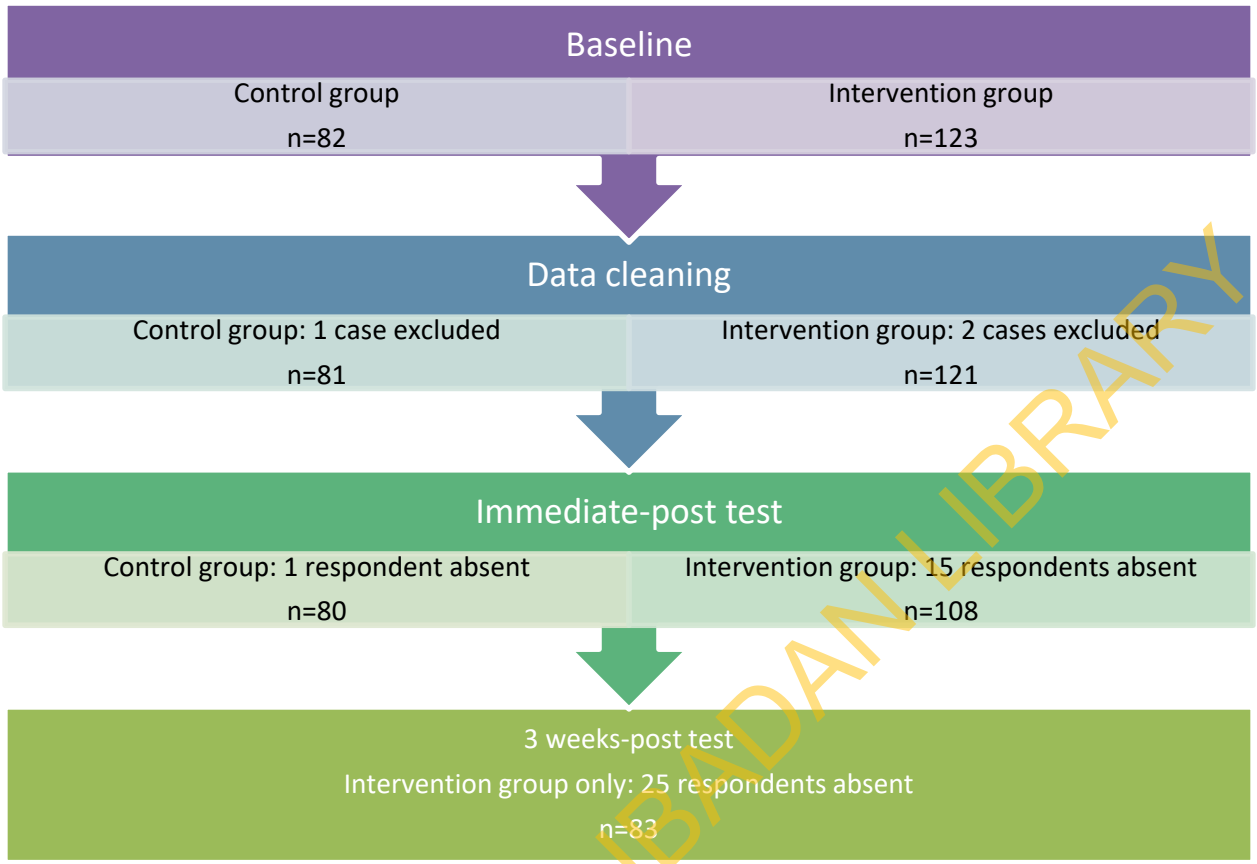

Figure 3.3: Outline of Data Management

3.8.1 Analysis of the knowledge, attitude and social distance items

There are 29 items on the KASD questionnaire and these were analysed as follows:

Knowledge Items

There were 15 knowledge items in the questionnaire rated, with 12 items positively-worded and 3 items negatively-worded. For the positively worded items, 'agree' remained a category while 'disagree' and 'not sure' were merged together. For the negatively worded items, 'disagree' remained a category while 'agree' and 'not sure' were merged together (Bella *et al,* 2014).

In order to develop a knowledge subscale score, for each of the positively-worded item, a score of 2 was assigned to every 'agree' response, 0 for 'disagree' responses and 1 for 'not sure' responses. For negatively worded items, a score of 2 was assigned to 'disagree', 0 for 'agree' and 1 for 'not sure (Bella *et al*., 2014). The total obtainable score for the knowledge subscale was 30.

Participants who scored on the mean and 2SD from it were regarded as having 'average knowledge' about mental illness. Participants who had a score of 2 SD below the mean were categorized as having knowledge that is' below average'. Participants who had a score of 2SD above the mean were categorized as having knowledge that is 'above average'.

Attitude items

There were 8 attitude items in the questionnaire and all items were negatively worded. Responses on these items were re-coded two categories such that 'disagree' remained a category while 'agree' and 'not sure' were merged together.

Furthermore, in order to generate an attitude subscale, a score of 2 was assigned to 'disagree', 0 for 'agree' and 1 for 'not sure (Bella *et al*., 2014). The total obtainable score was therefore 16.

Participants who had a score of 2 SD below the mean were categorized as having 'negative attitude' towards persons with mental illness. Participants who had a score of 2SD above the mean were categorized as having 'positive attitude' towards persons with mental illness while participants who scored on the mean and 2SD from it were regarded as having 'indifferent attitude' towards persons mental illness.

Social distance items

There were 4 positively-worded social distance items, each with 5 responses on a Likert scale. These responses were re-coded into 2 categories such that 'don't know' responses and responses that implied unfavourable disposition towards persons with mental illness were merged into one category while responses that implied favourable disposition towards persons with mental illness were merged into another category. Additionally, in order to create a social distance subscale, a score of 2 was assigned to every correct response, 0 for incorrect responses and 1 for 'don't know' responses (Bella *et al*., 2014). The total obtainable score was therefore 8.

Participants who scored on the mean and 2SD from it were regarded as being 'indifferent' towards persons with mental illness. Participants who had a score of 2SD above the mean were regarded as being 'favourably disposed' towards persons with mental illness while participants who had a score of 2 SD below the mean were regarded as being 'unfavourably disposed' towards persons with mental illness.

Using the subscales developed above, the relationship between selected socio-demographic characteristics of the respondents ('age', 'religion', 'class', 'gender' and 'do you know someone with mental illness') and their baseline responses on KASD questionnaire was examined using Chi-square statistics.

Independent sample t-test was used to compare the mean scores on knowledge, attitude and social distance between the Control and Intervention groups at baseline and at immediate-post intervention, while a paired t-test was used to compare the mean scores of knowledge, attitude and social distance within each group.

Last of all, responses of participants in the Intervention group regarding their opinion about the effectiveness and relevance of the mental health training programme were examined and presented in frequencies and percentages. Furthermore, a comparison of these responses with the age and gender of respondents was done using Chi-square statistics. Thematic analysis was used to evaluate the qualitative responses of participants about what they liked and did not like about the information they received was done and these were presented in frequencies and percentages. Responses with more than one theme were treated as separate themes and included in the analysis while non-responses were excluded.

3.9 Ethical considerations

Ethical clearance to conduct the study was obtained from the Ogun State Ministry of Education and the following ethical issues were duly considered.

Autonomy

Clear explanations of the purpose of the study sufficient enough to give assent and informed consent was provided in simple and clear language

a. First to the participants by word of mouth

b. Secondly to their parents/guardians through a letter

Participants had the liberty to decide whether to participate in the study or not. They had the free will to withdraw from the study at any point in time without threat or consequences and were told so.

Confidentiality of data collected from Subjects

In order to ensure the confidentiality of the data provided by the participants, no name or other forms of personal identification was used on the questionnaire, rather identification numbers were used so as to enhance analysis of the data collected.

Beneficence to participants

Participants in the intervention arm of this study gained more knowledge of the concept of mental health, mental illness and persons with mental illness. They also learnt what behaviour(s) is appropriate in relating with persons with mental illness, the early signs of mental illness and appropriate places to seek help for mental illness.

Participants in the control arm of this study shall have the intervention package administered to them once the study has been completed and proven to be effective.

Furthermore, the findings of this study will help to develop appropriate and effective programmes that would reduce stigmatization of persons with mental illness among young persons.

Non-maleficence to the participants

The risks and inconveniences to the participants in this study were minimized by ensuring that the time of data collection, the training processes and the venue chosen for the study were the most convenient for them. Also, data collection from the participants did not involve any invasive process or collection of physical biological samples.

Justice

Participants were objectively selected into the study. Every student within the sampling frame had equal opportunity to participate.

Voluntariness

Efforts were made to ensure that participants were not coerced against their freewill to participate, or unduly favoured on account of participating in the study. Light refreshments were served during the training sessions.

Word count: 3488

CHAPTER FOUR

Results

This chapter presents findings on the effectiveness of a mental health-training programme administered to schoolchildren on their knowledge of mental illness and their attitudes and social distance towards persons with mental illness. Divided into five sections, the first section of this chapter provides a description of the socio-demographic characteristics of respondents. Section two describes their pre-existing knowledge of mental illness, attitude and social distance towards persons with mental illness while section three presents the socio-demographic factors associated with baseline knowledge of mental illness and attitude and social distance towards persons with mental illness. The fourth section describes the change in the mean scores of knowledge of mental illness, and attitude and social distance scores within and between the control and Intervention groups at baseline and in the post-intervention period. The fifth and final section in this chapter describes participants' evaluation about the training programme they received.

Section 1

4.1 Socio-demographic characteristics of study participants

Tables 1a-1d present the socio-demographic characteristics of the Control and Intervention groups in four subheadings, namely:

- Table 1a- Personal information
- Table 1b- Family information
- Table 1c-School information
- Table 1d- Exposure to mental health information

4.1.1 Personal information of the respondents

Table 1a shows the socio-demographic characteristics of the study participants. There were no statistical significant differences in the personal information provided by the students in Control and Intervention groups in terms of age, sex, class, gender, and religion.

The mean age of the students was 14.91 years (±1.3) with an age range of 11 to 17 years. Over half (53.0%) were males, just over three quarters (77.9%) were Christians with majority (85.6%) living in monogamous family arrangements. Respondents were spread out in the final three years of secondary school with the largest proportion in SS2 (equivalent to 11 years of formal education). (See Table 1a)

Table 1a: Socio-demographic characteristics of the respondents: Personal information

N=202

Variables	Intervention group n=121 Frequency (%)	Control group n= 81 Frequency (%)	Total Frequency (%)	Difference
Age				x^2=1.063
10-14	45 (37.2)	36 (44.4)	81 (40.1)	df=1
15-17	76 (62.8)	45 (56.6)	121 (59.9)	p=0.303
Sex				x^2=1.262
Male	68 (56.2)	39 (48.1)	107 (53.0)	df=1
Female	53 (43.8)	42 (51.9)	95 (47.0)	p=0.261
Class				
SS1	26 (21.5)	30 (37.0)	56 (27.7)	x^2=5.911
SS2	56 (46.3)	29 (35.8)	85 (42.1)	df=2
SS3	39 (39.2)	22 (27.2)	61 (30.2)	p=0.052
Religion				x^2=0.928
Christianity	97 (80.2)	58 (74.1)	155 (77.9)	df=1
Islam	24 (19.8)	20 (22.2)	44 (22.1)	p=0.335
Influence of Religion on personal behaviour (Self-reported)				x^2=0.373
Very much	108 (89.3)	70 (86.4)	178 (88.1)	df=1
Not much	13 (10.7)	11 (13.7)	24 (11.9)	p=0.541

4.1.2 Family information of the respondents

Table 1b displays the family information of the respondents. A higher proportion of students in the Intervention group reported father's level of education as 'secondary school and above' compared with those in the Control group and this was statistically significant (86.0% versus 75.3%; p<0.001). Also, a higher proportion of students in the Intervention group (82.5%) reported mother's level of education as 'secondary school and above' compared with 74.1% of those in the Control group (p=0.002). (See Table 1b)

Table 1b: Socio-demographic characteristics of the respondents: Family information

	N=202			
Variables	**Intervention Group n=121 Frequency (%)**	**Control group n= 81 Frequency (%)**	**Total Frequency (%)**	**Differences**
Family type				
Monogamous	100 (82.6)	73 (90.1)	173 (85.6)	x^2=2.207
Polygamous	21 (17.4)	8 (9.9)	29 (14.4)	df=1
				p=0.137
Marital Status of Parents				
Married	112 (92.6)	71 (87.7)	183 (90.6)	x^2=1.371
Others	9 (7.4)	10 (12.3)	19 (9.4)	df=1
				p=0.242
Influence of Religion on family life				x^2=0.155
Very much	111 (91.7)	73 (90.1)	184 (91.1)	df=1
Not so much	10 (8.3)	8 (9.9)	18 (8.9)	p=0.693
Level of father's education				x^2=15.852
Less than secondary school	12 (9.9)	3 (3.7)	15	df=2
Secondary school and above	104 (86.0)	61 (75.3)	165	p=**<0.001**
I don't know	5 (4.1)	17 (21.0)	22	
Level of mother's education				x^2=12.180
Less than secondary school	14 (11.7)	4 (4.9)	18 (9.0)	df=2
Secondary School and above	99 (82.5)	60 (74.1)	159 (79.1)	p= **0.002**
I don't know	7 (5.8)	17 (21.0)	24 (11.9)	

Note- The significant value (p<0.05) is in bold

4.1.3 School information of the respondents

Respondents in the Intervention group (100%) did not have a designated guidance &counsellor in their school while about half of the respondents (47.4%) in the Control group had a guidance &counsellor ($p<0.001$). More respondents in the Control group affirmed that they had difficulties with their teachers ($p<0.001$) (See Table 1c)

Table 1c: Socio-demographic characteristics of the respondents: School information

N=202

Variables	Intervention n=121 Frequency (%)	Control n= 81 Frequency (%)	Total Frequency (%)	Difference
Do you like your school?				
No	3 (2.5)	5 (6.2)	8 (4.0)	$x^2=1.740$
Yes	118 (97.5)	76 (93.9)	194 (96.0)	df=1
				p=0.187
Do you well academically				
No	10 (8.3)	5 (6.2)	15 (7.4)	$x^2=0.309$
Yes	111 (91.7)	76 (93.8)	187 (92.6)	df=1
				p=0.578
Do you have any difficulties with your teachers				
No	114 (94.2)	59 (73.8)	173 (86.1)	$x^2=16.822$
Yes	7 (5.8)	21 (26.2)	28 (13.9)	df=1
				p=**<0.01**
Do you have a Guidance and &Counseling teacher in your school?				$x^2=1.620$
No	121 (100)	40 (47.4)	161 (79.7)	df=1
Yes	0 (0)	41 (50.6)	41 (20.3)	p=**<0.01**

Note- the significant value ($p<0.05$) is in bold

4.1.4 Exposure to mental health information

A higher percentage of participants in the Control group (33.3%) knew someone with mental illness compared with 15.0% of participants in the intervention and this was statistically significant (p=0.002).A significantly higher proportion of the participants in the Intervention group (75.8%) affirmed television and home video as a major source of their understanding and knowledge about mental illness compared with 61.7% in the Control group (p= 0.032). (See Table 1d)

Table 1d: Socio-demographic characteristics of the respondents: Exposure to mental health information

N=202

Variables	Intervention group n=121 Frequency (%)	Control group n= 81 Frequency (%)	Total Frequency (%)	Difference
Source of information				
Family				
No	91 (75.2)	54 (66.7)	145 (71.8)	x^2=1.747
Yes	30 (24.8)	27 (33.3)	57 (28.2)	df=1
				p=0.186
School				
No	76 (62.8)	46 (56.8)	122 (60.4)	x^2=0.735
Yes	45 (37.2)	35 (43.2)	80 (39.6)	df=1
				p=0.391
T.V and Home Video				
No	29 (24.2)	31 (38.8)	60 (29.9)	x^2=4.594
Yes	91 (75.8)	50 (61.7)	141 (70.1)	df=1
				p=**0.032**
Friends				
No	88 (72.7)	61 (75.3)	149 (73.8)	x^2=0.167
Yes	33 (27.3)	20 (24.7)	53 (26.2)	df=1
				p=0.683
Magazines and newspapers	78 (65.0)	46 (56.8)	124 (61.7)	x^2=1.379
No	42 (35.0)	35 (43.2)	77 (38.3)	df=1
Yes				p=0.240
Others				
No	116 (95.9)	74 (91.4)	190 (94.1)	x^2=1.766
Yes	5 (4.1)	7 (8.6)	12 (5.9)	df=1
				p=0.184
Do you know someone with mental illness?				x^2=9.354
no	102 (85.0)	54 (66.7)	156 (77.6)	df=1
yes	19 (15.0)	27 (33.3)	46 (22.4)	p=**0.002**

Note- the significant value ($p<0.05$) is in bold

Section 2

4.2 Baseline responses of study participants on knowledge, and attitude and social distance items

Tables 2a to 2c present the responses of participants in the Intervention and Control groups

4.2.1 Baseline Responses on knowledge items in the Intervention and Control groups

Respondents in both Intervention and Control groups did not differ significantly on all of the knowledge items except one: 'Gateway drugs include alcohol, marijuana and tobacco'. On this item, 71.1% of the respondents in the Intervention group agreed correctly with the item compared with 53.1% of those in the Control group and this was statistically significant (p=0.009). (See Table 2a)

Table 2a: Responses on knowledge Items in Control and Intervention groups at baseline

N=202

Items	Intervention n=121		Control n=81			
	Agree	Disagree/ Not sure	Agree	Disagree /Not sure	x^2	p
Mental illnesses are caused by stress	37 (30.6)	84 (69.4)	22 (27.2)	59 (72.8)	0.274	0.601
People can recover from mental illness	110 (90.9)	11 (9.1)	76 (93.8)	5 (6.2)	0.566	0.452
There is a stigma (shame) attached to people with mental health problems	85 (70.2)	35 (29.2)	57 (70.4)	24 (29.6)	0.005	0.944
One in four people will develop mental illness over the course of a lifetime	35 (43.2)	85 (70.8)	21 (25.9)	59 (73.8)	0.203	0.653
Mental illnesses are caused by spiritual attack	82 (67.8)	39 (32.2)	55 (69.9)	26 (32.1)	<0.001	0.984
Parents with mental illness always transmit it to their children	42 (34.7)	79 (65.3)	18 (22.2)	63 (77.8)	3.624	0.057
Mental illness cannot be treated	23 (19.0)	98 (81.0)	9 (11.1)	72 (88.9)	2.270	0.132
Depression is a type of mental illness	54 (45.0)	66 (55.0)	36 (45.0)	44 (55.0	<0.001	1.000
People with Psychosis often see or hear what others cannot see or hear	65 (54.2)	55 (45.8)	50 (62.5)	30 (37.5)	1.364	0.243
Bullying is a risk factor for suicide	57 (47.9)	62 (52.1)	46 (56.8)	57 (47.9)	1.525	0.250
People who attempt suicide have often Been depressed	93 (76.9)	28 (23.1)	62 (76.5)	19 (23.5)	0.003	0.958
People who experience trauma are likely to develop Post Traumatic Stress Disorder	64 (52.9)	57 (47.1)	39 (48.8)	41 (51.2)	0.331	0.565
People with Post Traumatic Stress Disorder often suffer from flashback and nightmares	76 (62.8)	45 (37.2)	49 (60.5)	32 (39.5)	0.110	0.740
Gateway drugs include alcohol, marijuana and tobacco	86 (71.1)	35 (28.9)	43 (53.1)	38 (46.9)	6.803	**0.009**
Peer influence is a great factor in starting to use and abuse drug	96 (79.3)	24 (20.0)	69 (86.2)	11 (13.8)	1.299	0.254

Note: missing data was excluded from each item

The significant value ($p<0.05$) is in bold

4.2.2 Baseline responses on attitude items in the Intervention and Control groups

The responses of the students in both groups differed significantly in one out of 8 of the attitude items. A statistically significant higher proportion of respondents in the Intervention group (37.5%) agreed with the item; 'People with mental illness are weak and have only themselves to blame' compared to 12.3% students in the Control group ($p<0.001$). (See Table 2b)

Table 2b: Baseline responses on attitude items in Intervention and Control groups

N=202

Items	Intervention n=121		Control n=81		X^2	P
	Agree	Disagree/ Not sure	Agree	Disagree/ Not sure		
People with mental illness are always difficult to talk to	106 (87.6)	15 (12.4)	65 (80.2)	16 (19.8)	2.021	0.155
People with mental illness are likely to become violent	93 (76.9)	28 (23.1)	58 (71.6)	23 (28.4)	0.710	0.400
People with mental illness are weak and have only themselves to blame	45 (37.5)	75 (62.5)	10 (12.3)	71 (87.7)	15.395	**<0.001**
People with mental illness are always unpredictable	85 (70.8)	35 (29.2)	57 (71.2)	23 (28.8)	0.004	0.949
People with depression always like to be alone, feel sad & wish to die	83 (69.7)	36 (30.3)	65 (80.2)	16 (19.8)	2.761	0.097
Psychosis is a spiritual problem that cannot betreated in the hospital	37 (30.6)	84 (69.4)	19 (23.5)	62 (76.5)	1.228	0.268
People who joke about killing themselves do not always have a plan to do so	85 (70.2)	36 (29.8)	50 (61.7)	31 (38.3)	1.589	0.208
People with PTSD do not need treatment because they outgrow it with time	31 (25.6)	90 (74.4)	15 (18.5)	66 (81.5)	1.391	0.238

Note: missing data was excluded from each item

The significant value ($p<0.05$) is in bold

4.2.3 Baseline responses on social distance items in the Intervention and Control groups

Both groups did not differ significantly in any of the social distance items. Almost half of both students in the Intervention group (48.3%) and in the Control group (48.1%) appended 'yes' to the item: 'Would you be able to be friends with someone with mental illness?' (p=0.974)

(See Table 2c)

Table 2c: Baseline responses on social distance items in the Intervention and Control groups

N=202

Items	Intervention n=121		Control n=81		X^2	P
	Yes	No	Yes	No		
Would you feel afraid to talk to someone with mental illness?	94 (77.7)	27 (22.3)	63 (81.8)	14 (18.2)	0.5	0.484
Would you be upset to be in the same class with someone who had mental illness?	66 (54.5)	55 (45.5)	52 (65.8)	27 (34.2)	2.5	0.113
Would you be able to be friends with someone who had mental illness?	58 (48.3)	62 (51.7)	38 (48.1)	41 (51.9)	0.0	0.974
Would you be embarrassed if your friends knew that someone in your close family has mental illness?	81 (66.9)	40 (33.1)	52 (65.8)	27 (34.2)	0.0	0.870

Note: missing data was excluded from each item

Section 3

4.3 Socio-demographic factors associated with baseline responses of all respondents

The socio-demographic variables of respondents such as age, gender, class, religion and 'do you know anyone with mental illness?', associated with baseline responses of all respondents on the knowledge, attitude and social distance items are presented in Tables 3a-3d

4.3.1 Socio-demographic factors associated with baseline knowledge of all respondents

The mean knowledge score of all participants was 20.43 (3.36) with the minimum score being 9 while the maximum score was 28.

Of the 202 respondents 39.6% knowledge scores were above the average, 34.7%, had average knowledge scores while 25.7% had below average scores. There was no statistical significant difference in the responses of all the students on the knowledge items with respect to their age, gender, class, religion, and whether they knew someone with mental illness. However, the percentage of females (43.2%) with above average knowledge scores was higher than that of males (36.4%). (p=0.115). (See Table 3a.)

Table 3a: Socio-demographic factors associated with baseline knowledge of all respondents

N=202

	Knowledge				
Variables	**Poor**	**Fair**	**Good**	**x^2**	**P**
Age					
10-14	23 (28.4)	30 (37.0)	28 (34.6)		
15-17	29 (24.0)	40 (33.1)	52 (43.0)	2.038	0.361
Total	52 (25.7)	70 (34.7)	80 (39.6)		
Gender					
Male	34 (31.8)	34 (31.8)	39 (36.4)		
Female	18 (18.9)	36 (37.9)	41 (43.2)	4.333	0.115
Total	52 (25.7)	70 (34.7)	80 (39.6)		
Class					
SS1	19 (31.7)	21 (35.0)	20 (33.3)		
SS2	21 (26.2)	29 (38.2)	30 (37.5)		
SS3	12 (19.4)	20 (32.3)	30 (48.4)	3.865	0.425
Total	52 (25.7)	70 (34.7)	80 (39.6)		
Religion*					
Christianity	38 (24.5)	12 (27.3)	19 (43.2)		
Islam	13 (29.5)	57 (36.8)	60 (38.7)	1.403	0.496
Total	51 (25.6)	69 (34.7)	79 (39.7)		
Do you know someone with mental illness?					
No	41 (26.1)	56 (35.7)	60 (38.2)		
Yes	11 (24.4)	14 (31.1)	20 (44.4)	0.590	0.744
Total	52 (25.7)	70 (34.7)	80 (39.6)		

* n=199

4.3.2 Socio-demographic factors associated with baseline attitude of all respondents

The mean attitude score of all participants was 5.11 with a standard deviation of 2.00. The minimum score was 0 while the maximum score was 11.

Majority of the participants (57.9%), were rated in the 'indifferent' to mental illness range in their attitude towards persons with mental illness irrespective of their socio-demographic factors 19.8% scored in the 'negative attitude' range while 22.3% scored in the 'positive attitude' range.

Participants differed significantly in their responses on the attitude items on the scale on the basis of their gender (p=0.016); a higher proportion of the male participants (29.9%) scored in the positive attitude range towards persons with mental illness compared with 13.7% of the female participants.

The proportion of students who had positive attitude scores towards persons with mental illness was slightly higher among those who responded 'yes' to the socio-demographic variable 'Do you know someone with mental illness?' (26.7%) compared with those who responded 'no' (21.0%) but this did not reach statistical significance (p=0.713). (See Table 3b)

Table 3b: Socio-demographic factors associated with baseline attitude of all respondents

N=202

	Attitude				
Variables	**Negative**	**Indifferent**	**Positive**	**x^2**	**P**
Age					
10-14	18 (22.2)	51 (63.0)	12 (14.8)		
15-17	22 (18.2)	66 (54.5)	33 (23.7)	4.374	0.112
Total	40 (19.8)	117 (57.9)	45 (22.3)		
Gender					
Male	17 (15.9)	58 (54.2)	32 (29.9)		
Female	23 (24.2)	59 (62.1)	13 (13.7)	8.297	**0.016**
Total	40 (19.8)	117 (57.9)	45 (22.3)		
Class					
SS1	11 (18.3)	38 (63.3)	11 (18.3)		
SS2	17 (21.2)	49 (61.2)	14 (17.5)	5.597	0.231
SS3	12 (19.4)	30 (48.4)	20 (32.3)		
Total	40 (19.8)	117 (57.9)	45 (22.3)		
Religion*					
Christianity	27 (17.4)	91 (58.7)	37 (23.9)		
Islam	13 (29.5)	24 (54.5)	7 (15.9)	3.592	0.166
Total	40 (20.1)	115 (57.8)	44 (22.1)		
Do you know someone with mental illness?					
No	32 (20.4)	93 (58.6)	33 (21.0)		
Yes	8 (17.8)	25 (55.6)	12 (26.7)	0.676	0.713
	40 (19.8)	117 (57.9)	45 (22.3)		

* n=199

The significant value ($p<0.05$) is in bold

4.3.3 Socio-demographic factors associated with baseline social distance of all respondents

The mean social distance score of all participants was 3.02 (2.19) with the minimum score being 0 while the maximum score was 8.

There was a significant difference in the responses of the participants on the basis of their religion (p=0.028). With regards to social distance towards persons with mental illness, participants who indicated 'Christianity' as their religion (24.7%) scored in the 'favourably disposed' range compared with 11.4% of participants who indicated 'Islam' as their religion and this was statistically significant. Majority of the participants (57.7%) scored in the'indifferent' range to persons with mental illness. The proportion of students who indicated social distance towards persons with mental illness was 20.4% and those who did not were 21.9%.

(See Table 3c)

Table 3c: Socio-demographic factors associated with baseline social distance of all respondents

N=202

	Social distance				
Variables	**Present**	**Indifferent**	**Absent**	**x^2**	**P**
Age					
10-14	18 (22.2)	42 (51.9)	21 (25.9)		
15-17	23 (19.2)	74 (61.7)	23 (19.2)	2.038	0.361
Total	41 (20.4)	166 (57.7)	44 (21.9)		
Gender					
Male	21 (19.6)	58 (54.2)	28 (26.2)		
Female	20 (21.3)	58 (61.7)	16 (17.0)	2.467	0.291
Total	41 (20.4)	116 (57.7)	44 (21.9)		
Class					
SS1	14 (23.3)	32 (53.3)	14 (23.3)		
SS2	13 (16.2)	50 (62.5)	17 (21.2)	1.763	0.779
SS3	14 (23.0)	34 (55.7)	13 (21.3)		
Total	41 (20.4)	116 (57.7)	44 (21.9)		
Religion*					
Christianity	35 (22.7)	81 (52.6)	38 (24.7)		
Islam	6 (13.6)	33 (75.0)	5 (11.4)	7.141	**0.028**
Total	41 (20.7)	114 (57.6)	43 (21.7)		
Do you know someone with mental illness?					
No	33 (21.2)	91 (58.3)	32 (20.5)		
Yes	8 (17.8)	25 (55.6)	12 (26.7)	0.846	0.655
Total	41 (20.4)	116 (57.7)	44 (21.9)		

* n=199

The significant value ($p<0.05$) is in bold

Section 4

4.4 Comparison of immediate-post intervention responses of students in Control and Intervention Groups

Comparisons within and between the Intervention and Control groups are presented in this section.

4.4.1 Responses on knowledge items in Control and Intervention groups at immediate-post test

The responses of the students in the Intervention group differed significantly in 9 of the 15 items on the knowledge scale. Over two-thirds (68.5%) of the participants in the Intervention group agreed correctly with the factual statement that 'one in four people will develop mental illness over the course of their lifetime' compared with 25.3% of the students in the Control group ($p<0.001$). Similarly, 91.7% of the students in the Intervention group responded correctly with the factual statement 'Gateway drugs include alcohol, marijuana and tobacco' compared with 67.9% of students in the Control group and this was statistically significant ($p<0.001$). More of the students in the intervention group (93.3%) recognized depression as a type of mental illness, agreed that 'people with psychosis often see or hear what others cannot see or hear' (94.4%) ($p<0.001$) and consented to the factual; statement that 'people who experience trauma are likely to develop Post Traumatic Stress Disorder (PTSD)' (81.3%) ($p=0.002$). See Table 4a.

Table 4a: Responses on knowledge of mental illness in Control and Intervention groups at immediate-post test

N=188

Items	Intervention group n=108		Control group n=80		x^2	P
	Agree	Disagree / Not sure	Agree	Disagree / Not sure		
Mental illnesses are caused by stress	73 (67.6)	35 (32.4)	19 (24.4)	59 (75.2)	35.400	**<0.001**
People can recover from mental illness	107 (99.1)	1 (0.9)	74 (93.7)	5 (6.3)	4.300	**0.038**
There is a stigma (shame) attached to people with mental health problems	88 (82.2)	19 (17.8)	58 (73.4)	21 (26.6)	2.100	0.148
One in four people will develop mental illness over the course of a lifetime	74 (68.5)	34 (31.5)	20 (25.3)	59 (74.7)	34.100	**<0.001**
Mental illnesses are caused by spiritual attack	58 (53.7)	50 (46.3)	55 (71.4)	22 (28.6)	5.900	**0.015**
Parents with mental illness always transmit it to their children	34 (31.5)	74 (68.5)	17 (21.5)	62 (78.5)	2.300	0.131
Mental illness cannot be treated	98 (91.6)	9 (8.4)	69 (87.3)	10 (12.7)	0.900	0.344
Depression is a type of mental illness	97 (93.3)	7 (6.7)	42 (53.2)	37 (46.8)	39.500	**<0.001**
People with Psychosis often see or hear what others cannot see or hear	102 (94.4)	6 (5.6)	40 (50.6)	39 (49.9)	48.000	**<0.001**
Bullying is a risk factor for suicide	89 (82.4)	19 (17.6)	41 (51.9)	38 (48.1)	20.000	**<0.001**
People who attempt suicide have often been depressed	98 (90.7)	10 (9.3)	65 (82.3)	14 (17.7)	2.900	0.087
People who experience trauma are likely to develop PTSD	87 (81.3)	20 (18.7)	36 (45.6)	43 (54.4)	25.900	**<0.001**
People with PTSD often suffer from flashback and nightmares	93 (86.1)	15 (13.9)	44 (55.7)	35 (44.3)	21.500	**<0.001**
Gateway drugs include alcohol, marijuana and tobacco	99 (91.7)	9 (8.3)	53 (67.9)	25 (32.1)	17.100	**<0.001**
Peer influence is a great factor in starting to use and abuse drug	98 (90.7)	10 (9.3)	69 (88.5)	9 (11.5)	0.257	0.613

4.4.2 Responses on attitude items at immediate-post

The responses of the students in the Intervention group differed significantly in 5 of the 8 items on the attitude scale. Well over a quarter (29.6%) of students in the Intervention group disagreed correctly with the statement 'People with mental illness are always difficult to talk to' compared with 13.9% of students in the Control group and this was statistically significant (p=0.007). Also, a higher proportion of students in the Intervention group (74.1%) disagreed rightly on the attitude statement 'Psychosis is a spiritual problem that cannot be treated in the hospital' compared with 46.8% of students in the Control group and this was statistically significant (p<0.001)

(See Table 4b)

Table 4b: Responses on attitude items at immediate-post N=188

Items	Intervention n=108		Control n=80		x^2	P
	Agree	Disagree	Agree	Disagree		
People with mental illness are always difficult to talk to	76 (70.4)	32 (29.6)	68 (86.1)	11 (13.9)	6.356	**0.012**
People with mental illness are likely to become violent	92 (81.6)	15 (13.9)	71 (89.9)	8 (10.1)	0.599	0.439
People with mental illness are weak and have only themselves to blame	82 (75.9)	26 (24.1)	45 (57.0)	34 (43.0)	7.530	**0.006**
People with mental illness are always unpredictable	81 (93.7)	17 (15.7)	74 (93.7)	5 (6.3)	3.893	**0.048**
People with depression always like to be alone, feel sad & wish to die	107 (99.1)	1 (0.9)	72 (91.1)	7 (8.9)	7.015	**0.008**
Psychosis is a spiritual problem that cannot be treated in the hospital	28 (25.9)	80 (74.1)	42 (53.2)	37 (46.8)	14.454	**<0.001**
People who joke about killing themselves do not always have a plan to do so	67 (62.0)	41 (38.0)	64 (82.1)	14 (17.9)	8.711	**0.003**
People with Post Traumatic Stress Disorder don't need treatment because they outgrow it with time	57 (52.8)	51 (47.2)	54 (68.4)	25 (31.6)	4.589	**0.032**

Note: significant value p<0.05 is in bold

4.4.3 Responses on social distance items at immediate-post

A higher proportion (42.6%) of the students in the Intervention group appended 'no' to the social distance statement 'would you be upset to be in the same class with someone with mental illness?' compared to 25.6% of the students in the Control group and this was statistically significant (p=0.017). A higher proportion of the students in the Intervention group (38.9%) appended 'no' to the statement 'Would you feel afraid to talk to someone with mental illness?' compared to 24.4% in the Control group (p=0.037) (See Table 4c).

Table 4c: Responses on social distance items at immediate-post

N=188

Items	Intervention n=108		Control n=80		x^2	P
	Yes	No	Yes	No		
Would you feel afraid to talk to someone with mental illness?	66 (61.1)	42 (38.9)	59 (75.6)	19 (24.4)	4.300	**0.037**
Would you be upset to be in the same class with someone who had mental illness?	62 (57.4)	46 (42.6)	58 (74.4)	29 (25.6)	5.700	**0.017**
Would you be able to be friends with someone who had mental illness?	52 (48.1)	56 (51.9)	37 (47.4)	41 (52.6)	0.000	0.9
Would you be embarrassed if your friends knew that someone in your close family has mental illness?	71 (65.7)	37 (34.3)	46 (59.0)	32 (41.0)	0.900	0.346

Note: the significant value $p<0.05$ is in bold

4.5 Comparison of baseline and immediate-post intervention responses of participants in the Intervention group

4.5.1 Comparison of the responses on the knowledge of mental illness at baseline and immediate-post-test in the Intervention group

Students' responses at baseline differed significantly from their responses at immediate-post-test on 13 items on the knowledge of mental illness. More students affirmed that depression is a type of mental illness at immediate post intervention (93.3%) than at baseline (11.5). Similarly, more students affirmed that people who experience trauma are likely to develop Post Traumatic Stress Disorder at immediate-post intervention (81.3%) than at baseline (52.3%) ($p< 0.05$).

(See Table 5a)

Table 5a: Comparison of the responses on the knowledge items at baseline and immediate-post-test in the Intervention group

Items	Baseline n=108		Immediate-post test n=108		P
	Agree	Disagree / Not sure	Agree	Disagree / Not sure	
Mental illnesses are caused by stress	32 (29.6)	76 (70.4)	73 (67.6)	35 (32.4)	**<0.001**
People can recover from mental illness	97 (89.8)	11 (10.2)	107 (99.1)	1 (0.9)	**0.006**
There is a stigma (shame) attached to people with mental health problems	76 (71.7)	30 (28.3)	87 (82.1)	19 (17.9)	0.080
One in four people will develop mental illness over the course of a lifetime	31 (29.0)	76 (71.0)	73 (68.2)	34 (31.8)	**<0.001**
Mental illnesses are caused by spiritual attack	75 (69.4)	33 (30.6)	58 (54.7)	50 (46.3)	**0.009**
Parents with mental illness always transmit it to their children	34 (31.5)	74 (68.5)	41 (38.0)	67 (62.0)	0.360
Mental illness cannot be treated	22 (20.6)	85 (79.4)	9 (8.4)	98 (91.6)	**0.011**
Depression is a type of mental illness	12 (11.5)	92 (88.5)	97 (93.3)	7 (6.7)	**<0.001**
People with Psychosis often see or hear what others cannot see or hear	60 (56.1)	47 (43.9)	101 (94.4)	6 (5.6)	**<0.001**
Bullying is a risk factor for suicide	50 (47.2)	56 (52.8)	87 (82.1)	19 (17.9)	**<0.001**
People who attempt suicide have often been depressed	85 (78.7)	23 (21.3)	98 (90.7)	10 (9.3)	**0.002**
People who experience trauma are likely to develop Post Traumatic Stress Disorder	56 (52.3)	51 (47.7)	87 (81.3)	20 (18.7)	**<0.001**
People with Post Traumatic Stress Disorder often suffer from flashback and nightmares	69 (63.9)	39 (36.1)	93 (86.1)	15 (13.9)	**<0.001**
Gateway drugs include alcohol, marijuana and tobacco	76 (70.4)	32 (29.6)	99 (91.7)	9 (8.3)	**<0.001**
Peer influence is a great factor in starting to use and abuse drug	85 (79.4)	22 (20.6)	97 (90.7)	10 (10.3)	**0.023**

Note: missing are excluded from the analysis
The significant value ($p<0.05$) is in bold)

4.5.2 Comparison of the responses on attitude items at baseline and immediate-post-test in the Intervention group

Students' responses at baseline differed significantly from their responses at immediate-post-test on 4 out of the 8 attitude items. More students disagreed with the statement; 'People with mental illness are always difficult to talk to' at immediate post intervention (29.6%) than at baseline (12.4). Furthermore, more students disagreed with the statement; 'Psychosis is a spiritual problem that cannot be treated in the hospital' at immediate-post intervention (74.1%) than at baseline (43.5%) ($p<0.05$) (See Table 5b)

Table 5b: Comparison of the responses on the attitude items at baseline and immediate-post-test in the Intervention group

Note: missing are excluded from the analysis

Items	Baseline n=108		Immediate-post test n=108		P
	Agree/ Not sure	Disagree	Agree/ Not sure	Disagree	
People with mental illness are always difficult to talk to	106 (87.6)	15 (12.4)	76 (70.4)	32 (29.6)	**<0.001**
People with mental illness are likely to become violent	98 (90.7)	10 (9.3)	93 (86.1)	15 (13.9)	0.383
People with mental illness are weak and have only themselves to blame	81 (75.7)	26 (24.3)	82 (75.9)	26 (24.1)	0.110
People with mental illness are always unpredictable	96 (89.7)	11 (10.3)	90 (84.1)	17 (15.9)	0.327
People with depression always like to be alone, feel sad & wish to die	93 (86.9)	14 (13.1)	106 (99.1)	1 (0.9)	**<0.001**
Psychosis is a spiritual problem that cannot be treated in the hospital	61 (56.5)	47 (43.5)	28 (25.9)	80 (74.1)	**<0.001**
People who joke about killing themselves do not always have a plan to do so	93 (86.1)	15 (13.9)	67 (62.0)	41 (38.0)	**<0.001**
People with Post Traumatic Stress Disorder don't need treatment because they outgrow it with time	71 (65.7)	37 (34.3)	57 (52.8)	51 (47.2)	0.065

The significant value ($p<0.05$) is in bold)

4.5.3 Comparison of the responses on the social distance items at baseline and immediate-post-test in the Intervention Group

Students' responses at baseline differed significantly from their responses at immediate-post intervention on one item on the social distance scale. A higher proportion of students attested that they would not feel afraid to talk to someone with mental illness at immediate-post-test (38.9%) compared with 22.2% at baseline (p= 0.001). See Table 5c.

Table 5c: Comparison of the responses on the social distance items at baseline and immediate-post-test in the Intervention group

N=108

	Baseline		Immediate-post test		P
Items	**Yes**	**No**	**Yes**	**No**	
Would you feel afraid to talk to someone with mental illness?	84 (77.8)	24 (22.2)	66 (61.1)	42 (38.9)	**0.001**
Would you be upset to be in the same class with someone who had mental illness?	61 (56.5)	47 (43.5)	62 (57.4)	46 (42.6)	1.000
Would you be able to be friends with someone who had mental illness?	53 (49.5)	54 (50.5)	52 (48.1)	55 (51.4)	1.000
Would you be embarrassed if your friends knew that someone in your close family has mental illness?	74 (68.5)	34 (31.5)	71 (65.7)	37 (34.3)	0.736

Note: missing data was excluded from each item

The significant value ($p<0.05$) is in bold

4.6 Comparison of mean scores of knowledge, attitude and social distance items

Comparison of mean scores between the Intervention and Control groups

4.6.1 Comparison of the mean knowledge scores between the Control and the Intervention groups at baseline

There were no significant differences between the mean scores of respondents in both control and Intervention groups on knowledge, attitude and social distance items at baseline.

(See Table 6a)

Table 6a: Comparison of the mean scores between the Control and the Intervention groups at baseline

	N	Mean Scores	SD	t	95% Confidence Interval		P
					Lower	Upper	
Knowledge scores							
Control	75	22.0	3.9	1.7	-0.2	2.0	0.097
Intervention	117	21.1	3.5				
Attitude scores							
Control	80	5.5	2.0	2.0	-0.2	1.1	0.058
Intervention	117	5.0	2.1				
Social distance scores							
Control	77	3.0	2.3	0.7	-0.9	0.4	0.485
Intervention	120	3.2	2.1				

N= number of respondents who had complete responses on all the items in each scale

4.6.2 Comparison of the mean scores between the Control and the Intervention groups at Immediate-post-test

The mean knowledge score of respondents in the Intervention group at immediate-post test is 26.1 and this value is significantly higher ($p<0.01$) than the mean knowledge score of respondents in the Control group (22.0). Also, there was a slight increase in the mean attitude score of respondents in the Intervention group (5.8) compared with 5.6 in the Control group. This difference is however, not statistically significant ($p<0.001$) (See Table 6b)

Table 6b: Comparison of the mean scores between the Control and the Intervention groups at Immediate-post intervention

	N	Mean Scores	SD	t	95% Confidence Interval		P
					Lower	Upper	
Knowledge scores							
Control	74	22.1	4.0	7.4	-5.3	-3.0	**<0.01**
Intervention	101	26.2	3.4				
Attitude scores							
Control	79	5.6	2.3	0.5	-0.4	1.0	0.627
Intervention	108	5.8	2.7				
Social distance scores							
Control	78	3.0	2.2	1.1	-1.5	0.3	0.286
Intervention	108	3.3	2.4				

N= number of respondents who had complete responses on all the items in each scale

The significant value $p<0.05$ is in bold

4.7 Comparison within group using paired t-test

Comparison of mean knowledge, attitude and social distance score within each group was done using paired t-test

4.7.1 Comparison of the mean scores in the Control group at baseline and at immediate-post-test

There was no significant change in the mean scores of participants in the Control group on knowledge of mental illness, attitude and social distance towards persons with mental illness at baseline and at immediate-post intervention

Table 7a: Comparison of the mean scores in the Control group at baseline and at immediate-post-test

	N	Mean Scores	SD	Paired t	95% Confidence Interval		P
					Lower	Upper	
Knowledge scores							
Baseline	69	21.9	3.9	0.7	-1.1	0.2	0.488
Immediate-post intervention	69	22.1	3.9				
Attitude scores							
Baseline	77	5.5	1.9	0.2	-0.7	0.5	0.833
Immediate-post intervention	77	5.6	2.3				
Social distance scores							
Baseline	74	2.8	2.3	0.8	-0.6	0.3	0.414
Immediate-post intervention	74	3.0	2.2				

N= number of respondents who had complete responses on all the items in each scale

4.7.2 Comparison of the mean scores of respondents in the Intervention group at baseline and at immediate-post-test

The mean knowledge score of participants in the Intervention group at immediate-post intervention (26.2) was significantly higher (p<0.001) than their mean knowledge score at baseline (21.0). Also, there was an increase in the mean attitude score of participants at baseline (4.8) and at immediate-post intervention (5.8) and this was statistically significant (p=0.004).

Table 7b: Comparison of the mean scores of respondents in the Intervention group at baseline and at immediate-post-test

	N	Mean Scores	SD	Paired t	95% Confidence Interval		P
					Lower	Upper	
Knowledge scores							
Baseline	99	21.0	3.3	14.0	-5.8	-4.4	**<0.001**
Immediate-post intervention	99	26.2	3.3				
Attitude scores							
Baseline	105	4.9	2.0	3.0	-1.6	-0.3	**0.004**
Immediate-post intervention	105	5.8	2.7				
Social distance scores							
Baseline	107	3.1	2.2	1.2	-0.7	0.177	0.267
Immediate-post intervention	107	3.4	2.4				

N= number of respondents who had complete responses on all the items in each scale

The significant value p<0.05 is in bold

4.7.3 Comparison of mean scores at immediate-post and 3 weeks-post-test in the Intervention group using a paired t-test

There were no statistical differences between the mean scores of the participants at immediate- and 3 weeks-post-test on the knowledge, attitude and social distance items. However, there was a slight increase in the attitude score from 5.8 at immediate-post intervention to 6.1 at 3 weeks-post intervention. (See Table 9)

Table 7c

Comparison of mean scores at immediate-post and 3 weeks-post-test in the Intervention group using a paired t-test

	N	Mean Scores	SD	Paired t	95% Confidence Interval		P
					Lower	Upper	
Knowledge scores							
Immediate-post intervention	71	26.1	3.2	0.6	-1.2	0.6	0.551
3weeks post intervention	71	25.8	2.9				
Attitude scores							
Immediate-post intervention	78	5.8	2.8	0.9	-4.5	1.1	0.387
3weeks post intervention	78	6.1	3.2				
Social distance scores							
Immediate-post intervention	82	3.3	2.5	0.6	-0.7	0.4	0.553
3weeks post intervention	82	3.5	2.5				

N= number of respondents who had complete responses on all the items in each scale

4.8 Comparison of the change in mean scores from baseline to immediate-post-test between the Control and Intervention groups using the independent sample t-test

The mean difference in the knowledge scores of respondents in the Intervention group at baseline and immediate-post intervention is 5.1 and this is significantly higher (p<0.001) than the mean difference in the Control group (0.3). (See Table 8)

Table 8: Comparison of the change in mean scores from baseline to immediate-post-test between the Control and Intervention groups using the independent sample t-test

	N	Mean difference in Scores	SD	t	95% Confidence Interval		P
					Lower	Upper	
Change in mean knowledge scores							
Control	69	0.3	3.3	9.0	-5.9	-3.8	**<0.01**
Intervention	97	5.1	3.6				
Change in mean attitude scores							
Control	79	0.6	2.7	1.8	-1.8	0.1	0.079
Intervention	107	0.9	3.6				
Change in mean social distance scores							
Control	77	0.2	1.8	0.2	-0.7	0.5	0.814
Intervention	108	0.3	2.5				

N= number of respondents who had complete responses on all the items in each scale

The significant value p<0.05 is in bold

Section 5

4.9 Students' evaluation of the effectiveness of the training programme

Students in the Intervention group evaluated the effectiveness and relevance of the mental health-training programme they received. Their responses are presented in tables 10a and 10 b.

4.9.1 Students' evaluation of the effectiveness of the training programme

Almost half (48.2%) of the students noted that they had learnt the most about mental illness from the lecture sessions and the least from the group discussion (3.6%). An equal proportion of students (38.6%) affirmed that they enjoyed the drama and lecture sessions the most.

Table 9a: Students' Evaluation of the Effectiveness of the Training Programme

N=83

	N	%
From which part of the training programme did you learn the most?		
	40	48.2
Lecture	12	14.5
Question and answer	3	3.6
Group discussion	28	33.7
Drama	-	
Others		
What aspect of the training programme did you enjoy the most?		
Lecture	32	38.6
Question and answer	10	12.0
Group discussion	6	7.2
Drama	32	38.6
Others	1	1.2
Non-response	2	2.4

4.9.2 Socio-demographic variables associated with participants' response

Comparison between the ages and gender of participants and their responses on what aspect of the programme they enjoyed and learnt from the most is presented in Table 10b.

Exactly (50%) half of the females enjoyed the lecture aspect the most while more of the males (39.1) enjoyed the drama aspect. Over half (52.8%) of the participants aged 10-14 liked the drama aspect the most compared with 29.5 % of the older participants ($p<0.001$) (See Table 10b)

A higher proportion (38.9%) of the females learnt more from the lecture aspect of the programme compared with 29.8% of the male participants ($p=0.075$) (See Table 10b)

Table 9b: Socio-demographic variables associated with participants' response

Socio-demographic variables	N=80 What aspect of the training did you enjoy the most? Lecture n (%)	Discussion n (%)	Drama n (%)	Difference
Gender				
Male	15 (32.6)	13 (28.3)	18 (39.1)	x^2=5.192
Female	17 (50.0)	3 (8.8)	14 (41.2)	p= 0.075
Age				
10-14	17 (47.2)	0 (0)	19 (52.8)	x^2=16.616
15-17	15 (34.1)	16 (20.0)	13 (29.5)	p <**0.001**
	N=83			
	From what aspect of the programme did you learn the most about mental illness?			
	Lecture n (%)	Discussion n (%)	Drama n (%)	
Gender				
Male	24 (51.1)	9 (19.1)	14 (29.8)	x^2=0.755
Female	16 (44.4)	6 (16.7)	14 (38.9)	p= 0.685
Age				
10-14	17 (44.7)	6 (15.8)	15 (39.5)	x^2=1.060
15-17	23 (51.1)	9 (20.0)	13 (28.9)	p= 0.589

4.9.3 Students' evaluation of the usefulness of the mental health training programme

Majority (98.8%) of the participants indicated that the programme was useful to them as school children. Majority also affirmed that the programme had been of benefit to them (92%), their school (71.1%), and their family (61.4) but 41.0% were unsure about the benefit of the training programme to their community. (See Table 10c)

Table 9c: Students' evaluation of the usefulness of the mental health training programme

N=83

	No	**Yes**	**Don't know**
	n (%)	**n (%)**	**n (%)**
Do you think this programme has been useful to you as school children?	0 (%)	82 (98.8)	1 (1.2)
Has this programme been of benefit to you?	2 (2.4)	77 (92.8)	4 (4.8)
Has this programme been of benefit to your school?	2 (2.4)	59 (71.1)	22 (26.5)
Has this programme been of benefit to your family?	11 (13.3)	51 (61.4)	21 (25.3)
Has this programme been of benefit to your community?	7 (8.4)	41 (49.4)	34 (41.0)

4.10 Qualitative Analysis of the Intervention Programme

4.10.1 What did you like about the information you received?

While majority of the participants (41.8%) stated that the programme increased their awareness about mental illness, 19.0% expressed that it caused them to have a positive change in behaviour or belief about mental illness and 7.6% perceived that it helped them to develop empathy for people with mental illness.

Table 10a: What did you like about the information you received?
N=79

Theme	n	%
Increased awareness about mental illness		
"It makes you know more about the mental illness" *"To know the symptoms"* *"It educates me more about mental illness"* *"The information enlighten me on the issue of people with mental illness"*	33	41.8
Increased ability to recognize someone with mental illness		
"I would be able to identify a person with mental illness" *"It makes me to know the people with mental illness"* *"It teaches us how to know people with mental illness"*	4	5.1
Empathy		
"It makes me understand the condition or the state of people with mental illness and how to relate with them" *"The programme makes me understand my junior brother very well"* *"I take pity on those who has mental illness"*	6	7.6
Perceived change in belief or behaviour		
"It makes me to know that people with mental illness can be treated" *"that people with mental illness should not be tied down and flog instead be taken to hospital"* *"I like the teaching about psychosis and mental illness because I thought that it is a spiritual attack before"*	15	19.0
Others	21	26.6

4.10.1.1 Sub-themes in the 'Others' Responses of the Study Participants

The most frequently occurring sub-theme is the structure/presentation/content of the lecture. Participants noted that the' lecture was very interesting'. (See Table 10b)

Table 10b: Sub-themes in the 'Others' Responses of the Study Participants

N=21

Sub-themes on others	n	%
Structure/presentation/ content of the lecture		
"...I liked the way she classified the people disturbed with mental illness"	17	81.0
"The lecture was very interesting"		
"I liked the way they acted and demonstrated on it"		
"I liked the explanation of the mental illness"		
"The story of people of has mental illness"		
Manner of relating		
"I love how she speak and demonstrate"		
"I like the lecturer teaching"	4	19.0
"She is good in explaining"		

4.10.2 What did you not like about the information you received?

Majority of the participants in this study noted that they liked everything about the information they received. A few (5) of the participants stated that hearing about the symptoms of mental illness had created fear in them. Majority (13) noted that they did not like what the symptoms did to people and the behaviour of other people towards persons with mental illness. (See Table 10c)

Table 10c:What did you not like about the information you received?
N=24

Theme	n	%
Lecture methods *"I don't like how they act the drama"* *"I didn't like the group discussion"*	4	16.7
Negative emotions *"When I was taught about the symptoms of mental illness, I was scared"*	5	20.8
Symptoms of/behaviour towards persons with mental illness *"I did not like the symptoms"* *"what I did not like is about the nightmare"* *"about the situation of people with mental illness"* *"it is not good for someone to have mental illness"*	13	54.2
Others *"...have not seen someone with mental illness"* *"...that mental illness is sometimes transmitted through stress"*	2	8.3

Word count-2646

CHAPTER 5

Discussion, conclusion and recommendations

5.1 Discussion

This study evaluated the effectiveness of a mental health training programme on secondary school children's knowledge of mental illness, and their attitude and social distance towards persons with mental illness. Students' views about the effectiveness and relevance of the mental health training programme were also examined.

5.1.1 Socio-Demographic Characteristics of the Study Participants

Several studies conducted among young people in Sub-Saharan Africa have included school children from Junior Secondary School 1 (JSS1) (equivalent to 7 years of formal schooling) through to Senior Secondary School 3 (SSS3) (equivalent to 12 years of formal schooling). These studies report differing mean ages of study participants. In one study carried out among 1429 private and public secondary school children from JSS1 (year 7) to SSS3 (year 12) in rural and urban areas in Southwest Nigeria, the mean age of the participants was reported to be 14.4 (±1.8) years (Omigbodun *et al*., 2008). In another study carried out among urban public secondary school children from SSS1 (year 10) to SSS3 (year 12), the mean age of study participants was 15.4 (±1.2) years (Bella, 2014). The mean age of participants in this study was found to be 14.9 (±1.3) years. Participants were urban secondary school children in SSS1 (year 10), SSS2 (year 11) and SSS3 (year 12). The expectation would have been that since the sample was from senior secondary school classes, the mean age would be higher than the studies that had a mixed sample of junior

and senior school students and similar to the study on senior students but this was not the case. This observation on the mean age in these studies may be a pointer to the fact that the age range of students in Nigerian secondary schools is not fixed and children start school at various ages. Another possible reason for this may be the fact that the current study was carried out among private schools as opposed to public schools in the Bella (2014) study.

In Nigeria, the belief of the general populace is that the quality of education provided by private-owned schools is better than that provided by government-owned schools (Adebayo, 2009). However, the cost of education in most private schools is higher when compared with the government-owned schools. Therefore, children of the affluent who are in private schools are more likely to have access to schooling at an earlier age than their counterparts from less affluent homes.

This may also account for the preponderance of a parental educational level of 'secondary school and above' reported by the children in this study. Moreover, Ado-Odo Ota, the site of this study, is regarded as the most industrialized city in Ogun state thereby attracting skilled professionals and contributing to a higher level of education among this urban city inhabitants when compared to less urbanised and rural settings.

According to the most recent population census in Nigeria, Ado-Odo Ota LGA, the site of this study, has a male to female ratio of 1:2 (National Population Commission, 2006 National Census). However, in Nigeria, the secondary school net attendance rate for boys is 37.5% while girls have a net attendance rate of 32.6% (Heubler, 2005). This may account for the slightly higher proportion of males to females observed in this study and is similar to the findings of studies conducted in other parts of the country (Omigbodun *et al*., 2008, Bella *et al*., 2014).

A recent study carried out to estimate patterns of religious inclination among the Nigerian population revealed that 50% of the national population were Muslims, 40% were Christians, and 10% practiced indigenous religions (Anomie, 2015). However, the regional breakdown of the population statistics reveal that majority of the Christians were located in the southern and central parts of the country (Anomie, 2015). This may be a reason why an overwhelming majority of the participants in this study reported being of the Christian religion. This may also account for the predominance of children who indicated being from monogamous homes, seeing that the Christian religion advocates monogamous, as opposed to the polygamous family practice accepted in Islam and indigenous religious.

In the present study, less than a quarter (22.3%) of the participants affirmed that they knew someone with mental illness. This proportion is less than that reported in studies among school children in other parts of the world such as the United Kingdom (44%) and Canada (61%) (Pinfold *et al*., 2003, Koller *et al*., 2013). This may be due to a greater stigma associated with mental illness in this environment, leading to participants being reluctant to indicate that they knew someone with mental illness. Another possible reason may be that participants are in actual fact unfamiliar with the symptoms of mental illness and may be unable to recognise persons with mental illness especially less obvious types like anxiety and depression (Dogra *et al*., 2011).

Ownership of television by almost every home has led to an increase in screen time. Moreover, in recent times, Nigeria has witnessed a boom in the production of movies and home videos by her movie industry and an increase in the viewership of these movies (Aina, 2004). Interestingly, a large proportion of the films produced by Nollywood contain mental health themes (Aina, 2004) which may account for the rating of 'television and home videos' as the major source of mental health information among the participants in this study.

5.1.2 Baseline knowledge of, and attitude and social distance towards persons with mental illness among participants

Almost three-quarters (70.8%) of participants in both the intervention and control groups of this study disagreed with, or were unsure about the authenticity of the factual statement: 'One in four people will develop mental illness over the course of their lifetime'. These rates are comparable to other studies that had used a similar assessment tool in the United Kingdom (65%) and rural and urban Southwest Nigeria (73.3%) (Pinfold *et al*., 2003, Dogra*et al*., 2011). This lends support to the findings that children, as well as adults, do not know or are uncertain about the lifetime prevalence of mental illness.

A greater proportion of the participants in both Intervention and Control groups in this study disagreed with the statement 'Mental illness cannot be treated'. Comparably, a greater proportion of participants in both groups agreed correctly with the statement 'People can recover from mental illness'. This may be associated with cultural beliefs and media projection of mental illness (Aina, 2014) which portray that people recover from mental illness when they are taken to traditional healers and treated with some herbal concoctions prepared by the traditional healers.

However, common themes projected by the media about persons with mental illness also include violence, unpredictability and destructiveness (Evans, 2004), which are themes also upheld in several cultures (Dogra *et al*., 2011). This may be a contributing factor to the fact that a high proportion of the participants in this study agreed that 'people with mental illness are likely to become violent', 'always unpredictable' and that 'people with depression always like to be alone, feel sad and wish to die'.

In most Nigerian cultures, spiritual attacks are considered cruel acts of witchcraft on unsuspecting individuals (Ibeziako*et al*, 2009). Two-thirds of the participants in this study believed that mental illnesses were caused by spiritual attack. This belief may have been responsible for the students agreeing that a person with mental illness did not bring the illness on him or herself and should not be blamed for it. This may account for the predominance of participants who disagreed with the attitude statement 'People with mental illness are weak and have only themselves to blame'.

Furthermore, over half of the participants in this study disagreed with the statement; 'Psychosis is a spiritual problem that cannot be treated in the hospital'. The site for the present study houses one of the Federal Neuro-psychiatric hospitals in the country, which is popular for its expertise in the treatment of mental illness. It is therefore possible that participants in this study may have seen or heard about someone with mental illness having been successfully treated in this hospital.

Findings from other studies around the globe have found that people, irrespective of their age, express a desire to be socially distant from persons with mental illness (Link *et al*., 1978, Pinfold *et al*., 2003, Lauber *et al*., 2004, Gureje *et al*., 2005, Dogra *et al*., 2011). In concordance with these studies, a high proportion of participants in the current study indicated a desire for social distance from people with mental illness. Furthermore, the study by Lauber *et al* (2004) found that participants expressed a decline in desire to interact with individuals with mental illness, as these relationships grew more intimate. These participants were Swiss from ages 16 to 76 years.In contrast, the current study found that with increasing proximity of relationships with individuals with mental illness, participants showed an increasing willingness to interact.

On a close scrutiny for possible reasons for this opposite social distance reaction from school children in Southwest Nigeria, an observation was that while the presentation of the questions used

in the instruments in both studies assessed desire for social distance, the Lauber *et al.*, (2004) study used a case vignette that described someone currently experiencing the symptoms of mental illness. Questions assessing desire for social distance such as would you be 'willing to work with', 'move next door to' 'make friends with', 'Beth' (the individual described in the case vignette) were then derived from the case vignette. Responses on the itemsshowed a progressive increase in the proportion of people who indicated a desire for distance as the level of intimacy increased.The current study did not have case vignettesas part of its questionnaire. Also the items that assessed level of tolerance as intimacy of relationship increased, such as 'being in the same class' and 'being a friend to someone who had mental illness' were worded in the past tense, suggesting that the person with mental illness was no longer experiencing any symptoms, and may therefore be viewed as more acceptable and approachable.

On the contrary, there was an increase in the proportion of the students who indicated that they 'would be embarrassed if friends knew that someone in their close family had a mental illness'. This might be indicative of the stigma associated with persons with mental illness. Studies have shown that relatives of persons with mental illness experience stigmatization and discrimination from members of their community. In Nigeria, relatives of persons with mental illness are more likely to be unmarried than their counterparts (Gureje *et al*., 2005).

5.1.3 Socio-demographic characteristics associated with baseline knowledge, and attitude and social distance towards people with mental illness

The current study found that a higher proportion of females fell in the 'above average' category in their knowledge of mental illness than males, as determined using a subscale generated from participants' responses to the questionnaire. However, similar to studies in the USA and UK

among school children (Pinfold *et al*., 2003, Wahl *et al.*, 2011), this association between gender and knowledge responses was not statistically significant. On a further exploration of the effects of education on public perception of mental illness within gender, the UK study found that girls in grammar school had a significantly higher score on the knowledge items than girls in co-educational school.

Some studies among young populations suggest that males may be less sympathetic towards individuals with mental illness and less likely to think that mental health literacy is needful (Ng and Chan, 2000, William and Pow, 2007). In contrast with these reports, the current study identified a significantly higher proportion of males indicating positive attitudes towards persons with mental illness while majority of the females fell in the indifferent category in their attitude towards persons with mental illness. This is in concordance with a previous study conducted in this environment which found that a higher proportion of the females indicated 'not sure' to the most of the items assessing knowledge and attitude (Dogra *et al*, 2011). One reason given for this was that females may have been less confident of their answers and may be more willing to accept their uncertainty than males (Dogra *et al*, 2011). This ay also be applicable to the female participants in this study.

5.1.4 Effectiveness of the Mental Health Training Programme

The outcome of this study re-affirms the judgement that short training sessions are not only practicable but also effective in producing and sustaining positive significant changes in the perception of mental illness among school children. Unlike the study by Bella *et al*. (2011), this study recorded significant positive changes not only in participants' knowledge of mental illness

but also in their attitude towards persons with mental illness. Reasons for this might be the difference in the methodology of both studies. The Bella *et al*. (2011) study used a one-day 3-hour training session while this study used a 5-hour multiple contact training session over 3 days. It is possible that the longer duration of training and increased number of sessions are responsible for the attitude change recorded in this study. Other studies from around the globe that have recorded changes in attitude and social distance had longer periods of contact and more training sessions with study participants (Clement *et al*., 2011, Papish *et al*., 2013, Gulati *et al*., 2014).

Another possibility for the recorded attitude change among participants in the intervention group of this study might be the use of drama in the presentation of mental health information. Drama has been recognised as an effective tool in engaging target populations and getting them to discuss sensitive issues about concepts (Omigbodun, 2000). Its effectiveness in changing attitude towards persons with mental illness has been explored in some parts of the world (Quinn *et al*., 2011, Michalak *et al*., 2014). In an on-going mental health awareness programme in Malawi, the use of persuasive drama to tell stories of youths living with depression is being explored and these stories are broadcast as weekly programmes on the radio. Evaluation of this programme reveal that of the 69% of people who listen to the programme often, 94% feel that the programme is interesting and informative, 96.8% indicated that they learnt new things about mental illness from the programme and 96.4% indicated that they would seek help for their mental health problems or encourage a friend to seek help (Kutcher, 2015). Hence, participants in this study may have been able to relate more with the information they received as they watched it being performed.

Participants in this study showed no significant change in social distance. In one UK study, contact strategy was employed in dealing with psychiatric stigma and discrimination among school children (Pinfold *et al*., 2003). Training sessions were delivered by people with the experience of

mental illness, giving the study participants an opportunity to relate theory with reality as they were being taught (Pinfold *et al*., 2003).The current study did not make use of contact strategy. Therefore, participants may have had to replay scenarios they had witnessed in their minds in order to grasp the reality of the information they received. This may have accounted for the persistent desire for social distance among the participants of this study.

5.1.5 Students Evaluation of the Mental Health Training Programme

The mental health training programme in this study utilized a variety of teaching methods such as didactic lecture sessions, group discussion, question and answer and drama. Majority of the participants indicated that they learnt the most from the didactic lectures. This may be because participants come from a formal school setting where the major method of teaching is the didactic lecture and this is what they were accustomed to as a teaching method. Furthermore, a higher proportion of females indicated that they learnt more from the didactic lecture while a higher proportion of the males indicated that they learnt the most from the drama aspect.

It is worthy of note that participants liked and learnt the least from the group discussion sessions. The younger participants were more disposed to indicate this. It may be that participants did not feel knowledgeable enough to discuss mental health and mental illness among themselves and may have been uncomfortable in the group discussions.

A few participants mentioned that hearing about the symptoms of mental illness had created fear in them about mental illness and its presentation in sufferers. This might be a reason for the persistent desire for social distance from persons with mental illness despite the intervention programme.

The findings of this study reveal that there is a gap in secondary school children's knowledge of mental illness and attitude towards and social distance from persons with mental illness. It also shows that secondary school children may respond positively to mental health training and that didactic teaching and drama, with multiple contact sessions are effective and acceptable methods of training among secondary school children.

The shortcomings of the study lie in the conscription of study participants from private schools only which represents a selected group of secondary school children. Findings may therefore not be a reflection of school children in the location of the study. Secondly, the interval between the immediate post-assessment and the next assessment time was 3 weeks. This period may not have been long enough to determine whether the effects of the training were sustained. Other studies that had found a significant positive change utilized Contact methods in their training programmes such that their participants had the opportunity to meet and interact with persons who were living with a mental illness or who had suffered a mental illness. The current study did not make use of this method.

The strengths of this study are the use of multiple methods of learning including drama which study participants indicated that they enjoyed and learnt from. In addition, the study found a significant positive change in both knowledge and attitude of participants in the Intervention group. This is an improvement on the findings in this part of the world where studies found significant changes in knowledge only.

5.2 Conclusion

This study determined the pre-existing knowledge of mental illness and the attitude and social distance towards persons with mental illness among secondary school children. The effectiveness of a mental health training programme in changing the perception of secondary school children towards persons with mental illness was also evaluated. This study also explored the participants' views about the effectiveness and usefulness of the mental health training they had received.

Television and home videos appear to be the major source of school children's knowledge about mental health and mental illness. The findings of this study suggest that secondary school children have some knowledge about mental illness and an indifferent attitude and social disposition towards persons with mental illness. On the basis of gender, girls seemed to have better knowledge about mental illness while boys had more positive attitudes towards persons with mental illness. Multiple training sessions using multiple teaching methods were effective in changing the school children's perception of mental illness. This study suggests that didactic lectures and drama are effective and interesting teaching methods that can be used for mental health training programmes to positively change school children's perception.

5.3 Recommendations

In view of the findings of this study, the following recommendations are made:

1. The Federal Government of Nigeria, through the Ministry of Education and in collaboration with the Ministry of Health, should ensure the incorporation of a mental health syllabus into the secondary school curriculum.

2. Mental health professionals should partner with the Ministry of Education to develop a mental health syllabus for secondary school children. This syllabus should consist of educational programmes that include various participatory methods of learning and also provide a platform for

school children to meet and interact with persons with mental illness who have been able to successfully manage their illness and are living a good life.

3. Mental health professionals should partner with the Nigerian movie industry in order to project mental health and mental illness in the right perspective.

Word count-3296