

**EFFECT OF CHILD AND ADOLESCENT
MENTAL HEALTH EDUCATIONAL
INTERVENTION ON THE PERCEPTION OF
PUBLIC HEALTH NURSING STUDENTS IN
SOUTHWEST NIGERIA**

BY

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**A RESEARCH PROJECT SUBMITTED TO THE CENTRE FOR CHILD AND
ADOLESCENT MENTAL HEALTH IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN CHILD AND
ADOLESCENT MENTAL HEALTH OF THE UNIVERSITY OF IBADAN**

MAY 2017

DECLARATION

I hereby declare that this thesis is entirely my work and that it has not been submitted anywhere else for a diploma or degree. Other sources of information that were used have been duly acknowledged.

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OMOJOLA IBITOLA TOLULOPE

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CERTIFICATION

This is to certify that conduct of this study and the preparation of the thesis were carried out by OMOJOLA IBITOLA TOLULOPE in the CENTRE FOR CHILD AND ADOLESCENT MENTAL HEALTH, UNIVERSITY OF IBADAN, under my supervision.

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DEDICATION

This project work is dedicated to the Almighty God, the one who has been my source and
inspiration

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TABLE OF CONTENTS

	PAGES
Declaration	i
Certification	ii
Dedication	iii
Acknowledgements	iv
Table of contents	vi
List of Tables	x
Key to Acronyms	xii
Abstract	xiii
CHAPTER ONE	
1.1 Background to the study	1
1.2 Justification for the study	3
1.3 Aim of the study	6
1.4 Specific Objectives.	6
1.5 Research Hypothesis	6
1.6 Primary Outcome Measures	6

CHAPTER TWO

2.1 An Overview of Child and Adolescent Mental Health	8
2.2 Mental Health Problems and Interventions among Children and Adolescents	10
2.3 Mental health Problems and Stigmatization	13
2.4 Mental Health Promotion and Mental Health Education	14
2.5 Educational Needs Assessment of Public Health Nursing Students and Their Attitude and Perception towards Mental Disorders In Children And Adolescent	18

CHAPTER THREE

3.1 Study Location	21
3.2 Study Design	21
3.3 Study Population	22
3.4 Study Size Calculation	22
3.5 Sampling Techniques	23
3.5.1 Inclusion Criteria	23
3.5.2 Exclusion Criteria	23
3.6 Study Instruments	23
3.7 Ethical Consideration	25
3.8 Data Collection Procedure	26

3.8.1 Educational intervention 27

3.9 Data Management and Analysis 27

CHAPTER FOUR

RESULTS

4.1 Qualitative analysis result 28

4.2 Socio-demographic characteristics of respondents 33

4.3 Knowledge of mental health disorder in children and adolescent among
respondents at pre-intervention 35

4.4 Knowledge of conduct disorder and ADHD in children and adolescents
among respondents at pre-intervention 38

4.5 Attitude towards children and adolescents with mental health disorder
among all respondents at pre-intervention 42

4.6 Knowledge and attitude of respondents among respondents. 45

4.7 Change in knowledge and attitude score between control and intervention
groups at post-intervention 47

4.8 Effect of training intervention on respondents' knowledge of mental
health disorders in children and adolescents 49

4.9 Effects of training intervention on respondents' knowledge of conduct
Disorder, ADHD and depression in children and adolescents 51

4.10 Effects of training intervention on respondents' attitude towards

and adolescents with mental health disorders	53
CHAPTER FIVE	
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS	
5.1 Discussion	61
5.1.1 Socio-demographic characteristics of respondents	61
5.1.2 Knowledge of all respondents about mental health disorders in general at	
Baseline	62
5.1.3 Knowledge of all respondents on conduct disorder and ADHD at	
Baseline	63
5.1.4 Knowledge of all respondents on depression	64
5.1.5 Attitude of all respondents about mental disorders in general at baseline.	64
5.1.6 Attitude towards people with mental illness.	65
5.1.7 Effect of mental health educational intervention.	65
5.2 Conclusions	68
5.3 Recommendations	69
REFERENCES	70
APPENDIX A- Consent form	80
APPENDIX B Focus Group Discussion guide	81
APPENDIX C Questionnaire	83
APPENDIX D Ethical Approval	

LIST OF TABLES

TABLES	TITLE	PAGES
Table 4.1	Emerging themes and subthemes from qualitative needs assessment of public health nursing students.	31
Table 4.2	Socio-demographic characteristics of respondents	36
Table 4.3	Knowledge of mental health disorder among all respondents at baseline	38
Table 4.3b	Mean knowledge of mental health disorder in children among respondents at pre-intervention.	39
Table 4.4a	Knowledge about conduct disorder and ADHD in children and Adolescent among all respondent at pre-intervention.	41
Table 4.4b	Knowledge about conduct disorder and ADHD in children and Adolescent among all respondent at pre-intervention continued.	42
Table 4.5	Mean knowledge of scores of conduct disorder and ADHD among respondents at pre-intervention phase.	43
Table 4.6	Attitude of respondents towards children and adolescent with mental health disorders at pre-intervention.	45
Table 4.7	Mean score of respondents' attitude towards children and adolescent Mental health disorders at pre-intervention.	46
Table 4.8	knowledge and attitude among respondents at pre and post-intervention.	48
Table 4.9	Change in knowledge and attitude score between control and intervention group at post-intervention.	50
Table 4.10	ANCOVA analysis showing the effect of training intervention on respondents knowledge of mental health disorders.	52
Table 4.11	ANCOVA analysis showing the effect of training intervention on respondents knowledge of conduct disorder and ADHD in children and adolescents.	54

Table 4.12	Comparison of respondents responses to questions measuring About depression at pre-intervention.	58
Table 4.13	Ttest comparing accurate scores for questions measuring knowledge about depression at pre-intervention	59
Table 4.14	Ttest comparing accurate scores for questions measuring knowledge about depression at post-intervention.	61
Table 4.15	Ttest comparing accurate scores for questions at post-intervention.	62

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KEYS TO ACRONYMS

ADHD: Attention Deficit Hyperactivity Disorder

CAMH: Child and Adolescent Mental Health

FGD: Focus Group Discussion

MhGAP: Mental Health Global Action Plan

PHNS: Public Health Nursing Students

WHO: World Health Organisation

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ABSTRACT

Background: Child and adolescent mental health has received limited attention from policy makers, the public and even healthcare workers, and despite progress in scientific knowledge of mental disorders and their treatment, there continues to be prejudice, stereotyping and stigma towards mental illness. The reason for such is that there is still lack of knowledge and dearth of literature on the issue of knowledge and attitude towards children with mental health disorders.

Public health nursing students who are undergoing training to work in the community where majority of children and adolescents with mental health disorders are found play important roles in the identification and management of this group of patients. It is not known if providing training in child and adolescent mental health for public health nursing students will improve their abilities to perform these roles by improving their knowledge and attitudes. This study was therefore designed to assess the effect of a single session of mental health education on knowledge and attitude of public health nurses on knowledge and attitude of child and adolescent mental health disorders in southwest Nigeria.

Methodology: This study was a quasi-experimental intervention study involving 78 public health nursing students drawn from two purposively selected public health nursing schools in Ibadan, Oyo State and Ilese-Ijebu, Ogun State. The intervention group and control group comprised 38 and 40 students respectively. The study was carried out in four different stages: a needs assessment which involved a focus group discussion, a baseline or pre-intervention phase, an intervention phase and a post-intervention phase. The instruments used were a focus group discussion guide, Modified knowledge and Attitude towards Child and Adolescent Mental Disorders Scale, and questions on the Mental Health Gap Action programme training

module on Developmental and Behavioural Disorders. A question was adopted from the vignette questionnaire on depression for the two groups. Both groups had study instruments administered at baseline. Participants in the intervention group received a four-hour training session followed by a post-intervention assessment 3-weeks post intervention. The control group received no training, but was also assessed after 3 weeks.

The control group was exposed to the intervention by giving them the training manual after the post test data collection, as an ethical obligation of beneficence. Data were analysed using chi-square test for test of association between categorical variables and the t-test (individual and paired) to compare means. ANCOVA analysis was done to compare the control and intervention groups at post-intervention phase, while adjusting for baseline scores. The level of significance was set at 5%.

Results: Response rate was a 100%. The mean age of the entire sample was 40.17 years, majority (80.8%) were female and (70.5%) were married. The study showed that the educational intervention was effective in improving knowledge and attitude of public health nursing students towards child and adolescent mental health disorders, with post-intervention mean knowledge scores of 18.82 (SD 8.08) and 16.30 (SD 4.04) in the intervention and control groups respectively ($p=0.002$). The effect of the mental health education intervention on knowledge and attitude was further examined using ANCOVA analysis of the post-intervention mean scores in the intervention and control groups, controlling for baseline scores, with p values of 0.003, <0.001 and <0.001 for knowledge of mental health disorders, conduct disorder and ADHD, and attitude respectively. These differences all showed statistical significance.

Conclusion: A four-hour training of public health nursing students was found to be effective in improving their perceptions towards child and adolescent mental health. This study provides further data to support the importance of mental health educational interventions in improving

knowledge and attitude of healthcare providers towards child and adolescent mental health disorders.

Key words: Public health student nurses, Attention Deficit Hyperactivity Disorder, Conduct disorder, Depression, mental health educational intervention.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Child and Adolescent Mental Health have received a lack of attention from policy makers, the public and even health care workers. The lack of attention to the mental health of children and adolescent may lead to a lack of necessary early interventions for mental health disorders, with lifelong consequence, undermines compliance with health regimens, and reduces the capacity of societies to be safe and productive. Recognition of child and adolescent mental disorders and advances in the care of children and adolescents with mental disorders provide an incentive to synthesize current knowledge, identify issues for future exploration, and consider appropriate policies (Hackler, 2011)

Mental health has been defined as a state of well-being in which the individual recognises his or her own abilities and is able to cope with normal daily stresses of life (World Health Organisation, 2005). Positive mental health is a pre requisite for normal growth and development, optimal functioning, development and maintenance of productive social relations, effective learning, and ability to care for oneself and good physical health.

The roles of public health nurses in primary health care centres are of importance in developing settings like Nigeria where these Health structures exist. As children represent the future and the importance of their emotional, psychological, and physical wellbeing is being increasingly recognized, the professional development of public health nurses who work in the primary

health care centres and the community is a priority in developing countries such as Nigeria. Knowledge about mental health disorders plays a major role in the attitude of people towards mental disorders (Makanjuola et al, 2012; Adebowale et al, 2014; Jacob, 2013). To support this capacity development it is important to review what knowledge, education and training public health nurses need to ensure that they are equipped with relevant skills and competencies to deliver high quality care and evidence based therapeutic interventions to children and adolescents with mental health disorders as well as to support families and carers.

This study becomes necessary because the rate of stigmatisation experienced by mentally ill patients especially children and adolescents is becoming alarming. The stigma associated with mental illness has a huge negative impact on several aspects of the lives of those with a mental illness especially children and adolescents. Numerous studies have discussed the negative impact of this stigma on the psychological well-being of patients, as well as on their self-esteem and their social and occupational opportunities. (Stuenkel and Wong, 2011). A study conducted by representatives from the 'Time to Change' (2008) campaign demonstrated that nine out of ten people with mental health problems (87%) reported the negative impact of stigma and discrimination on their lives. Given the negative impact of stigmatisation, there have been a number of studies on ways to combat the stigma surrounding mental illness. Corrigan & Watson (2002) illustrated three main strategies: protest, education and contact. Although protest seemed to have some effect in reducing negative attitudes, it did not influence any positive attitudes. However, the strategies of education and contact have demonstrated the ability to enhance positive attitudes towards people with mental illness.

On this background, this present study seeks to explore the educational strategy as an intervention to imbibe in public health nursing students who are training to be primary care providers a positive perception and attitude towards children with mental disorder in order to achieve a state of positive mental health in children and adolescents.

Research has determined that the stigma attached to mental illness is mainly a result of the misconceptions others have that people with mental illness are dangerous and unpredictable. People with mental illness have repeatedly conveyed that the stigma and discrimination frightens them more than the worst symptoms of their illness. Research has illustrated how this fear of stigma creates a process of self-stigma and acts as a major barrier to seeking help and treatment for people with mental illness (Byrne, 2000 and Smith 2002)

This study therefore seeks to conduct an assessment of the mental health educational needs of public health nursing students and move a step higher by evaluating a mental health education intervention for these students to bring about a change in their attitude towards persons with mental disorders especially children and adolescents. It is strategic that this study is conducted at the period the students are under training as the planned intervention could potentially transform them into better healthcare providers for children and adolescents with mental disorder.

1.2 JUSTIFICATION FOR THE STUDY

Throughout the history of the WHO mental health programming, Child and adolescent mental health has not received attention commensurate with that dedicated to adults and the elderly. (WHO, 2003). Children and adolescents are individuals between the first day of life to 19 years of age, adolescents being specifically 10-19 years old according to the World Health Organisation (WHO, 2015). According to the national demographic health survey in Nigeria 2013(NPC, 2014), children and adolescents jointly contribute about 54.5% of the population this implies that more than half of the population are children and adolescents.

Good mental health among children and adolescents leads to the development of and the capability to manage thoughts, feelings, behaviour and the ability to cope with the demands of

everyday life. The WHO recognises that mental health problems among adolescents are an important area requiring urgent focus and will be in general one of the most serious categories of global health problems by the year 2020.

However, there is low awareness about mental health amongst children and adolescents. Mental health literacy is a much neglected aspect of education even among health care workers; with resultant effect of such workers showing negative reactions to those who have been diagnosed with a mental health disorder (Jorm 2011)

The public, including many nurses believe that mental health problems are caused by the individual's actions or inactions such as weakness of character or morals, laziness, lack of discipline and lack of self-control.(Steffenak, Nordström et al. 2015) Public health nurses comprising a large percentage of the health care team who work in the community can have a significant impact on decreasing or contributing to the health care disparities and discrimination experienced by Mental health patients. Public health nurses are nurses who are trained to work in the communities and rural areas, they come in contact with people at the grassroots where there is a low level of literacy and awareness about mental health disorders. Their role in the community is to health educate the public about mental health disorders, identify children and adolescents with mental health disorders early and give the necessary management within their capacity or refer to a specialist. Public Health Nurses need to be aware of their own stigmatising attitudes towards individuals with mental health problems, in order to avoid discriminating against their patients through inappropriate distancing i.e. avoiding patients with mental health disorders, inadequate teaching as a result of lack or inadequate knowledge about mental health disorders and other actions such as hostility, etc., which may be negative.(Steffenak, Nordström et al. 2015)

It is therefore important that public health nurses understand and are able to recognise mental health disorders when they see them and more importantly develop a right attitude towards children with mental health disorders.

Public health nursing curriculum in Nigeria prepares the students as a formidable part of the health care work force, where majority end up working in primary health care centres within the community. This gives them opportunity to meet and potentially provide care for more children and adolescents with mental health disorders who may not present in tertiary health facility, most people with mental illness live within the community. (Stark, 2004). It is therefore important that they understand and are able to recognise these disorders when they see them and more importantly develop a non-stigmatising mind set towards children with mental health disorders. Furthermore, the intervention being evaluated in this study is in line with the W.H.O. Global Mental Health Action Plan 2013-2020 (W.H.O. 2013) targeted at producing a world in which mental health is valued, promoted and protected; mental disorders are prevented and persons affected by these disorders are able to exercise the full range of human rights and to access high quality, culturally-appropriate health and social care in a timely way to promote recovery, in order to attain the highest possible level of health and participate fully in society and at work, free from stigmatization and discrimination.

In spite of the existence of effective interventions for the care of children and adolescents with mental disorders, a huge proportion of those with these disorders do not have access to care due to a series of barriers inclusive of low level of knowledge and poor perception and negative attitude towards children and adolescent with mental disorder by public health nurses. This present study is therefore a response to this problem as it attempts to conduct an educational needs assessment of the public health nursing students and also provide a mental health educational intervention to these students which is expected to increase their knowledge level about child and adolescent mental health and also bring about a change of attitudes towards

children and adolescents with mental disorders. This intervention is pertinent in that the public health nursing students would have been properly oriented about mental health and the care of children and adolescents with mental disorders before they become practitioners which will help improve the lots of children and adolescents they will care for in the future.

To the best of the knowledge of the researcher there is no existing study that carried out with the combination of the proposed objectives (an educational needs assessment of the public health nursing students, a child and adolescent mental health education intervention and assessment of perceptions of public health nursing students in southwest Nigeria.) This study when completed, will therefore contribute significantly to the body of existing literature in the field of child and adolescent mental health.

1.3 Aim of the Study

The aim of the study is to evaluate the knowledge and attitude of public health nursing students in the recognition, assessment and management of children with mental health disorders and to assess the effectiveness of a child and adolescent mental health educational intervention on the knowledge and attitude of students of the public health nursing schools.

1.4 Specific Objectives of the study

The specific objectives of the study are as follows;

1. To assess the knowledge of public health nursing students about the recognition, assessment and management of children and adolescents with mental health problems.
2. To assess the attitudes of public health nursing students toward the recognition, assessment and management of children and adolescents with mental health problems.
3. To carry out a child and adolescent mental training intervention among students of a public health nursing school.

4. To evaluate the effect of the training intervention on the knowledge and attitude of students of public health nursing schools with regard to child and adolescent mental health

1.5 Null Hypothesis

This study will be guided by one null hypothesis.

H₀: There will be no difference between the knowledge and attitudes of public health nursing students before and after the training intervention.

H₁: There will be a significant effect of training intervention on the knowledge and attitude of public health nursing students towards child and adolescent mental health disorders.

PRIMARY OUTCOME MEASURES

Pre and Post test scores of Public Health Nursing students' knowledge and attitude on child and adolescent mental health.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviewed literature on the following sections

2.1. An Overview of Child and Adolescent Mental Health

Mental health is recognised globally as being of enormous social and public health importance (Johnstone' 2001). 'There is no health without mental health' was the clear message of the European Conference on Promotion of Mental Health and Social Inclusion (Geber-Teir 1999). The Mental Health Action Plan for Europe (W.H.O. 2005a) recommends that mental health should be made an inseparable part of public health. Mental health should be a priority within the framework of health care services and especially within health education and health promotion (Sakelaris, 2010). The vision of the W.H.O. Global Mental Health Action Plan 2013-2020 (W.H.O. 2012a; 2013a) is *'a world in which mental health is valued, promoted and protected; mental disorders are prevented and persons affected by these disorders are able to exercise the full range of human rights and to access high quality, culturally appropriate health and social care in a timely way to promote recovery, in order to attain the highest possible level of health and participate fully in society and at work, free from stigmatization and discrimination'*. Furthermore, the recent W.H.O. (2013b) report titled 'Investing in Mental Health' stresses the responsibility of governments to ensure that needs are met and that the mental health of the whole population especially children and adolescents is promoted. It urges governments and other stakeholders to undertake a number of key actions including provision of better information, awareness and education about mental health and illness.

Mental health is essential to positive growth and development, it is a basic human right, and is fundamental to all human and social progress. It is a prerequisite to a happy and fulfilled life for individual citizens, for effectively functioning families and for societal cohesion (Jané-Llopis & Braddick 2008). Likewise, mental disorders affect the functioning of the individual, resulting in not only enormous emotional suffering and a diminished quality of life but also alienation, stigma and discrimination. This burden extends further into the community and society as a whole, having far-reaching economic and social consequences (W.H.O. 2002). Mental Health Europe (2011) recommends that public awareness should be raised, stressing the need to carry on developing anti-stigma campaigns and education, to measure their impact and to further publicise mental health.

At any point in time, mental and behavioural disorders are present in about 10% of the adult population worldwide (W.H.O. 2004a). Most adults with a psychiatric disorder had a diagnosable disorder as children (Kim-Cohen et al. 2003). One fifth of teenagers under the age of 18 years suffer from developmental, emotional or behavioural problems, while one in eight has a mental disorder. Among disadvantaged children the rate is one in five (W.H.O. 2004a). Children and adolescents with mental disorders can be at increased risk of mental ill-health in adulthood (W.H.O. 2007). The proportion of adult psychiatric disorders that can be attributed to any juvenile disorder before 15 years of age ranged from 23% to 46% (Kim-Cohen et al. 2003). Every individual is likely to have to deal with mental illness at some time, whether in family members, colleagues or ourselves (Gray, 2002). Some 2 million young people in the European Region of W.H.O. suffer from mental disorders ranging from depression to schizophrenia, and many of them receive no care or treatment (W.H.O. 2005b). Young people with the highest incidence and prevalence of

mental ill health receive the least help to overcome these threats to their survival, their well-being and their contribution to the lives of others. (McGorry, 2011).

2.2. Mental Health Problems and Intervention among Children and Adolescents

Mental health has been defined as a state of well-being in which the individual recognises their own abilities and is able to cope with normal daily stresses in life (World Health Organisation, 2005). Language and culture are central considerations in discussions about mental health. For example, people working within education services might refer to young people who are 'experiencing' 'emotional and behavioural problems', while those working within health services might speak of 'psychiatric disorder' or 'psychological difficulty'.

There are some factors which are well established in literature to increase children's vulnerability to mental health problems. These include a learning disability of any kind, enduring physical ill health such as epilepsy, physical or sexual abuse, witnessing domestic violence, among others. A child whose parent has a serious mental health difficulty is also more likely than others to develop a mental health problem. There are also factors which protect against the development of a mental health problem. These include attributes of the individual child, such as an adaptable nature or good self-esteem, and a range of relationship factors, including peer and family relationships. For children who experience adversity, the consistent availability of a person whom they can trust and in whom they confide fosters resilience. (McGorry 2011).

All over the world, one of the challenges in the last years has been developing new, integrated community treatments and new supporting programs for chronic patients (Vezzoli et al. 2001). Most people who suffer from severe mental illness live within the community (Stark et al. 2004), but this physical presence does not mean that they are

included as part of those communities (Perkins & Repper 2005), and negative attitudes toward mental disorders have been known to worsen the overall quality of life of the patients (Aghanwa 2004). However, real progress in the care of persons with mental illness requires that stigmatisations are reduced alongside improvements in prevention, treatment and self-help strategies (Crisp et al. 2005).

In communities, while some people are able to get help for their health problems, some may not and others may go unidentified. Real improvements in public health will only be effected by tackling the variations in health status between the social groups and between different parts of sectors of the community. In Nigeria the tier of government closest to the populace is the local government, which is responsible for the provision of primary health care. The first point of contact of the populace with medical help is usually through primary healthcare. The medical personnel working in primary health care facilities should be able to identify mental health problems at contact. Public health nurses are employed to work in primary health centres as well as doctors, community health extension workers and other ancillary medical staff. Child and Adolescent Mental Health Services are now integrated into local health networks and structures, demanding a requirement for nurses working within mental health services to care for and provide therapeutic interventions to children and adolescents as appropriate, at local level.

To support the development of child and adolescent mental health care capacity, it is timely to review what knowledge, education and training nurses working within these services need to ensure that they are equipped with relevant skills and competencies to deliver high quality care and evidence based therapeutic interventions to children and adolescents presenting in need of such services and to support their families and carers.

Positive mental health is a prerequisite for normal growth and development, for optimal psychological development, the development and maintenance of productive social

relationships, effective learning, an ability to care for oneself, good physical health, and effective economic participation as adults. While most children and adolescents have good mental health, the number one health issue for young people is their mental health. Studies have shown that 70% of health problems and most mortality among the young arise as a result of mental health difficulties and substance use disorders (McGorry, 2005), while 1 in 10 children and adolescents suffer from mental health difficulties severe enough to cause impairment (HSE, 2013).

Adolescent mental health is essential for the building and maintenance of stable societies (W.H.O. 2005b). Today's adolescents are the future adults whose health can have an impact on the quality of life of the whole community. The stage of adolescence marks the transition from childhood to adulthood (Bastable 2003). Usually an adolescent becomes deeply aware of many life issues and questions relating to himself and others, to community and nation. The teenager wants to formulate his/her own answers rather than rely on parents or teachers' judgements as in the earlier years of childhood (Pikunas 1976). Adolescence is a time of rapid advance in cognitive skills and intense acquisition of new information that establishes the basis for a productive adult life (Golub 2000). It is a time of great change, when young people often acquire lifetime habits and attitudes (Naidoo & Wills 2000).

2.3 Mental Health Problems and Stigmatization

Negative attitudes toward mental illness emerge early in childhood (Wahl 2002). Children grow up learning the social stereotypes which are assigned to particular social groups within their society often before they have any direct contact and experience with these groups (Augoustions et al. 1994).

Rose et al. (2007) have found 250 labels used by 14 year old English students to stigmatise people with mental illness. Furthermore, a study showed that adolescents are more likely to

describe a mentally ill person as dangerous and violent after reading news reports of persons with mental illness committing violent crimes, compared to adolescents who read a factual article about mental illness (Dietrich et al. 2006). Therefore, the role of media in portraying individuals with mental health problems can affect public perception and result in stigmatization of the individuals with mental health problems. Another study asked young persons to recall news stories about mental health problems during the past twelve months and they found that only a minority could recall this kind of stories, while, the most common stories recalled among others were those involving crime or violence (Morgan & Jorm 2009).

Mental health difficulties in young people can damage self-esteem and relationships with their peers, undermine school performance and reduce quality of life, not only for the child or young person, but also for their parents, carers or family members. With almost 75% of all serious mental health difficulties first emerging between the ages of 15 and 25 (Hickie, 2004, Kessler et al, 2005, Kim-Cohen et al, 2003) and the majority of adult mental health difficulties have their onset in adolescence. Mental health difficulties in childhood are the most powerful predictor of mental health difficulties in adulthood. It is essential that children and adolescents have access to timely assessment and evidence based treatments, provided by staff who are equipped with the relevant current evidence based knowledge and skills.

However, persons with mental illness experience stigma and the healthcare providers taking care of them also experience 'stigma by association'. In as much as the stigma exists, the possibility of people with mental health illnesses receiving optimum care is markedly reduced. (Lauren Hunter et al, 2014)

2.4 Mental Health Promotion and Mental Health Education

Education is defined as the experiences that influence the way people perceive themselves in relation to their social, cultural and physical environments; a complex and purposeful process for expediting learning (Modeste & Tamayose 2004). Health

education is one of the means of achieving the goals of health promotion (Kok 2004). Health education is dedicated to the improvement of the health status of individuals and the community (Gilbert et al. 2011). Health education comprises consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community health (W.H.O. 1998). This part of health promotion and its effectiveness will be enhanced if there is a supportive environment established by a health policy (Norton 1998). Health education provides knowledge about health through interactions between educators and learners using a variety of learning experiences (Modeste & Tamayose 2004).

Mental health promotion involves actions to create living conditions and environments that support mental health and allow people to adopt and maintain healthy lifestyles. (WHO 2010) These include a range of actions to increase the chances of more people experiencing better mental health (W.H.O. 2010). The Framework for Promoting Mental Health in Europe supports that mental health aspects should be integrated into all health promotion programmes (Lahtinen et al. 1999).

Mental health promotion is recognized as an integral component of health promotion in general (Sturgeon 2010). Promotion of mental health is an umbrella concept covering all positive activities, including individual, interactional, structural or cultural approaches, aiming both to increase the value and visibility of mental health and encourage concrete efforts to protect, maintain and improve mental health (Lahtinen et al. 1999). Mental health promotion aims to protect and support emotional and social wellbeing and create the conditions that enable optimal functioning of individuals, families, communities, and societies (McCollam et al. 2008).

Mental health education is an umbrella concept covering all educational approaches to

increase knowledge and promote skills related to mental health (at population, group or individual level) which take place in the media, educational institutions, services and other settings (Lahtinen et al. 1999). Another widely used term is “mental health literacy”, which is defined as the ability to gain access to, understand, and use information in ways which promote and maintain good health (Lauber et al. 2003). It refers to knowledge and beliefs about mental disorders which aid their recognition, management or prevention including the ability to recognise specific disorders knowing how to seek mental health information knowledge of risk factors and causes, knowledge about individual coping mechanisms, of professional help available, and attitudes that promote recognition and appropriate help-seeking (Jorm et al. 1997).

Health promotion and health education are important components of the role of Health Visitor, Nurse and Midwife (Norton 1998). In Greece, Health Visitors according to their professional rights are responsible for planning, implementing and evaluating health education programmes (Presidential Decree 1989). The W.H.O. Ottawa Charter for Health Promotion (1986) defined health promotion as the process of enabling people to increase control over, and to improve their health (W.H.O. 1998). Tossavainen et al. (2004) support that health promotion education focuses on the development of the whole person, viewing the total individual in a total environment. Benefits of health promotion information may include changes in attitudes, increased awareness and knowledge, lowered risk for certain health problems, better health status, and improved quality of life (Modeste & Tamayose 2004). However, Pender et al. (2011) support that health promotion is motivated by the desire to increase well-being and actualize human health potential.

Regarding the aims of community health, mental health promotion aims to raise the position of mental health in the scale of values of individuals, families and societies, so that decisions taken by government and business improve rather than compromise the population’s mental health, and allow informed choices about their behaviour (Herrman &

Jané-Llopis 2005). Education replaces stigma with more accurate conceptions about the disorders through didactic programmes (Corrigan et al. 2002). Moreover, modifying public perceptions about mental illness could promote policy changes favourable to psychiatry (Austin & Husted 1998).

Wei and Kutcher (2012) argue that school-based mental health programming needs to be considered as part of usual child and youth mental health policies and plans. Along with this, W.H.O. (2004c) encourages governments (National Ministries of Health) to develop mental health programmes which, will include interventions for mental health promotion. There is some evidence that education may reduce the stigma of psychiatric illness (Corrigan et al. 2005). Several studies have shown participation in brief courses on mental illness and treatment lead to improved attitudes about people with mental illness (Corrigan et al. 2002). In Athens (Greece) a mental health education programme was implemented in which different members of the community participated, with a positive feedback from the participants who benefited from this intervention (Vassiliadou et al. 2004).

Another study in Japan suggests that an educational program is effective in reducing stigma attached to mental illness and disorder (Tanaka et al. 2003). In 1996, the World Psychiatric Association undertook a global programme to address the stigma and discrimination because of schizophrenia targeting different groups within the community in several countries across the world (Sartorius & Schulze 2005). Gale (2001) supports that mental health promotion can benefit everyone, even those who have not been experiencing mental health problems, and more recently, Puactivities that favourably influence knowledge, attitudes, habits and practices (Modeste & Tamayose 2004). School plays an important role in health and social-emotional development (Hosman & Jane-Llopis 2005), mental health awareness can be taught in school

(Brown & Bradley 2002) and mental health instruction should be highlighted in school health education (Lahtinen et al. 1999).

Schools are convenient, as well as crucial settings for initiating action, since youth spend large amounts of time there (European Commission 2005), and education belongs to schools, since it is largely responsibility for the transmission of knowledge, values, cultures, and offering opportunities of social interaction for children and young people (Caldas de Almeida 2001). Mental health education should reflect the needs of young people (Woolfson et al. 2009). Previously, a W.H.O. (1995) expert committee on comprehensive school health education and promotion recommended that mental health education be part of a comprehensive school health programme. Schools provide an essential arena for health education (Lavin et al. 1992, Hagquist & Starrin 1997) since they are already involved in the process of affecting the lives of students, staff, parents and entire communities (Lavin et al. 1992).

The school environments, as well as curriculum content, provide a good opportunity to disseminate information, foster good habits and raise children's awareness of mental health (British Medical Association 2006). Several authors have suggested that school-based mental health is one way of tackling the stigma associated with mental health problems (Essler et al. 2006).

In spite of the forgoing, health education, mental health promotion and the prevention of mental health problems generally receive few curriculum hours (Hootman & King 2003). Kutcher et al. (2009) argue that mental health, which is a fundamental part of student health and well-being, still remains largely absent from the education agenda. Nevertheless, DeSocio et al. (2006) showed that children who participated in a mental health education programme realized a significant gain in their knowledge about mental

health and mental illness. Hence, the adolescents are a group towards which mental health educational interventions should be addressed.

2.5 Educational Needs Assessment of Public Health Nursing Students and their Attitude and Perception towards Mental Disorder Patients

A need assessment is a systematic approach to studying the state of knowledge, ability, interest or attitude of a defined audience or group involving a particular subject. Cooperative extension system professionals use needs assessments to learn about important issues and problems faced by our public in order to design effective educational programs. Programs and products that specifically target documented needs are inherently effective and marketable. A needs assessment also provides a method to learn what has already been done and what gaps in learning remain. This allows planning and policy makers to make informed decisions about needed investments, thereby extending the reach and impact of educational programming.

Nurses are the providers who spend the most time with patients and their families, who know the intricacies of their patients' families, and who have connected with family units in a way that other health professionals typically have not (Dempsey & Ribak, 2012). More than 86% of psychiatric and mental health nurses feel they are able to spend more time with patients than physicians can (Janssen, 2011). The literature identifies two factors that may contribute to reluctance on the part of new graduate nurses to enter psychiatric mental health nursing. First, a lack of understanding about the contributing factors of stigma can be a principle barrier to promoting psychiatric mental health nursing (Stuhlmiller, 2005). Most societies holds out dated beliefs about mental illness (Halter, 2008). A central theme of stigma of mental illness is a perception that persons with mental illness are dangerous, unpredictable, incompetent and unlikeable (Alexander & Link, 2003). Persons with mental illness experience stigma and the healthcare professionals taking care of them also experience 'stigma by association' (Halter, 2008). As long as this stigma exists, the possibility of consumers of mental health services

receiving optimal care is severely diminished (Happell, 2005), as is the vision of psychiatric mental health nursing as a satisfying, worthwhile area of practice.

If nursing education does not address stigma, it is possible that nurses will hold the same stigmatizing attitudes as have been found in the general public, including beliefs that persons with mental illness are not only in control of their illness but that they caused it (Ilic et al., 2013). Similarly, nurses, as society in general, may react to persons with mental illness with anger and believe that help is not deserved (Romem, Anson, Maymon, & Moisa, 2008). None of these beliefs encourage nurses to enter practice settings with persons with mental illness.

According to Happell and Gough (2007), although most undergraduate, pre-licensure nursing students report being relatively well informed about mental illness, they also have negative stereotypes towards mental illness and consumers of mental health services. Alexander and Link (2003) found that personal and professional contact with persons with mental illness might reduce stigma. Individuals who have family nor friends with mental illness perceive these individuals as less dangerous, and desire less social distance from them, and these extend to professional relationships, similarly, people who work or volunteer in mental health facilities show lower negative attitudes and perceived dangerousness from persons with mental illness (Alexander & Link, 2003). Happell and Gough (2009) report that nursing education can positively influence these attitudes. Once student nurses have completed their mental health nursing clinical experiences, many of them describe positive shifts in attitudes towards persons with mental illnesses.

Karimollahi (2011) described undergraduate, pre-licensure students mature as they recognize that persons with mental illness are like any other persons requiring care. However, Undergraduate pre-licensure nursing students perceive mental health nursing as stressful (Karimollahi, 2011). Student nurses report intense anxiety stemming from fear of the unknown, media effects, peer effects, fear of violence, and erroneous beliefs (Karimollahi, 2011). The

media depicts persons with mental illness as fearful, that they possess childlike perceptions of the world, or that they are responsible for their illness and therefore weak (Ilic et al., 2013). Anxiety is caused by students' perceived lack of preparation for work in mental health settings compared with medical-surgical settings, but interactions with persons with mental illness can reduce students' fears and apprehension (Happell & Gough, 2009). Undergraduate students also receive negative information from their peers regarding acute care psychiatric units, further perpetuating existing fears (Karimollahi, 2011). A negative clinical experience can have a detrimental effect on a student's view of mental health nursing, making it unlikely that they will choose psychiatric mental health nursing as a career. No studies could be found that examined the attitudes and beliefs of pre-licensure graduate nursing students and their plans to choose psychiatric mental health nursing as a career.

CHAPTER THREE

METHODOLOGY

3.1 Study Location

This study was carried out among public health nursing student at the Oyo State College of Health Technology, Eleyele, Ibadan and the Ogun State College of Health Technology, Ilese-Ijebu, Ogun State. Oyo State College of Health Technology which was formally known as Oyo State School of hygiene was established in 1933 for the purpose of training and instruction for community health care practitioners and nurses in the health sciences, technology and environmental science.

3.2 Study Design

This was a quasi-experimental study which involved two groups:

The intervention and the control groups.

- **Scope of study**

The study was carried out in four phases:

- **Stage one** (The needs assessment phase): This involved a focus group discussion with participants selected from the target study group.
- **Stage Two** (The pre-intervention Phase): A questionnaire was used to access the knowledge and attitude of the public health nursing students.
- **Stage Three** (Training intervention Phase): A training intervention which was composed of trainings on aetiology, symptoms and management of behavioural disorders, developmental disorders and depression in children and adolescent. The training was based on the WHO Mental Health Gap Action Programme training module

on child and adolescent mental health, specifically the modules on behavioural disorders, developmental disorders, and depression.

- **Stage Four** (Post intervention assessment): At the end of the training, questionnaires were used to assess respondents' knowledge and attitude of the public health nursing students to evaluate the effect of the training interventions on these parameters.

3.3. Study Population

The study population was public health nursing students, of the Oyo state College of Health Technology, Eleyele, Ibadan and the public health nursing students, of the Ogun state College of Health Technology, Ilese -Ijebu Ogun state. These schools were chosen because their nursing students go for postings in the community and as such they have contact with children and adolescents presenting at the primary health centres.

3.4. Sample Size Calculation– Based on the formula for calculating finite sample size by Krejcie and Morgan (1970) $S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

Where –

S = Required sample size

X = z value (1.96 for 95% for confidence level)

N = Population size

P=Population proportion (expressed as decimal) assumed to be 0.5

d = Degree of accuracy (5%), expressed as a proportion.

Sample size= 44 for each group

3.5. Sampling Technique

Public health nursing students, of the College of Health Technology, Eleyele and public health nursing students, of the College of Health Technology, Ilese-Ijebu, served as the study population. The two colleges of Health Technology were block-randomized into intervention and control groups. The public health nursing student in the Oyo State College of Health Technology formed the intervention group while the public health nursing students in the Ogun State College of Health Technology formed the control group.

3.5.1 Inclusion Criteria

All consenting public health nursing students at the study sites, who were at least 18 years of age, were duly enrolled for this study.

3.5.2 Exclusion Criteria

Students who had previous training in Mental Health or Nurses currently practising in the Mental Health institutions or departments in any health facility were excluded from the study.

3.6. Study Instrument

Data was collected by the use of the following:

1. Self-report socio-demographic questionnaire. A researcher designed pre-coded, pretested, socio demographic questionnaire was used to obtain information on age, gender, level , and other information required
2. Modified knowledge and Attitude towards Child and Adolescent Mental Disorders Scale
3. Questions on the Mental Health Gap Action programme training module on Developmental & Behavioural Disorders

4. A question was adopted from the vignette questionnaire on depression. Summary of questions asked is as follows:

Case 1: Dayo

Dayo is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has troubles sleeping at night. Dayo doesn't feel like eating and has lost weight. He can't keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day to day tasks seem too much for him. His parents and friends are very concerned about him

1. Would you be worried about Dayo's experiences?

1. I don't know	2. Not at all worried	3. Slightly worried	4. Very worried

2. Do you think Dayo needs help or not?" (1). Yes (2). No

- 2b. If YES, WHAT would YOU do if she was your patient?

3. What do you think is wrong with Dayo?

4. Which parts of the description make you believe she has this problem?

5. How long will it take for Dayo to feel better?

1. I don't know	3. A few days	4. A few weeks	5. A few months	6. Several months

6. Who would you recommend that Dayo seek help from?

5. Focus Group Discussion Guide

Modified Knowledge and Attitude towards child and adolescent mental disorders was developed by (Ibeziako, Omigbodun, Bella and Belfer 2008) while mhGAP module questions were adapted from the WHO mhGAP training module on developmental and behavioural disorders and depression in child and adolescent mental health.

Knowledge and attitude questions were scored using correct answers and wrong answers, correct answers were scored 1 and wrong answers scored 0 and individual scores were computed using correct answers.

3.7. Ethical Consideration

Ethical approval to conduct the study was obtained from Oyo State Ministry of Health, Institution Review Board. Letters of introduction were presented to the Management of the two schools. Consent of the participants was taken before questionnaire administration. Responses were coded and anonymy-zed.

The following ethical principles were adhered to:

- **Confidentiality of data:** information obtained in the course of this research was kept confidential. No information leading to the identification of participants was collected

- **Voluntariness:** Participants were not coerced to take part in the research and participants were informed about their right to discontinue participation at any stage of the research, with no consequences.
- **Informed consent:** Adequate information about participating in the study was provided to the participants and signed consent was obtained before they were allowed to complete the questionnaires
- **Beneficence to participants:** In the course of the study, participants' knowledge about child and adolescent mental health would be improved.
- **Nonmaleficence:** The protocol did not involve any major risk of physical psychological or any other form of harm to the participants. However, there were inconveniences involved in the time taken by participants to answer questions and attend training. Participants were given some refreshments during participation.

3.8 Data Collection Procedure

The study was carried out in four stages: Needs assessment, Baseline assessment, and intervention and Post Intervention assessment. During the needs assessment, a focus group discussion involving six participants was carried out to assess the knowledge, interest, attitude and the training gaps of the target group towards child and adolescent mental health. This was for qualitative purpose and a description of the findings was done.

At baseline, each participant in both the control and intervention group was given the questionnaires, to assess the baseline knowledge. Subsequently, the students in the intervention group were invited for a day-long training session on Child and Adolescent mental health using the Mental Health Gap Action Training Modules. (the intervention) Finally, in the post-

intervention stage, both groups had the questionnaire administered to them to determine the effectiveness of the mental health education.

3.8.1 Educational intervention

A training intervention on Child and Adolescent Mental Health was conducted using the MhGAP module on behavioural disorders, developmental disorders and the depression module. The training was conducted in a single session spanning 4 hours with a break in between. The training was facilitated by the researcher at the Oyo State College of Health Science and Technology, Eleyele. The session was an interactive one with questions and answers at the end of each lecture. There was no repeat session before the post-test was administered 3 weeks after.

3.9 Data Management and analysis.

The qualitative FGD was recorded using a voice recorder. The discussion was subsequently transcribed and coded to identify emerging themes. The researcher conducted the FGD herself and the FGD lasted for 57 minutes.

Data was entered using the Statistical Package for Social Sciences (SPSS) version 20 after editing the questionnaires. A descriptive analysis was done to explore associations between the various socio-demographic characteristics and knowledge and attitude scores using percentages, and these were displayed in frequency tables (baseline knowledge of the experimental and control group participants).

Chi square test was used to analyse the relationship between the knowledge, attitude and the socio demographic variables. Where appropriate, the Fisher's probability test was used. The t-test was used to compare parameters between the control and intervention groups, while the ANCOVA analysis test was used to determine the effectiveness of the training while controlling for baseline scores.

CHAPTER FOUR

RESULTS

4.1 Qualitative analysis results

A Focus Group Discussion (FGD) was held among 6 discussants. The mean age of the participant was 40.17 ± 9.70 years with majority (4) of them married and practising Christianity. Participants were selected randomly from the Public Health Nursing students of the school of Public Health Nursing Eleyele which was the intervention group and the time for the FGD was 57 minutes. Demographic data was collected from the participants in the areas of age, marital status, religion, ethnicity, and nature and duration of work experience. Topics for the focus group discussions centred on knowledge about mental health illness in children, the various common mental health disorders in children, identification of these disorders, causes and management of the various disorders. Discussions also focussed on attitude towards children with mental health disorders and level of experiences with children with mental health disorders.

The FGD audiotape was transcribed and major recurring themes were generated after thorough review.

Table 4.1: Emerging themes and subthemes from qualitative needs assessment of public health nursing students

MAIN ISSUES	EMERGING THEMES	SUBTHEMES
Knowledge and awareness	Mental disorders in children are different from mental disorders in adults.	Mental disorders in children present as destructive behaviours
		Children and adolescents with inappropriate behaviour such as pilfering can have a form of mental illness
		Mental illness may involve alcohol or drug use
	Risk factors for mental illness can be of many different types.	Problems in the Family, such as separation, divorce, or indulgence, may be a risk factor for mental illness in children
		Risk factors may directly relate to the child, such as accidents or sexual abuse.
		Mental problems in children may be hereditary
		Mental problems could be a result of negative peer influence
Signs and symptoms of mental disorders in children and adolescents can be observed in unusual behaviour.	Sign and symptoms may include hyperactivity, irritation, aggression, withdrawal.	
Various steps may be taken to manage mental health problems.	Management showing affection, listening, and providing psychotherapy.	
Experiences	Public health nursing students do not have much exposure to children and adolescents with mental disorders.	It is possible that adolescents with mental health problems may be erratic and violent.
Attitudes	It is difficult to manage children and adolescents with mental disorders.	Managing children with with mental problems often goes on for an unspecified duration.

		Identified causes of mental problems seem to keep changing, making treatment challenging.
	Mental disorders may not be more difficult to manage.	Mental disorders may not be more challenging for management than some difficult medical illnesses.
		It is interesting to work with children and adolescents with mental health disorders.

A. AWARENESS AND KNOWLEDGE

The awareness and proper understanding of what mental disorders in children and adolescents meant was explored among the respondents. Most respondents appeared to have some understanding of what child and adolescent mental health disorders were but this was superficial at best.

One of the respondents said that; *'Mental illness in children differs from the one in adults, for example adults have schizophrenia but children don't have schizophrenia. Most of the mental disorders in children are abnormalities'*

In attempting to identify types of mental health problems, other participants described mental illness in children and adolescent as thus: *'Mental disorders in children presents like destructive behaviours. A lot of children are going through depression and parents are not aware'*.

Another participant said; *'Pilfering can be a form of mental illness in children and adolescents'*

The participants also listed some of the risk factors as for mental illness as: *'Separated parents', 'Juvenile delinquency', 'Intracranial injury from birth', 'Accident', 'Sexual abuse', 'Divorce', 'Indulgence by parents'*

Some of the common mental health disorders mentioned by participants were; *'Epilepsy', 'Depression', 'Mania', 'Autism', 'Alcoholism', 'Drug abuse'*

Participants identified some of the signs and symptoms of mental health disorders in children as follows; *'Withdrawal', 'Hyperactivity', 'Aggression', 'Irritation'*, and also cause of mental health disorders as follows: *'Hereditary', 'Accident', 'Peer group influence'*

When asked about the management of these conditions, the respondents gave the following as options of management; *'Observation'*.

A participant said *'management depends on the condition'*

Others responded with answers such as: *'Take the right step', 'Show affection', 'Talk to them', 'Psychotherapy', 'Be a good listener'*

Most of the participants obtained most of their knowledge of Child and Adolescent Mental Health from their basic general nursing training. A participant claimed to have obtained additional knowledge from the internet.

B. EXPERIENCES

When asked about some of the experiences the participant had dealing with, or managing mentally ill children at any health care setting, only one participant could relate her experience and she said: *'I nursed an adolescent with a mental health disorder when I went for my clinical experience at the Neuropsychiatric hospital Aro Abeokuta. The girl liked me a lot and hugs me and plays with me whenever she sees me because of a particular hair I made. But on the day I changed my hair and made another hair, she saw me and started running*

after me and raining abuses on me. I had to run away and went to hide somewhere. They can be very violent'

C. ATTITUDE

Some of the participants thought it was more difficult to manage or treat mentally ill children and adolescents compared to other children suffering from other physical illnesses.

One of the respondents said: *'It is more difficult to treat children with mental disorders because you need extra time to treat and give attention and it does not have a specific duration'*

Another participant shares the above opinion and said: *'The duration of management makes it difficult. In other illnesses one focuses on the cause and while the cause is being assessed the patients get better. But in mental health while you are trying to treat one they are coming up with others. So much attention must also be given'*.

However, one of the participants was of the opinion that there are no differences in the difficulty encountered in management: *'It may be the same thing considering the fact that there are some more difficult medical illnesses'*

Participants were asked if they would be comfortable to have children and adolescents with mental disorders as patients under their care and majority answered in the affirmative.

One of the respondents said: *'It is interesting working with children and adolescents with mental health disorders'*

4.2 Socio –demographic characteristics of respondents

A total of 78 public health nursing students were recruited for this study. While 38 respondents served as the intervention group, 40 respondents served as the control group. Table 4.1 shows the socio-demographic characteristics of the respondents.

The mean age of the respondents was 36.75+ 8.79 years, with a mean age of 38.09±8.23 years in the control group and mean age of 35.42 + 9.25 years in the experimental group.

Majority of the respondents were female {63 (80.8%)}, practised Christianity{57 (73.1%)} ,were currently married{52 (66.7%)}, and worked in public institutions {53 (68.5%)}

While more than half of the respondents {44(56.0%)} were in their second year of study,{31(40.0%)} of the respondents were in their first year of study and only 3(4%) were above second year. The mean duration of working experience was 12.62 ± 7.46 years, and this was significantly higher among the controls compared to the experimental group ($p < 0.05$).

Table 4.2: Socio demographic characteristics at pre-intervention.

Variables	Control Group N = 40 n(%)	Intervention Group N= 38 n(%)	Total 78
Gender of respondent			
Female	37 (58.7)	26 (41.3)	63 (80.8)
Male	3 (20.0)	12 (80.0)	15 (19.2)
Marital status of caregiver			
Single	8 (34.8)	15 (65.2)	23 (29.5)
Currently married	30 (57.7)	22 (42.3)	52 (66.7)
Previously married	2 (66.7)	1 (33.3)	3 (3.8)
Religion			
Christian	28 (49.1)	29 (50.9)	57 (73.1)
Islam	12 (63.2)	7 (36.8)	19 (24.4)
Traditional	0	2 (100)	2 (2.6)
Where you work			
Public institution	29 (55.8)	23 (44.2)	52 (68.4)
PHCs	5 (50.0)	5 (50.0)	10 (13.2)
Private institution	6 (42.9)	8 (57.1)	14 (18.4)

Knowledge about mental health			
Yes	40 (54.1)	34 (45.9)	74 (97.4)
No	0	2 (100)	2 (2.6)
Year of study			
First year	16 (53.3)	14 (46.7)	30 (40.0)
Second year	24 (57.1)	18 (42.9)	42 (56.0)
Third year	0	2 (100)	2 (2.7)
Forth year	0	1 (100)	1 (1.3)
Age of respondents (mean \pm SD)	38.09 + 8.23	35.42 + 9.25	36.75 \pm 8.79
Years of working as a nurse	15.41 + 5.15	10.45 + 8.32	12.62 \pm 7.46

Age (t test; P value) = 1.204; 0.233

Working experience (t test; p value) = 2.285; 0.028

4.3 Knowledge of Mental Health disorders in children and adolescents among respondents at pre-intervention phase.

Table 4.3 shows the results of assessment of general knowledge of mental health disorders in children and adolescents among the respondents while Table 4.2b shows the mean knowledge score of mental health disorders in children and adolescents among respondents at pre-intervention for the individual control and intervention groups. Table 4.3 displays the prevalence of various responses to questionnaire items measuring knowledge. While respondents had a total mean knowledge score of 13.29 ± 3.37 , the control group reported a higher mean knowledge score of 13.93 ± 2.9 compared to the intervention group with mean knowledge score of 12.63 ± 4.09 . The difference mean knowledge scores was not statistically significant, however (p value < 0.096).

**Table 4.3: Knowledge of mental health disorder among all respondents at baseline.
(N=78)**

S/No		Agree N (%)	Disagree N (%)	Not sure N (%)
1	Mental illness is rare in children and adolescents	32 (41.0)	41 (52.6)	5 (6.4)
2	Children with mental disorders are difficult to interact with	46 (59.0)	27 (34.6)	3 (3.8)
3	'Imbecile' and 'Moron' are types of mental disorders found in children	59 (75.6)	13 (16.7)	3 (3.8)
4	Children and adolescent with mental illness are likely to be violent	59 (75.6)	7 (9.0)	10 (12.8)
5	Mental illness in children can be caused by traumatic events	62 (79.5)	10 (12.8)	2 (2.6)
6	Children who live in poverty are not any more likely to have mental illness than children who do not live in poverty	16 (20.5)	55 (70.5)	4 (5.1)
7	For children and adolescents with mental illness their families are to blame for this	10 (12.8)	60 (76.9)	7 (9.0)
8	The root cause of mental illness in children is a curse in the family	8 (10.3)	63 (80.8)	5 (6.4)
9	Children with mental disorders are possessed by demons	12 (15.4)	59 (75.6)	5 (6.4)
10	Children and adolescents with mental illness can recover	58 (74.4)	10 (12.8)	5 (6.4)
11	Children and adolescents with mental illness have inherited weak genes from their parents	32 (41.0)	34 (43.6)	8 (10.3)
12	Children and adolescents with mental illness are unpredictable	5 (6.4)	14 (17.9)	13 (16.7)
13	One in five children and adolescents will develop mental illness over the course of their lifetime	15 (19.2)	40 (51.3)	19 (24.4)

14	Supernatural power can be used to afflict mental illness on a child or adolescent	19 (24.4)	46 (59.0)	11 (14.1)
15	Mental illness in children and adolescents is caused by spiritual attack	13 (16.7)	54 (69.2)	8 (10.3)
16	Parents with mental illness always transmit these disorders to their children	37 (47.4)	35 (44.9)	4 (5.1)
17	Children and adolescents do not have depression	15 (19.2)	53 (67.9)	8 (10.3)
18	Children do not have psychosis just behaviour problems	25 (32.1)	39 (50.0)	10 (12.8)
19	Mental illness in children and adolescents cannot be treated	7 (9.0)	65 (83.3)	3 (3.8)
20	Poor academic performance is a type of mental disorder	39 (50.0)	33 (42.3)	4 (5.1)
21	Untidy appearance in a child is a sign of mental disorder	31 (39.7)	39 (50.0)	5 (6.4)
22	Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still	23 (29.5)	48 (61.5)	4 (5.1)
23	Their juvenile remand home is a good place to manage children with mental disorders	35 (44.9)	37 (47.4)	4 (5.1)

Table 4.3b: Mean knowledge of mental health disorder in children among respondents at pre-intervention. (N = 78)

Variables	Control Group <i>Mean (SD)</i>	Intervention group <i>Mean (SD)</i>	Total <i>Mean (SD)</i>	Ttest	Pvalue
Knowledge of mental disorder Scores	13.93 (2.39)	12.63 (4.09)	13.29 (3.37)	1.694	0.096

P value = 0.096 (control versus intervention group)

4.4 Knowledge of conduct disorder and ADHD in children and adolescents among respondents at pre-intervention.

Table 4.4a shows the respondents' responses to questionnaire items measuring knowledge about conduct disorder and ADHD in children at the pre-intervention phase. Respondents had generally fair knowledge about conduct disorder and ADHD. Up to 35.9% of respondents were not sure whether disorders in children are commoner in females than males. Similarly, 46.2% of the respondents were not sure of the percentage of children with conduct disorder. A large number of the respondents believed that sadness and inattention are symptoms of conduct disorder.

Table 4.5 shows the mean knowledge scores of conduct disorder and ADHD in children and adolescent among respondents at pre-intervention. The mean score for the control group was 18.95 ± 6.98 while the mean score for the intervention group was 14.71 ± 6.38 . This shows that the control group had a better knowledge about conduct disorder and ADHD at baseline. However, there was no statistically significant difference in knowledge about conduct disorder and ADHD between the two groups (p value =0.0007)

Table 4.4a: Knowledge about conduct disorder and ADHD in children and adolescent among all respondents at pre-intervention. (N = 78)

S/No		Agree N (%)	Disagree N (%)	Not sure N (%)
1	Mental illness can occur in children and adolescents	70 (89.7)	3 (3.8)	3 (3.8)
2	Up to 6% of children have psychiatric disorders	30 (38.5)	17 (21.8)	29 (37.2)
3	Psychiatric disorders in children are commoner in females than males	22 (28.2)	25 (32.1)	28 (35.9)
4	Conduct disorder occurs more in males than females	38 (48.7)	19 (24.4)	19 (24.4)
5	Up to 4% of children have conduct disorder	21 (26.9)	17 (21.8)	36 (46.2)
6	The following are symptoms of conduct disorder			
	a. Running away from home	31 (39.7)	2 (2.6)	-
	b. Lying	33 (42.3)	1 (1.3)	-
	c. Stealing	44 (56.4)	2 (2.6)	-
	d. Inattention	32 (41.0)	6 (7.7)	1 (1.3)
	e. Sadness	24 (30.8)	2 (2.6)	3 (3.8)
	f. Truancy	31 (39.7)	2 (2.6)	-
7	Possible causes of conduct disorder include			
	a. Parental divorce	36 (46.2)	1 (1.3)	-
	b. Criminality in father	49 (62.8)	4 (5.1)	3 (3.8)
	c. Desire for attention	30 (38.5)	4 (5.1)	2 (2.6)
8	Conduct disorder can be managed by			
	a. Behavioural Modification techniques	29 (37.2)	2 (2.6)	-
	b. Cognitive behavioural technique	31 (39.7)	-	1 (1.3)
	c. Group therapy	41 (52.6)	5 (6.4)	-
	d. Drugs	27 (34.6)	8 (10.3)	2 (2.6)
	e. Casting out evil spirits	5 (6.4)	18 (23.1)	2 (2.6)

9	Attention deficit hyper activity disorder(ADHD) occurs in children and adolescent	64 (82.1)	6 (7.7)	3 (3.8)
10	ADHD is more common in males than in females	33 (42.3)	9 (11.5)	32 (41.0)
11	ADHD does not occur in adolescents	13 (16.7)	43 (55.1)	16 (20.5)
12	Common signs of ADHD include:			
	a. Impaired attention	27 (34.6)	1 (1.3)	-
	b. Over activity	48 (61.5)	-	4 (5.1)
	c. Impulsivity	25 (32.1)	2 (2.6)	4 (5.1)
	d. Laughing to self	24 (30.8)	3 (3.8)	2 (2.6)
13	ADHD is apparent before the age of 6years	24 (30.8)	12 (15.4)	24 (30.8)
14	Possible causes of ADHD include			
	a. Brain abnormalities	28 (35.9)	1 (1.3)	3 (3.8)
	b. Genetic factors	39 (50.0)	2 (2.6)	10 (12.8)
	c. Diet	15 (19.2)	14 (17.9)	7 (9.0)
	d. Food allergy	8 (10.3)	11 (14.1)	5 (6.4)
15	ADHD is best managed by:			
	a. Medication	34 (43.6)	3 (3.8)	6 (7.7)
	b. Punishment	5 (6.4)	32 (41.0)	4 (5.1)
	c. Behaviour modification techniques	37 (47.4)	2 (2.6)	-
16	A hyperactive, inattentive child should always be punished	7 (9.0)	64 (82.1)	2 (2.6)
17	Behavioural disorder in children and adolescents are best managed with medication	30 (38.5)	33 (42.3)	11 (14.1)
18	Appropriate behaviours in children and adolescents with behavioural disorder should be rewarded	57 (73.1)	11 (14.1)	5 (6.4)
19	Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders	64 (82.1)	5 (6.4)	3 (3.8)
20	Children and adolescents with mental disorders can attend regular school	42 (53.8)	26 (33.3)	4 (5.1)
21	Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children	70 (89.7)	2 (2.6)	1 (1.3)
22	Treatment of children and adolescents with mental health problems should be multidisciplinary	58 (74.4)	11 (14.1)	4 (5.1)

Table 4.5: Mean knowledge scores of conduct disorder and ADHD in children among respondents at pre-intervention phase

Variables	Control Group	Intervention group	Total	T-test	P-value
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>		
Knowledge of conduct & ADHD disorder Scores	18.95 (6.98)	14.71 (6.38)	16.88 (6.98)	2.796	0.007

P value = 0.007(control versus intervention group)

4.5 Attitude towards children and adolescents with mental health disorder among all respondents at pre-intervention.

Table 4.6 displays responses to the different questionnaire items that measured the general attitude of the respondents towards child and adolescent mental health disorders and their overall outcome at the pre-intervention phase. Table 4.7 shows the baseline mean attitude scores of respondents both in the control and intervention group with a total mean score of 6.49 ± 3.05 . The control group had a higher mean score of 6.85 ± 3.21 which indicates that they had better attitudes than the intervention group with a mean score of 6.11 ± 2.86 .

Up to 59.0% of the respondents agreed that they would be comfortable to have children and adolescents with mental health disorders as patients under their care.

Table 4.6: Attitude towards children & adolescents with mental health disorder among respondents at pre-intervention. (N= 78)

S/N		Agree	Disagree	Not sure
1	Children with mental disorders should be taken to religious houses for treatment	15 (19.2)	53 (67.9)	4 (5.1)
	Health workers can be trained to manage children with mental disorder	61 (78.2)	6 (7.7)	3 (3.8)
3	Treating mental illness in children is always very expensive	30 (38.5)	29 (37.2)	13 (16.7)
4	Would you feel afraid to talk to children and adolescents with mental illness	14 (17.9)	53 (67.9)	5 (6.4)
B	Would you be upset or disturbed if your child or relative were in the same school or in the midst of children with mental disorders	27 (34.6)	38 (48.7)	7 (9.0)
6	Children with intellectual disability should not be allowed to attend school with normal children	32 (41.0)	34 (43.6)	3 (3.8)
7	Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?	47 (60.3)	17 (21.8)	7 (9.0)
8	Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness	21 (26.9)	42 (53.8)	9 (11.5)
9	Would you be comfortable to have children and adolescents with mental disorders as patients under your care?	46 (59.0)	18 (23.1)	8 (10.3)
10	Do you feel children and adolescents who are mentally ill should be nursed with other children with physically illnesses?	13 (16.7)	44 (56.4)	12 (15.4)
11	Child and adolescent mental health problems can be prevented within the same public health frame work as communicable diseases	30 (28.5)	34 (43.6)	7 (9.0)

12	Do you feel child and adolescent mental disorders can be successfully treated in hospital?	60 (76.9)	7 (9.0)	4 (5.1)
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Table 4.7: Mean score of respondents' attitude towards children & adolescents with mental health disorder at pre-intervention

Variables	Control Group <i>Mean (SD)</i>	Intervention group <i>Mean (SD)</i>	Total <i>Mean (SD)</i>	Ttest	Pvalue
Attitude Scores	6.85 (3.21)	6.11 (2.86)	6.49 (3.05)	1.078	0.284

P value = 0.284 (control versus intervention group)

4.6 Knowledge and attitude of respondents among respondents

Table 4.8 shows the comparison between the intervention group and control at pre-test and post-test for the knowledge and attitude scores. Results showed that there was no significant difference in the knowledge of depression between the intervention and control groups at both pre-test and post-test ($P < 0.05$).

Similarly, although there was no significant difference at pre-test, the knowledge of mental health disorder in children and attitude scores were significantly higher among the intervention group (11.58 ± 0.79) and (18.82 ± 2.08) at post-test, compared to the control group (9.68 ± 2.84) and (16.30 ± 4.47) respectively ($P < 0.05$).

The knowledge of conduct disorder and ADHD scores were significantly higher in the control group at pre-test (18.95 ± 6.98) while at post-test the intervention group had significantly higher scores. (27.21 ± 1.17).

Table 4.8 Knowledge and attitude among respondents at pre and post-intervention.

Variables	Test	Control Group	Intervention Group	T-test	P value
		<i>Mean (SD)</i>	<i>Mean (SD)</i>		
Difference in knowledge of depression Scores	Pre-test	10.80 (4.66)	12.61 (3.32)	-1.978	0.052
	Post-test	12.38 (3.79)	11.63 (2.44)	1.024	0.309
Difference in knowledge of mental health disorder in children	Pre-test	13.93 (2.39)	12.63 (4.09)	1.694	0.096
	Post-test	16.30 (4.47)	18.82 (2.08)	-3.214	0.002
Difference in knowledge of conduct disorder and ADHD	Pre-test	18.95 (6.98)	14.71 (6.38)	2.796	0.007
	Post-test	20.58 (3.97)	27.21 (1.17)	-10.128	<0.001
Difference in attitude score	Pre-test	6.85 (3.21)	6.11 (2.86)	1.078	0.284
	Post-test	9.68 (2.84)	11.58 (0.79)	-4.075	<0.001

4.7 Change in knowledge and attitude score between control and intervention groups at post-intervention.

Table 4.9 shows the change in knowledge and attitude scores between the control group and the intervention groups at post intervention. Results show that there were significant differences between the respondents at post intervention, about knowledge of mental health disorders, knowledge of conduct disorder and attitude of respondents towards child and adolescent mental health disorders. There was no statistically significant difference in knowledge about depression scores.

Table 4.9 Change in knowledge and attitude score between control and intervention groups at post-intervention.

Variables	Control	Intervention group	T Test	P value	Independent sample Mann Whitney u test (p.value)
	Group Mean (SD)	Mean (SD)		sample	
Difference in knowledge of depression (DAYO) Scores	1.58 (5.78)	-0.97 (4.0)	2.239	0.028	0.11
Difference in knowledge of knowledge of mental health disorder in children	2.38 (4.84)	6.18 (4.97)	-3.430	<0.001	0.001
Difference in knowledge of conduct disorder	1.63 (7.94)	12.50 (6.63)	-6.550	0.001	0.001
Difference in knowledge of attitude score	2.83 (4.13)	5.47 (3.04)	-3.212	0.002	0.002

4.8: Effect of training intervention on respondents' knowledge of mental health disorders in children and adolescents.

The Analysis of Covariance (ANCOVA) analysis (which is a multivariate statistical analysis) was used to evaluate the effect of the training intervention on respondents' knowledge of mental health disorders in children and adolescents by comparing post-intervention scores in the control group and intervention group while adjusting for their baseline scores.

Table 4.10 shows the results of ANCOVA analysis for the effect of training intervention on respondents' knowledge of mental health disorders in children.

Results showed that after adjusting for the baseline scores, the mean knowledge score was significantly higher in the intervention group. (*Adjusted mean* = 18.79; 95% *CI*: 17.643 - 19.951), compared to the control group (*Adjusted mean* = 16.32; 95% *CI*: 15.194 - 17.442).

Table 4.10: ANCOVA analysis showing effect of training intervention on respondents' knowledge of mental health disorder in children and adolescents.

	Unadjusted mean	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	16.30	16.32	15.194 - 17.442	9.227	0.003	0.110
Intervention group	18.82	18.79	17.643 - 19.951			

$R^2 = 0.117$, adjusted $R^2 = 0.093$

4.9: Effect of training intervention on respondents' knowledge about conduct disorder, ADHD and depression in children and adolescents.

Table 4.11 shows the ANCOVA analysis for the effect of training on respondents' knowledge about conduct disorder and ADHD in children and adolescents. After adjusting for the baseline scores, the mean knowledge score was significantly higher (P-value < 0.001) among the intervention group (*Adjusted mean* = 27.21; 95% *CI*: 26.220 – 28.193) compared to that of the control group (*Adjusted mean* = 20.58; 95% *CI*: 19.619 – 21.539).

Table 4.11: ANCOVA analysis showing effect of training intervention on respondents' knowledge of conduct disorder & ADHD in children and adolescent.

	Unadjusted mean	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	20.58	20.58	19.619 – 21.539	87.652	<0.001	0.539
Intervention group	27.21	27.21	26.220 – 28.193			

$R^2 = 0.564$, adjusted $R^2 = 0.552$

4.10: Effect of training intervention on respondents' attitude towards children and adolescent with mental health disorders.

Table 4.11 shows the ANCOVA analysis for effect of training intervention on respondents' attitude towards children and adolescent with mental health disorders. Results showed that after adjusting for baseline scores, the mean attitude score was significantly higher among the intervention group (*Adjusted mean* = 11.58; *95% CI*: 10.901 – 12.277) compared to those of the control group (*Adjusted mean* = 9.57; *95% CI*: 8.995 – 10.336).

Overall, the ANCOVA analysis shows that the training intervention has a significant statistical difference on the knowledge and attitude of respondents towards children and adolescent mental health disorders.

Table 4.11: ANCOVA analysis showing effect of training intervention on respondents' attitude towards children & adolescents with mental health disorder

	Unadjusted mean	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	9.67	9.67	8.995 – 10.336	15.782	<0.001	0.174
Intervention group	11.58	11.58	10.901 – 12.277			

R² = 0.174, adjusted R² = 0.552

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4.9 (continued): Table 4.12 shows the analysis of responses to the question on depression which was adopted from the vignette questionnaire on depression. The table shows the scores of respondents in both the control and intervention groups at pre-intervention. Respondents generally felt very worried about Dayo's experience (25 respondents in the control group and 27 respondents in the intervention group), and almost all (73) the respondents thought that Dayo needed help. Almost half (45.5%) of the respondents in the control group thought that Dayo had depression, while over half (55.0%) of the respondents in the intervention group also thought that Dayo had depression. Respondents listed other conditions such as 'psychiatric disorder', 'mental illness' and 'ADHD' as what they thought Dayo had. In the intervention group 15 of the respondents said 'insomnia' was part of the description which made them believe that Dayo had depression, while 14 of the respondents in the control group attributed their opinions about Dayo's depression to her 'feeling unusually sad and miserable' and others described 'loss of appetite' and other responses. Twenty (25.6%) of the respondents could not say how long it would take Dayo to recover, while 34 (43.6%) thought it would take her several months. However, majority of the respondents thought Dayo should be taken to a mental health facility or hospital.

Table 4.13 shows the t test analysis comparing accurate scores for knowledge on depression at intervention. The mean score for the control group and intervention group were 10.80 and 12.61 respectively, with a p value of 0.052.

Table 4.12: Comparison of respondents' responses to questions measuring knowledge about depression at pre-intervention phase

	CONTROL	INTERVENTION	X ²	P value
Would you be worried about Dayo's experience?				
I don't know	2 (50.0)	2 (50.0)		
Not at all worried	2 (100)	0 (0)		
Slightly worried	8 (53.3)	7 (46.7)	2.130	0.546
Very worried	25 (48.1)	27 (51.9)		
Total	37(92.5)	36(94.7)		
Do you think Dayo needs help?				
Yes	36 (49.3)	37 (50.7)		
What do you think is wrong with Dayo?				
Depression	18 (45.5)	22 (55.0)		
Psychiatric disorder	5 (45.5)	6 (54.5)	1.897	0.594
Mental illness	4 (66.7)	2 (33.3)		
ADHD	2 (28.6)	5 (71.4)		
Which part of the description makes you believe she has this problem?				
Feeling unusually sad and miserable	14 (60.9)	9 (39.1)		
Insomnia	9 (37.5)	15 (62.5)		
Loss of appetite	1 (20.0)	4 (80.0)	4.136	0.247
Other responses	3 (42.9)	4 (57.1)		
How long will it take Dayo to feel better?				
I don't know	12 (60.0)	8 (40.0)		
A few weeks	1 (50.0)	1 (50.0)	2.456	0.483
A few months	6 (50.0)	6 (50.0)		
Several months	13 (38.2)	21 (61.8)		
Where would you recommend that Dayo seek help from?				
Mental health facility	16 (51.6)	15 (48.4)		
Hospital	16 (57.1)	12 (42.9)	0.682	0.711
Others	1 (33.3)	2 (66.7)		

Table 4.13: T-test comparing accurate score for questions measuring knowledge about depression at pre-intervention

	Mean	T-test	P value
CONTROL	10.80 (4.66)	-1.978	0.052
INTERVENTION	12.61 (3.32)		

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Table 4.14 below shows results of the analysis of responses on knowledge of depression for both the control and intervention group at post-intervention. At post-intervention more than half (45) of the respondents of both groups felt slightly worried and (67) thought Dayo needed help. Almost all (37) of the respondents in the intervention group thought Dayo had depression and 29(_ %) of the control group also thought Dayo had depression. Fifty-two (66.7%) of the total respondents reported that ‘feeling unusually sad and miserable’ was part of the description that made them believe she had this problem. Thirty-four thought it would take her several months to get better and more than half thought Dayo should be taken to a mental health facility or hospital.

Table 4.15 shows the t-test analysis comparing accurate score for knowledge on depression at post-intervention. The mean scores for the control group and intervention group were 12.38 and 14.63 respectively, with a p value of 0.032.

Table 4. 14: Comparison of respondents' responses to questions measuring knowledge about depression at post-intervention phase

	CONTROL	CASES	X ²	P value
Would you be worried about Dayo's experience?				
I don't know	2 (100)	0		
Not at all worried	4 (50.0)	4 (50.0)		
Slightly worried	19 (42.2)	26 (57.8)	3.962	0.265
Very worried	11 (61.1)	7 (38.9)		
Do you think Dayo needs help?				
Yes	36 (53.7)	31 (46.3)		
What do you think is wrong with Dayo?				
Depression	29 (43.9)	37 (56.1)		
Psychiatric disorder	3 (100)	0	7.958	0.047
Mental illness	4 (100)	0		
ADHD	1 (50.0)	1 (50.0)		
Which part of the description makes you believe she has this problem?				
Feeling unusually sad and miserable	31 (59.6)	21 (40.4)		
Insomnia	1 (100)	0		
Loss of appetite	1 (100)	0	1.412	0.703
Other responses	5 (55.6)	4 (44.4)		
How long will it take Dayo to feel better?				
I don't know	4 (57.1)	3 (42.9)		
A few months	4 (17.4)	19 (82.6)	15.147	0.001
Several months	29 (67.4)	14 (32.6)		
Where would you recommend that Dayo seek help from?				
Mental health facility	34 (53.1)	30 (46.9)		
Hospital	1 (12.5)	7 (87.5)	4.698	0.030

Table 4.15: T-test comparing accurate score for questions regarding depression at post intervention

	Mean	T-test	P value
CONTROL	12.38 (3.79)	-2.457	0.032
CASES	14.63 (5.44)		

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CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

This study focused on the effect of a child and adolescent mental health educational intervention on the perception of public health nursing students in Southwest Nigeria about child and adolescent mental health. The educational intervention had a significant effect on the knowledge of mental health disorders in children and adolescents and their attitude towards children and adolescent with mental health disorders as revealed by a post-intervention assessment conducted 3 weeks after.

5.1.1 Socio-demographic characteristics of respondents.

Eighty Public health Nursing students were recruited for the study. Majority (80.8%) were females. The gender distribution in this study is similar to the results of a study carried out among nursing students at the University of Ibadan, Nigeria. Omigbodun et al. (2004) found that 75% of students studying nursing were female. The predominance of female nurses in this sample is also in support of the well-established feminization of the nursing profession (Okunade 2001). Majority (68.4%) of the respondents also worked in public health institutions and this shows that a good number of them must have had interactions with children and adolescents with mental health disorders especially in public institutions with CAMH services. Most of the students were in their second year of study (56.0%) and majority (97.4%) reported having had knowledge about mental health from their previous general nursing. The mean age (40.17 years) of all the respondents revealed that adults have a better knowledge and attitude towards mental illness. This is in support of a follow up study of the 'Changing Minds' campaign organised by the Royal College of Psychiatrists which

found that the greatest proportion of negative opinions about mental illness was found in individuals within the 16 – 19 year age group and respondents with higher education were less likely than the rest to express such views. (Vanathi Kenedy et al., 2014).

5.1.2 Knowledge of all respondents about mental health disorders in general at baseline.

Results from this study show similarities and significant differences in the knowledge of all respondents about mental health disorders in general and at baseline between the control and the intervention group. Participants in general agreed that ‘children with mental disorders are violent’ and also participants erroneously believed that “Children with mental illness are unpredictable’. This is in keeping with the findings of a study by Alexander & Link (2003), which found that a central theme of stigma of mental illness is a perception that persons with mental illness are dangerous, unpredictable, incompetent and unlikeable. This is also in keeping with findings in previous studies which showed that children with mental disorders are often exposed to stigmatization in the communities (Hayward. 2001, Klin et al). At post-intervention, there was a reduction in the proportion of respondents in the intervention group who agreed that the cause of mental illness was a curse in the family, suggesting an improvement in accurate knowledge.

Between the pre- and post-intervention phases, there was an increase in the proportion of respondents in the intervention group who reported that one in five children and adolescents will develop mental illness over the course of their lifetime, information agreeing with a study by Ibeziako et al (2008) which showed that 20% of children and adolescents of the population will meet the criteria for mental illness in their life time. In the intervention group, there was also a reduction in the proportion of respondents who reported that supernatural powers can be used to afflict mental illness on a child or adolescents, and a reduction in the proportion of respondents who reported that children do not have psychosis, but just

behaviour problems. These responses are in agreement with previous studies on the mental health of British children and adolescents (Ford et al.,2003).

5.1.3 Knowledge of all respondents on conduct disorder and ADHD at baseline.

Results from this study revealed that there were similarities and significant differences in the knowledge of all respondents about conduct disorder and attention deficit hyperactivity disorder at baseline between the control group and the intervention group. At baseline most of the participants reported that they were not sure of the incidence and prevalence of conduct disorder and ADHD. Questions where this knowledge was measured were: ‘up to 6% of children have psychiatry disorder’, ‘psychiatry disorders in children are commoner in females more than males’, ‘up to 4% of children have conduct disorder’, ‘ADHD is more common in males than females’ and ‘ADHD is apparent before the age of 6 years’. At post-intervention there was an increase in the number of participants who gave the following report about conduct disorder : ‘conduct disorder occurs more in males than in females’, ‘lying is a symptom of conduct disorder’, ‘criminality in parents and desire for attention are symptoms of conduct disorder’, ‘cognitive behaviour therapy and group therapy are treatments of conduct disorder’. These changes in responses represented knowledge change consistent with findings in a review of conduct disorder in the past years (Loeber et al 2000).

Concerning knowledge about ADHD, there was also an increase in the following responses at post-intervention: ‘Attention Deficit Hyperactivity Disorder (ADHD) occurs in children and adolescents’, ‘ADHD is more common in males than in females’, ‘ADHD does not occur in adolescents’, ‘ADHD is apparent before the age of 6 years’, and ‘impulsivity and over activity are symptoms of ADHD’. These changes in knowledge agree with the findings in a study carried out on the prevalence, recognition and treatment of ADHD in America.(Froelich et al 2007)

5.1.4 Knowledge of all respondents on depression

Results from this study shows that public health nursing students have some knowledge about depression and can identify some of the signs and symptoms of depression. The respondents also think persons suffering from depression need to get help from a mental health facility or hospital but that it may take several months for them to get better. This was contrary to the findings of a study by Romem, Anson, Maymon & Moisa (2008) who reported that nurses, similar to society in general, may react to persons with mental illness with anger and believe that help is not deserved.

5.1.5 Attitude of all respondents about mental disorders in general at baseline.

Results from this present study also showed that there were similarities and differences in the attitude of all respondents about mental health disorders in general at baseline between the control and intervention group. In general, public health nursing students believed that treating mental illness in children is very expensive and children with intellectual disability should not be allowed to be allowed in the same school with normal children. Some of them also believed that mental illness was as a result of a curse and children with mental health disorders were cursed or possessed. It has been reported that some health care personnel, including nurses, may react to persons with mental illness with anger and believe that help is not deserved (Romem, Anson, Maymon & Moisa 2008).

These findings suggest a widespread stigmatization of mental disorders in children and adolescents among the study population and these results corroborate those of earlier studies conducted in North America and Western Europe which also suggest that mental health stigma is a major problem in the community (Taylor and Dear 1980; Brockington 1993; Jorm et al., 1999; Crisp et al., 2000).

There are limited studies of this kind among public health nursing students globally and this has greatly limited comparability.

5.1.6 Attitude towards people with mental illness.

The negative views of the respondents were indicative of their degree of tolerance and willingness to have children with mental health disorders under their care. There was generally poor attitude of these relatively well-educated public health nurses to children with mental disorders in this study, as majority thought that treating mental illness in children and adolescent was expensive and children with intellectual disability should not be allowed in school with normal children. This is at variance with the expectations from given reports that negative attitudes may be less pervasive among the well-educated (Odejide and Olatawura, 1979). The findings are however in keeping with findings of multiple studies that reveal negative attitudes to people with mental illness among healthcare practitioners (Flanagan, Miller and Davison, 2009; Milton, Mullan, MacCann & Hunt, 2017).

Regarding post- intervention attitudes of nurses towards mental disorders, there was a significant change in responses to the following questionnaire items: ‘a hyperactive, inattentive child should be punished’, ‘behavioural disorders in children and adolescents are best managed with medication’, and ‘treatment of children with mental health disorder should be multidisciplinary’. The improvements in knowledge reflect information acquisition in line with the findings of Binitie, (1970), when he looked at the attitude of educated Nigerians to psychiatric illness.

5.1.7 Effect of mental health educational intervention.

The effect of a mental health educational intervention was demonstrated by reduction in the percentage of respondents who exhibited a poor level of knowledge at the post-intervention

phase, compared to pre-intervention. There was also an increase in the percentage of respondents who showed a good level of knowledge post-intervention. Knowledge on mental health disorders and knowledge about conduct disorder, ADHD and depression increased after the intervention. Similarly at the post-intervention phase, attitude of public health nursing students became better and their poor attitude was markedly reduced. Among the control group where no intervention was done, although there were some significant changes in their view regarding mental disorders in children when assessed at the post-intervention phase, these effects were not comparable in magnitude with those achieved in the intervention group. This implies that mental health educational intervention was an effective approach in improving knowledge, attitude and overall perception of public health nursing students to mental disorders in children. This is in agreement with the study on the impact of educational intervention on secondary students' attitude to schizophrenia in a classroom (Economou et al 2011). Happel and Gough (2009) reported that nursing education can positively influence attitudes of nurses towards mental illness.

In South Africa, Bryne et al. (2004) conducted a training to equip nurses with basic assessment and intervention skills for the most common problems in child and adolescent psychiatric nursing. A total of 144 and 68 primary care nurses who attended study Days 1 and 2 respectively completed confidential questionnaires after each day. The results indicated that the nurses were able to apply what they had learned between the study days.

This present study shows a significant difference in post-intervention knowledge about mental disorders, conduct disorder, ADHD and depression scores between the intervention group and the control group. It also shows a significant difference in post-intervention attitude towards people with mental illness. These findings suggest that the one-day educational intervention was enough to positively change the knowledge and attitude of public health nursing students towards child and adolescent mental health disorders.

In conclusion the outcome of the training intervention is consistent with previous research findings, which shows that training improves knowledge (McKenzie et al., 2000).

5.1.8 Socio-demographic factors and knowledge of respondents

Another major finding from this study is that there were no associations between socio-demographic characteristics and perception about mental disorders in children and adolescents in the entire sample of nursing students. This lack of differences could be due to homogeneity of the group. All the respondents were nurses who had a general nursing training and had years of working experience as a nurse with majority working within a similar setting, nearly all were female and married, and their ethnicities and religion were also similar. This may explain why the socio-demographic factors did not seem to have any relationship with the perception of respondents. This is in keeping with the findings of Gureje et al., (2005), in a study within a Yoruba speaking community in Nigeria, where no socio-demographic variables were found to play a role in shaping knowledge and attitude.

Strengths of the study

The strengths of the study lie in the mixed qualitative- quantitative method used in data collection and the use of a control group which is similar to the intervention group.

Limitations

1. This study is limited by the small sample size and homogenous nature of the participants. Further studies are required to employ a larger sample size in order to improve the generalizability of the results to a larger public nursing student population.
2. Because the researcher was a nurse, some respondents may have provided more professionally acceptable responses than responses which might reflect their actual perception.

3. This study is limited by a dearth of literature on the training of public health nursing students on the issue of child and adolescent mental health, thereby reducing the comparability of the study.
4. Due to time constraints, the post-intervention assessment was conducted three weeks after the intervention, which was earlier than the researcher would have desired.

5.2 Conclusion

This study reveals that public health nursing students have some knowledge about mental health and illness in children and adolescents. Some of them also have positive attitudes towards mental ill-health and treatment in children and adolescent. However, given the crucial roles public health nurses play in many sub-Saharan African societies where mental health expertise is severely lacking, public health nurses need to have more detailed and more accurate knowledge and better attitudes toward mental health problems in children and adolescents, so they can effectively combat stigma, and fill the existing gaps in care provision.

The mental health educational intervention demonstrates that a single 4-hour training session delivered to public health nursing students may be capable of improving knowledge and modifying attitudes toward child and adolescent mental health care.

5.3 RECOMMENDATIONS

1. Child and adolescent mental health should be included in public health nursing curricula.
2. The WHO MhGap training module should be included in the training of public health nursing students so that the impact can modify knowledge and attitude.
3. There is a need for on-going input so that knowledge of mental health gained after basic nursing training is not lost over time.
4. Public health nursing students should be encouraged to identify children and adolescents with mental health disorders in their various community postings.

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APPENDIX A

**EFFECT OF A CHILD AND ADOLESCENT MENTAL HEALTH
EDUCATIONAL INTERVENTION ON THE PERCEPTION OF PUBLIC
HEALTH NURSING STUDENTS IN SOUTHWEST NIGERIA.**

INFORMED CONSENT LETTER

Dear Respondent,

I am an M.Sc student of the Centre for Child and Adolescent Mental health, University of Ibadan, Oyo State, Nigeria. The aim of this survey is to assess the effectiveness of child and adolescent mental health education on knowledge and attitude of public health nursing students. We appreciate your participation; however, your participation is voluntary. Please note that information obtained will be treated with absolute confidentiality and participation is entirely voluntary. Kindly give honest responses as any wrong information may affect the validity of the result obtained for this research. Only the researcher and members of the research team will have access to any information provide. Thank you.

Statement of study participant giving informed consent:

Now that the study has been well explained to me and I fully understand the content of the study, I hereby agree to participate in the study.

Date: ____/____/____ Signature: _____ Phone number: _____

Detailed Contact Information

Statement of research assistant obtaining informed consent

I have fully explained this research to the respondent and have given sufficient information, including on the research risks and benefits, to make an informed decision.

Name: _____ Signature: _____ Date: __/__/____

APPENDIX B

FOCUS GROUP DISCUSSION GUIDE

1. What do you understand by mental illness in children? (Probe to find out the demographics it affects, and some of the risk factors).
2. Can you name some common mental health disorders you know?
3. Can you discuss some of the signs of mental disorder in children?
4. Can you discuss some of the causes of mental health disorders in children? (*Probe to tease out all possible options suggested*)

5. What do you understand about the management of mental illness in children/adolescents? (*Probe to ascertain responses of difficulty of management, and barriers associated with proper management*).
6. Where have you obtained *most* of your understanding and knowledge of mental health problems from?
7. What are some your experiences you have had dealing with/managing mentally challenged children at any healthcare setting? (*Probe to explore both pleasant and unpleasant experiences, how difficult or easy it was managing such child and cooperative the child/or their parents were*)
8. Do you think it is more difficult to manage/treat mentally ill children/adolescents compared to other children suffering from other illnesses? (Probe: why do you think so? And probe further personal experiences with managing mentally ill children)
9. Would you be comfortable to have children and adolescents with mental disorders as patients under your care? (*Probe to explore reasons for their answers*)
10. What do you think about managing children and adolescents who are mentally ill alongside other children without any mental illness?
11. Will you be willing to specialize in mental health? (*Probe to explore reasons why they will or will not*)

APPENDIX C

QUESTIONNAIRE

EFFECT OF CHILD AND ADOLESCENT MENTAL HEALTH EDUCATIONAL INTERVENTION ON PERCEPTION OF PUBLIC HEALTH NURSING STUDENTS IN SOUTHWEST NIGERIA.

Dear Respondent,

I am an M.Sc student of the Centre for Child and Adolescent Mental health, University of Ibadan, Oyo State, Nigeria. The aim of this survey is to assess the effectiveness of child and

adolescent mental health education on knowledge and attitude of public health nursing students. We appreciate your participation; however, your participation is voluntary. The questionnaire will be answered anonymously and the information from your answers will be kept confidential.

Please answer every question in the questionnaire by marking “√” at the answer you choose.

I would very much appreciate your participation!

PART 1: DEMOGRAPHIC CHARACTERISTICS

Serial Number:

Date of interview:

Phone number:

1. Age at last birthday(years):

2. Gender:

Male Female

3. Religion:

Muslim

Christian

Non Religious

Other (please specify).....

4. With whom do you live?

Parent

Relatives

By myself

Others (please specify).....

5. School year?

First year

Third year

Second year

Fourth year

6. What is the highest level of education you have completed?

Tertiary

Secondary

Primary

Others(please specify)

PART 2 GENERAL KNOWLEDGE AND ATTITUDE QUESTIONS

S/No		Agree	Disagree	Not sure
1	Mental illness is rare in children and adolescents			
2	Children with mental disorders are difficult to interact with			
3	'Imbecile' and 'Moron' are types of metal disorders found in children			
4	Children and adolescent with mental illness are likely to be violent			

5	Mental illness in children can be caused by traumatic events			
6	Children who live in poverty are not anymore likely to have mental illness than children who do not live in poverty			
7	For children and adolescents with mental illness their families are to blame for this			
8	The root cause of mental illness in children is a curse in the family			
9	Children with mental disorders are possessed by demons			
10	Children and adolescents with mental illness can recover			
11	Children and adolescents with mental illness have inherited weak genes from their parents			
12	Children and adolescents with mental illness are unpredictable			
13	One in five children and adolescents will develop mental illness over the course of their lifetime			
14	Supernatural power can be used to afflict mental illness on a child or adolescent			
15	Mental illness in children and adolescents is caused by spiritual attack			
16	Parents with mental illness always transmit these disorders to their children			
17	Children and adolescents do not have depression			
18	Children do not have psychosis just behaviour problems			

19	Mental illness in children and adolescents cannot be treated			
20	Poor academic performance is a type of mental disorder			
21	Untidy appearance in a child is a sign of mental disorder			
22	Using a cane to beat or threaten a child is a way to manage their behaviour when they are restless and unable to sit still			
23	Their juvenile remand home is a good place to manage children with mental disorders			
24	Children with mental disorders should be taken to religious houses for treatment			
25	Health workers can be trained to manage children with mental disorder			
26	Treating mental illness in children is always very expensive			
27	Would you feel afraid to talk to children and adolescents with mental illness			
28	Would you be upset or disturbed if your child or relative were in the same school or in the midst of children with mental disorders			
29	Children with intellectual disability should not be allowed to attend school with normal children			
30	Would you allow your child or relative to maintain a friendly relationship with a child or adolescent with mental illness?			

31	Would you be embarrassed if your friends knew that someone in your close family had child or adolescent with mental illness			
32	Would you be comfortable to have children and adolescents with mental disorders as patients under your care?			
33	Do you feel children and adolescents who are mentally ill should be nursed with other children with physically illnesses?			
34	Child and adolescent mental health problems can be prevented within the same public health frame work as communicable diseases			
35	Do you feel child and adolescent mental disorders can be successfully treated in hospital?			
36	What words would you use to describe a child or adolescent with mental disorders			

PART THREE: QUESTIONS ON CONDUCT DISORDER AND ADHD

S/No		Agree	Disagree	Not sure
1	Mental illness can occur in children and adolescents			

2	Up to 6% of children have psychiatric disorders			
3	Psychiatric disorders in children are commoner in females than males			
4	Conduct disorder occurs more in males than females			
5	Up to 4% of children have conduct disorder			
6	The following are symptoms of conduct disorder <ul style="list-style-type: none"> g. Running away from home h. Lying i. Stealing j. Inattention k. Sadness l. Truancy 		1	
7	Possible causes of conduct disorder include <ul style="list-style-type: none"> d. Parental divorce e. Criminality in father f. Desire for attention 			
8	Conduct disorder can be managed by <ul style="list-style-type: none"> f. Behavioural Modification techniques g. Cognitive behavioural technique h. Group therapy i. Drugs j. Casting out evil spirits 			
9	Attention deficit hyper activity disorder(ADHD) occurs in children and adolescent			
10	ADHD is more common in males than in females			

11	ADHD does not occur in adolescents			
12	Common signs of ADHD include: e. Impaired attention f. Over activity g. Impulsivity h. Laughing to self			
13	ADHD is apparent before the age of 6years			
14	Possible causes of ADHD include e. Brain abnormalities f. Genetic factors g. Diet h. Food allergy			
15	ADHD is best managed by: d. Medication e. Punishment f. Behaviour modification techniques			
16	A hyperactive, inattentive child should always be punished			
17	Behavioural disorder in children and adolescents are best managed with medication			
18	Appropriate behaviours in children and adolescents with behavioural disorder should be rewarded			
19	Simple clear and concise instructions should be given to control behaviour in children and adolescents with behavioural disorders			

20	Children and adolescents with mental disorders can attend regular school			
21	Parents of children and adolescents with mental health problems should be involved in the treatment plan of their children			
22	Treatment of children and adolescents with mental health problems should be multidisciplinary			

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PART 4 KNOWLEDGE ON DEPRESSION.

Case 1: Dayo

Dayo is a 15 year old who has been feeling unusually sad and miserable for the last few weeks. He is tired all the time and has troubles sleeping at night. Dayo doesn't feel like eating and

has lost weight. He can't keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day to day tasks seem too much for him. His parents and friends are very concerned about him

7. Would you be worried about Dayo's experiences?

1. I don't know	2. Not at all worried	3. Slightly worried	4. Very worried

8. Do you think Dayo needs help or not?" (1). Yes (2). No

2b. If YES, WHAT would YOU do if she was your patient?

9. What do you think is wrong with Dayo?

10. Which parts of the description make you believe she has this problem?

11. How long will it take for Dayo to feel better?

1. I don't know	3. A few days	4. A few weeks	5. A few months	6. Several months

12. Who would you recommend that Dayo seek help from?

TELEGRAMS.....

TELEPHONE.....



MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No.

All communications should be addressed to

the Honorable Commissioner quating

Our Ref. No. AD 13/ 479/ 390

28th February, 2017

The Principal Investigator,
Centre for Child and Adolescent Mental Health
College of Medicine
University of Ibadan
Oyo State

Attention: Omojola Ibitola

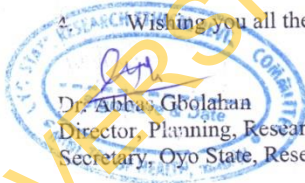
**ETHICAL APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE**

This is to acknowledge that your Research Proposal titled: "Effectiveness of Child and Adolescent Mental Health Educational Intervention on Perception of Public Health Nursing Students in Southwest Nigeria" has been reviewed by the Oyo State Ethical Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.



Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee