EFFECT OF A ONE-DAY mhGAP TRAINING ON THE KNOWLEDGE AND PERCEPTION OF PHYSIOTHERAPISTS TOWARDS CHILD AND ADOLESCENT MENTAL HEALTH DISORDERS

BY

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CERTIFICATION

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

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DEDICATION

I dedicate this work to the memory of my late father, Mr Ojo Ogundapo (jopalo) and the honour of my ever dynamic mother Mrs T. Ogundapo (Iya Ibeji).

ABSTRACT

There is a dearth of published work on Physiotherapist knowledge and perception towards mental health disorders seen in children and adolescents. This research work objectives were to determine the knowledge and the perception of Physiotherapists working with the University College Hospital, Ibadan in the recognition, assessment and management of children with mental disorders and to determine the effect of a one-day training on their knowledge and perception with regards to mental health disorders seen in children and adolescents.

This was an interventional study. 86 Physiotherapists were recruited into the study, (46 and 42 in the intervention and control groups respectively). The two groups were interviewed at baseline and endline. Pre-training, all participants were administered a socio-demographic questionnaire and the perception and knowledge questionnaire.

The intervention group consists of (42) Physiotherapists working with the University College Hospital, Ibadan (UCH) while the control group were recruited from Physiotherapists working with the Obafemi Awolowo University Teaching Hospital, Ile-ife (OAUTHC) and Adeoyo State Hospital, Ibadan.

The intervention group received a one-day training on child and adolescent mental health and were accessed with the perception and knowledge questionnaire immediately after the training.

Analysis of covariance (ANCOVA) was used to compare pretest response on perception and practice to child and adolescent health in the intervention group with the pretest response in the control group. Analysis of covariance (ANCOVA) was used to compare the pre and post knowledge mean score in the intervention group with the control group, while the paired t test was used to compare baseline and post intervention practice and perception score in the

intervention group. Level of significance was set at 0.05; 95% confidence interval. All data analyses were by the SPSS (19).

Results show that the mean age of the respondents was 33.02±7.154 years, 44 (51.2%) were females, 50 (58.1%) married, and 49 (57.1%) were basic grade Physiotherapists. Post-intervention, there were significant changes in quite a number of the responses. There was also a significant difference in the mean post knowledge score between the intervention group and control group with regards to symptoms of depression ($p<0.013$), ADHD ($p=0.008$) and psychosis ($p=0.001$).

In conclusion, knowledge and perception of Physiotherapists about mental health disorders seen in children and adolescents can be improved upon by a one-day health education training intervention. It is therefore recommended that such structured training intervention should be carried out regularly to reinforce and validates their knowledge and perceptions.

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CHAPTER ONE

1.0 INTRODUCTION

Mental health is an essential component of overall health and wellbeing of children and adolescents (Weare and Nind, 2011). It has been documented that at least one in five children and adolescents will experience a mental health problem at some point in their lifetime (Patel, 2007, Fisher et al, 2011) and this may have significant impact on their self-esteem, physical development, school performance and relationships if not adequately treated. Majority of the children who suffer serious mental illness live in low and middle income countries (LMICs) and many of these cases are undiagnosed and untreated due to limited access to health care as well as scarcity of mental health professionals (Patel, 2007). The nature, prevalence, universal or culture-specific determinants of mental health problems in children and adolescents in resource-constrained settings has received some research attention in recent years (Belfer, 2008), most of these studies concluded that mental disorders are under-recognized in most of these settings (Remschmidt and Belfer, 2005; Patel, 2007; Fisher et al, 2011).

The health of certain groups of children and adolescents such as those with disabilities may require special attention (UNICEF, 2016). This is because disabilities are associated with stigma and discrimination (UNICEF, 2016). Also children and adolescents with disabilities are often limited in their ability to use available social facilities because of the difficulties that are associated with disability (Groce, 2004). They also depend on people around them sometimes for basic needs like moving around. They are victims of beliefs and myths that may reduce their participation in the community (Abasiubong, 2008).

According to the United Nations Children's Fund (UNICEF), there are at least 93 million children with moderate to severe disabilities in the world (UNICEF, 2016). About 80% of these children live in the developing world and they experience wide range of disabilities

including physical, sensory, intellectual or mental disabilities (UNICEF, 2007). There are many physical disabilities that can affect children, these include, deafness, visual impairment and cerebral palsy. Cerebral palsy (CP) is the most common physical disability in childhood and it is described as a group of permanent disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing foetal or infant brain (Antilla, 2008). Majority of the physical disabilities found in children and adolescents tend to run a chronic course and they often require the intervention of the physiotherapists and other professionals.

These disabilities put the affected children at a higher risks of developing mental health problems. Children with chronic illnesses have an increased risk of emotional and behavioral problems (Hysing, 2009; Manasi et al, 2016). This increased risk has been documented in many studies (Glazebrook C et al, 2003; Manasi et al, 2016). Furthermore, it has been observed that even though children and adolescents with chronic illness may be in regular contact with general and specialty healthcare providers, they may not have access to needed mental health support services, and hence mental health problems in many children and adolescents often go untreated (Cadman et al, 1987). This highlights the importance of every healthcare provider being able to identify these problems even when the sufferer does not report it.

Glazebrook and colleagues, for example suggest that pediatricians only detect approximately 25% of psychosocial problems among their chronically ill patients (Glazebrook et al, 2003). Majority of these children and adolescents will require physiotherapy care. Physiotherapists by virtue of their training and guidelines of practice come in contact daily with children and adolescents either as a patient or a relative to a patient. The assessment and treatment of emotional and behavioral problems is recognized as an essential part of treating children and adolescents with chronic illness (Glazebrook et al, 2003). This highlights the importance of

gaining understanding of the magnitude, risk factors, and progression of mental disorders in children (Kathleen et al, 2009), especially those with chronic illnesses or who are relatives of people with chronic illness.

The multidisciplinary approach to care is gaining grounds in mental health practices. Professionals such as physiotherapists, speech therapists, occupational therapists and others, play important roles in the care of individuals with mental health problems. This approach becomes even more important in children who often present with multiple morbidities requiring the attention of multiple professionals. Hence, a major component of CAMH advocacy is the education of professionals who work with children about early identification and intervention so as to improve the quality of life of these children, their families and communities (Christian et al, 2011). Physiotherapists plays a central role in the management of children and adolescents with disabilities, Physiotherapists focuses on function, movement, and optimal use of the child's potential. Hence, training Physiotherapists in recognizing mental health problems can be an integral arm in increasing the awareness of mental health disorders in children and adolescents in the general public and the promotion of appropriate mental health of children and adolescents.

Available evidence shows that early intervention in children and adolescents yields high returns in terms of realisation of developmental potentials, prevention of adult disorders, and ultimately in terms of economic advantage of healthy individuals to the society. Addressing the mental health needs of children and adolescents is crucial if they are to fulfill their potential and contribute fully to the development of their communities.

Patel et al (2007) identified shortage of mental-health professionals, the fairly low capacity and motivation of non-specialist health workers to provide quality mental-health services to young people, and the stigma associated with mental disorder as the main challenges mitigating against meeting the mental health needs of this group of people. The World Health

Organisation (WHO) launched the Mental Health Gap Action Programme (mhGAP) in 2008. It was intended to bridge this treatment gap and address the grossly inadequate human resource in LMICs by scaling up mental health services (WHO, 2008). This is to be achieved by training non-specialists to be able to recognize and treat priority neurological, mental and substance use (NMS) disorders including specific childhood disorders such as autism, intellectual disability and attention deficit hyperactivity disorder (ADHD)

. The current study intends to use the mhGAP in training physiotherapists to recognize common childhood mental health problems.

1.2 RELEVANCE OF THE STUDY TO NIGERIA AND WEST AFRICA

Research shows clearly that the first age of onset of mental disorders usually occurs in childhood and adolescence. (Ronald et al, 2009). According to the W.H.O. 20% of children and adolescent have mental health disorders and this is increased by 2-3 folds in those with chronic disability. These issues are more relevant in LAMIC which include Nigeria and other sub-Saharan African countries, where the proportion of children and adolescents in the population is high and the resources are not evenly distributed. The increased rate of emotional and behavioural problems in children with chronic illness, especially neurological disorders, underscores the importance of early detection of mental health problems in these children (Hysing, 2009).

Early identification and effective management are key to ensuring that children receive the care they need. Accumulating evidence suggests that early intervention can provide long term health and socioeconomic benefits by prevention of the onset of mental health problems and their development into chronic disorders (Christian et al, 2011). This highlights the importance of early identification and referral to the appropriate health care provider.

Physiotherapists by virtue of their daily contact with children and adolescent who report for therapy or who accompany relatives for session are in a vantage position to promptly identify those who are at risk of developing mental health disorders and where these disorders have occurred, they can promptly refer them to the appropriate care provider. However, the physiotherapy training in Nigeria is largely devoid of psychiatry experience; hence many Physiotherapists are not able to adequately recognize symptoms of common mental health problems. Several studies have reported the impact of Physiotherapists on mental health (Carter-morris, 2003, Lawlor and Hopker, 2001) but till date no known studies that have reported any training of Physiotherapists in recognizing mental health problems in Nigeria and in most part of West Africa.

The information obtained from this study will enable the assessment of the knowledge base as well as practice of Physiotherapy regarding common mental health disorders in children and adolescents and also the effect of providing information on mental health disorders on their knowledge and practice. This might increase awareness so they can modify their approach to treating patients with these conditions and make appropriate referrals when necessary. Furthermore this might highlight knowledge deficiencies in their practice and subsequently facilitate the planning of training and sensitisation programs for this group of frontline health professionals.

1.3 AIMS

To evaluate the effect of mhGAP training on the knowledge and perception of Physiotherapists regarding mental health problems in children and adolescents.

1.4 OBJECTIVES

1. To assess the knowledge, perception and to determine the current practice of Physiotherapists regarding mental health problems in children and adolescents.

2. To investigate the effect of the mhGAP training as an intervention on the knowledge and perception of Physiotherapists regarding mental health problems in children and adolescents.

1.6 NULL HYPOTHESIS

Training will have no effect on the perception and practice of Physiotherapists with regards to mental health disorders seen in children and adolescents

CHAPTER TWO

LITERATURE REVIEW

2.1 MENTAL HEALTH PROBLEMS IN CHILDREN

Mental disorders are commonly occurring and often seriously impairing in many countries throughout the world. WHO reported in 2010 that 450 million people globally suffer from some form of mental disorders or brain damage and that 25% of the population will meet criteria for diagnosis at some point in their life time. (Merikangas et al, 2009). In a study conducted in Germany by Ulrike Ravens-Sieberer and his colleagues, they published a median prevalence of 14.5% (Ulrike Ravens-Sieberer et al in 2008) as opposed to 12% reported by Waddle et al (2014) in their study carried out among Canadian children, this variation can be attributed to differences in the statistical tools employed.

There are several different types of mental disorders that can affect children and adolescents. These include anxiety disorders, depression, autism spectrum disorder (ASD), attention-deficit hyperactivity disorder (ADHD), intellectual disability and behavioural disorders. Mood disorders can occur also in children and they can continue into adulthood. It is not unusual for a child to have more than one disorder.

2.2 BURDEN OF CHILD AND ADOLESCENT MENTAL HEALTH IN LOW-AND-MIDDLE INCOME COUNTRIES

One of the major advances in epidemiology during the past decade has been the increasing focus on the impact and burden of mental disorders. The importance of the role of disability has become increasingly recognized as a major source of indirect costs of illness because of its high economic impact on ill workers, their employers, and the society. (Simon et al, 2003, Stewart, 2003). The introduction of disability-adjusted life year (DALY) in 1999, which is a

measure of overall disease burden , expressed as the number of years lost due to ill-health, disability or early death, has highlighted the dramatic public health impact of mental disorders (Murray and Lopez, 1999).

By the year 2020, it is estimated that psychiatric and neurologic disorders will account for 15% of the total global burden of all diseases (Ford, 2008). Because impairment is an important criterion for the diagnosis of disorders in children, the prevalence estimates of childhood disorders generally reflect the impact of these conditions as well. (Costello E, 1996, Merikangas et al 2007).

In contrast to adult mental disorders, the economic impact of childhood mental disorders has not been widely studied. Costs associated with childhood mental disorders include medical expenses, special education needs, burden to the criminal justice system, and social services. The direct cost of child mental disorders have been extensively studied but only few studies have reported its indirect cost to the large society. In Hsia and Belfer 2008 study they estimated that a child with ADHD has annual medical costs of $4306 compared with $1944 for a child without ADHD (Belfer, 2008). Children's delayed development is responsible for huge costs of diagnosis, treatment and care. It is often a huge challenge in terms of time and energy, and economy and equipment for families and staff. It imposes costs of specialised schooling for these children, which is one of the problems for the education and health systems (Poon et al., 2010; First et al., 1994; Andersen et al., 2008).

Vikram and his colleagues reported that the shortage of mental-health professionals, the fairly low capacity and motivation of non-specialist health workers to provide quality mental-health services to young people and the stigma associated with mental disorder as the key challenges to addressing mental-health needs of young people (Vikram et al, 2007). Addressing these seemly surmountable challenges is crucial in meeting the mental health needs of young people

in-order for them to fully fulfill their potential and make significant contribution to their communities.

2.3 OVERVIEW OF DEVELOPMENTAL AND BEHAVIOURAL DISORDER

Despite advances in medical sciences in diagnosis and treatment of diseases, the developmental delay of infants is still considered one of the global health problems in developed and developing countries (de Moura et al.2010). Developmental delay usually refers to children that do not display prominent developmental features that they are expected to for their age (Baker, 2001)

Developmental and behavioural disorders are considered the most common in paediatric medicine only after infection and trauma. (Behrman et al., 2004, Torabi et al., 2012). It is estimated that approximately 200 million children worldwide do not enjoy a favorable development or cannot achieve it (de Moura et al., 2010). This problem is not equally prevalent worldwide and even developed countries account for high numbers. In at-risk populations, the rate for children with developmental disabilities has been reported up to the 30% (Soleimani, Vameghi, & Dadkhah, 2009; Amir Ali Akbari et al., 2012). Global Journal of Health Science in 2016 published that approximately 15%–20% of children in the United States suffer developmental or behavioral disabilities. The prevalence of developmental and behavioural disorders has been reported in developing countries to be 15% in Jamaica, 8% in Bangladesh, 15% in Pakistan and 3.3% in Brazil (de Moura et al., 2010; Poon et al., 2010; Potijk et al., 2013).

The exact cause of this childhood disorder may not be ascribed to a single factor (Naddawi et al., 2013; Persha et al., 2007). It involves interplay of wide range of causes and demographic factors. In de Moura and his colleagues work (2010) they reported that child's development

is affected by the interplay factors which include prenatal, psycho-social, biological, hereditary, and environmental factors.

2.3.1 Intellectual disability (ID)

The American Association on Intellectual and Developmental Disabilities (AAIDD, 2002) defines ID as a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before the age of 18. Maulik P.K and Harbor C.K in 2010 opined that it is the most common developmental disorder affecting the individuals, their family and the community in which they find themselves. The burden is immense since it starts from a young age. People with intellectual disability are individuals who have difficulty learning this will in-turn result in difficulty meeting expectations expected for their age.

The distribution of the affected population depends on the severity of the disorder. Among those with a diagnosis of ID, mild mental retardation affects about 85% of the population, moderate mental retardation about 10%, severe mental retardation about 4%, and profound mental retardation about 2% (King et al. 2009).

Most studies agree that it is higher among males than females, especially among children less than 15 years of age. Male gender has been found to have 1.5% prevalence for mild form of intellectual disability. A number of reasons are suggested for greater prevalence in male children, including more frequent identification among boys due to abnormal behavioral patterns in school, and increased adverse effect of maternal smoking and low birth-weight on neurological development among males. Gender differences are not evident among adults (Leonard et al. 2002; Gissler et al. 1999). Researchers have also found a correlation between social class and ethnicity and prevalence of intellectual disability (Leonard et al. 2002). Lower socio-economic conditions are also associated with poorer health conditions, which may affect

the growth of the fetus or young child and can lead to mental disorder (intellectual disability). (Glasson et al, 2005).

Intellectual disability affects about 2–3% of the general population (Daily et al, 2000). Pallab K and Maulik in 2011 reported a prevalence of 10.3/1000 population. They reported that the estimates varied according to income group of the country of origin, the age-group of the study population, and the study design.

Rehabilitation of people with intellectual disability, and reducing the burden due to ID, have been a public health challenges for a long time. They can benefit from social welfare and education programme, and can both benefit from and contribute to a workplace, however they may need somewhat different facilities in the social welfare, education, and employment sectors than do those without an ID, and policy is necessary to guarantee these facilities (Pallab K Maulik et al, 2010).

A number of factors are associated with increased risk of intellectual disability. Prenatal causes are genetic and congenital malformations and exposure to toxins. Perinatal factors are those related to infections and delivery-related causes. Postnatal causes are those associated with childhood infections, and physical and psychological growth of the child. However, most cases are of unknown etiology (30-50%).

2.3.2 Autism spectrum disorders (ASDs)

Autism spectrum disorders (ASDs) are persistent disabling neurodevelopmental disorders clinically evident from early childhood (Baxter, 2014). The prevalence of this disorder has increased markedly in recent decades, which researchers have suggested could be caused in part by non-etiologic factors such as changes in diagnosis criteria (Stefan et al, 2015).

A.J Baxter and his colleagues did a systemic review of the prevalence, incidence, remission and mortality in 2014, they estimated that in 2010 there were about 52 million cases of ASD,

this was approximated to a prevalence of 7.6 per 1000 or 1 in every 132 persons. Furthermore they reported that globally there is little regional variation in the prevalence ASDs. Burden was calculated in terms of years lived with disability (YLDs) and disability-adjusted life-years (DALYs), and it was reported that autistic disorder accounted for 58 DALYs per 100 000 population globally. This shows that substantial health losses across the life span especially in LAMIC where specialized care and services are limited.

Idring et al, (2015) work submits that relevance changes in the manner of reporting ASD can be said to account for increase in the prevalence of ASD over the last decade. According to them the change in diagnostic criteria alone account for 33% of the increase in the prevalence among Danish children whiles the inclusion of outpatient contacts accounts for 42%.

Despite the increasing prevalence of autism worldwide, most of the large scale studies are from the developed world (Adewuya et al 2011). During this period, the prevalence of ASD has been on the increase worldwide. There are few published works on the prevalence of autism from sub-Saharan Africa (Muideen et al, 2012).

Muideen and his colleagues in their 2012 work assessed the prevalence of ASD among Nigerian children with intellectual disability. Among the 44 children with ID assessed, they found out that 5 of them meet the criteria for the diagnosis of childhood autism while male to female ratio was put at 4:1. Lagunju et al in 2014 reported a prevalence of 2.3% among children visiting a peadiatric neurology clinic in South-west Nigeria over a six year period. Twelve (22.6%) children had a positive family history of autism, and forty (75.5%) had associated neurological comorbidities. Diagnosis of autism is often delayed in Nigeria, and affected children have a high frequency of neurological comorbidities (Lagunju et al, 2014).

2.3.3 Hyperkinetic disorder/Attention deficit hyperactivity disorder (ADHD)

Biederman describes attention-deficit/hyperactivity disorder (ADHD) as a multifactorial and clinically heterogeneous disorder that is associated with tremendous financial burden, stress to families, and adverse academic and vocational outcomes (Biederman, 2005). Attention-deficit/hyperactivity disorder is highly prevalent in children worldwide, and the prevalence of this disorder in adults is increasingly recognized. Attention deficit hyperactivity disorder is seen in about 3-7% of school age children (Kings, et al, 2006). It is a disorder characterised by hyperactivity, inattention and impulsiveness. For a diagnosis of ADHD to be made this conditions must be evident by age 7, present at least within the last 6 months and seen in school and at home and must impede child's functioning (Prudent et al, 2005). Maria skounti, et al (2007) and Roberts et al (2007) reported that ADHD is more common in boys than girls, in younger than older children and adolescents. M O Bakare (2012) put the prevalence rates to be between 5.4% and 8.7% amongst school children, 1.5% amongst children from the general population and between 45.5% and 100.0% amongst special populations of children with possible organic brain pathology. Furthermore they reported that oppositional defiant disorder, conduct disorder as well as anxiety/depressive symptoms were commonly associated with this disorder. Research on the relationship socio economic status and ADHD has resulted in conflicting outcomes (Merikangas et al, 2009). Froelich et al (2007) showed a two fold increase in prevalence among poorest children when compared to wealthiest children while Calinouni and McCllelan (2004) reported no association with family income or education.

2.4 OVERVIEW OF DEPRESSION

Depression is described as the most common form of emotional problems which is experienced during adolescence, and it is characterized by feelings of sadness, anxiety, fear, guilt, anger, contempt and confused thinking (Peterson et al, 1993). It has been shown that

most adults who experience recurrent episodes of depression had an initial depressive episode as teenagers (Harrington et al, 1993; Satata et al, 2002).

In their review Merikangas et al (2009) reported that the prevalence of depressive disorders in child and adolescent is 4% with a range of 0.2% to 17%. Various studies have reported varying rate of prevalence, in New Zealand it was reported to be as high as 23% to 33%. In south-west Nigeria, Adewuya et al (2011) reported a prevalence of major depressive disorder of 6.9% among a group of Nigerian adolescents with females having significantly higher prevalence than males. In a study to examine the proportion of children with psychiatric disorders attending primary care in a Nigerian setting, Gureje et al (1994) also reported that depressive disorders were present in 6.0%. Various authors report varying gender difference, some report no difference in prevalence while other suggest that its more prevalent in boys but peaks in female in adolescent years (Wittchen et al, 1998 and Cohen et al, 1993).

The average age of onset for depressive disorder in children and adolescent is between 11 and 14 years (Lewinsohn et al, 2000). There is gap in knowledge with regards to correlation of depression with social class in children and adolescent. Many author report no association while a host of others published significant association especially in low resourced communities (Costello et al, 2005).

2.5 IMPACT OF PHYSICAL ACTIVITIES ON MENTAL HEALTH

Although the psychological benefits from regular exercise are well known, researchers have only recently begun to examine the impact of physical activity on the mental and physical health of individuals with serious mental illness. The use of physical activity to promote both mental and physical health among individuals with serious mental illness has a sound rationale. In the general population, a strong relationship has been found between physical activity and mental health (Biddle et al, 2000 and Morgan 1997). People, who have serious

mental illness, including major depression, schizophrenia, and bipolar disorder, often have poor physical health and experience significant psychiatric, social, and cognitive disability (Adeniyi et al, 2013; Childs & Griffith, 2003 and Goldberg 1992). Physical activity has the potential to improve the quality of life of people with serious mental illness through two routes—by improving physical health and by alleviating psychiatric and social disability.

2.5.1 Physical health benefits of physical activity

Physical inactivity (sedentary behaviour) is a major cause of morbidity and mortality (CDC, 1992). Compared with those who are physically active, sedentary people have a substantially increased risk of developing diabetes (Knowler et al, 2002 and Hu F et al, 2001), heart disease (Hu et al, 2001,Manson et al, 2002, Own et al, 2003), high blood pressure(Haapeen, et al, 1997), and a number of other prevalent and disabling chronic conditions. The effects of lifestyle modification, including diet and exercise, on chronic disease outcomes are large and consistent across multiple studies. For example, the Diabetes Prevention Program study (Knowler et al, 2002), a large multicenter randomized controlled trial with more than 3,000 participants, compared an intensive diet and-exercise intervention with two other treatment arms, a usual-care control group and a medical management group that received metformin. The incidence of diabetes among participants who were randomly assigned to the intensive lifestyle intervention was 14%, compared with 29% in the control group. This outcome represents an almost 60% reduction in risk, and the effect was twice as large as the effect of the medication. The effect of the diet-and-exercise intervention was so impressive that a data-monitoring board stopped the trial early. The results for cardiovascular disease prevention are similarly impressive, and benefits are seen even among people who already have documented disease. In one randomized controlled trial of people with a history of congestive heart failure, risks of heart attacks, hospitalizations, and death among those randomly assigned to an

exercise intervention were all reduced by approximately 60 percent compared with the usual care-group (Belardinelli et al, 1993). Physical activity also plays a critical role in weight loss and in reducing the risk of weight gain in the general population (Jakicic, et al 2003). Even in the absence of weight loss, physical activity can result in substantial health benefits, and individuals who are obese but active are on average healthier than those who are sedentary but not obese (Blair 1999). People with serious mental illness are at higher risk of premature mortality than the general population (Harris et al, 1998). On average, people with severe mental illness die 10 to 15 years earlier than the general population. Although some of the excess mortality is due to suicide and accidental death, ischemic heart disease is a common cause of excess mortality in this population (Lawrence et al, 2001). In a study of all users of psychiatric services in Australia between 1980 and 1998, age-adjusted ischemic heart disease mortality ratios were 1.9 (95 percent confidence interval, 1.8 to 2) for those who used psychiatric services compared with the general population (Lawrence DA et al, 2001). Rates of comorbid illnesses, such as hypertension, diabetes, respiratory disease, and cardiovascular disease, are as high as 60 percent among people with serious mental illness (Koran et al, 1989 and Bartish et al, 1990). In a study of more than 38,000 persons who received care in the Department of Veterans Affairs health system, of those with schizophrenia, 19 percent, or almost one in five, also had a diagnosis of diabetes (Sernyak et al, 2002). This finding may be due partly to the association between atypical antipsychotics and diabetes (Sernyak et al, 2002 and Leon ME et al, 2003). However, individuals with schizophrenia are not the only persons with serious mental illness who are at increased risk of diabetes. Depression is roughly twice as common among patients with diabetes as in the general population, with a prevalence of between 15 and 30 percent depending on whether estimates are based on DSM criteria or elevated levels of depressive symptoms measured with standardized scales (Anderson 2001).

2.5.2 Mental health benefits of physical activity

Although the physical health benefits of physical activity for people with serious mental illness are dramatic, exercise may also confer other important benefits in this population. The most convincing evidence for the psychological benefits of exercise for clinical populations comes from research examining clinical depression. Two recent meta-analyses reported average effect sizes of 0.72 (Graft and Lander, 1998) and 1.1 (Lawlor and Hopker, 2001) for exercise compared with no treatment for depression, and both meta-analyses showed effects for exercise that were similar to those found from other psychotherapeutic interventions. Craft and Landers (1998) reported a greater effect on moderately to severely depressed individuals than on those who were initially classified as mildly to moderately depressed. More modest but positive effects of physical activity have been noted for generalized anxiety disorder, phobias, panic attacks, and stress disorders (O'Connor et al, 2000). Regular physical activity can improve mental health among people with serious mental illness. Improvements in quality of life and emotional well-being due to physical activity have been reported even in the absence of objective diagnostic improvement (Faulkner G and Biddle, 1999). A 1999 review of exercise interventions for people with schizophrenia identified eight pre-experimental, three quasi-experimental, and only one experimental study (Faulkner G and Biddle, 1999). The authors concluded that exercise could alleviate secondary symptoms of schizophrenia, such as depression, low self-esteem, and social withdrawal. For some people, exercise also can be a useful coping strategy for the positive symptoms of schizophrenia, such as auditory hallucinations (Faulkner G and Biddle, 1999). Physical activity may also play a role in reducing social isolation for people with serious mental illness. This aspect of physical activity remains an under-researched area, although case studies suggest that participation in physical activity can engage individuals in mental health services through the promotion of a sense of normalization, and offering safe opportunities for social interaction (Carter-Morris 2003). In

addition, mental health service users have a right to participate in recreational and leisure pursuits, such as physical activity, which are enjoyed by the community at large. Understanding the link between mental health and physical activities is essential for the therapist and equally important is the ability to be able to identify symptoms of mental health problems and make appropriate referral.

2.6 PACKAGES FOR THE TRAINING OF NON-PSYCHIATRIST

It is estimated that one in four people in the world will be affected by mental or neurological disorders at some point in their lives (WHO, 2011). Although many effective interventions for the treatment of mental disorders are known, and awareness of the need for treatment of people with mental disorders has risen, the proportion of those who need mental health care but who do not receive it remains very high, this treatment gap is estimated to reach between 76–85% in low- and middle-income countries and 35–50% for high-income countries (World Health Organisation, 2011).

The lack of trained mental health professionals has been identified as one of the contributing factor to this treatment gap in mental health in low income countries (Tesfaye, Markos et al, 2014). In 2011, the World Health Organization estimated a shortage of 1.18 million mental health professionals, including 55,000 psychiatrists, 628,000 nurses in mental health settings, and 493,000 psychosocial care providers needed to treat mental disorders in 144 low- and middle-income countries (Jump et al, 2011). In response to this, the WHO's mhGAP guide was developed and published in 2010.

Mental Health Gap Action Programme (mhGAP) is WHO's action plan to scale up services for mental, neurological and substance use disorders for countries especially low and middle income (WHO, 2011). The mhGAP Intervention Guide (mhGAP-IG) is a technical tool for the management of mental, neurological and substance use disorders in non-specialist health

settings. The priority conditions included are: depression, psychosis, bipolar disorders, epilepsy, developmental and behavioural disorders in children and adolescents, dementia, alcohol use disorders, drug use disorders, self-harm/suicide and other significant emotional or medically unexplained complaints.

2.6.1 Training allied health professionals on child and adolescent mental health.

The World Health Organisation (WHO) launched the Mental Health Gap Action Programme (mhGAP) in 2008, it was intended to bridge the treatment gap and address the grossly inadequate human resource in LMICs by scaling up mental health services (WHO, 2008). This is to be achieved by training primary health care workers (PHCWs) and other allied health professionals to be able to recognise and treat priority neurological, mental and substance use (NMS) disorders including specific childhood NMS disorders (WHO, 2008). However, the implementations of these program is slow and still largely at the stage of infancy in most LMICs. The mhGAP is currently been piloted in one of the state in Nigeria among PHCWs Moreover, mainly focusing on priority NMS conditions in adults (Gureje et al, 2015) with little or no consideration for childhood disorders.

The efficacy of the mhGAP training package on non-specialized health workers is promising evidence that non-specialized health-care providers can be successfully trained to identify and deliver a basic package of interventions for people with mental, neurological and substance use disorders. Majority of these trainings have been limited to primary health care workers and nurses in other settings of care (Bruni, 2014; Onileimo et al 2014; Tesfaye et al, 2014; Shidhaye et al, 2016). Very little has been done in terms of training among health workers whose professions are not primarily related to the treatment of mental illness but who were likely to come into contact with children and adolescents with mental illness. Physiotherapists fall in this category, hence there is scarcity of studies from both developed and developing countries reporting training of physiotherapists on child and adolescent mental health. The

current study set out to investigate this and suggest possible ways of scaling this up if found effective. This study intend to provide information and skills in identifying child and adolescent mental health problems, a future area of interest is to look into providing training on basic treatment options for physiotherapists on mental illness in children and adolescents.

CHAPTER THREE

METHODOLOGY

3.1 STUDY SITE

The study was carried out in the Department of Physiotherapy University College Hospital, Ibadan. The hospital is a tertiary hospital affiliated with the University of Ibadan. Ibadan is the capital city of Oyo State in South-West, Nigeria. The hospital was formerly commissioned in November 1957. The hospital has an inpatient capacity of about 865 beds, 56 services and clinical departments among them is the Physiotherapy Department. The Physiotherapy Department runs 7 sub-specialty units, with each of the unit covering the outpatient and inpatient clinics. The Physiotherapy Department sees an average of 100 patients (30% of whom are children) daily at the outpatient clinic and about 60 at the in-patient clinic. There are 50 physiotherapists currently employed by the hospital (this is the highest by any hospital in south-west, Nigeria). The control sample were recruited from the Obafemi Awolowo University Teaching Hospital, Ile-Ife and Adeoyo State Hospital, Ibadan.

3.2 STUDY DESIGN

This study design is quasi experimental. It involved training on etiology, symptoms and treatment of mental health disorders seen in children and adolescents. The training was based on WHO mental health Gap Action Programme (mhGAP) training module on depression, anxiety, developmental and behavioral disorders. Prior to the training questionnaire on perception and practice of Physiotherapists towards mental health disorders in children and adolescents was administered. These same questionnaires were also administered immediately after the training to examine the effect of the training.

3.3 STUDY POPULATION

The study population comprised of Physiotherapists working in the Department of Physiotherapy of University College Hospital, Ibadan and the control group was drawn from

Physiotherapists working at the Obafemi Awolowo University Teaching Hospital, Ile-Ife, Osun state, Nigeria and Adeoyo state Hospital, Ibadan, Oyo State, Nigeria.

3.4 INCLUSION CRITERIA

Physiotherapists working in the Department of Physiotherapy, University College Hospital Ibadan, Obafemi Awolowo University Teaching Hospital and Oyo state Hospital Management Board, who consent to participate, were included.

3.5 EXCLUSION CRITERIA

1. Physiotherapists who refuse to give consent were excluded from the study.

3.6 SAMPLE SIZE CALCULATION

The sample size for this study was determined using Yamane (1967) formula as shown below:

$$n = \frac{N}{1+N(e)2}$$

Where, n = required sample size, N = estimated population of Physiotherapist working in the University College Hospital, Ibadan (50), e = level of error tolerance, 5%.

$$n = \frac{50}{1+0.13}$$

n = 44.

Therefore, the required sample size was calculated to be 44 Physiotherapists.

3.7 SAMPLING METHOD

There are 50 Physiotherapists currently employed by the University College Hospital, Ibadan and all were included in the study. Equally there are 40 Physiotherapists currently resident at the Obafemi Awolowo University Teaching Hospital complex and all will be included.

3.8 STUDY INSTRUMENTS

1. Self-report socio-demographic questionnaires. This consists of questions relating to socio-demographic characteristics adapted from a questionnaire used in a previous study on adolescents in rural and urban Ibadan (Omigbodun et al, 2008).

2. Practice and perception towards Child and Adolescent mental health disorders questionnaire**:** This consists of questions relating to perception and practice towards mental health. This was adapted from a questionnaire used in a previous study among teachers in Ibadan (Adejumo et al, 2014). This questionnaire employs a "mixed" approach. A first part involves the presentation of three case vignettes, each followed by a series of questions assessing the respondents‟ knowledge and perception about the severity of presenting problems, recognition of the nature of the problem in the vignette, and approaches to tackle these problems. While two of these questions present options scored on a Likert scale, the others require open-texted responses.

The vignettes feature case scenario of child and adolescent mental illnesses. Each of these descriptions was modelled after actual patients who had presented in the Child and Adolescent Psychiatry Department of the University College Hospital within the past two years, with fictitious names used.

A second part of this questionnaire features questions further examining the respondents‟ knowledge about mental illness in children and adolescents, the role of physiotherapists in detecting it, and also questions examining the respondents‟ self-perceived confidence at identifying these disorders in adolescent patients.

3.9 PRE TEST

A pilot study was conducted using the modified practice and perception towards Child and Adolescent mental disorders questionnaire instruments among 14% of the estimated sample size (7). They were Physiotherapists working with the Oyo State Hospital management board. It aimed to determine how easy it was for the participants to understand the training materials and study instruments, and to determine how much time it took to respond to the questions. During this time, a modified socio-demographic questionnaire and depression, developmental and behavioural disorder module questions were administered. The intervention manual and the framing of most of the questions on the questionnaires were acceptable and easily understood by the physiotherapists. This exercise highlighted a few ambiguous and difficult questions and they were duly modified.

3.10 ETHICAL CONSIDERATIONS

Ethical approval was obtained from the Ethical Review Committee of the Institute of Medical Research and Training, College of Medicine, University of Ibadan. All responses were coded and anonymous serial numbers were strictly used for data entry and analyses.

3.10.1 BENEFICENCE TO PARTICIPANTS

In the course of this study participants knowledge of mental health disorders seen in child and adolescents were either be enhanced or validated in the intervention group.

3.10.2 NON MALFICIENCE

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

3.10.3 VOLUNTARINESS

Participation in the study was totally voluntary. An informed consent form was issued to any Physiotherapist willing to participate in the study. Equally, they were duly informed of their right to withdraw from the study at any time they so desire.

3.11 PROCEDURE

Ethical approval was obtained from the University of Ibadan/University College Hospital Ethical Review Committee and consent to participate in the study was equally obtained from the participants.

Stage One: Pre intervention

Each participant in both control and experimental group were administered the author-modified self-report socio-demographic questionnaire, followed by the modified perception and practice towards mental health disorders questionnaire. This was used to assess the perception and practice of participants towards mental health disorders seen in children and adolescents at baseline.

Stage Two: Intervention

The intervention group received training on Tuesday 11th April 2017 on mental health disorders seen in child and adolescents based on MhGAP modules on depression, anxiety, developmental and behavioral disorders. This group was assessed before and immediately after the training with the modified perception and practice towards mental health disorders questionnaires. They also filled the socio-demographic questionnaire before the

commencement of the training. . The entire training spanned 4 hours and was divided into three sessions each lasting about 1hour. The lectures were delivered in English, and the sessions were interactive, delivered as power point presentations and ended with a question and answer session that lasted about 15minutes.

Stage Three: Post-Intervention

At the end of the second phase, the same self-administered questionnaire that was completed by the participants at pre-intervention was also competed immediately after the training.

The participants in the control group received no training but they were administered both the socio-demographic and the modified practice and perception towards Child and Adolescent mental disorders questionnaires on Thursday 14th April 2017.

3.12 THE TRAINING

The training session was based on mhGAP training modules on depression, developmental and behavioural disorders. The intervention group had a one-day training on Tuesday 11/4/2017 between the hours of 1.00p.m-5.00p.m, during the weekly Physiotherapy departmental seminar; this was done to aid attendance and participation. The training was held in the Physiotherapy seminar room of the University College Hospital, Ibadan. The training included three sessions of one hour each

Session One: the first part of this session looked at the general overview of mental health problems in children and adolescents where causes using the biopsychosocial model, resilience etc was discussed. The second part discussed common signs and symptoms, common presentation and management options for depression and anxiety in children and adolescents.

Session Two: During this session, developmental disorders; autism spectrum disorder and attention deficit hyperactivity disorder were discussed. Their signs and symptoms, common

ways of presenting and management options with emphasis on the multidisciplinary team approach to management were discussed.

Session Three: Behavioral disorders; conduct disorder, oppositional defiant disorder and psychotic disorders were discussed. The discussion on psychotic disorders basically explained some psychotic symptoms such as hallucinations, delusions and disorganized behaviours and gave a list of the common psychotic disorders.

- Introduction, overview of risk factors of mental illness
- Power point lectures on the modules
- Questions and Answers.

The participants in the intervention group were administered the pre-test questionnaires before the commencement of the training, they also receive a manual design for the training. Lectures through power point presentations were delivered by the author and one of the supervisors who has received training in the use of the mhGAP. After the lectures, participants in the intervention group were given time for questions and comments. Immediately after the training, participants in the intervention group were evaluated using the same questionnaire similar to the ones used at baseline.

3.13 DATA ANALYSIS

1. The participants‟ responses to the Likert scale-based questions were coded, entered into a computer and cleaned. Frequencies, means and standard deviations were used to summarize socio demographic characteristics of all the respondents as baseline. In determining the effectiveness of the intervention, data was analysed along three directions.

Five questions assessed the physiotherapists‟ knowledge, two requiring open-ended responses and three requiring responses from a list of options. The first three questions focused on the

first vignette, which described a 16-year old female secondary school student with multiple symptoms suggestive of a depressive disorder.

The first question requested the physiotherapists to describe what they thought the problem might be, and responses were grouped based on the presence of identified key words like "depression" or "psychological problem/mental illness". The second question asked the physiotherapists what aspects of the description were responsible for their interpretations of the adolescent's problems. The mention of at least one of the features of depression included in the description was considered a correct response. These included impaired concentration, complaints of weakness, unhappiness all the time, school refusal in a previously brilliant student, withdrawal from everyone including her close friends, repeated weepy episodes, and making comments suggestive of suicidal ideation. When respondents gave several answers, the first of these was recorded for analysis.

The third, fourth and fifth questions offered options on a Likert scale. While the first of these asked the physiotherapists to estimate the time it would take the girl in the vignette to recover, the other two assessed more general knowledge about depressive symptoms. The responses to these three questions were coded, and a "knowledge scale" drawn up for the purpose of this study

Attitude towards adolescents with depressive symptoms: The physiotherapists' attitudes were assessed based on their responses to three questions in the questionnaire. The responses to these Likert-scale-based questions were coded and an "attitude" scale developed based on these, with a maximum score of 3 points.

The above process of analysis was repeated for the data on the vignette on a 14 year old boy with symptoms suggestive of ADHD.

2. Analysis of variance (ANCOVA) was used to compare pretest response on perception and practice to child and adolescent health in the intervention group with the pretest response in the control group.

3. Analysis of variance (ANCOVA) was used to compare the pre and post knowledge mean score in the intervention group with the control group, while the paired t test was used to compare baseline and post intervention practice and perception score in the intervention group.

Images 1: Briefing of the intervention team by Professor O Omigbodun

Image 2: Training intervention by the researcher.

Image 3: Training intervention by the researcher.

CHAPTER FOUR

RESULTS

This study examined the effect of a one-day training on the perception and knowledge of Physiotherapist towards child and adolescent mental health using the WHO mhGAP training manual. Their knowledge and perception were assessed from their response to a combination of open-ended and multiple choice questions. The sample population was selected from Physiotherapists working at the University College Hospital, Ibadan, who served as the intervention group and physiotherapists from the Obafemi Awolowo University Teaching Hospital, Ile-Ife, and the Oyo State Hospital Management Board, Ring Road, Ibadan served as the control group. There were 86 Physiotherapists in this study, the control group comprised of 44 Physiotherapist while the intervention group comprised of 42 Physiotherapists. The results of the study are presented in the text and tables below.

Section 4.1 Socio-demographic characteristics of the participants

The socio-demographic characteristics of the respondents is presented in Table 1. There were no statistically significant differences in almost all the socio-demographic variables except for their designation (χ^2 =13.299; p=0.001). The mean age of the participants was 33.90±6.157 for the control group and 32.08+8.067 for the intervention group (p=1.000). The intervention group consists of 20 (47.6%) males and 22 (52.4%) females while the control group consists of equal number (22; 50.0%) of males and females. Forty (95.2%) respondents in intervention group and 38 (86.4%) in the control groups were from monogamous family settings.

Table 1: Socio demographic characteristics of the participants. N= 86

Variables	Control Group n=44 (%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Gender of respondent					
Male	22 (50.0)	20 (47.6)	42 (48.2)	0.009	1.000*
Female	22 (50.0)	22 (52.4)	44 (51.2)		
Marital status					
Single	15 (34.1)	21 (50.0)	36 (41.9)	2.182	0.140
Married	29 (65.9)	21 (50.0)	50 (58.1)		
Religion					
Orthodox Christian	11 (25.0)	11 (26.2)	22 (25.6)	0.523	0.770
Pentecostal Christian	25 (56.8)	24 (57.1)	49 (56.9)		
Islam	8 (18.2)	7 (16.7)	15 (17.4)		
How much religious teachings guide behaviour					
Very much	34 (77.2)	30 (71.4)	64 (74.4)	0.060	0.971
Much	9 (20.5)	9 (21.4)	18 (20.9)		
Just a little	1 (2.3)	3 (7.1)	4 (4.7)		
How much religious teachings guide your family					
Very much	32 (72.7)	30 (71.4)	62 (76.7)	0.076	0.963
Much	11 (25)	11 (26.2)	22 (25.6)		
Just a little	1 (2.3)	1 (2.4)	2 (2.3)		
Designation					
Director	15 (34.1)	11 (26.3)	26 (30.2)	13.299*	**0.001**
Basic physiotherapists	29 (65.9)	20 (40.4)	49 (57.0)		
Interns	0	11 (26.2)	11 (12.8)		
Family type					
Monogamous	38 (86.4)	40 (95.2)	78 (90.7)	3.521	0.061
Polygamous	6 (13.6)	2 (4.8)	8 (9.3)		
Age of respondents					
< 30 years	15 (34.1)	15 (35.7)	30 (34.9)	0.061	0.970
30 – 39 years	22 (50.0)	20 (47.6)	42 (48.8)		
40 – 49 years	7 (15.9)	7 (14.3)	14 (16.3)		
Mean age of (mean±SD)	33.90 ± 6.156	32.08 ± 8.067	33.02 ± 7.154	(t= 151)	0.253

Note: *Fisher's exact test
Significant p value are in bold

4.2 Respondents' knowledge about depressive symptoms in children and adolescents at baseline

The respondents' knowledge about depressive symptoms were assessed based on their responses to six questions in the questionnaire (See Appendix B). The case below was presented to the participants and their responses were summarised in Table 2 below.

4.2.1 Case 1

Tola is a 16-year old girl in S.S. 2 who presented with bilateral septic arthritis of the hip. For the past 5 weeks, Tola has not been compliant with her home regime. She used to be a cheerful client but now she does not want to come to the clinic. When she is forced to come, she does not concentrate during therapy. Sometimes she cries, and nobody knows why, because she has stopped talking to anyone, including her sister who is her closest relative. She appears to be unhappy all the time and when asked what the problem is, she says she "is not okay" and she "feels weak", and she "cannot concentrate". This seems to be getting worse every week, and her exercise performance are now poor even the ones she used to enjoy doing. None the less your assessment revealed that she is improving physically. Her sister says she sometimes talks to herself about "dying".

The first question required participant to state whether Tola's experience is a thing to worry about:

Would you be worried about Tola's experience?

From the intervention group, thirty-seven (88.1%) participants stated that they will be 'very worried' while five (11.9%) participants reported that they will be 'slightly worried'. On the other hand, the control group recorded thirty-five (79.5%) participants stating that they will be 'very worried' while nine (20.55) others reported that they will be 'slightly worried'.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Tola's problem?

Responses to these questions were grouped into categories. Those who featured the word 'depression' were considered the most correct in the context of the study. The second category included those with the terms 'psychological' or 'mental illness'.

In the intervention group, thirty-four (81.0%) respondents used the term 'depression' while seven (19%) used the term 'psychological or mental' illness. In the control group, thirty-seven (84.1%) participants use the term 'depression while seven (15.9%) respondents used the term 'psychological or mental illness.

The third question (open-ended) inquired about which part of the vignette informed participants' impression of the adolescent's problem:

Which part of the description makes you believe she has this problem?

In the intervention group nineteen (45.2%) participants recorded 'talking to self', seven participants (16.7%) recorded 'loss of interest' and three (7.1%) reported 'crying', while five (11.9%) respondents reported 'fatigue'. In the control group, sixteen participants (36.4%) reported 'talking to self', fourteen respondents (31.8%) reported 'loss of interest', five (11.4%) reported 'crying' and two participants (4.5%) reported 'fatigue'.

The fourth question sought to know if the Physiotherapists can estimate how long it will require for Tola's recovery: the question offered multiple options

How long will it take Tola to feel better?

'I don't know' was reported by 22 (52.4%) participants in the intervention group while ten (23.8%) respondents recorded 'few weeks'. In the control group twenty-six participants (59.1%) reported 'I don't know' while two (4.5%) participants reported 'few weeks'.

The next questions sought to know respondents ability to judge if Tola needs help or not and what they would do if Tola were to be their patient;

Do you think Tola needs help? If yes what would you do if she was your patient?

All (100%) participants in both groups agreed that she needs help.

Twenty-nine respondents from each groups (69.0% and 65.9% of participants in the intervention and control group respectively) reported that they will refer Tola to a Psychiatrist. Eleven (26.2%) participants in the intervention group and 15 (34.1%) in the control group stated that they will counsel Tola if she were to be their patient.

Table 2: Comparison of respondents' knowledge about depressive symptoms in children and adolescents pre-intervention.

Variables	Control Group n=44(%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Tola's experience					
Slightly worried	9 (20.5)	5 (11.9)	12 (14.0)	0.736	0.391
very worried	35 (79.5)	37 (88.1)	72 (83.7)		
What do you think is Tola's problem					
Depression	37 (84.1)	34 (81.0)	71 (82.6)	0.147	0.701
Psycho/mental illness	7 (15.9)	8 (19.0)	15 (17.4)		
Which part of the description makes you believe she has this problem?					
Talking to oneself	16 (36.4)	19 (45.2)	35 (40.7)	5.333	0.377
Loss of interest	14 (31.8)	7 (16.7)	21 (24.4)		
Crying without reasons	5 (11.4)	3 (7.1)	8 (9.3)		
Fatigue	2 (4.2)	5 (11.9)	7 (8.1)		
Low mood	0	1 (2.4)	1 (1.2)		
Other reasons	7 (16.0)	7 (16.7)	14 (16.3)		
How long will it take Tola to feel better?					
I don't know	26 (59.1)	22 (52.4)	48 (55.8)	7.624	0.054
A few weeks	2 (4.5)	10 (23.8)	12 (14.0)		
A few months	9 (20.5)	4 (9.5)	13 (15.1)		
Several months	7 (15.9)	6 (14.2)	13 (15.1)		
Do you think Tola needs help?					
Yes	44 (100)	42 (100)	86 (100)	-	-
If yes what would you do if she was your patient?					
Counsel the person & her parents	15 (34.1)	11 (26.2)	26 (30.2)	2.570	0.277
Refer to the psychiatrist	29 (65.9)	29 (69.0)	58 (67.4)		
Others	0	2 (4.8)	2 (2.3)		

4.3: Mean knowledge Score of Physiotherapists in Intervention and Control groups at baseline

Table 3 shows the difference in the mean knowledge Score of Physiotherapists in Intervention and Control groups at baseline. There was no significant difference in the mean perception score between the intervention arm and the control group at baseline. (p value= 0.985).

Table 3: Mean knowledge score of respondents about depressive symptoms at baseline.

N=86

Variables	**Control Group n=44** *Mean (SD)*	**Intervention group n=42** *Mean (SD)*	**Total N= 86** *Mean (SD)*
Knowledge Scores	7.89 (1.32)	7.88 (1.33)	7.88 (1.31)

P value = 0.985 (control versus intervention group)

4.4 Respondents' knowledge about Attention-deficit-hyperactivity disorder symptoms in children and adolescents

The respondent' knowledge and perception about Attention-deficit-hyperactivity symptoms were assessed based on their responses to six questions in the questionnaire (See Appendix B). The case below was presented to the participants and their responses were summarised in Table 4 below.

Case 2
Dapo is a 14-year old boy who is known to be very restless in class, at home and in church. Since he was in primary school, he would never sit still or keep quiet in class. He would often answer questions in class without waiting to be called, and sometimes would have forgotten the question. This has often affected his school performance. When sent on errands by his teacher, he always forgets, and his parents complain about this too. When doing things with others, he always likes to be in front because he cannot wait for his turn. This often causes fights and many of his classmates do not like doing anything with him.

The first part of question required participant to state whether Dapo's experience is a thing to worry about:

Would you be worried about Dapo's experience?

In the intervention group, twenty-one (50.0%) participants reported that they will be 'very worried' about Dapo's experience while twenty (47.6%) others reported that they will be 'slightly worried' about his experience. In the control group, thirty-one (70.5%) respondents stated that they will be 'very worried' while 11 (25.0%) reported that they will be 'slightly worried' about his experience.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Dapo's problem?

Responses to these questions are grouped into categories. Those who featured the word 'ADHD' (Attention Deficit Hyperactivity Disorder) were considered the most correct in the context of the study. The second category included those with the term 'restlessness'.

'ADHD' was used to describe Dapo's case by thirty-two (72.7%) participants in the control group while 'restlessness' was used by seven (15.9%) others. In the intervention group, 'ADHD' was used to describe Dapo's case by twenty-seven (64.3%) participants in the control group while 'restlessness' was used by one (2.4%) participant.

The third question (open-ended) inquires about what part of the vignette informed participants' impression of adolescent problem:

Which part of the description makes you believe she has this problem?

'Restlessness' was reported by 39 (88.6%) and 36 (85.7%) participants in the control and intervention groups respectively. Other themes like 'hyperactive', 'short attention span', 'playful' were also used by a small minority.

The fourth question seeks to know if the Physiotherapists can estimate how long it will require for Dapo's recovery:

How long will it take Dapo to feel better?

In the intervention group, twenty-four (57.1%) participant reported 'I don't know' while eleven (26.2%) others stated that it will take 'several months'. In the intervention group, twenty-four (54.5%) participants reported 'I don't know' while eight (18.2%) stated 'several months'.

The fifth question seek to know respondents ability to judge if Dapo needs help or not;

Do you think Dapo needs help?

In the intervention group, forty-one (97.6%) participants 'agreed' that Dapo needed help and twenty-seven (57.1%) of them also reported that they will send him to a Psychiatrist if he were to be their patient. In the control group, all (100%) participants 'agreed' that Dapo needed help and thirty-one (70.5%) of them also reported that they will send him to a Psychiatrist if he were to be their patient.

Table 4: Comparison of Respondents' knowledge about Attention-deficit-hyperactivity disorders symptoms in children and adolescents pre-intervention. N=86

Variables	Control Group n=44(%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Dapo's experience					
Not at all	2 (4.5)	1 (2.4)	3 (3.5)	3.935	0.140
Slightly worried	11 (25.0)	20 (47.6)	31(36.0)		
very worried	31 (30.5)	21 (50.0)	52 (60.1)		
What do you think is Dapo's problem					
ADHD	32 (72.7)	27 (64.3)	59 (68.6)	9.145	**0.010**
Restlessness	7 (15.9)	1 (2.4)	8 (9.3)		
Others	5 (11.4)	14 (33.3)	19 (22.1)		
Which part of the description makes you believe she has this problem					
Restlessness	39 (88.6)	36 (85.7)	75 (87.2)	0.164	0.685
Other reasons	5 (11.4)	6 (14.4)	11 (12.8)		
How long will it take Dapo to feel better					
I don't know	24 (54.5)	24 (57.1)	48 (55.8)	1.712	0.634
A few weeks	0	1 (2.4)	1 (1.2)		
A few months	12 (27.3)	6 (14.2)	14 (16.3)		
Several months	8 (18.2)	11 (26.2)	19 (22.1)		
Do you think Dapo needs help?					
Yes	44 (100)	40 (95.2)	83 (96.5)	1.061	0.303
No	0	2 (4.8)	1 (1.2)		
If yes what would you do if she was your patient?					
Counsel the person & her parents	8 (18.2)	12 (28.6)	20 (23.3)	1.736	0.420
Refer to the psychiatrist	31 (70.5)	24 (57.1)	55 (64.0)		
Others	5 (11.4)	6 (14.3)	11 (12.8)		

4.5 Mean knowledge score of respondents about Attention-deficit-hyperactivity disorders symptoms at baseline.

Table 5 shows the difference in the Mean knowledge Score of Physiotherapists in Intervention and Control groups at baseline.

There was no significant difference in the mean perception score between the intervention arm and the control arm. (p value= 0.307).

Table 5: Mean knowledge score of respondents about Attention-deficit-hyperactivity disorders symptoms pre-intervention. N=86

Variables	**Control Group n=44** *Mean (SD)*	**Intervention group n=42** *Mean (SD)*	**Total N=86** *Mean (SD)*
Attitude Scores	7.32 (2.02)	6.86 (2.14)	7.09 (2.08)

P value = 0.307 (control versus intervention group)

4.6 Respondents' knowledge about psychotic symptoms in children and adolescents at baseline

The respondent' knowledge and perception about psychotic symptoms were assessed based on their responses to six questions in the questionnaire (See Appendix B)

Case 3

Moji is a 12-year old J.S.2 student who lives close to your house, she stopped going to school some weeks ago because she has been behaving strangely. At home, she would sometimes laugh loudly for no reason, and at other times she would claim to be hearing voices of people planning to kill her, or people walking in the ceiling. Because of this, she keeps trying to run out of the house and her parents had to stop her once from taking off her clothes. A few days ago she stopped talking or eating and has been sitting or standing in one position for a long time. She would not take her bath or change her clothes, like she normally used to.

The first part of question required participant to state whether Moji's experience is a thing to worry about:

Would you be worried about Moji's experience?

In the intervention group, forty-one (97.6%) participants reported that they will be 'very worried' about Moji's experience while one (2.4%) participants reported that he will be 'slightly worried' about her experience. In the control group, forty-three (97.7%) respondents stated that they will be 'very worried' about her experience.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Moji's problem?

Responses to these questions are grouped into categories. Those who featured the word 'schizophrenia/psychosis' were considered the most correct in the context of the study. The second category included those with the term 'mental illness.

'schizophrenia' was used to describe Moji's case by nine (20.5%) participants in the control group while 'mental illness' was used by six (13.6%) others. In the intervention group,

'schizophrenia' was used to describe Moji's case by nineteen (45.2%) participants while 'mental illness' was used by twenty (47.6%) participant.

The third question (open-ended) inquired about what part of the vignette informed participants' impression of adolescent problem:

Which part of the description makes you believe she has this problem?

'Hallucination' was reported by 15 (34.1%) and 38 (90.5%) participants in the control and intervention groups respectively. Other themes like 'laughing out loud, stop taking her bath', 'trying to run-off' was used by a small minority.

The fourth question sought to know if the Physiotherapists can estimate how long it will require for Moji's recovery:

How long will it take Moji to feel better?

In the intervention group, twenty-four (57.1%) participant reported 'I don't know' while fourteen (31.0%) others stated that it will take 'several months'. In the control group, twenty-nine (65.9%) participants reported 'I don't know' while fourteen (31.8%) stated 'several months'.

The fifth question sought to know respondents ability to judge if Moji needs help or not;

Do you think Moji needs help?

In the intervention group, all forty-two (100%) participants 'agreed' that Moji needed help and thirty (81.0%) of them also reported that they will send him to a Psychiatrist if she were to be their patient. In the control group, all (100%) participants 'agreed' that Moji needed help and twenty-eight (63.8%) of them also reported that they will send him to a Psychiatrist if she were to be their patient.

Table 6: Comparison of respondents' knowledge about psychotic symptoms in children and adolescents at baseline. N=86

Variables	Control Group n=44(%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Moji's experience					
I don't know	1 (2.3)	0	1 (1.2)	2.891**	0.236
Slightly worried	0	1 (2.4)	1 (1.2)		
very worried	43 (97.7)	41 (97.6)	84 (97.6)		
What do you think is Moji's problem					
Schizophrenia	9 (20.5)	19 (45.2)	28 (32.6)	32.206	**<0.001**
Mental illness	6 (13.6)	20 (47.6)	26 (30.2)		
Others	29 (65.9)	3 (7.2)	32 (37.2)		
Which part of the description makes you believe she has this problem					
Hallucinations	15 (34.1)	38 (90.5)	53 (61.6)	28.890	**<0.001**
Other reasons	29 (65.9)	4 (9.5)	33 (38.4)		
How long will it take Moji to feel better					
I don't know	29 (65.9)	24 (57.1)	53 (61.6)	0.942	0.624
A few months	1 (2.3)	4 (11.9)	5 (5.8)		
Several months	14 (31.8)	14 (31.0)	28(32.6)		
Do you think Moji needs help?					
Yes	44 (100)	42 (100)	86 (100)	2.454	0.117
No	0	0	0		
If yes what would you do if she was your patient?					
Counsel the person & her parents	1 (2.3)	5 (11.9)	6 (7.0)	30.165	**<0.001**
Refer to the psychiatrist	15 (34.1)	34 (81.0)	49 (57.0)		
Others	28 (63.6)	3 (7.1)	31 (36.0)		

Note ** Fisher's Exact test result
Significant p value is in bold

4.7 **Mean knowledge score of respondents about Psychotic symptoms at baseline**

Table 7 shows the difference in the Mean knowledge Score of Physiotherapists in Intervention and Control groups pre-intervention. There was a significant difference in the mean perception score between the intervention group and the control group. (p value= 0.001).

Table 7: Mean knowledge score of respondents about Psychotic symptoms at baseline. N=86

Variables	**Control Group n=44**	**Intervention group n=42**	**Total N=86**
	Mean (SD)	*Mean (SD)*	*Mean (SD)*
Attitude Scores*	3.05 (4.00)	7.79 (1.70)	5.36 (3.89)

**P value = <0.001 (control versus intervention group)*

4.8 Comparison between perception of respondents in both groups at baseline about mental health disorders in children and adolescents at baseline

Table 8 shows the comparison between perception of respondents in both groups of the study at baseline about mental health disorders in general at baseline. There are no significant difference in most of the questions except in a few questions, such as; 'Adolescents with depression like to be alone, feel sad & wish to die', 'Adolescents with mental health problems are weak and have only themselves to blame'.

Table 8a: Comparison of knowledge of participants about mental health disorders in general pre-intervention (N=86).

	Control n=44 n (%)	Intervention n=42 n (%)	X^2	P value
Children with mental health problems are difficult to talk to				
Agree	24(54.5)	19(45.2)	0.998	0.607
Disagree	13(29.5)	15(35.7)		
Not sure	7 (15.9)	8 (19.1)		
Children with mental health problems are likely to become violent				
Agree	33(75.0)	32(76.2)	0.060	0.971
Disagree	6 (13.6)	5(11.9)		
Not sure	5 (11.4)	5(11.9)		
Mental health problems are caused by stress				
Agree				
Disagree	30(68.2)	22(52.3)	6.482	**0.039**
Not sure	4(9.1)	13(31.0)		
	10(22.7)	9(21.4)		
Children with Schizophrenia (one form of mental health				
Agree	25(56.8)	26(61.9)	0.416	0.813
Disagree	4(9.1)	3(7.1)		
Not sure	15(34.1)	13(31.0)		
Children can recover from mental health problems				
Agree	31(70.5)	34(81.0)	1.285	0.526
Disagree	5(11.4)	3(7.1)		
Not sure	8(18.2)	5(11.9)		
Adolescents with mental health problems are weak and have only themselves to blame				
Agree	6(13.6)	1(2.4)	11.920	**0.003**
Disagree	31(70.5)	41(97.6)		
Not sure	7(15.9)	0		
Adolescents with mental health problems are unpredictable				
Agree	38(86.4)	35(83.3)	0.277	0.871
disagree	2(4.5)	3(7.1)		
Not sure	4(9.1)	4(9.5)		

Table 8a (cont'd): Comparison of knowledge of participants about mental health disorders in general pre-intervention (N=86)

	Control n=44 n (%)	Intervention n=42 n (%)	X^2	P value
There is a stigma (shame) attached to people with mental health problems				
Agree	44(100)	40(95.2)	2.145	0.236
Disagree	0	2(4.8)		
Not sure	0	0		
One in five children will develop mental illness over the course				
Agree	6(13.6)	12(28.5)	2.320	0.313
Disagree	8(18.2)	6(14.3)		
Not sure	30(68.2)	24(57.1)		
Mental problems are caused by spiritual attack				
Agree	13(29.5)	6(19.0)	2.853	0.240
Disagree	17(38.6)	21(50)		
Not sure	14(31.8)	13(31.0)		
Parents with mental illness always transmit it to their children				
Agree	13(29.5)	7(16.7)	5.456	0.066
Disagree	20(45.5)	30(71.4)		
Not sure	10(22.7)	5(11.9)		
Depression is a type of mental illness				
Agree	44(100)	41(97.6)	1.060	0.488
Disagree	0	0		
Not sure	0	1(2.4)		
Adolescents with depression like to be alone, feel sad & wish to die				
Agree	35(79.5)	42(100)	7.463	**0.024**
Disagree	3(3.3)	0		
Not sure	6(13.6)	0		
Mental illness cannot be treated				
Agree	2(4.5)	0	1.930	0.381
Disagree	35(79.5)	38(90.5)		
Not sure	7(15.9)	4(9.5)		

4.9 Mean perception score of respondents about mental health disorders in general pre-intervention

Table 9 shows the difference in the mean perception Score of Physiotherapists towards people with mental health problems in the Intervention and Control arms pre-intervention.

There was no significant difference in the mean practise score between the intervention arm and the control arm pre-intervention (p value= 0.268).

Table 9: Mean perception score of respondents about mental health disorders in general pre-intervention N=86

Variables	Control Group n=44	Intervention group n=42	Total
	Mean (SD)	*Mean (SD)*	*Mean (SD)*
Scores	20.32 (4.29)	21.26 (3.49)	20.78 (3.93)

*P value = **0.268** (control versus intervention group)*

POST- INTERVENTION RESULTS

4.10 Respondents' knowledge about depressive symptoms in children and adolescents post-intervention

The respondents‟ knowledge about depressive symptoms were assessed immediately post intervention based on their responses to six questions in the questionnaire (See Appendix B). the results are presented in Table 10.

The first question require participant to state whether Tola's experience is a thing to worry about:

Would you be worried about Tola's experience?

In the intervention group, thirty-seven (88.1%) respondents reported that they will be 'very worried', five (11.9%) others reported that they will be 'slightly worried'. In the control group, thirty-four (77.2%) respondents reported they will be 'very worried' while 10 (22.7%) others reported that they will be 'slightly worried'.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Tola's problem?

Responses to these questions were grouped into categories. Those who featured the word 'depression' were considered the most correct in the context of the study. The second category included those with the terms 'psychological' or mental problem.

In the intervention group, forty-one respondents (97.6%) used the term 'depression' while in the control group thirty-seven (84.1%) respondents used the term 'depression'

The third question (open-ended) inquired about what part of the vignette informed participants' impression of adolescent problem:

Which part of the description makes you believe she has this problem?

In the intervention group fifteen (38.7%) participants recorded 'talking to self', nine participants (21.4%) recorded 'loss of interest' and eight (19.0%) reported 'crying', while seven (16.7%) respondents reported 'fatigue'. In the control group, sixteen participants (36.4%) reported 'talking to self', fourteen respondents (31.8%) reported 'loss of interest', five (11.4%) reported 'crying' and two participants (4.5%) reported 'fatigue'

The fourth question seek to know if the Physiotherapists can estimate how long it will require for Tola's recovery: the question offer multiple options

How long will it take Tola to feel better?

'I don't know' was reported by 8 (19.0%) participants in the intervention group, twelve (28.6%) respondents recorded 'few weeks', ten (23.8%) participants reported 'several months'. In the control group twenty-seven participants (61.4%) reported 'I don't know' while two (4.5%) participants reported 'few weeks' and 8 (18.2%) respondents reported several months.

The next questions seek to know respondents ability to judge if Tola needs help or not and *what they would do if Tola were to be their patient;*

Do you think Tola needs help? If yes what would you do if she was your patient?

All participant in both groups agreed that she needs help (100%). Thirty-five (83.3%) and twenty-nine (65.9%) participants in the intervention and control group respectively reported that they will refer Tola to a Psychiatrist.

About 14.3% (6) of participants in the intervention group and 34.1% (15) in the control group stated that they will counsel Tola if she were to be their patient.

Table 10: Comparison of respondents' knowledge about depressive symptoms in children and adolescents post-intervention. N=86

Variables	Control Group n=44 (%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Tola's experience					
Slightly worried	10 (22.7)	5 (11.9)	15 (17.4)	1.342	0.247
very worried	34 (77.2)	37 (88.1)	71 (82.6)		
What do you think is Tola's problem^					
Depression	38 (84.1)	41 (97.6)	79 (91.9)	3.641	0.056
Psycho/mental illness	6 (15.9)	1 (2.4)	7 (8.1)		
Which part of the description makes you believe she has this problem^					
Talking to oneself	16 (36.4)	15 (35.7)	31 (36.0)	8.325	0.139
Loss of interest	14 (31.8)	9 (21.4)	23 (26.7)		
Crying without reasons	5 (11.4)	8 (19.0)	13 (15.1)		
Fatigue	2 (4.5)	7 (16.7)	9 (10.5)		
Low mood	0	1 (2.4)	1 (1.2)		
Other reasons	7 (16.0)	2 (4.8)	9 (10.5)		
How long will it take Tola to feel better^					
I don't know	27 (61.4)	8 (19.0)	35 (39.5)	17.103	**0.001**
A few weeks	2 (4.5)	12 (28.6)	14 (16.3)		
A few months	8 (18.2)	10 (23.8)	18 (20.9)		
Several months	7 (15.9)	10 (23.8)	17 (19.8)		
Do you think Tola needs help?					
Yes	44 (100)	42 (100)	86 (100)	-	-
If yes what would you do if she was your patient?					
Counsel the person & her parents	15 (34.1)	6 (14.3)	21 (24.4)	5.376	0.068
Refer to the psychiatrist	29 (65.9)	35 (83.3)	64 (74.4)		
Others	0	1 (2.4)	1 (1.2)		

^Fisher's Exact Test

Significant p value is in bold

4.11 Mean knowledge score of respondents post-intervention:

Table 11 shows the difference in the Mean knowledge Score about depressive symptoms of Physiotherapists in Intervention and Control groups post-intervention.

There was significant difference in the mean perception score between the intervention group and the control arm (p value= 0.013).

Table 11: Mean knowledge score of respondents post-intervention. N=86

Variables	**Control Group n=44** *Mean (SD)*	**Intervention group n=42** *Mean (SD)*	**Total N= 86** *Mean (SD)*
Scores*	7.22 (1.33)	7.90 (1.12)	7.56 (1.27)

P value = <0.013** (control versus intervention group)*

4.12 Respondents' knowledge about Attention Deficit Hyperactivity Disorder symptoms in children and adolescents post-intervention.

The respondents' knowledge about ADHD symptoms were assessed based on their responses to six questions in the questionnaire (See Appendix B) and the results are shown in Table 12.

The first part of question require participant to state whether Dapo's experience is a thing to worry about:

Would you be worried about Dapo's experience?

In the intervention group, twenty-nine (70.5%) participants reported that they will be 'very worried' while ten (23.8%) others reported that they will be 'slightly worried' about Dapo's experience. In the control group, thirty-one (70.5%) respondents stated that they will be 'very worried' while 11 (25.0%) reported that they will be 'slightly worried' about his experience.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Dapo's problem?

Responses to these questions are grouped into categories. Those who featured the word 'ADHD' (Attention Deficit Hyperactivity Disorder) were considered the most correct in the context of the study. The second category included those with the term 'restlessness'.

In the intervention group, forty-one (97.6%) participants used the term ADHD while in the control group 30 (68.2%) used the term ADHD to describe Dapo's condition.

The third question (open-ended) inquires about what part of the vignette informed participants' impression of adolescent problem:

Which part of the description makes you believe she has this problem?

'Restlessness' was reported by 39 (88.6%) and 37 (88.1%) participants in the control and intervention groups respectively.

The fourth question seeks to know if the Physiotherapists can estimate how long it will require for Dapo's recovery:

How long will it take Dapo to feel better?

Seventeen (40%) respondents from the intervention group reported 'several months', 11 (26%) each in the same group reported 'I don't know' and 'few months' respectively. On the other hand twenty-four (54.5%) respondents in the control group reported 'I don't know'.

The fifth question seek to know respondents ability to judge if Dapo needs help or not;

Do you think Dapo needs help?

All (100%) participants in the intervention group agreed that Dapo needed help and twenty-four (57.6%) reported that they would refer to a Child Psychiatrist. On the other hand in the control group all respondent agreed that he needed help while thirty-two (72.7%) among them stated that they would refer to a Psychiatrist.

Table 12: Comparison of respondents' knowledge about Attention-deficit-hyperactivity disorder symptoms in children and adolescents post-intervention

Variables	Control Group n=44(%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Dapo's experience					
Not at all	2 (4.5)	0	2 (2.3)	2.016	0.365
Slightly worried	11 (25.0)	10 (23.8)	21 (24.4)		
very worried	28 (70.5)	29 (69.0)	57 (66.3)		
What do you think is Dapo's problem					
ADHD	30 (68.2)	41 (97.6)	71 (82.6)	10.569	**0.005**
Restlessness	9 (20.5)	1 (2.4)	10 (11.6)		
Others	5 (11.4)	0	5 (5.8)		
Which part of the description makes you believe she has this problem					
Restlessness	39 (88.6)	37 (88.1)	76 (88.4)	0.006	0.938
Other reasons	5 (11.4)	5 (11.9)	10 (11.6)		
How long will it take Dapo to feel better					
I don't know	24 (54.5)	11 (26.2)	35 (40.7)	10.433	**0.015**
A few weeks	0	3 (7.1)	3 (3.5)		
A few months	12(27.3)	11 (26.2)	23 (26.7)		
Several months	8 (18.2)	17 (40.5)	25 (29.1)		
Do you think Dapo needs help?					
Yes	44 (100)	42 (100)	86 (100)	-	-
No	-	-	-		
If yes what would you do if she was your patient?					
Counsel the person & her parents	8 (18.2)	16 (38.1)	24 (27.9)	5.907	0.052
Refer to the psychiatrist	32 (72.7)	24 (57.1)	56 (65.1)		
Others	4(9.1)	2 (4.8)	6(7.0)		

4.13: Mean knowledge score of respondents about ADHD post-intervention: Table 13 shows the difference in the Mean knowledge Score of Physiotherapists in Intervention and Control groups post-intervention.

There was significant difference in the mean knowledge score between the intervention arm and the control group. (p value= 0.008).

Table 13: Mean knowledge score of respondents about ADHD post-intervention

Variables	**Control Group** *Mean (SD)*	**Intervention group** *Mean (SD)*	**Total** *Mean (SD)*
Knowledge Scores*	7.34 (1.98)	8.31 (1.22)	7.81 (1.71)

P value = <0.008** (control versus intervention group)*

4.14 Respondents' knowledge about Psychotic symptoms in children and adolescents post-intervention. See Table 14.

The first part of question required participant to state whether Moji's experience is a thing to worry about:

Would you be worried about Moji's experience?

In the intervention group, forty-one (97.6%) participants reported that they will be 'very worried' about Moji's experience while one (2.4%) participants reported that he will be 'slightly worried' about her experience. In the control group, 40 (90.9%) respondents stated that they will be 'very worried' about her experience.

The second question (open-ended) required the respondents to state what they feel might be wrong with the adolescent in the case vignettes:

What do you think is Moji's problem?

Responses to these questions are grouped into categories. Those who featured the word 'schizophrenia/psychosis' were considered the most correct in the context of the study. The second category included those with the term 'mental illness.

'Schizophrenia' was used to describe Moji's case by nine (20.5%) participants in the control group while 'mental illness' was used by 7 (15.9%) others. In the intervention group, 'schizophrenia' was used to describe Moji's case by fifteen (35.7%) participants while 'mental illness' was used by eighteen (42.9%) participant.

The third question (open-ended) inquired about what part of the vignette informed participants' impression of adolescent problem:

Which part of the description makes you believe she has this problem?

'Hallucination' was reported by 15 (34.1%) and 35 (83.3%) participants in the control and intervention groups respectively.

The fourth question sought to know if the Physiotherapists can estimate how long it will require for Moji's recovery:

How long will it take Moji to feel better?

In the intervention group, thirteen (31.0%) participant reported 'I don't know' while eighteen (42.9%) others stated that it will take 'several months'. In the control group, twenty-nine (65.9%) participants reported 'I don't know' while fourteen (31.8%) stated 'several months'.

The fifth question seek to know respondents ability to judge if Moji needs help or not;

Do you think Moji needs help?

In the intervention group, all forty-two (100%) participants 'agreed' that Moji needed help and forty-one (97.6%) of them also reported that they will send her to a Psychiatrist if she were to be their patient. In the control group, all (100%) participants 'agreed' that Moji needed help and twenty-eight (63.8%) of them also reported that they will send her to a Psychiatrist if she were to be their patient.

Table 14: Comparison of respondents' knowledge about psychotic symptoms in children and adolescents post-intervention. N= 86

Variables	Control Group n=44(%)	Intervention group n=42 (%)	Total N=86 (%)	χ^2	P value
Would you be worried about Moji's experience					
I don't know	1 (2.3)	1 (2.4)	2 (2.3)	2.558	0.278
Slightly worried	3 (6.8)	0	3 (3.5)		
very worried	40 (90.9)	41 (97.6)	81 (94.2)		
What do you think is Moji's problem					
Schizophrenia	9 (20.5)	15 (35.7)	24 (27.9)	4.630	0.099
Mental illness	7 (15.9)	18 (42.9)	25 (29.1)		
Others	28 (63.6)	9 (21.4)	37 (43.0)		
Which part of the description makes you believe she has this problem					
Hallucinations	15 (34.1)	35 (83.3)	50 (58.1)	21.410	**<0.001**
Other reasons	29 (65.9)	7 (16.7)	36 (41.9)		
How long will it take Moji to feel better					
I don't know	29 (65.9)	13 (31.0)	32 (37.2)	3.383	0.496
A few days	0	2 (4.8)	2 (2.3)		
A few months	1(2.3)	9 (21.4)	10 (11.6)		
Several months	14 (31.8)	18 (42.9)	32 (37.2)		
Do you think Moji needs help?					
Yes	44 (100)	42 (100)	86(100)	2.395	0.122
No	0	0	0		
If yes what would you do if she was your patient?					
Counsel the person & her parents	1 (2.3)	1(2.4)	2 (2.3)	31.141*	**<0.001**
Refer to the psychiatrist	15 (34.1)	41 (97.6)	56 (65.1)		
Others	28 (63.6)	0	28 (32.5)		

*Fisher's Exact Test Result

Significant value is in bold ($p<0.005$)

4.15: Mean knowledge score of respondents about psychotic symptoms post-intervention

Table 15 shows the difference in the Mean knowledge Score of Physiotherapists in Intervention and Control groups post-intervention.

There was significant difference in the mean knowledge score between the intervention arm and the control group. (p value= 0.001).

Table 15: Mean knowledge score of respondents about psychotic symptoms post-intervention

Variables	Control Group *Mean (SD)*	Intervention group *Mean (SD)*	Total *Mean (SD)*
Knowledge Scores*	3.02 (3.98)	7.43 (1.93)	5.17 (3.84)

**P value = <0.001 (control versus intervention group4)*

4.16 Comparison of the perception of participants about mental health disorders in children and adolescents post-intervention

Tables 16, 17a and 17b show the comparison between perception of respondents in both groups of the study at baseline about mental health disorders in general. There were significant difference in some of the questions such as; 'children with mental problems are difficult to talk to' (χ^2= 6.302; p=0.040), 'mental health problems can be caused by stress' (χ^2=9.401; p<0.001), 'adolescents with depression are weak and only have themselves to blame' (χ^2=18.832; p<0.001), 'one in five children will develop mental health illness over the course of a lifetime (12.375; p<0.001).

Table 16: Comparison of the perception of participants about mental health disorders in children and adolescents post-intervention. N= 86

	Control group n=44 (%)	Intervention group n= 42 (%)	χ^2	P value
Children with mental health problems are difficult to talk to				
Agree	25(56.8)	13(31.0)	6.302	**0.040**
Disagree	12(27.3)	27(64.3)		
Not sure	7 (15.9)	2(4.7)		
Children with mental health problems are likely to become violent				
Agree	33(75.0)	29(69.0)	0.091	0.802
Disagree	6 (13.6)	13(31.0)		
Not sure	5 (11.4)	0		
Mental health problems can be caused by stress				
Agree	30(68.2)	24(57.1)	9.401	**0.001**
Disagree	5(11.4)	14(33.4)		
Not sure	9(20.5)	4(9.5)		
Children with Schizophrenia (one form of mental health				
Agree	25(56.8)	36(85.7)	0.716	0.329
Disagree	4(9.1)	4(9.5)		
Not sure	15(34.1)	2(4.7)		
Children can recover from mental health problems				
Agree	30(68.2)	40(95.2)	1.367	0.625
Disagree	6(13.6)	2(4.8)		
Not sure	8(18.2)	-		
Adolescents with mental health problems are weak and have only themselves to blame				
Agree	6(13.6)	3(7.1)	18.832	**0.001**
Disagree	31(70.5)	36(85.7)		
Not sure	7(15.9)	3(7.2)		
Adolescents with mental health problems are unpredictable				
Agree	38(86.4)	29(69.0)	0.466	0.971
disagree	2(4.5)	12(28.6)		
Not sure	4(9.1)	1(2.4)		
There is a stigma (shame) attached to people with mental health problems				
Agree	44(100)	42(100)	2.145	0.236

Disagree	0	0		
Not sure	0	0		
One in five children will develop mental illness over the course of a lifetime				
Agree	6(13.6)	38(90.5)	12.375	**0.001**
Disagree	9(20.5)	0		
Not sure	29(65.9)	4(9.5)		
Mental problems are caused by spiritual attack				
Agree	13(29.5)	3(7.1)	2.853	0.640
Disagree	17(38.6)	28(66.7)		
Not sure	14(31.8)	11(26.2)		
Parents with mental illness always transmit it to their children				
Agree	14(31.8)	18(42.9)	5.456	0.082
Disagree	19(43.2)	24(57.1)		
Not sure	10(22.7)	0		
Depression is a type of mental illness				
Agree	44(100)	42(100)	3.260	0.722
Disagree	0	0		
Not sure	0	1		
Adolescents with depression like to be alone, feel sad & wish to die				
Agree	35(79.5)	42(100)	7.463	**0.050**
Disagree	3(3.3)	0		
Not sure	6(13.6)	0		
Mental illness cannot be treated				
Agree	2(4.5)	0	2.730	0.681
Disagree	35(79.5)	38(90.5)		
Not sure	7(15.9)	4(9.5)		

Table 17a: Comparison of participants' responses on perception about mental health problems in children and adolescent at baseline and immediate post intervention (N= 86)

	Control Group n=44		Intervention Group n=42	
	Baseline n (%)	Post Intervention n (%)	Baseline n (%)	Post Intervention n (%)
Children with mental health problems are difficult to talk to				
Agree	24(54.5)	25(56.8)	19(45.2)	13(31.0)*
Disagree	13(29.5)	12(27.3)	15(35.7)	27(64.3)
Not sure	7 (15.9)	7 (15.9)	8 (19.1)	2(4.7)
Children with mental health problems are likely to become violent				
Agree	33(75.0)	33(75.0)	32(76.2)	29(69.0)
Disagree	6 (13.6)	6 (13.6)	5(11.9)	13(31.0)*
Not sure	5 (11.4)	5 (11.4)	5(11.9)	0
Mental health problems are caused by stress				
Agree	30(68.2)	30(68.2)	22(52.3)	24(57.1)
Disagree	4(9.1)	5(11.4)	13(31.0)	14(33.4)
Not sure	10(22.7)	9(20.5)	9(21.4)	4(9.5)
Children with Schizophrenia (one form of mental health				
Agree	25(56.8)	25(56.8)	26(61.9)	36(85.7)
Disagree	4(9.1)	4(9.1)	3(7.1)	4(9.5)
Not sure	15(34.1)	15(34.1)	13(31.0)	2(4.7)
Children can recover from mental health problems				
Agree	31(70.5)	30(68.2)	34(81.0)*	40(95.2)
Disagree	5(11.4)	6(13.6)	3(7.1)	2(4.8)
Not sure	8(18.2)	8(18.2)	5(11.9)	-
Adolescents with mental health problems are weak and have only themselves to blame				
Agree	6(13.6)	6(13.6)	1(2.4)	3(7.1)
Disagree	31(70.5)	31(70.5)	41(97.6)	36(85.7)*
Not sure	7(15.9)	7(15.9)	0	3(7.2)
Adolescents with mental health problems are unpredictable				
Agree				
disagree	38(86.4)	38(86.4)	35(83.3)	29(69.0)
Not sure	2(4.5)	2(4.5)	3(7.1)	12(28.6)
	4(9.1)	4(9.1)	4(9.5)	1(2.4)

Table 17b (cont'd)**: Comparison of participants' responses on perception about mental health problems in children and adolescent at baseline and immediate post-intervention (N= 86)**

	Control Group n=44		Intervention Group n=42	
	Baseline n (%)	Post Intervention n (%)	Baseline n (%)	Post Intervention n (%)
There is a stigma (shame) attached to people with mental health problems				
Agree				
Disagree	44(100)	44(100)	40(95.2)	42(100)
Not sure	0	0	2(4.8)	0
	0	0	0	0
One in five children will develop mental illness over the course of a lifetime				
Agree	6(13.6)	6(13.6)	12(28.5)	38(90.5)*
Disagree	8(18.2)	9(20.5)	6(14.3)	0
Not sure	30(68.2)	29(65.9)	24(57.1)	4(9.5)
Mental problems are caused by spiritual attack				
Agree	13(29.5)	13(29.5)	6(19.0)	3(7.1)
Disagree	17(38.6)	17(38.6)	21(50)	28(66.7)*
Not sure	14(31.8)	14(31.8)	13(31.0)	11(26.2)
Parents with mental illness always transmit it to their children				
Agree				
Disagree	13(29.5)	14(31.8)	7(16.7)	18(42.9)
Not sure	20(45.5)	19(43.2)	30(71.4)	24(57.1)
	10(22.7)	10(22.7)	5(11.9)	0
Depression is a type of mental illness				
Agree				
Disagree	44(100)	44(100)	41(97.6)	42(100)
Not sure	0	0	0	0
	0	0	1(2.4)	1
Adolescents with depression like to be alone, feel sad & wish to die				
Agree				
Disagree	35(79.5)	35(79.5)	42(100)	42(100)
Not sure	3(3.3)	3(3.3)	0	0
	6(13.6)	6(13.6)	0	0
Mental illness cannot be treated				
Agree				
Disagree	2(4.5)	2(4.5)	0	0
Not sure	35(79.5)	35(79.5)	38(90.5)	38(90.5)
	7(15.9)	7(15.9)	4(9.5)	4(9.5)

4.17 Mean perception score of respondents about mental health disorders in general post-intervention

Table 18 shows the difference in the mean perception score of Physiotherapists towards mental health problems in the Intervention and Control arms post-intervention.

There was significant difference in the mean perception score between the intervention group and the control group post-intervention (p value= <0001.).

Table 18: Mean perception score of respondents post-intervention N=86

variables	Control group n=44 Mean (SD)	Intervention group n=42 Mean (SD)	Total Mean (SD)
Scores	20.32(4.29)	23.57 (3.81)	21.91 (4.36)

P value= <0.001 (control versus intervention group)

4.18: ANCOVA analysis for the effect of mhGAP training intervention on the perception and knowledge of Physiotherapists regarding mental health disorders in children and adolescents.

Table 18 shows the effect of a one-day intervention training using the mhGAP guide to improve the knowledge and perception of physiotherapist towards children and adolescents with depression. Results showed that the knowledge score of the intervention group (*Adj. Mean:* 7.91; 95% C.I: 6.917 – 7.535) was significantly higher than those of the control group (*Adj. Mean:* 7.23; 95% C.I: 7.590 – 8.223), while adjusting for their individual baseline scores (P=0.003).

Table 18: Effect of mhGAP training intervention on the knowledge of participant towards mental disorders (depression) in children and adolescent.

	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	7.23	6.917 – 7.535	9.341	0.003*	0.101
Intervention group	7.91	7.590 – 8.223			

$R^2 = 0.356$, adjusted $R^2 = 0.340$

Effect of mhGAP training intervention on the knowledge of participants towards mental disorders (Attention-deficit-hyperactivity disorder) in children and adolescents.

Table 19 shows the effect of a one-day training on the knowledge and perception of Physiotherapist towards mental disorders (ADHD) seen in children and adolescents.

Results showed that the knowledge score of the intervention group (Adj. Mean: 8.45; 95% C.I: 8.094 – 8.797) was significantly higher than those of the control group ((Adj. Mean: 7.21; 95% C.I: 6.868 – 7.555), while adjusting for their individual baseline scores (P=0.003).

Table 19: Effect of mhGAP training intervention on the knowledge of participants towards mental disorders (Attention-deficit-hyperactivity disorder) in children and adolescents.

	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	7.21	6.868 – 7.555	24.775	<0.001*	0.230
Intervention group	8.45	8.094 – 8.797			

$R^2 = 0.565$, adjusted $R^2 = 0.555$

4.19: Effect of mhGAP training intervention on the perception of participant about mental disorders in children and adolescent

Table 20 shows the effect of a one-day training on the knowledge and perception of Physiotherapist towards mental disorders in general seen in children and adolescents. Results showed that the knowledge score of the intervention group (Adj. Mean: 32.753; 95% C.I: 31.513-33.994) was significantly higher than those of the control group ((Adj. Mean: 27.9; 95% C.I: 26.729-29.151), while adjusting for their individual baseline scores (P=0.003).

Table 20: Effect of mhGAP training intervention on the perception of participant about mental disorders in children and adolescent

	Adjusted Mean	95% CI for adjusted mean	ANCOVA F-test	P value	Eta Squared
Control group	27.940	26.729 – 29.151	30.097	<0.001*	0.266
Intervention group	32.753	31.513 – 33.994			

$R^2 = 0.517$, adjusted $R^2 = 0.505$

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Discussion

This study was designed to determine the knowledge and perception of Physiotherapists towards child and adolescent mental health and the effect of a one-day training intervention in the recognition, assessment and management of children with mental health disorders. The result generated indicated that respondents in both intervention and control groups of the study have similarities and differences regarding their knowledge and perception to child and adolescent mental health disorders. The effect of the mental health education intervention was such that there was a significant increase in knowledge and perception towards child and adolescent mental health disorders.

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

5.1.1 Socio-demographic Characteristics

The socio-demographic characteristics of all respondents show that 6 of every 10 of the respondents were between the age group 30-39 years, previous studies among Nigerian Physiotherapists reported a similar mean age (33.7) (Adegoke, 2008). There is almost an even distribution of gender, the intervention group consists of 48.8% males and 47.7% females while the control group consists of 51.2% males and 52.3% females. This is in contrast to the work by Odebiyi and Adegoke, (2005) who reported the male: female ratio of Physiotherapy graduate to be 3:1. Majority of respondents are from a monogamous family settings and more than half of the respondents in each group are basic grade Physiotherapists. Overall, the intervention and the control groups of this study were found to have similar socio-

demographic characteristics except in their designations where the control group boasts of more junior rank Physiotherapists, however with no single intern Physiotherapists.

5.1.2 Knowledge of All Respondents about Depression pre-intervention

Results from this study show similarities in knowledge of all respondents about depression at baseline between the control and intervention arms in certain domains. Respondents from the control group reported higher scores mean knowledge score. The results showed that the participants' baseline knowledge of depression was good. Previous studies have shown that health workers who are not mental health professionals tend to have good baseline knowledge of depression (Poštuvan et al, 2007; Lea, 2014). For example, a study of 206 registered nurses in a medical-surgical ward in Texas found that the nurses' beliefs and attitudes about depression were generally positive and that even minimal education was required to increase their interest in routinely screening their patients for depression (Lea, 2014). The reason for this relatively good knowledge level of depression might be as a result of the fact that depression is a common mental health disorder and as a result the respondents are likely to have come across patients with depression in the course of their practice. However, some other studies have reported limited knowledge among health workers such as General Practitioners (James et al, 2012), Social workers (Cesare and King, 2014). As was the case in the current study, Ozabaci (2010) reported a display of mixed level of knowledge about depressive symptoms in a study conducted in Turkey.

5.1.3 Knowledge of All Respondents about Attention Deficit Hyper-activity Disorder (ADHD) pre-intervention

Results from this study show that about half of the respondents in both groups were able to identify the symptoms presented as those of ADHD. This finding is surprising because it is

assumed that the diagnosis of ADHD should require some prior training and experiences. A search through the available literature showed that the few studies that have been done on childhood mental disorders and physiotherapy have been limited to ADHD (Watemberg, 2007; Silva, 2011 & Datro et al, 2016). Although these studies were done in the developed country, it could actually reflect a high level of awareness about ADHD among physiotherapists in general. In addition, one of the core symptoms of ADHD is hyperactivity which is closely related to physical activity, which is a convenient zone for these therapists as opposed to other childhood disorders such as Autism Spectrum disorder. Studies have actually documented the importance of physical therapy techniques, such as massage therapy and breathing exercises to reduce anxiety, stress, muscle tension caused by ADHD and thus promote relaxation and improve the quality of life (Watemberg, 2007; Silva, 2011 and Datro, 2016).

5.1.4 Knowledge of all respondents about Psychotic symptoms in children and adolescents pre-intervention

Results from this study show that only about 20% and 45% of the respondents in the control and intervention groups respectively were able to identify the symptoms presented in the third vignette as those of a psychotic illness. This is in contrast to the respondents' ability to recognize the cases in the first two vignettes as those of depression and ADHD. This is not surprising because psychotic illnesses are described as serious mental illnesses and making diagnosis might require some degree of training and expertise. This finding has been reported previously, for example a study that was done among social workers in Australia reported that 90% of the respondents were able to identify depression at baseline as opposed to only 59% for schizophrenia (Cesare and King, 2014). Many training packages have also recognised this difficulty with identifying psychotic disorders and hence emphasis of these packages are often

on other mental illnesses such as depression and anxiety. Studies have consistently found a lower rate of ability to identify psychotic illness among non-mental health professionals (Jorm etal, 1997; Jorm etal, 2005).

5.1.5 Perception of all respondents about Childhood Mental Health Disorders in General pre-intervention

There was a statistically significant difference in the knowledge score of the participants on childhood mental health disorders, with the intervention group having higher knowledge of the disorders. The ready explanation for this difference in knowledge could be because the physiotherapists in the intervention group work at the University College Hospital where there is a viable child and adolescent psychiatric service. It is possible that some of the respondents in the intervention group have had contact with the child and adolescent mental health service and the professionals within the facility and hence had received some information about child and adolescent mental health/illness that could have accounted for the difference observed. In addition, children and adolescents with mental health problems especially the developmental disorders often require physiotherapy interventions, similarly some children receiving care within the physiotherapy unit often require mental health service for example children with cerebral palsy. As result of these interdisciplinary needs of these children, professionals from both disciplines often need to interact either through the referral and back referral system or physical contact. The Physiotherapists in the control group especially those from the State Hospital do not have this benefit. Taking this further, is to note that the current trend in the management of mental health problems in children and adolescents is towards the multidisciplinary approach in which many professionals such as psychologists, speech therapists, child psychiatrists, social workers, physiotherapists all come together to provide care for this group of individuals (Ødegård & Strype, 2009). This approach appears to be more

established in the developed than the developing countries hence the need for continuous plan and training to ensure the needed collaboration.

5.1.6 Effect of the Intervention on the knowledge and perception of the respondent

The findings showed that there were statistically significant difference in all the different domains assessed in the knowledge and perception of the respondents in the intervention group after the training. The Analysis of covariance (ANCOVA) that was carried out on the three disorders presented during the training showed that there were significant differences in the knowledge of the two groups with the intervention group scoring higher on all the three disorders; depression ($F=9.341$; $p=0.003$); ADHD ($F=24.775$; $p<0.001$) and Psychosis ($F=30.097$; $p<0.001$). The World Health Organisation in 2008 had launched the Mental Health Gap Action Program (mhGAP) for the training of primary care workers and recently this has been extended to other health workers who are not mental health professionals. Since the release of the mhGAP manual, several studies have documented its usefulness in training primary care workers (Shidhaye et al, 2016; Mendenhall et al, 2014; Kakuma et al, 2011; WHO, 2010) and recently other professionals working with children and adolescents (Onileimo, 2016; Adeyanju, 2016; Lasisi et al, 2017 and Obiejemba, 2016) and the vast majority reported significant improvements in knowledge and practice. The implementations of the mhGAP programme has commenced in most parts of Africa but it is largely at the stage of infancy in most of these countries. In Nigeria, there is a pilot field work going on in Osun State where primary health care workers are being trained and supervised to identify and offer basic intervention to people with some mental illness (Gureje et al, 2015; Abdulmalik, 2013). Reports from this pilot study have shown significant impact on the knowledge, perception and practice of these workers towards mental health problems (Abdulmalik, 2013).

Within the Centre for Child and Adolescent Mental Health (CCAMH) where this current study is domiciled, previous studies have reported significant improvement after mental health training in the knowledge, perception and practice of different groups such as teachers (Obiejemba, 2016; Lasisi et al, 2017), pupils (Adeniyi and Omigbodun, 2016; Oduguwa et al, 2017) nurses (Onileimo, 2014, Adeyanju, 2016), patients (Adeleke, 2016) and parents (Bello-Mojeed et al, 2016). Although, the studies above were done among different groups, they all reported significant improvement in the knowledge and perception of the participants after training.

These findings from current study and other studies show that mental health education interventions are effective ways of improving knowledge and perception of non-professional mental health workers including physiotherapists to mental health disorders in children. It is interesting that to the best of the knowledge of the researcher, there are no studies that have looked at training Physiotherapists in recognising mental illness in children and adolescents. Considering the positive findings from this current study, efforts should be made to train more physiotherapists and also equip them to offer very basic intervention such as counselling and psychoeducation to their patients with mental health problem.

Strength of the study

The strength of this study lies in the use of mixed 'qualitative-quantitative' approach to assess knowledge and perception.

Another important point is the use of case vignette to present symptoms of depression, ADHD and psychosis in adolescents. This was done to present a picture that every respondent can relate to in their daily practice.

Another strong point is the method of data analysis which was carried out between intervention and control group at baseline and post-intervention respectively.

Limitation of the study

This study has limited sample size, future studies needs to employ larger sample size in order to improve the generalizability of the results to a larger Physiotherapists population.

Participants were recruited from three institutions in South-west Nigeria; therefore their knowledge may not be an exact reflection of the perception of other numerous physiotherapists in other institutions.

It was difficult to make the control group fill out their questionnaire at a go as many are accustomed to taking their time when trying to fill questionnaires.

5.2 Conclusion

The findings of this study indicated that a one-day mhGAP training can improve the knowledge and perception of physiotherapists towards mental health disorders seen in children and adolescents. The effect of our intervention was demonstrated by significant change in some views of the respondents regarding mental illness in children. This implies that a structured mental health training of allied health professionals is valuable to the therapists and the clients.

5.3 Recommendation

Physiotherapists should receive adequate mental health education in their undergraduate training curriculum, to aid in the recognition and treatment of mental illness, so that people suffering from mental illness receive optimum care.

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APPENDIX A

Inform consent

APPENDIX B
PHYSIOTHERAPISTS' PERCEPTION & KNOWLEDGE QUESTIONNAIRE
SECTION I

Please read the following information carefully, and kindly answer the questions following each, based on your understanding about the problems in each case.

1. TOLA

Tola is a 16-year old girl in S.S. 2 who present with bilateral septic arthritis of the hip. For the past 5 weeks, Tola has not been compliant with her home regime. She used to be a cheerful client but now she does not want to come to the clinic. When she is forced to come, she does not concentrate during therapy. Sometimes she cries, and nobody knows why, because she has stopped talking to anyone, including her sister who is her closest relative. She appears to be unhappy all the time and when ask what the problem is, she says she "is not okay" and she "feels weak", and she "cannot concentrate". This seems to be getting worse every week, and her exercise performance are now poor even the ones she use to enjoy doing even though your assessment revealed that she's improving physically. Her sister says she sometimes talks to herself about "dying".

1a. Would you be worried about Tola's experiences?

I DON'T KNOW	NOT AT ALL	SLIGHTLY WORRIED	VERY WORRIED

1b. What do you think is Tola's problem?

_____
_____
_____
_____

1c. Which parts of the description make you believe she has this problem?

_____
_____
_____
_____

1d. How long will it take for Tola to feel better?

I DON'T KNOW	A FEW DAYS	A FEW WEEKS	A FEW MONTHS	SEVERAL MONTHS

1e. Do you think Tola needs help? YES/NO

_____

1f. If YES, WHAT would YOU do if she was your patient?

_____
_____
_____

_____
_____
_____
_____
_____
_____
1g. If YES, can anyone else help?
_____
1h. HOW?
_____
_____
_____
_____
_____

2. DAPO

Dapo is a 14-year old boy who is known to be very restless in class, at home and in church. Since he was in primary school, he would never sit still or keep quiet in class. He would often answer questions in class without waiting to be called, and sometimes would have forgotten the question. This has often affected his school performance. When sent on errands by his teacher, he always forgets, and his parents complain about this too. When doing things with others, he always likes to be in front because he cannot wait for his turn. This often causes fights and many of his classmates do not like doing anything with him.

2a. Would you be worried about Dapo's experiences?

I DON'T KNOW	NOT AT ALL	SLIGHTLY WORRIED	VERY WORRIED

2b. What do you think is Dapo's problem?_____
_____
_____
_____2c. Which parts of the description make you believe he has this problem?
_____
_____
_____
_____2d. How long will it take for Dapo to feel better?

I DON'T KNOW	A FEW DAYS	A FEW WEEKS	A FEW MONTHS	SEVERAL MONTHS

2e. Do you think Dapo needs help? YES/NO
_____
_____
2f. If YES, WHAT would YOU do if he was your patient?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
2g. If YES, can anyone else help? YES/NO
2h. If yes, HOW?
_____
_____
_____
_____
_____
_____
_____

3.) Moji

Moji is a 12-year old J.S.2 student who lives close to your house, she stopped going to school some weeks ago because she has been behaving strangely. At home, she would sometimes laugh loudly for no reason, and at other times she would claim to be hearing voices of people planning to kill her, or people walking in the ceiling. Because of this, she keeps trying to run out of the house and her parents had to stop her once from taking off her clothes. A few days ago she stopped talking or eating and has been sitting or standing in one position for a long time. She would not take her bath or change her clothes, like she normally used to.

3a. Would you be worried about Moji's experiences?

I DON'T KNOW	NOT AT ALL	SLIGHTLY WORRIED	VERY WORRIED

3b. What do you think is Moji's problem?
_____
_____
_____

_____3c. Which parts of the description make you believe she has this problem?_____
_____
_____

_____3d. How long will it take for Moji to feel better?

I DON'T KNOW	A FEW DAYS	A FEW WEEKS	A FEW MONTHS	SEVERAL MONTHS

3e. Do you think Moji needs help? YES/NO

_____

3f. If YES, WHAT would YOU do if she was your student?_____

_____

_____

_____

_____

_____

3g. If YES, can anyone else help?_____

___

3h.

HOW?_____

_____

_____

SECTION II

2. The following statements are commonly-held beliefs about mental health problems. Can you tell us whether you personally agree or disagree with each statement?

	Agree	Disagree	Not sure
a. Children with mental health problems are difficult to talk to			
b. Children with mental health problems are likely to become violent			
c. Mental health problems are caused by stress			
d. Children with Schizophrenia (one form of mental health problem) have a split personality			
e. Children can recover from mental health problems			
f. Adolescents with mental health			

problems are weak and have only themselves to blame			
g. Adolescents with mental health problems are unpredictable			
h. There is a stigma (shame) attached to people with mental health problems			

i. One in five children will develop mental illness over the course of a lifetime			
j. Mental problems are caused by spiritual attack.			
k. Parents with mental illness always transmit it to their children.			
l. Depression is a type of mental illness			
m. People with depression like to be alone, feel sad & wish to die			
n. Mental illness cannot be treated			

Thank you for participating!

APPENDIX C

SOCIO-DEMOGRAPHIC QUESTIONNAIRE

Please write the answers to the questions or draw a circle where it applies to you. This is not an examination it is only to find out about you.

SECTION I

Personal Information

1. Name of institution:
2. Designation:
3. Where do you live? (Address of Present Abode):
4. What is your date of birth? Date of Birth: _____ _____ _____
5. How old are you ____
6. what is your sex? (a) male (b) female
7. Nationality:
8. Do you practise any religion? No Yes
9. Please write down the exact place you attend for worship?
   (a) Islam (b) Orthodox Christian (c) Pentecostal Christian (d) Traditional religion (e) Other
10. How much does the teaching of your religion guide your behaviour?
    (a) Very much (b) much (c) Just a little (d) Not at all
11. How much does the teaching of your religion guide your family life?
    (a) Very much (b) much (c) Just a little (d) Not at all

Family Information

12. Family Type:
    (a) Monogamous (b) Polygamous (c) Not applicable
13. Marital Status:
    (a) Married (b) Separated/Divorced (c) Single
14. Level of Education (a) B.physio (b) MSc (c) Phd (d) Others

APPENDIX D

INVITATION TO A ONE DAY TRAINING ON MENTAL HEALTH

Dear Esteemed Elder and Colleague,

I write to invite you to be a part of a one-day training/seminar that will take place on Tuesday 4/4/2017 at the departmental seminar room (gym) between the hours of 1.30-3.30 p.m.

The training is in partial fulfilment for the award of Masters of Science in Child and Adolescent Mental Health of the University of Ibadan.

The aim of the training is to investigate the effect the provision of information on mental health disorders that are common in children and adolescent will have on our perception and practise with regards to child and adolescents mental health.

Facilitators will include experts in the field of child and adolescent mental health. Some of the topics to be covered at the training include;

- Causes of mental illness in children
- Attention Deficit Hyperactivity Disorders (ADHD)
- Autism spectrum Disorders
- Intellectual Disability (Mental Retardation)
- Depression in Children.

The training will be based on the World Health Organization mental health Gap Action Programme (mhGAP) guide. In addition, there will be practical and hands-on sessions.

Dear colleague your participation and punctuality is highly appreciated. Please endeavour to contact me for further clarifications on 07060418857.

I hope to see you there. Thank you.