PREVALENCE AND RISK FACTORS OF PSYCHOSOCIAL DYSFUNCTION AMONG IN-SCHOOL ADOLESCENTS IN EKITI STATE, NIGERIA

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Master of Science degree in Epidemiology and Medical Statistics

To

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CERTIFICATION

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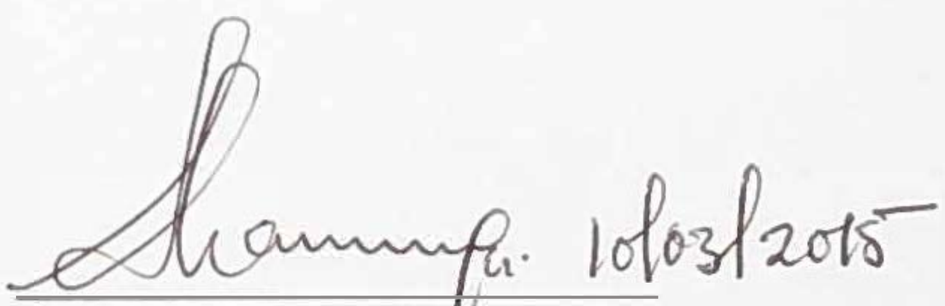

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DEDICATION

To God Almighty who is the source of my help and inspiration. Also to my parents (Late. Pa Ajibola Ogundoyin and Mrs. Felicia Ogundoyin) and my beloved wife, Dr. (Mrs.) Omowonuola A. Ogundoyin.

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ABSTRACT

Background

Psychosocial functioning is an important component of mental health and development of children and adolescents. Past studies explaining specific aspects of childhood and adolescent psychosocial functioning have been guided by many theories. Empirical studies focusing on psychosocial functioning of adolescents in Nigeria are scanty in the literature. Information on the psychosocial functioning of adolescents in school in local settings could provide bases for grass root intervention. This study explored prevalence of psychosocial functioning and risk factors for psychosocial dysfunctions among adolescents in schools in Ikere Ekiti.

Methods

We purposively selected six schools from the fifteen secondary schools in Ikere LGA.

Questionnaire comprising socio-demographic characteristics, Strength and Difficulty Question (SDQ) and Center for Epidemiological Studies Depression for Children Scale (CES-DC) were used to obtain data on demographic, behaviour and mood tendencies from participants. Frequency table and percentages were used for initial data exploration while Chi-square test was used for testing difference in proportions. All analyses were performed at 5% level of significance using SPSS version 20.

Results

Overall prevalence of emotional symptoms among the adolescents' was 5.6% while the prevalence was 6.1% and 5.3% among participants in the rural and urban areas respectively.

Also, the overall prevalence of conduct problems was 37.9% while 35.8% and 40.8% of urban and rural adolescents respectively had conduct problems.

Prevalence of depressive symptoms was found to be 51.8%. (Rural: 55.3%; Urban: 49%). The proportion of adolescents with psychosocial dysfunctions was significantly higher (P=0.01) among those attending private schools (40.4%) than those attending public schools (25.8%). The proportion of male participants with conduct problems (42.6%) was significantly higher (P=0.03), while those with emotional symptoms was higher among participants from polygamous homes (22.3%) compared to monogamous homes (13.3%) (P= 0.03). Friendship with opposite sex was found to be significantly associated with peer problems (71.8%, P= 0.01), pro-social behaviour (36.3%, P=0.04) and the overall difficulties (32.8%, P=0.05). The proportion of adolescents with emotional problems (20.0%, P= 0.05), conduct problems (45.0%, P=0.03), and overall difficulties (39.2%, P<0.01) was higher among those who have had disappointments from friend of opposite sex.

Conclusion

Prevalence of psychosocial dysfunction was high among in-school adolescents in Ikere-Ekiti LGA. Also, prevalence of psychosocial dysfunction was higher among male participants, participants from private school and those from polygamous home. Intervention programs focusing on schools in both rural and urban areas of Ikere-Ekiti LGA could benefit the psychosocial functioning of the in-school adolescents.

Keywords: Prevalence, Risk factors, psychosocial functioning, in-school Adolescents, Ikere-Ekiti

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Efforts by past research to explain specific aspects of childhood and adolescent psychosocial dysfunction have been guided by many theories. For instance, human ecological system and attachment theories have long provided the most widespread explanation for adolescent psychosocial functioning (Taiwo, 2011). The human ecological system theory asserts that environmental conditions like economic, family and political structures are part of life courses from childhood which determine the psychological wellbeing of an individual (Taiwo, 2011). The attachment theory concentrates on close, intimate, emotionally meaningful relationships which describe the biological system or powerful survival impulses that evolves to ensure the survival of a child during early developmental stages (Taiwo, 2011).

Familial factors such as parenting, family type, family structure as well as family dysfunctions have been shown to be significantly associated with high psychosocial dysfunctions among adolescents (Taiwo, 2011). Also implicated in the emotional and behavioural problems of adolescents are some demographic factors such as ethnic differences, low socioeconomic status and low levels of education as well as unclassified psychosocial problems of adolescents. These factors are classified as 'ecological system model', while divorce, neglect/abuse, unpleasant parent-child relationship, psychological factors such as dissociation, future time and value orientation are established correlates of psychosocial dysfunctions and could be classified as either 'attachment model' or both (Taiwo, 2011).

In the literature, personality factors and somatic illnesses have been established to be associated with psychosocial dysfunctions and psychopathology. A meta-analysis of studies guided by theoretical personality framework revealed a significant relationship between neuroticism, conscientiousness, agreeableness and extraversion with psychosocial dysfunctions, thereby emphasizing the importance of personality in the understanding of psychosocial dysfunctions.

In sub-Saharan Africa, it has been evidently shown from literature that a high prevalence of psychosocial dysfunctions exists among adolescents with early exposure to high antisocial behaviours and other negative life experiences (Nwankwo, Nwoke et al, 2010).

A high correlation between conduct disorder (CD) and attention deficit disorder (ADD) among these adolescents has also been reported (Smith, Molina et al, 2002). These observed relationships between psychosocial dysfunctions and antisocial behaviour among adolescents have made experts to conclude that adolescents with antisocial problems are part of a population within which there is higher incidence of psychosocial dysfunctions (Taiwo, 2011).

In addition to very scanty literature on the prevalence and risk factors for psychosocial dysfunctions among adolescents in Nigeria, most of the reviewed studies are foreign and have focused mainly on clinic or legally identified adolescents with known level of psychological disorders. In the present study, we aimed exploring psychosocial dysfunctions and non-diagnosed adolescents in a Nigerian community. A community (or school) based study will not only expand the scope of our contribution to science but will also be more relevant for public health interventions programs.

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1.2. Problem statement

Transition into adulthood is a critical phase in the development of a child; this period is termed adolescence and coincides with the period between the ages of 10 and 19 years. Adolescence is a bridge between childhood and adulthood, hence an important stage in the configuration process of the definite personality. Although the need to pay great attention to adolescence is well recognized, adolescent psychosocial functioning is an area that is in great need of research particularly in Nigeria.

It is known that the stage is characterized by instability and susceptibility to the development of symptoms of psychosocial dysfunctions (Taiwo, 2011). Although psychosocial dysfunctions have been reported among adolescents worldwide, prevalence rates have varied across countries (Taiwo, 2011). For instance, in a study conducted among adolescents in the United States of America, prevalence of psychosocial problems (complications) was estimated to be 18% by most authors; while in India it was 17.9% (Ahmad, Khalique et al 2007). Although logistic problems have made obtaining prevalence statistics impracticable in most developing countries, in a recent study conducted in a rural district in southwest Nigeria that 22% of adolescents who participated in the study were found to have symptoms of one psychosocial disorder or the other. Also, 5.1% of them were on the threshold of moderately severe to severe psychosocial dysfunctions (Fatiregun and Kumapayi, 2014). In addition to that, female adolescents is a risk factor for emotional symptoms as children whose parents are separated had higher incidence of emotional symptoms (Chinawa, Manyike, Obu et al 2015), In Nigeria, despite the inconsistencies in the scanty reports across studies, selected studies have shown that adolescents and middle aged persons are grievously at risk of psychosocial dysfunctions due to peer pressure (Togun, 2012).

1.3 Justification

Worldwide, the effect of psychosocial disorders is enormous on the adolescents and therefore it is necessary to monitor their physical, psychological and social functioning. However, most researches in Nigeria were designed to study the specific health problems of the adolescents, and lacked an overall assessment of health. Moreover, previous studies on adolescents' health-related quality of life (HRQOL) mainly focused on chronic diseases and new treatments where samples were mostly from hospitals, clinics and other pediatric service departments. Little research has been conducted to study subgroups of children from population-based samples. To our knowledge, this is the first population-based research to study children's HRQOL in Nigeria.

The level of understanding necessary for the continued development of effective intervention and prevention programs, however, may benefit from more than our current understanding of the impact of life stressors on developmental outcomes. As suggested by Bronfenbrenner's (1986) ecological framework for understanding development, a clearer understanding of the specific types of stressors relevant to individuals within a particular context, the impact of context on the experience and perception of life stress, and the processes by which context and these events have an impact on development may be useful. This may be particularly true for understanding the impact of life stress on the development of adolescents in urban contexts. Data on the behavioural health care needs of this vulnerable population have been limited but are important because of the link between economic conditions and mental health status.

1.4 Research Questions

i. What proportion of in-school adolescents in Ikere Ekiti LGA of Ekiti state are at risk of psychosocial dysfunctions

ii. What proportion of in-school adolescents in Ikere Ekiti LGA of Ekiti state have psychosocial dysfunctions?

iii. Do socio-demographic factors affect psychosocial functioning among in-school adolescents in Ikere Ekiti LGA of Ekiti state?

Iv. How does the risk of psychosocial dysfunctions differ across school or family orientations of in-school adolescents in Ikere Ekiti LGA of Ekiti state?

1.5 General Objective

The main objective of this study was to determine prevalence and risk factors of psychosocial dysfunction among in-school adolescents in Ekiti state Nigeria.

1.6 Specific Objectives

i. To determine prevalence of psychosocial dysfunctioning among in-school adolescents in Ikere-Ekiti LGA, Ekiti state

ii. To compare prevalence of psychosocial functioning among in-school adolescents living in rural and urban areas in Ikere Ekiti LGA.

iii. To assess the association between socio-demographic factors and psychosocial functioning among in-school adolescents in Ikere-Ekiti LGA, Ekiti state

iv. To compare psychosocial functioning among in-school adolescents in public and private schools in Ikere-Ekiti LGA, Ekiti state

CHAPTER TWO
LITERATURE REVIEW

2.1 Background

In general, the school is perceived to be a place where student's socio-emotional and psychosocial wellbeing are promoted. However, to increase the ability to predict and potentially prevent health risk behaviours, and consequently objective health, both distal and proximal determinants of those behaviours should be considered. Distal determinants tend to be more stable relative to proximal determinants and are further expected to influence health behaviour mainly via these proximal determinants (Flay and Pletraitis, 1994, Jessor, 1998). Consequently, it has been increasingly recognized that there is a need to integrate theories in order to prevent the development of complex health risk-behaviours (Fishbein and Triandis et al 2001).

2.2 Distinctive Features of Adolescence

The peculiarity of adolescence age (10-19years) is very unique in human developmental stage. Being a transitional phase from childhood to adulthood, it has been asserted that adolescence is a period of emotional stress, resulting from the rapid and extensive physiological changes occurring at pubescence (Flisher, 1999). Also, emotional stress among adolescents has been reported not to be inevitable, but culturally determined; it was found that difficulties in the transition from childhood to adulthood varied from one culture to another (Emler, 2001). Erikson (1968) saw development as a psychosocial process going on throughout life.

All the three insights are valuable in their own way, but each adolescent shares a unique feature: to develop from a dependent to an independent person who relates to others in a humane and well-socialized fashion (Egede, 2009). Also, Ajidahun (2011) reported that there is a significant relationship between peer pressure and adolescents' behavioural problems and later suggested that

it requires an atmosphere of love and understanding from parents for proper conduct of their children.

Another very important characteristic of adolescent age is the fact that most times, wrong steps are easily taken at this stage which may lead to lack of concentration. Specifically, they could become sexually active (As was estimated by the United Nation on Reproductive Health (2000) that Nigerian girls are sexually active at the early age of thirteen years) or become addicted to drugs (which may eventually lead to having lower self-esteem). In addition, self-perception can arouse depressive symptoms or suicide ideation which has long been associated with several psychosocial indicators among adolescents (Michael et al, 2012).

2.3 Psychosocial Development of Adolescents

Erik Erikson's theory of Adolescents psychosocial development is one of the best known theories in psychology. The word 'psychosocial' is Erikson's model of term, effectively from the words psychological which refers to mind and social which refers to relationships. Psychological development is how a person's mind, emotions, and maturity level develop psychosocially at different speeds depending on biological process and environmental interactions. (Santrock 2004, 406.).

Table 2.1 – Erikson's psychosocial development in adolescents

Stage	Basic Conflict	Important Events	Outcome
Adolescents	Identity vs. Role Confusions.	Social Relationships	Adolescents need to develop a sense of self and personal identity. Success leads to an ability to stay true to oneself and failure leads to role confusion and a weak sense of self identity.

Adolescents carry with them a sense of who they are and what makes them different from everyone else. This sense of who an individual is and what makes him or her different from others is referred to as self-identity. Adolescents cling to this identity and develop a sense that the identity is becoming more stable. Real or imagined, an adolescent's developing sense of self and uniqueness is a motivating force in life. According to Erikson's theory of psychosocial development, adolescent goes through a phase of crisis in the process of self-defining (Hilgard 1996, 106-107). Crisis is a crucial or decisive period of identity development during which the adolescent involved in an impending change and has to choose among meaningful alternatives; it is an important part of psychosocial development. Those who successfully pass this crisis period emerge with a clear understanding of their 'self' evaluating their worth, gain feeling of independence, self-control, and equipped with confidence.

However, failure to resolve this crisis can make them develop anti-social behaviours, become socially severed, and totally be unable to make define choices in future. In the crisis period of adolescents, the encouragement and reinforcement of parents and teachers are very crucial for adolescence. It helps by developing consistent values, shaping personality traits and developing a direction in passing the crisis period successfully. Most developmental psychologists believed that adolescence should be a period of 'role examination' in which young people can explore alternative behaviours, interests, and ideologies. Thus, the roles and ways of behaving may be

'tried on', modified, or discarded in order to shape the concept of 'self'. Adolescent synthesizes the values and appraisals into a consistent picture (Hilgard 1996, 106-107).

2.4 Clinical and Psychosocial Variables:

2.4.1 Depression:

This is a mental illness in which a person has feelings of sadness, instability, loneliness, hopelessness, worthlessness, and guilt (Ahangar et al, 2012). Depression is a common mental disorder and can be successfully treated (K Sorsdahl, DJ Stein, C Lund, 2012; K. A. Asmussen, 2005). Older children and adolescents with depression may be silent, refuse to participate in family and social activities, get into trouble at school, use alcohol or other drugs, or stop paying attention to their appearance. They may also become negative, restless, grouchy, aggressive, or feel that no one understands them. These symptoms of depression are commonly grouped into four. Namely: somatic and retarded activity, depressive affect, interpersonal problem and positive affect (Bettge et al, 2008). All these are considered as internalizing symptoms since sufferers with major depression are likely to identify themselves as depressed before their parents/teachers begin to suspect that they are having the problem (CMHS, 1998). Although causes of depression in child may be due to genetic or psychosocial factors, there are a variety of reliable treatments for depression, including medication and counseling (Ajidahun, 2011; Massip, 2010; Probst et al, 2006).

Apart from gender difference that was mostly considered in literatures, research also showed that chronic illnesses can make adolescents to be vulnerable to psychosocial problem (Tamas Keller 2010). For example, previous study showed that the rate of depressiveness is double in those with diabetes, hypertension, coronary artery disease and heart failure, and triple in end-stage renal failure, chronic obstructive pulmonary disease and cerebrovascular disease while the prevalence

of depression among those with two or more chronic physical conditions is almost 7 times higher compared with healthy controls (Egede, 2007).

Physical illness can have profound social and emotional consequences and can result in mental health problems which impede recovery from the physical illness and increase mortality rates. Furthermore, Bettge et al (2008) among other researchers revealed that self-esteem has a negative correlation with depression. Also, unwanted pregnancy among adolescents in school has been identified as a risk factor simply because they are at greater risk of experiencing psychosocial problems (mostly depression), birth complication, toxemia, anemia and even death (Egbochukwu and Ekanem, 2008; Ayodele et al, 2007). Thinking about future financial and employment problems, negative self-esteem, abusive homes, poor academic performance are also found to contribute to depressive symptoms among adolescents (Ayodele et al, 2007).

2.4.2 Strength and difficulty:

Emotional and behavioral problems are among the most prevalent chronic health conditions of childhood and often have serious negative consequences for a child's academic achievement and social development (Patricia et al, 2012). As part of the recent development in this area of psychosocial outcomes, the Strengths and Difficulties Questionnaire (SDQ) has been used to screen for behavioural, conduct, hyperactivity, peer and emotional problems in children (Astrid and Deboutte, 2009; Bakare et al, 2010; Bernstein et al, 2012).

One of the most critical factors affecting adolescents in schools is conduct disorder (Bakare et al, 2010; Bernstein et al, 2012; Raven-Sieberer et al, 2009). Children and adolescents with these disorders have great difficulties following rules and behaving in a socially acceptable ways. They are often viewed by other children, adults and social agencies as "bad" or delinquent, rather than

mentally ill. Factors that may contribute to a child developing conduct disorder include brain damage, child abuse, genetic vulnerability, school failure, and traumatic life experiences (Nef 2012). Previous studies have shown that this problem is more prevalent among boys than girls (Bakare et al, 2010; Barnow et al, 2005; Colman et al, 2009; Detels, 2012). Colman and his colleagues reported that adolescent with depression may also exhibit conduct problem (Colman et al, 2009).

Behavioural difficulty symptom where sufferers are characterized by preferring to stay alone, conscious of being picked or bullied by other children and dissociating self from colleagues of same age group (peer relationship problems) (Goodman, 2005) also plays an important roles in an adolescent's development from child to adult. During adolescence, peering becomes increasingly important for emotional well-being, while the parents' role decreases. In the company of peers, adolescents start to separate from their parents and start spending more time with friends. However, Peer relationships have been suggested to be important for psychological health and adjustment in adolescence (Rice and Dolgin, 2002). Gender difference in peer problems varies and has been reported by selected authors in previous studies. For instance, among intellectually disabled children, mean score on peer problem was significantly higher for male than female children (Bakare et al, 2010). Also, Demir and Urberg(2004) observed peer conflict to be positively correlated with depressive mood while adolescents who see themselves as unintelligent, unpopular and unattractive are more likely to succumb to peer's pressure because their hunger for acceptance and approval.

Pro-social behaviours are those which help or benefit another person, examples of these include helping, sharing, or comforting others (Werner-Bierhoff, 2002). In most studies, this symptom has been found to be protective for psychosocial problems.

2.5 Significance of Social Relation in Adolescent Psychosocial Development

Social relation comes in the central dimension of adolescent psychosocial development. It is crucial in the development of self-esteem and self-competence in adolescents. Several researches have shown clear link between social interaction and longevity, social relationship and wellbeing (Nef, 2012.), similarly, the transition to healthy adulthood is dependent on the social environment in which adolescent live, learn and earn (WHO, 2007). Studies have recognized the role of social group and peer relationships in the establishment and maintenance of social perceptions and social values, including concept about self and trait of others (Fletcher, et al., 2012). In addition, different kinds of social relationships is said to play different role in influencing the development of social understanding (Dunn, J 2011,). Relationship needs of emerging adolescent differs or changes in comparison to younger children and adult which may be reshaped and redefined several times before they are fully matured. For instance, shift in attachment may occur from parents to peer relation and dating. School and other relationship start to become increasingly important (Santrock 2011).

2.6 The School System and Adolescent Psychosocial Functioning

It has been reported in past studies (Kessler et al., 1994) that emerging adults in the United States between the ages of 15 and 24 experience a 37% prevalence rate for psychiatric disorder, the highest rate evidenced for all age groups. Other research has revealed changes in the nature and extent of problems from the adolescent to emerging adult years, particularly concerning depression and alcohol use. Wright et al., (1999), for example, have reported a fourfold increase in major depressive disorder between the ages of 15 and 21 among New Zealanders. Similarly, alcohol use increases through late adolescence and presents a problem for college students in the

form of heavy episodic drinking (Wechsler, Dowdall, Davenport, & Castillo, 1995). Although rates of alcohol use generally decline as young people marry, become parents, and maintain full-time employment (Bachman, O'Malley, & Johnston, 1984), the late age for attaining these aspects of maturity leaves most young people at risk for elevated alcohol and drug use through the second decade of life.

To date, much of the mental health research on youth populations in the post-adolescent years seeks to understand how functioning is linked to a series of transitions into adult statuses involving full-time employment, marriage, and children. For example, Bachman, Schulenberg, and their associates (Bachmanetal., 1984; Schulenberg, O'Malley, Bachman, & Johnston, 2000) have examined how drug use in the years after high school is linked to living situation and marital status. Their findings indicate a reduction in substance use among those who become married or who continue living with parents, in contrast with increases in drug use among those who remain unmarried and enter into living arrangements outside the parental home. Other research of this nature has similarly focused on the transition to adult statuses, specifically through marriage and parenthood (Chilcoat & Breslau, 1996; Horwitz & White, 1991). Overall, this body of studies largely concerns problems of a behavioural nature (e.g., involving substances and conduct problems) and traces difficulties to lifestyles that encourage experimentation and facilitate problem behaviour, or conversely, in the case of marriage and full-timework, that impose conventional values and forms of social interaction, thus inhibiting problem behaviour.

Despite the value of this general approach, the role transition conceptual framework is not well suited for studying the mental health of today's emerging adults. During recent decades, we have seen more heterogeneity in the timing and sequencing of their major role transitions, and they typically marry, have children, and initiate a full-time career much later than earlier cohorts (see

George, 1993). These demographic realities are the basis for Arnett's characterization of this developmental period as emerging adulthood, which he defines as a lifespan category that bridges the period from the end of adolescence (from about agel8) to adulthood (Arnett, 2000a). In a series of papers that give insight into this life period, Arnett (1998, 2000b) argues that in our society, the variability and instability in roles and relationships following completion of secondary schooling means that young people do not define their progress in achieving adulthood along the lines of these more socially recognized attainments. This line of thinking suggests that the existing research emphasis on mature social roles, in particular marriage and family formation, overlooks abroad range of developmental experiences that are relevant to social functioning and wellbeing during this transitional phase.

A second limitation of the role transition framework for guiding investigations of emerging adult behaviour and well-being is that to date, it has almost exclusively focused on problem behaviours, typically drinking, drug use, and deviant behaviour. As already noted, this follows from theory that the acquisition of conventional roles and responsibilities functions to structure and constrain behaviour (Hirschi, 1969; Sampson & Laub, 1993). Despite the importance of research indicating a link between success in the adult role attainments and adoption of pro-social behaviour, this line of study is narrowly conceived because it fails to address how maturational events and processes also influence affective or emotional dimensions of well-being (Aseltine & Gore, 1993; Gore, Aseltine, Colten, & Lin, 1997). For instance, given the high prevalence of depressed mood and major depressive disorder among emerging adults (Miechetal., 1999), the role of successful and disruptive transitions (e.g., getting fired) in these disorders would be important to establish. Again, attention to the type and quality of experience

in key developmental contexts of emerging adults, as opposed to attainments parse, may offer insight into these other significant aspects of emerging adults' psychology.

CHAPTER THREE

METHODOLOGY

3.1 Study Area

Ikere is one of the sixteen Local Governments Areas (LGAs) in Ekiti State, Nigeria. Ikere has about 150,000 inhabitants distributed in homogeneous communities in southern part of central Ekiti state. Indigenes of Ikere are characterized by strong cultural heritage and academic excellence. The LGA has fifteen (15) secondary schools (both public and private) at different locations across 11 Political Wards of which thirteen (13) of the schools are mixed schools, and two single schools (boys-only and girls-only). The research was carried out in the following schools: African Church Comprehensive High School (ACCHS, mixed school); St Louis Grammar School (girls only); Amoye Grammar School (mixed school); Ekiti Government college (EGC, mixed school); Ajolagun High School (AHS, mixed school), Victory College (private, mixed school)

3.2 Study design

The study was a community based cross sectional comparative study of the prevalence and risk factors of psychosocial functioning among in-school adolescents in Ikere Ekiti, Ekiti state.

3.3 Study Population

Participants in this study included students (between the ages of 10 and 19 years) in secondary schools within Ikere LGA. Students outside the given age range attending secondary schools within Ikere LGA and Students within the given age range (who though living in Ikere LGA) and are attending schools outside the LGA were excluded from the study.

The study participants are the students within the age group 10 and 19 years in secondary schools within Ikere LGA while those outside the given age range and those within the said age range but attending secondary schools outside Ikere LGA were excluded from the study.

3.4 Sample size estimation

Sample size computation:

A retrospective study conducted in South Africa, by Melissa et al in 2012, found the prevalence of mental disorder to be 14.3%. The assessment of psychosocial dysfunction was one of the objectives of this study; therefore this prevalence rate or proportion of 14.3% was used to calculate the sample size. The sample size (n) was determined using the formula below.

$$n = \frac{(Z\alpha + Z_{1-\beta})^2 p(1-p)}{d^2}$$

The $Z\alpha$ and $Z_{1-\beta}$ are the standardized normal deviates with the probabilities α and $1-\beta$ respectively at 95% significant level and power component ($1-\beta$) of 80%. Also, d = precision and P = prevalence of mental disorders in sub-Saharan Africa = 14.3% (Melissa et al, 2012).

Therefore, with $p = 0.143, q = 0.857, Z_{\alpha} = 1.96, Z_{1-\beta} = 0.84, d = 0.05,$

$$n = \frac{(1.96 + 0.84)^2 0.143(0.857)}{0.05^2}$$

$$n = 384.3$$

Adjusting for a 10% non-response rate, the minimum sample size becomes

$$N = \frac{n}{1-r} = \frac{384.3}{1-0.1} \approx 427$$

The sample size calculated was approximately 427 respondents (adolescents).

3.5 Sampling Technique

Six political wards were randomly selected from the available 11 wards and a secondary school was randomly selected from the ward. Where there exist only one secondary school in a selected ward; the secondary school is automatically selected for the study. In each selected school, registered students who gave informed consent were recruited to participate in the study.

3.6 Study Instruments

Primary data was collected via a self-administered questionnaire which comprised of three segments: Demographic/Bio-data section, Strength and difficulty Questionnaire (SDQ) and the Center for Epidemiological Studies Depression Scale for Children (CES-DC).

3.6.1 Demographic data

This was a self-developed questionnaire for collection information on the socio-demographic characteristics of the respondents. Selected questions on the sex, age, family background and social relationships were included in the questionnaire.

3.6.2 Strength and difficulty questionnaire (SDQ)

This seeks to identify behavioral and emotional problems in children and adolescents. This part contains 25 items Strength and Difficulty Questionnaire for evaluating adolescent emotional symptom, conduct problem, hyperactivity, peer problem and Pro-social behavioral trait with response options as 'Not true, somewhat true and certainly true

3.6.3 Center for Epidemiological Studies Depression Scale for Children (CES-DC).

The Center for Epidemiological Studies Depression Scale for Children (CES-DC) is a 20-item self-report depression inventory with possible scores ranging from 0 to 60 in 4 sub-scales namely; somatic symptoms and retarded activity (items:1,2,5,7,11,13,20), depressed affect (items:3, 6, 9, 10,14, 17, 18), positive affect (items:4,8,12,16) and interpersonal problems (items:15, 19)

3.7 Data Collection

The questionnaires were administered to a total of 500 students in all.

3.8 Data Management and Analysis

Data from collated questionnaires were coded and entered into the computer system after every respondent's identities have been removed. Data was initially entered into an excel spread sheet and were checked for outliers, entry errors and omissions. The cleaned data was transferred into SPSS where further data exploration and cleaning were performed prior to statistical analysis.

On the strength and difficulty questionnaire the total difficulties score was generated by summing the scores from all the scales except the pro-social scale. The resultant score can range 0 to 40 (and is counted as missing if one of the component scores is missing). However on the center for epidemiological studies depression scale for children (CES-DC), each response to an item was scored as follows: (Please see appendix ii for details).

0 = "Not At All"; 1 = "A Little"; 2 = "Some"; 3 = "A Lot"

However, items 4, 8, 12, and 16 are phrased positively, and thus were scored in the opposite order: i.e. 3 = "Not At All"; 2 = "A Little"; 1 = "Some"; 0 = "A Lot". Higher CES-DC score indicates high risk level of depression. Weissman et al. (1980), the developers of the CES-DC, have used the cutoff score of 15 as being suggestive of depressive symptoms in children and

adolescents. In this study, the scores were categorized into two groups (non-depressed and depressed) based on cut off of 22 as used in a similar study (Trangkasombat, 2012). In order not to overestimate the prevalence of depression among the group, the SDQ score was used a further criterion for depression screening.

Frequency Tables and percentages were used to assess the prevalence of psychosocial functioning among the respondents. The chi-square test was used to assess the association of psychosocial function and socio-demographic characteristics of adolescents.

All analyses were performed at 95% confidence level using the Statistical Package for Social Sciences (SPSS® version 15).

3.9 Ethical consideration

3.9.1 Ethical approval:

Ethical approval for this study was obtained from the Ethic and Research Committee, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria with the protocol number: EKSUTH/A67/2013/07/01. In each selected school, permission was obtained from the principals of the schools who also stood provided parental consents for participants without parental consents.

3.9.2 Confidentiality of data

To maintain confidentiality, the students' names and registration numbers were not requested and the data was carefully and independently collected without allowing interference of co-participants. School level comparison was made by coding the schools numerically without mentioning names.

3.9.3 Beneficence to participants

Many of the students might not have seen or filled standardized instrument before. Hence, this would serve as an opportunity for them on how to think logically and attempt technical questions such as used in the study. Also, the results of the study would be communicated to school counselors in the selected school for counseling and other rehabilitation measure(s). It will also serve as a pointer to policy making concerning adolescents in school setting.

3.9.4 Non-maleficence to participants

This study did not pose any harm because it did not involve collection of biological sample like blood, urine etc. Apart from that, effort was made to ensure that questionnaire administrations do not interfere with normal academic activities of the students.

3.9.5 Voluntariness

Before administering the questionnaire, participants were handed the informed consent forms which they appended after a briefing. Additionally, it was passed across that participation is voluntary and that they are at liberty to withdraw without any sort of victimization.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristics of respondents

In Table1, majority (56.6%) of the respondents were females while 43.4% of them were males. Also majority (46.1%) of the male respondents live in the rural areas while only 41.1% of them live in the urban areas. Majority (93.4%) of those within the age range 13-17 years live in the urban settings while 92.6% of them live in the rural settings, however many (2.3%) of those under age 13years live in the rural settings as against 1.2% who live in the urban settings.

Majority of the respondents (82.7%) living in the rural areas attended public school while only 72.8% of those living in the urban areas attended public school, also majority (27.2%) of the respondents living in the urban areas attended private schools while only17.3% of those living in the rural areas attended private schools. A part from that, majority (78.0%) of the respondents came from a monogamous family while only 22.0% came from a polygamous family.

Furthermore, majority (85.8%) of the respondents living in the rural areas had their parents living together while 83.3% of those living in the urban areas had their parents living together. However, some of the respondents living in the urban (8.2%) and rural (5.7%) settings came from families with separated parents while 6.5% and 6.3% of the respondents who had single mother was in the urban and rural areas respectively.

At least half (50.3%) of the respondents' fathers had completed post-secondary education However, among respondents living in the rural areas, 21.0% of their fathers had no formal education while majority (51.7%) of the respondents' fathers living in the urban areas had post-secondary school education. About half (50.4%) of the respondents' mothers had completed post

-secondary school education. However 21.6% and 22.2% of the respondents in the rural and urban areas (respectively) reported their mothers had no formal education.

Majority (40.8%) of the respondents living in the rural areas reported that their fathers were farmers/traders as ~~against~~ 22.8% living in the urban areas. Similarly, 49.5% and 36.3% of the respondents living in the urban and rural areas (respectively) reported that their fathers were civil servants. On the other hand, while 57.7% of the respondents in the rural areas reported that their mothers were farmers/traders, 44.7% of them in urban areas gave the same report about their mothers' occupation.

Table 1: Socio-demographic characteristics of the respondents

Participants' Characteristics	N = 178 Rural n(%)	N = 244 Urban n(%)	N = 422 Combined Sample n(%)
Sex			
Male	82(46.1)	101(41.4)	183(43.4)
Female	96(53.9)	143(58.6)	239(56.6)
Age			
<13years	4(2.3)	3(1.2)	7(1.7)
13-17years	162(92.6)	227(93.4)	389(93.1)
18-19 years	9(5.1)	13(5.3)	22(5.3)
Type of school			
private	31(17.3)	67(27.2)	98(23.1)
public	148(82.7)	179(72.8)	327(76.9)
Religion			
Christianity	168(94.4)	240(97.6)	408(96.2)
Islam	10(5.6)	6(2.4)	16(3.8)
Ethnicity			
Yoruba	168(93.9)	229(93.5)	397(93.6)
Hausa/Fulani	1(0.6)	1(0.4)	2(0.5)
Igbo	9(5.0)	14(5.7)	23(5.4)
Others	1(0.6)	1(0.4)	2(0.5)
Family type			
Monogamy	125(74.9)	194(80.2)	319(78.0)
polygamy	42(25.1)	48(19.8)	90(22.0)
Family status			
Parents are together	151(85.8)	204(83.3)	355(84.3)
Parents are divorced	4(2.3)	5(2.0)	9(2.1)
Parents are separated	10(5.7)	20(8.2)	30(7.1)
Single mother	11(6.3)	16(6.5)	27(6.4)
Fathers' level of education			
No formal education	34(21.0)	60(25.4)	94(23.6)
Up to secondary education	50(30.9)	54(22.9)	104(26.1)
Post-secondary education	78(48.1)	122(51.7)	200(50.3)
Fathers' occupation			
Farming/trading	64(40.8)	47(22.8)	111(30.6)
Civil servant	57(36.3)	102(49.5)	159(43.8)
Private org. workers	36(22.9)	57(27.7)	93(25.6)
Mothers, level of education			
No formal education	35(21.6)	53(22.2)	88(21.9)
Up to secondary education	53(32.7)	58(24.3)	111(27.7)
Post-secondary education	74(45.7)	128(53.6)	202(50.4)
Mothers' occupation			
Farming/trading	94(57.7)	101(44.7)	195(50.1)
Civil servant	58(35.6)	102(45.1)	160(41.1)
Private org. workers	11(6.7)	23(10.2)	34(8.7)

4.2 Respondents' peer and social relationships

Majority (58.2%) of the respondents reported that they friends of opposite sex while 41.8% of the respondents do not have friends of opposite sex. Also many (47.7%) of the respondents living in the rural areas reported they do not have friends of opposite sex while 37.4% of the respondents living in the urban areas do not have friends of opposite sex.

Some (24.0%) of the respondents in the rural areas admitted they had kissed friends of opposite sex while 13.4% and 9.5% of them confessed to had had sex with friend(s) of opposite and same sex respectively (Table 2). Similarly, while 21.5% of those living in the urban areas had kissed friends of opposite sex, 12.2% and 6.9% of them had had sex with friend(s) of opposite and same sex respectively.

Table 2: Peer and Social relationship of respondents

Social relationships	Rural n(%)	Urban n(%)	Combined sample n(%)
Do you have friend of opposite sex			
Yes	92(52.3)	152(62.6)	244(58.2)
No	84(47.7)	91(37.4)	175(41.8)
Ever disappointed by a friend of opposite sex			
Yes	49(29.3)	62(27.2)	111(28.1)
No	118(70.7)	166(72.8)	284(71.9)
Ever kissed opposite sex friend			
Yes	43(24.0)	53(21.5)	96(22.6)
No	136(76.0)	193(78.5)	329(77.4)
Ever had sex with opposite sex			
Yes	24(13.4)	30(12.2)	54(12.7)
No	155(86.6)	216(87.8)	371(87.3)
Ever petted opposite sex			
Yes	95(53.4)	140(59.1)	235(56.6)
No	83(46.6)	97(40.9)	180(43.4)
Ever kissed person of same sex			
Yes	38(21.2)	37(15.0)	75(17.6)
No	141(78.8)	209(85.0)	350(82.4)
Ever had sex with same sex			
Yes	17(9.5)	17(6.9)	34(8.0)
No	162(90.5)	229(93.1)	391(92.0)
Ever petted person of same sex			
Yes	119(66.5)	159(64.6)	278(65.4)
No	60(33.5)	87(35.4)	147(34.6)

4.3 Location defined Prevalence of psychosocial functioning among adolescents

In Table 3, the overall prevalence (in the combined sample) of adolescents' emotional problems was 15.0% while the prevalence stands at 15.5% and 14.5% in the urban and rural areas respectively. Also, while the overall prevalence of adolescents' conduct problems was found to be 37.9%, 35.8% and 40.8% of the adolescents were found to have conduct problem in the urban and rural areas respectively.

The overall prevalence of adolescents' pro-social behaviours was found to be 39.1% while 39.4% and 38.5% of the respondents were found to have pro-social behaviour in the urban and rural areas respectively. On the other hand, the overall prevalence of adolescents' psychosocial problems was found to be 30.3% while 31.9% and 29.3% of the respondents to have psychosocial problems in the rural and urban areas respectively.

Furthermore, the overall prevalence of depressive symptoms in the studied population was found to be 51.8%. (Rural: 55.3%; Urban: 49%).

Table 3: Prevalence of adolescents' psychosocial functioning by place of residence

Psychosocial functioning	Rural n(%)	Urban n(%)	Combined n(%)
Emotional symptom scale			
Unlikely clinical problems	153(85.5)	208(84.6)	361(84.9)
Likely clinical problems	15(8.4)	25(10.2)	40(9.4)
Substantial clinical problem	11(6.1)	13(5.3)	24(5.6)
Conduct Problems Scale			
Unlikely clinical problems	106(59.2)	158(64.2)	264(62.1)
Likely clinical problems	36(20.1)	48(19.5)	84(19.8)
Substantial clinical problem	37(02.7)	40(16.3)	77(18.1)
Hyper Activity Scale			
Unlikely clinical problems	159(88.8)	222(90.2)	381(89.6)
Likely clinical problems	11(6.1)	18(7.3)	29(6.8)
Substantial clinical problem	9(5.0)	6(2.4)	15(3.5)
Peer Problem Scale			
Unlikely clinical problems	50(27.9)	92(37.4)	142(33.4)
Likely clinical problems	82(45.8)	101(41.1)	183(43.1)
Substantial clinical problem	47(26.3)	53(21.5)	100(23.5)
Pro-social Scale			
Unlikely clinical problems	110(61.5)	149(60.6)	259(60.9)
Likely clinical problems	19(10.6)	46(18.7)	65(15.3)
Substantial clinical problem	50(27.9)	51(20.7)	101(23.8)
Total Difficulty Score			
Unlikely clinical problems	122(68.2)	174(70.7)	296(69.6)
Likely clinical problems	27(15.1)	44(17.9)	71(16.7)
Substantial clinical problem	30(16.8)	28(11.4)	58(13.6)
Depression (CES-DC at 22 cut-off score)			
Depressed	99(55.3)	121(49.2)	220(51.8)
Not depressed	80(44.7)	125(50.8)	205(48.2)
Depression (CES-DC at 15 cut-off score)			
Depressed	156(87.2)	198(80.5)	354(83.3)
Not depressed	23(12.8)	48(19.5)	71(16.7)

CES-DC:

4.4 Prevalence of Psychosocial functioning (response categories "somewhat true" & "certainly true") questions on the strength and difficulty (SDQ)

In Table 4, 34.1% of the male respondents in the rural areas endorsed "somewhat true" and "certainly true" for the question "I get headaches or sickness" while 16.8% of them provided the same endorsement for the question in urban areas and 4.4% in the combined sample. On the other hand, majority of the participants endorsed "somewhat true" and "certainly true" for the question "I usually do as I am told (Table 4).

Also, while many of the male adolescents endorsed "somewhat true" and "certainly true" for the question "I take things that are not mine" in both rural (37.7%) and urban (29.6%) areas, majority of the female participants (in the rural: 88.9% and urban: 95.1%) endorsed "somewhat true" and "certainly true" for the question "I try to be nice to others" in the SDQ (Table 4).

Table 4: Respondents strength and difficulty by sex and by location.

Subscales and item	Rural				Urban				Combined sample
	N	Male	n	Female	n	Male	n	Female	
I get headaches or sickness	28	34.1	21	21.9	17	16.8	37	25.9	24.4
I worry a lot	38	48.7	42	44.7	50	50.5	80	53.9	50.8
I am unhappy or tearful	30	38.0	36	38.7	27	28.7	46	33.1	34.3
I easily lose confidence	31	39.2	27	29.3	41	41.0	59	43.1	38.7
I am easily scared	43	55.8	51	54.8	48	49.0	90	64.7	57.0
I get angry and lose temper	35	46.7	46	48.8	51	51.5	67	47.2	48.4
I usually do as i am told	57	73.1	68	73.1	78	79.6	104	74.8	75.2
I fight a lot	30	38.0	21	22.1	24	24.0	31	21.8	25.5
I am often accused of lying or cheating	32	43.2	28	30.1	31	31.3	33	23.6	30.5
I take things that are not mine	29	37.7	13	14.0	29	29.6	20	14.4	22.4
I am restless	33	40.2	18	19.8	33	33.7	43	30.5	30.8
I am constantly fidgeting	35	45.5	33	39.8	40	44.4	46	37.1	41.2
I am easily distracted	30	39.0	25	28.1	43	43.9	57	41.0	38.5
I think before I do things	20	26.0	21	22.3	22	22.2	20	14.5	20.3
My intention is good	68	85.0	82	89.1	88	88.9	131	94.9	90.2
I play alone	49	60.5	33	35.1	36	36.0	59	41.5	42.4
I have one good friend or more	67	82.7	78	83.0	88	88.9	125	88.0	86.1
My age mates generally like me	38	48.1	29	30.5	40	40.4	50	35.7	38.0
Other children bully or pick on me	36	48.0	38	41.8	33	33.3	36	26.1	35.5
I get on better with older people	54	72.0	69	74.2	65	66.3	103	74.6	72.0
I try to be nice to others	72	88.9	91	94.8	91	90.1	136	95.1	92.6
I share things with others	69	85.2	78	83.9	85	84.2	131	91.6	86.8
I am tearful if someone is hurt	61	78.2	78	83.0	81	87.1	128	90.1	85.5
I am kind to younger children	27	34.6	19	20.2	27	26.7	28	20.4	24.6
I often volunteer to help others	28	36.4	12	12.8	30	30.3	31	22.0	24.6

4.5 Prevalence of depressive symptoms and symptom complexes

Table 5 shows the prevalence of depressive symptoms in the CES-DC subscales according to the response categories "some" and "a lot". Results are presented separately for the participant aged 13-19 attending school in rural areas and those in urban areas, stratified by gender. All items of the positive affect subscale showed a very high prevalence in the participants attending schools in the rural areas as well as in the urban areas, indicating a lack of positive affect. Apart from the positive affect items, the most frequently endorsed single symptom in the somatic symptom was "being not very hungry" and "being more quiet". The boys described themselves more as "not being happy", "felt down", "felt things they did before didn't work", "scared and lonely" than their female counterparts.

Table 5: Proportion responding ("some" & "a lot") to question on CES-DC depression scale

Subscales and item	Rural				Urban				Combined sample
	n	Male	n	Female	n	Male	n	Female	
I. Somatic symptoms									
I felt I was bothered unusually	46	56.1	53	55.2	50	49.5	76	53.1	53.3
I felt I wasn't very hungry	59	72.8	56	60.9	69	69.7	99	70.7	68.7
I felt I wasn't paying attention	40	51.3	41	44.1	39	39.8	58	41.7	43.6
I felt I was too tired	46	57.5	47	51.6	49	50.0	69	50.7	52.1
I didn't sleep	44	57.9	39	41.5	52	52.5	67	47.5	49.3
I was more quiet	63	80.8	72	78.3	77	77.8	100	71.9	76.5
It was hard to get started doing things	50	62.5	58	52.7	56	57.1	73	51.8	55.4
II. Depressed affect									
I felt I wasn't happy	48	60.0	34	37.0	35	35.7	43	30.5	38.9
I felt down	44	54.3	31	33.3	36	36.7	51	37.2	39.6
I felt things I did before didn't work	52	68.4	52	58.4	53	55.2	64	47.8	55.9
I felt scared	41	53.2	50	53.8	46	46.5	79	56.4	52.8
I felt lonely	51	66.2	39	41.9	49	50.0	63	46.3	50.0
I felt like crying	30	37.5	27	28.7	31	31.3	52	37.1	33.9
I felt sad	32	40.0	32	34.0	31	31.6	41	29.1	32.9
III. Positive affect									
I felt I was as good as others	67	84.8	83	88.3	87	88.8	117	83.6	86.1
I felt optimistic	68	85.0	83	90.2	84	86.6	128	92.8	89.2
I was happy	70	87.5	89	95.7	88	90.7	138	98.6	93.9
I had a good time	73	94.8	86	92.5	87	87.9	131	94.9	92.6
IV. Interpersonal problems									
I felt kids were not friendly with me	40	54.8	35	38.9	40	42.1	56	42.1	43.7
I felt people didn't like me	39	48.8	29	31.2	39	39.4	59	41.8	40.

4.6 Adolescents' psychosocial functioning across types of school attended.

A significant association existed between adolescents' conduct problems and the type of school being attended whereas those in private schools have more conduct problems 48.1% than those in public schools 33.8% (χ^2 =7.16, P=0.03). Adolescents' hyperactivity problem was significantly associated with the type of school being attended. Those in private schools have more hyperactivity problems 18.2% than those in the public schools 8.0% ($\chi 2$ =9.76, P=0.01)

On Overall adolescents' psychosocial problem was significantly associated more with private schools 40.4% than public schools 25.8% ($\chi 2$ = 8.52, P= 0.01) while adolescents' moderate depressive symptom was more significantly associated with private schools 88.5% than public schools 80.1% ($\chi 2$= 3.88, P= 0.05).

Table 6: Association between type of school attended and psychosocial functioning of respondents (Hypothesis 1)

Psychosocial functioning	Type of school		χ^2	P-value
	Private	Public		
Emotional symptom scale				
Unlikely clinical problems	88(84.6)	322(85.6)	1.26	0.53
Likely clinical problems	8(7.7)	35(9.3)		
Substantial clinical problem	8(7.7)	19(5.1)		
Conduct Problems Scale				
Unlikely clinical problems	54(51.9)	249(66.2)	7.16	0.03
Likely clinical problems	27(26.0)	69(18.4)		
Substantial clinical problem	23(22.1)	58(15.4)		
Hyper Activity Scale				
Unlikely clinical problems	85(81.7)	346(92.0)	9.76	0.01
Likely clinical problems	12(11.5)	21(5.6)		
Substantial clinical problem	7(6.7)	9(2.4)		
Peer Problem Scale				
Unlikely clinical problems	35(33.7)	127(33.8)	0.07	0.97
Likely clinical problems	44(42.3)	163(43.4)		
Substantial clinical problem	25(24.0)	86(22.9)		
Prosocial Scale				
Unlikely clinical problems	67(64.4)	219(58.2)	5.75	0.06
Likely clinical problems	20(19.2)	54(14.4)		
Substantial clinical problem	17(16.3)	103(27.4)		
Total Difficulty Score				
Unlikely clinical problems	62(59.6)	279(74.2)	8.52	0.01
Likely clinical problems	24(23.1)	53(14.1)		
Substantial clinical problem	18(17.3)	44(11.7)		
Depression (CES-DC at 22 cut-off score)				
Depressed	60(57.7)	180(47.9)	3.14	0.08
Not depressed	44(42.3)	196(52.1)		
Depression (CES-DC at 15 cut-off score)				
Depressed	92(88.5)	301(80.1)	3.88	0.05
Not depressed	12(11.5)	75(19.9)		

4.7 Adolescents' psychosocial functioning and its associated factors

Gender was found to be significantly associated with conduct problems as males exhibit more of conduct problems 42.6% than females 33.0% (P= 0.03). Also, type of school being attended is significantly associated with various adolescents psychosocial functioning. Those attending private schools exhibit more of conduct problems 48.1% than those in public schools 33.8% (P= 0.01), more of hyperactivity problems 18.3% in private than public schools 8.0% (P= 0.01).

Family type was also significantly associated with emotional symptoms and hyperactivity problems. More of those from polygamous homes (22.3%) exhibited emotional symptoms than those from the monogamous homes (13.3%) (P= 0.03). On the other hand, more of those from polygamous homes (19.4%) exhibited hyperactivity problems than those from the monogamous homes (7.3%) (P < 0.01).

Friendship with opposite sex was found to be significantly associated with peer problems (71.8%, P= 0.01), pro-social problems 36.3%, P=0.04) and the overall difficulties (32.8%, P= 0.05). The proportion of adolescents with emotional problems (20.0%, P= 0.05), conduct problems (45.0%, P=0.003), and overall difficulties (39.2%, P <0.001) was higher among those who have had disappointments from friend of opposite sex.

Sex with a person of opposite sex among the respondents was significantly associated with conduct problems (51.7%, P= 0.01) and peer problems (77.6%, P= 0.05). Having sex with persons of same sex was significantly associated with emotional symptoms (55.3%, P= 0.01).

Table 7: Factors associated with psychosocial functioning among respondents

Participants' Characteristics		Emotional symptoms Scale n(%)	P	Conduct Problem Scale n(%)	P	Hyperactivity Scale n(%)	P	Peer Problem Scale n(%)	P	Pro-social Scale n(%)	P	Strength & Difficulty Questions n(%)	P
Sex													
	Male	25(12.8)	0.34	83(42.6)	0.03	26(13.3)	0.07	139(71.3)	0.06	75(38.5)	0.46	59(30.3)	0.60
	Female	45(16.0)		93(33.0)		23(8.2)		178(63.1)		118(41.8)		79(28.0)	
Age													
	<13years	1(12.5)	0.98	4(50.0)	0.72	0(0.00)	0.13	5(62.5)	0.92	1(12.5)	0.23	1(12.5)	0.47
	13-17years	65(14.9)		160(36.7)		47(10..8)		287(65.8)		179(41.1)		128(29.4)	
	18-19 years	4(15.4)		9(34.6)		0(0.00)		18(69.2)		10(38.5)		6(23.1)	
Type of school													
	private	16(15.4)	0.79	50(48.1)	**0.01**	19(18.3)	**0.00**	69(66.3)	0.98	37(35.6)	0.26	42(40.4)	**0.00**
	public	54(14.4)		127(33.8)		30(8.0)		249(66.2)		157(41.8)		97(25.8)	
Religion													
	Christianity	66(14.3)	0.35	170(36.9)	0.86	49(10.6)	0.14	305(66.2)	0.96	188(40.8)	0.27	133(28.9)	0.68
	Islam	4(22.2)		7(38.9)		0(0.00)		12(66.7)		5(27.8)		6(33.3)	
Ethnicity													
	Yoruba	62(13.9)	0.14	163(36.5)	0.84	45(10.1)	0.75	300(67.1)	0.14	181(40.5)	0.79	128(28.6)	0.28
	Hausa/Fulani	0(0.00)		1(33.3)		0(0.00)		2(66.7)		2(66.7)		0(0.00)	
	Igbo	7(25.9)		12(44.4)		4(14.8)		15(55.6)		10(37.0)		11(40.7)	
	Others	1(50.0)		1(50.0)		0(0.00)		0(0.00)		1(50.0)		0(0.00)	
Family type													
	Monogamy	47(13.3)	**0.03**	131(37.0)	0.84	26(7.3)	**0.00**	232(65.5)	0.78	145(41.0)	0.36	98(27.7)	0.15
	polygamy	23(22.3)		37(35.9)		20(19.4)		69(67.0)		37(35.9)		36(35.0)	
Family status													
	Parents are together	55(13.7)	0.17	145(36.1)	0.44	37(9.2)	0.32	260(64.7)	0.49	168(41.8)	0.57	114(28.4)	0.71
	Parents are divorced	3(30.0)		6(60.0)		2(20.0)		8(80.0)		3(30.0)		2(20.0)	
	Parents are separated	8(25.0)		11(34.4)		5(15.6)		22(68.8)		10(31.3)		11(34.4)	
	Single mother	4912.5)		13(40.6)		5(15.6)		24(75.0)		12(37.5)		11(34.4)	
Fathers' level of education													
	No formal education	19(17.1)	0.71	39(35.1)	0.75	15(13.5)	0.28	73(65.8)	0.21	43(38.7)	0.95	34(30.6)	0.93
	Up to secondary education	16(13.3)		48(40.0)		13(10.8)		87(72.5)		49(40.8)		34(28.3)	
	Post secondary education	34(16.0)		80(37.6)		17(8.0)		134(62.9)		85(39.9)		63(29.6)	

Fathers' occupation												
Farming/trading	16(12.6)	0.12	49(38.6)	0.82	8(6.3)	0.17	86(67.7)	0.92	49(38.6)	0.15	39(30.7)	0.35
Civil servant	32(17.4)		66(35.9)		18(9.8)		121(65.8)		84(45.7)		60(32.6)	
Private org. workers	9(8.8)		40(39.2)		14(13.7)		69(67.6)		35(34.3)		25(24.5)	
Mothers, level of education												
No formal education	19(18.3)	0.61	39(37.5)	0.88	15(14.4)	0.13	69(66.3)	0.06	37(35.6)	0.54	35(33.7)	0.30
Up to secondary education	20(15.3)		51(38.9)		15(11.5)		96(73.3)		54(41.2)		43(32.8)	
Post secondary education	30(14.0)		78(36.3)		16(7.4)		131(60.9)		90(41.9)		57(26.5)	
Mothers' occupation												
Farming/trading	32(14.3)	0.63	79(35.3)	0.55	27(12.1)	0.41	141(62.9)	**0.02**	95(42.4)	0.29	66(29.5)	0.91
Civil servant	27(15.6)		66(38.2)		15(8.7)		116(67.1)		69(39.9)		49(28.3)	
Private org. workers	4(9.8)		18(43.9)		6(14.6)		35(85.4)		12(29.3)		13(31.7)	
Do you have friend of opposite sex												
Yes	41(15.6)	0.59	99(37.8)	0.60	25(9.5)	0.60	188(71.8)	**0.01**	95(36.3)	**0.04**	86(32.8)	0.05
No	29(13.9)		74(35.4)		23(11.0)		124(59.3)		95(45.5)		51(24.4)	
Ever disappointed by a friend of opposite sex												
Yes	24(20.0)	0.05	54(45.0)	**0.03**	19(15.8)	**0.02**	84(70.0)	0.20	44(36.7)	0.45	47(39.2)	**0.00**
No	40(12.5)		109(34.1)		27(8.4)		203(63.4)		130(40.6)		79(24.7)	
Ever kissed opposite sex friend												
Yes	15(13.9)	0.82	42(38.9)	0.62	12(11.1)	0.73	75(69.4)	0.43	39(36.1)	0.30	30(27.8)	0.76
No	55(14.8)		135(36.3)		37(9.9)		243(65.3)		155(41.7)		109(29.3)	
Ever had sex with opposite sex												
Yes	4(6.9)	0.08	30(51.7)	**0.01**	9(15.5)	0.16	45(77.6)	0.05	19(32.8)	0.20	18(31.0)	0.69
No	65(15.4)		146(34.7)		40(9.5)		272(64.6)		175(41.6)		120(28.5)	
Ever petted opposite sex												
Yes	39(15.1)	0.58	89(34.4)	0.22	25(9.7)	0.66	174(67.2)	0.61	103(39.8)	0.75	69(26.6)	0.27
No	28(13.3)		84(39.8)		23(10.9)		137(64.9)		87(41.2)		66(31.3)	
Ever kissed person of same sex												
Yes	12(14.5)	0.97	29(34.9)	0.69	8(9.6)	0.85	54(65.1)	0.80	34(41.0)	0.91	24(28.9)	0.99
No	58(14.6)		148(37.3)		41(10.3)		264(66.5)		160(40.3)		115(29.0)	
Ever had sex with same sex												
Yes	3(7.9)	0.22	21(55.3)	**0.01**	7(18.4)	0.08	27(71.1)	0.51	16(42.1)	0.83	15(39.5)	0.12
No	67(15.2)		156(35.3)		42(9.5)		291(65.8)		178(40.3)		124(28.1)	
Ever petted person of same sex												
Yes	46(14.8)	0.83	108(34.8)	0.21	29(9.4)	0.40	206(66.5)	0.90	112(36.1)	**0.01**	86(27.7)	0.43
No	24(14.1)		69(40.6)		20(11.8)		112(65.9)		82(48.2)		53(31.2)	

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The aim of this population-based study was to provide a school based prevalence of psychosocial dysfunctioning among adolescents in Ikere-Ekiti LGA. We also assessed factors affecting psychosocial functions among the adolescents in schools in Ikere LGA. In this study, adolescents in the rural areas recorded a higher prevalence of emotional problems than their counterparts in the urban areas. This may be attributed to the emotional stressors associated with those living in the rural areas where the basic amenities to support daily living are practically insufficient in the setting. Also, the economic backgrounds of adolescents in rural areas of the studied location are relative poor. Previous studies in Nigeria have shown that rural life is completely substandard due to lack of social amenities and the ravaging effect of poverty on the rural dwellers (Abdulahi, 2011). Specifically, Abdulahi (2011) found out that most adolescents needs particularly financial needs may be hard to come by. Lack of financial needs therefore created emotional problems and social relation problems.

We also found that adolescents in the urban areas exhibited substantial clinical conduct problems than those in the rural areas. Again, based on our local understanding of the studied setting, this finding is not surprising as many adolescents in the urban areas have easy access to activities that enhances conduct disorders. Past studies showing increased rates of conduct problems among adolescents in urban areas have been published. In particular, in a study conducted in Port-Harcourt, Nigeria, Frank-Briggs et al (2009) found that prevalence of conduct problems among adolescents was 15.82%. This was largely due to easy access and frequent alcohol abuse, drug abuse and other social vices (Frank-Briggs et al, 2009).

A part from that, prevalence of depressive symptoms was most common among adolescents in the rural areas than those in the urban areas. Although we do not have a concise explanation for what might be the reasons for this discrepancy, previous studies among adult in Oyo state, Nigeria shows that prevalence of depression was higher in the rural areas (7.3%) than in the urban areas (4.2%) (Amoran et al, 2007). Implicated among likely causes of depression in this population were low self-esteem, serious financial constraints and anxiety.

Furthermore, the proportion of adolescents with substantial clinical conduct problems, hyperactivity, and total difficulty (SDQ) in private schools was significantly higher compared to private school indicating a moderate to severe psychosocial impairment among the adolescents attending private schools. Adolescents in private schools are likely to be children from home with better (or at least average) economic background. It is not unlikely that the socioeconomic status of their parent could have conferred on them superiority complex leading to arrogance and attention problems. Jensen (2009) reported that socio-economic status is a significant factor for consideration in determining adolescent's psychosocial outcomes. For instance, Children raised in poverty are faced daily with over whelming challenges that affluent children never have to confront which also have implications for their behaviours and school performances (Jensen, 2009).

The proportion of emotional problems was higher among those from the polygamous family than those from monogamous family. This may be apparent consequences of lack of love, care, low self-esteem, inability to meet the financial needs of the adolescents that characterizes a polygamous family. Moreover, of particular importance is the effect of polygamous family on adolescent hyperactivity problem. In this study the prevalence of hyperactivity problems is higher than what is obtained in the monogamous settings.

Sexual experience and sexual orientation contrary to the culture of the study area (same sex) was found among adolescents who participated in this study. The proportion of adolescents who have had sexual experience and those who have practiced same sex was significantly higher among those with conduct disorder (Table 7). Apart from that, we also found that the proportion of adolescents who have engaged in petting were lower among those with pro-social behaviour. These results are evidences that the sexual orientation of these adolescents was obviously associated with their psychosocial functioning. Adolescents with depressive symptoms has the tendency to experience difficulty relating to peers and are more likely than others to be involved in physical fights with peers. The difficulties they face in their peer relationships and their tendency toward violent behavior are not well understood; however, depressed adolescents are faced with aggressive behaviours such as rape. (Saluja, Lachan et al 2004)

The items in positive affect subscale showed a higher prevalence among the adolescents and this indicate lack of positive affect among the adolescents. This might be explained by the fact that these four items were paraphrased in a reverse fashion compared with the other 16 items. The proportion of moderate to severe psychosocial impairment (SDQ) was significantly higher among adolescents who had been disappointed by a friend of opposite sex.

Boys exhibited more externalizing problem than their counterpart just like other previous studies (Bakare et al, 2010; colman et al, 2009; from the rural areas there was a higher symptoms of peer problem. The cause of this might not be far from low self-esteem and the fear of being influenced wrongly coupled with depression which has been identified to be highly prevalent among the adolescents. Moreover, lack of basic needs and social exposure with inability to meet up with demands from peers may trigger the solitary attitude and unhappiness.

The difficulty (SDQ) symptom scale revealed various levels of mental health problem severity whilst conduct and peer problems were found to be more prevalent among the clinical problem cadres. This outcome is in agreement with many of the past studies (Bernstein et al, 2012). It has been observed that there is a digression in the choice of career pursuit among the youths in Ikere LGA as truancy among adolescents in schools, cultism, promiscuity, robbery and political thuggery have become the order of the day contrary to the scholarship the inhabitants used to be known for (Ajayi et al, 2010; Owuamanam and Bankole, 2013).

5.2 Conclusion

The present study is a concise and comprehensive report of the psychosocial functioning of in-school adolescents in Ikere-Ekiti LGA in Ekiti state, Nigeria. Prevalence of psychosocial disorders was high among in-school adolescents in both rural and urban areas. In particular, while emotional symptoms were higher among in-school adolescents residing in rural areas, in-school adolescents in the urban areas had higher substantial clinical conduct problems than those in the rural areas. The adolescents in private schools had a substantial clinical total difficulty (SDQ) compared to those in public school and this indicate a moderate to severe impairment among the adolescents attending private schools.

Overall, more of the psychosocial functionings are more prevalent among male participants than their female counterparts contrary to the general perception. Suggesting mental health among male adolescents should also be taken seriously.

Also, in-school adolescents with substantial clinical conduct problems and hyperactivity were more in private schools compared to public school. Family type (Polygamy or monogamy) was associated with emotional problems among in-school adolescents who participated in this study. Furthermore, male adolescents had more of conduct problems than the female adolescents. Finally, adolescents who have had sexual experience and those who have had sex with people of same sex were those with substantial clinical conduct disorder.

5.3 Recommendations

Based on our findings in this study, intervention programs focusing on schools in both rural and urban areas of Ikere-Ekiti LGA could benefit the psychosocial functioning or development of the in-school adolescents. In the context of private and public schools, it may be necessary to encourage management of private schools as well as teachers and parents of adolescents in private schools of the need for adolescents-friendly correction facilities. This may go a long way to provide immediate help for affected children.

A part from that, based on the results of this study, we recommend that screening psychosocial disorder among adolescents should not be restricted to hospital environment alone. A community based screening may provide a more robust surveillance. Also, recognizing psychosocial disorders as early (in adolescence) as possible has been recommended as critical step to reducing the incidence of mental disorders among adults.

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APPENDIX I

PREVALENCE AND RISK FACTORS FOR PSYCHOSOCIAL DYSFUNCTION AMONG IN-SCHOOL ADOLESCENTS IN EKITI STATE NIGERIA

SECTION A: BACKGROUND INFORMATION *(Tick the code as appropriate)*

1. What is your sex a) Male b) Female
2. What is your current Age *fill the exact age* ( )
3. What is your Height fill the exact height ( )
4. What is your weight fill the exact weight ( )
5. What is the name of your school

.....

6. What class are you ( )
7. What is your religion a) Christianity b) Islam c) Others.....
8. Area of residence a) Rural area b) Urban area
9. Ethnicity a) Yoruba b) Hausa/Fulani c) Igbo d) Others.....
10. Family type a) Monogamy b) Polygamy
11. Family status a) Parents are together b) Parents are Divorced c) Parents are separated d) Single

Mother

12. Father's highest level of education a) No formal education b) Pnmary c) Secondary d) Tertiary e) No idea
13. Father's occupation a) Farming b) Trading c) Civil servant d) Employee of Private organisation

e) Others.....

14. Mother's highest level of education a) No formal education b) Primary c) Secondary d) Tertiary e) No idea
15. Mother's occupation a) Farming b) Trading c) Civil servant d) Employee of Private organisation

e) Others.....

16. Do you have friends of the opposite sex a) Yes b) No
17. Have you felt disappointed / jilted by a friend who is an opposite sex a) Yes b) No
18. Which of the following have you ever done with an opposite sex (You can tick more than one)
    - *Kissing/Caressing*
    - *Sex*
    - *Petting*

18b. Which of the following have you ever done with a person of the same sex (You can tick more than one)

- *Kissing/Caressing*
- *Sex*
- *Petting*

SECTION B: PSYCHOSOCIAL OUTCOMES

Note: The filling of this questionnaire is voluntary

A STRENGTH AND DIFFICULTY QUESTIONNAIRE (SELF RATED) *(cycle the code as appropriate)*

- For each item, please mark the box for Not True, Somewhat True or Certainly True.
- It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

Code	Questions	Not True	Somewhat True	Certainly True
Se1	I try to be nice to other people. I care about their feelings			
Sc1	I am restless, I cannot stay still for long			
Sa1	I get a lot of headaches, stomach-aches or sickness			
Se2	I usually share with others (food, games, pens etc.)			
Sb1	I get very angry and often lose my temper			
Sd1	I am usually on my own. I generally play alone or keep to myself			
Sb2	I usually do as I am told*			
Sa2	I worry a lot			
Se3	I am helpful if someone is hurt, upset or feeling ill			
Sc2	I am constantly fidgeting or squirming			
Sd2	I have one good friend or more*			
Sb3	I fight a lot. I can make other people do what I want			
Sa3	I am often unhappy, down-hearted or tearful			
Sd3	Other people of my age generally like me*			
Sc3	I am easily distracted, I find it difficult to concentrate			
Sa4	I am nervous in new situations. I easily lose confidence			
Se4	I am kind to younger children			
Sb4	I am often accused of lying or cheating			
Sd4	Other children or young people pick on me or bully me			
Se5	I often volunteer to help others (parents, teachers, children)			
Sc4	I think before I do things*			
Sb5	I take things that are not mine from home, school or elsewhere			
Sd5	I get on better with adults than with people my own age			
Sa5	I have many fears, I am easily scared			
Sc5	I finish the work I'm doing. My attention is good*			

B. CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE FOR CHILDREN (CES-DC)

Below is a list of the ways you might have felt or acted. Please check how *much* you have felt this way during the *past week*.

Code	Questions	Not At All	A Little	Some	A Lot
1	I was bothered by things that usually don't bother me				
2	I did not feel like eating, I wasn't very hungry				
3	I wasn't able to feel happy, even when my family or friends tried to help me feel better				
4	I felt like I was just as good as other kids				
5	I felt like I couldn't pay attention to what I was doing				
6	I felt down and unhappy				
7	I felt like I was too tired to do things				
8	I felt like something good was going to happen				
9	I felt like things I did before didn't work out right				
10	I felt scared				
11	I didn't sleep as well as I usually sleep				
12	I was happy				
13	I was more quiet than usual				
14	I felt lonely, like I didn't have any friends				
15	I felt like kids I know were not friendly or that they didn't want to be with me				
16	I had a good time				
17	I felt like crying				
18	I felt sad				
19	I felt people didn't like me				
20	It was hard to get started doing things				

APPENDIX II

Center for Epidemiological Studies

Depression Scale for Children (CES-DC)

The Center for Epidemiological Studies Depression Scale for Children (CES-DC) is a 20-item self-report depression inventory with possible scores ranging from 0 to 60. Each response to an item is scored as follows:

0 = "Not At All"

1 = "A Little"

2 = "Some"

3 = "A Lot"

However, items 4, 8, 12, and 16 are phrased positively, and thus are scored in the opposite order:

3 = "Not At All"

2 = "A Little"

1 = "Some"

0 = "A Lot"

Higher CES-DC scores indicate increasing levels of depression. Weissman et al. (1980), the developers of the CES-DC, have used the cutoff score of 15 as being suggestive of depressive symptoms in children and adolescents.

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INSTRUCTIONS

Below is a list of the ways you might have felt or acted. Please check how *much* you have felt this way during the *past week*.

DURING THE PAST WEEK Not At All A Little Some A Lot

1. I was bothered by things that usually don't bother me. ____ ____ ____ ____
2. I did not feel like eating, I wasn't very hungry. ____ ____ ____ ____
3. I wasn't able to feel happy, even when my family or ____ ____ ____ ____ friends tried to help me feel better.
4. I felt like I was just as good as other kids. ____ ____ ____ ____
5. I felt ~~like I couldn't~~ pay attention to what I was doing. ____ ____ ____ ____

DURING THE PAST WEEK Not At All A Little Some A Lot

6. I felt down and unhappy. ____ ____ ____ ____
7. I felt like I was too tired to do things. ____ ____ ____ ____
8. I felt like something good was going to happen. ____ ____ ____ ____
9. I felt like things I did before didn't work out right. ____ ____ ____ ____
10. I felt scared. ____ ____ ____ ____

DURING THE PAST WEEK Not At All A Little Some A Lot

11. I didn't sleep as well as I usually sleep. ____ ____ ____ ____
12. I was happy. ____ ____ ____ ____
13. I was more quiet than usual. ____ ____ ____ ____
14. I felt lonely, like I didn't have any friends. ____ ____ ____ ____
15. I felt like kids I know were not friendly or that ____ ____ ____ ____ they didn't want to be with me.

DURING THE PAST WEEK Not At All A Little Some A Lot

16. I had a good time. ____ ____ ____ ____
17. I felt like crying. ____ ____ ____ ____
18. I felt sad. ____ ____ ____ ____
19. I felt people didn't like me. ____ ____ ____ ____
20. It was hard to get started doing things. ____ ____ ____ ____