

**HEALTH RELATED QUALITY OF LIFE OF STUDENTS
WITH PHYSICAL AND SENSORY IMPAIRMENTS IN
SPECIAL AND INTEGRATED SCHOOLS IN IBADAN.**

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**HEALTH RELATED QUALITY OF LIFE OF STUDENTS WITH PHYSICAL
AND SENSORY IMPAIRMENTS IN SPECIAL AND INTEGRATED
SCHOOLS IN IBADAN.**

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ABSTRACT

The determination of Health-Related Quality of Life (HR-QoL) is useful for assessing the impact of health and illness on people's physical, psychological and social functioning. In Nigeria, the HR-QoL of students (who are mostly adolescents) with physical and sensory impairments has not been adequately researched. There is need for scientific basis for comparative description of the experiences of Students with physical and sensory impairments (SwPSI) in special schools (SS) and integrated schools (IS). Further, the self-perceived needs of these students are yet to be assessed as well as factors influencing their HR-QoL

An interviewer-administered questionnaire adapted from the World Health Organization International Classification of Functioning, Disease and Health and Short-Form Health Survey-36, was used to obtain information from all 330 eligible students in 7 IS and 8 SS in Ibadan. Students less than 10 years old and those who had mental disabilities in combination with physical disabilities were excluded. Cluster sampling method was used. Respondents' HR-QoL was assessed using 84-point scale. Scores of ≤ 41 and ≥ 42 points were taken as low and high HR-QoL respectively. Domains of HR-QoL assessed with points include interpersonal relationship-11, general participation-15, performance in physical activities-19, general health-12, vitality-12 and mental health-15. Data were analyzed using descriptive statistics and *t* test.

Participants' mean age was 15 ± 3.9 years and 57.6% were males. Respondents from SS and IS constituted 59.7% and 40.3% respectively. The respondents included those with hearing and speech impairments (32.1%), hearing impairments only (24.2%), multiple physical deformities= (12.4%), speech impairments only (7.0%), visual impairments only (4.5%), limb impairments (13.6%), hearing impairments with other physical deformities (2.7%), speech impairments with other physical deformities (2.7%) and other types of physical deformities (0.6%). The mean HR- QoL scores of respondents in SS and IS were 48.3 ± 10.6 and 50.1 ± 10.0 respectively ($p > 0.05$). The respective domain HR-QoL scores of students in IS and SS were: interpersonal relationship-(IS-7.5, SS-7.1) general participation-(IS-9.0, SS-7.7) performance in physical activities-(IS-12.1, SS-12.0) general health-(IS-7.4, SS-7.3) vitality-(IS-6.3,

SS-6.1) and mental health-(IS-7.7, SS-8.2). Students in IS had higher scores in all domains except mental health. Students with visual impairment had the highest (52.1) HR-QoL score while those with multiple physical impairments had the least (39.5; $p < 0.05$). Students in IS with visual impairment had highest scores in general health (9.9) and interpersonal relationship (8.8) while students in SS with hearing impairments had highest scores in general participation (8.3), vitality (7.1), general health (8.2) and mental health (9.2; $p < 0.05$). The various needs identified by students in IS included more of Physiological needs and self-actualization needs while those in SS identified more of need for love and belonging and self-esteem needs. Factors identified in this study to be significantly associated with HR-QoL of SwPSI include family environment, school environment, type of impairment, use of individual education plan (IEP) and parental socio-economic status.

Students kept in special schools had lower quality of life. It is therefore more beneficial to enroll students with limb, visual and speech impairments in integrated schools in order to improve their HR-QoL.

Key words: Health-related quality of life, Physical disabilities, Integrated schools, Special schools

Word count: 494

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CERTIFICATION PAGE

I certify that this work was carried out by Miss O. Tomori in the Institute of Child Health, Faculty of Public Health, University of Ibadan.

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ABBREVIATIONS

HR-QoL	– Health Related Quality of Life
SwPSI	– Students with Physical and Sensory Impairments
IS	- Integrated schools
SS	- Special schools
WHO	– World Health Organization
DAR	– Disability and Rehabilitation
NSD	– National Survey on Disabled
NPC	– National Population Commission
IDEA	– Individuals with Disability Education Act
IEP	– Individual Education Program
ICIDH	– International Classification of Impairments, Disability and Handicap
CIDA	– Canadian International Development Agency
NEADS	– National Education Association of Disabled Students
UN-DISTAT	– United Nations Disability Statistics Data Base
NSAIDS	– Non Steroidal Anti-Inflammatory Drugs

CHAPTER ONE

INTRODUCTION

1.1. STUDY BACKGROUND

Disability, an inability to perform some or all tasks of daily life, is a complex phenomenon, reflecting an interaction between features of a person's body and norms of the society in which he or she lives (WHO, 2008). There is increasing number of people living with disabilities due to chronic diseases, injuries, violence, infectious diseases, malnutrition, and other causes closely related to poverty (WHO, 2005). According to World Health Organization (WHO), 80% of people with disabilities live in low-income countries; most are poor and have limited or no access to basic services, including rehabilitation facilities (WHO, 2005).

Nigeria's 1991 census yielded a crude disability rate of 4.8% (Odufa, 2007). This is however not encompassing as it only put into account disabilities such as deafness, dumbness, blindness, crippling, mental health problems and 'others' category. Apart from mental health and those categorized under 'others', the 1991 census only captures physical disabilities/impairments. Those in the 'others' category which was not properly defined could comprise of other forms of disabilities such as learning disabilities, cerebral palsy, arthritis, multiple sclerosis, spinal injuries, strokes, muscular dystrophy and amputees. In Nigeria where there is still high level of social stigma attached to some form of impairments or disability, the incidence of secret infanticide cannot be ruled out (National Survey on Disabled, NSD, 1996). The fact that those in the 'others' category were not properly defined has possibly made the disability rate to be less than 10%. Persons with disabilities form the bulk of destitutes on Nigerian streets (Daniel, 1978) and it was also reflected in the NSD 1996 survey that 64.9% of disabled people in Nigeria are either begging or dependent. From the 1996 NSD, 70,914 people are living with different forms of physical disabilities out of which 15.9% (11,247) are adolescents. Persons living with physical disabilities accounted for 13.3% out of which 90.8% of the disabled have never had vocational

training of any kind, while 68.8% never had formal education (NSD, 1996). In Oyo state, Nigeria, where this study was conducted, 13,376 people were living with disability (NPC 1991 Census) projected to increase to 53,651 in 2008. The 2006 National Population Census however, showed that about 19 million Nigerians are disabled (NPC Results, 2007) although the result did not reflect a detailed analysis on the various forms of disability.

The implementation of inclusion (combination of integrated education classes with special education services) varies from country to country; most schools use it for selected students with mild to moderate special needs. This is accepted as best practice where they are constitutionally practiced (Smith, 2007). Inclusion rejects the use of special schools or classrooms to separate students with disabilities from students without disabilities. However, inclusive (integrated) schools are restructured so that all students learn together (Grenot-Scheyer, Bishop, Jubala, & Coots (1996). This approach only focus on maximizing the participation of special education learners, make learning more meaningful and relevant. Learning/education is just an aspect of the life of students with physical disabilities and impairments. The Health-Related Quality of Life of these students needs to be considered as well in deciding whether to place them in special or integrated schools.

There is insufficient information on studies which have attempted to delineate the difference between the health related quality of life of students attending special and integrated schools in Nigeria (anecdotal). However, only few studies have been carried out in developed and developing countries in relation to the health related quality of life of adolescents. Burnett (1996) and Sands (2006) revealed that the general quality of life for the disabled is substantially lower than that of the general population. Among adolescents with disabilities, the quality of life is a critical issue because they also experience physical, psychological and sociological changes which their non-physically disabled peers do. It is possible that the physically disabled adolescents can still live a productive life provided the appropriate interventions/services are available to improve their health related quality of life at this phase or else, they may engage in risky health behaviour. It is evident that the physically disabled adolescents interact with his/her family and environment; also the presence of a disability stretches his/her normal ability to cope with the challenges

especially during the period of transition to adulthood, thus affecting their quality of life. Susame (2005) reported that there has been a shift from a more biologically-based approach where treatments were focused primarily on changing the child, towards interventions aimed at broader goals such as enhancing community participation and improving a child's QOL. Section 602 of the IDEA¹ (Individuals with Disability Education Act) 2004 in the United States provides that there is need to provide 'transitional services' for the disabled i.e. coordinated sets of activities for the child with disabilities in the family, community and school.

In response to the needs of the disabled people, the WHO initiated a Disability and Rehabilitation (DAR) committee with specific goals to meet their needs. DAR-WHO Action plan, 2006-2011, vision states that “**all persons with disabilities live in dignity, with equal rights and opportunities**”. It is also included in her mission to enhance the quality of life for persons with disabilities through national, regional and global efforts by facilitating collection, analysis and dissemination of disability-related data intended to support, promote and strengthen health and rehabilitation services for persons with disabilities and their families.

1.2. HEALTH-RELATED QUALITY OF LIFE (HR-QoL) CONCEPT

The concept of assessing Quality of Life (QoL) is based on the fact that an individual's perception of their position in life is in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHOQoL Group, 1994; Bourskovski et al, 2002). As identified by Whiteneck, (1994) Quality of life is an important aspect of a complete outcome evaluation to document the effects of rehabilitation for persons with disabilities. It is also recognized that QoL is fundamentally a holistic concept that goes beyond the health dimension (Susanne, 2005), whereas, HR-QoL focuses on the health-related components judged to be associated with life satisfaction such as self-care, mobility and communication (Guyatt, Feeny and Patrick, 1993). The concept of HR-QoL can therefore be summarized and referred to as a multidimensional psychological construct, which encompasses physical, psychological, social, and functional areas of

¹ The Individuals with Disabilities Education Act (IDEA) is one component of a three-tiered US federal approach to supporting individuals with disabilities. The other two federal Acts are the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973. (American Youth Policy Forum & Center on Education Policy, 2002).

life, and the impact of health and illness on these aspects. Thus this study will approach HR-QoL in the WHO perspective of health having to do with the physical, psychological and social dimensions of human life. Currently there is paucity of information regarding the health-related quality of life (HRQoL) of physically disabled adolescents in Nigeria. Within the last decades health-related quality of life (HRQoL) has become increasingly important in epidemiological research, e.g. in representative health surveys (Ravens-Sieberer, 2007). This study will therefore explore Health Related Quality of Life of students with physical and sensory impairments in relation to their own perception of their disability, interaction with family, environment and others with similar disability (figure 2.4).

1.3. PURPOSE OF THE STUDY.

This study intends to provide scientific basis for describing the experiences of students with physical disabilities in relation to their families, environment, their day-to-day challenges and achievement by identifying factors which improves health related quality of life and those which negatively affect their HR-QoL. This study will provide information needed for strategic planning towards provision of effective services for the students with physical disabilities and consequently improve their Health-Related Quality of Life (HR-QoL).

1.4. JUSTIFICATION FOR STUDY

The general public and policy makers are often unaware of the great number of persons living with disabilities and impairments around the world. They are also unaware of the challenges they face in participating fully in the society and their difficulty in accessing healthcare and rehabilitation services and other supports and services necessary for their health and well-being (DAR-WHO Action plan, 2006-2011). This is complicated by the fact that there is no disability policy and proper legislation for the disabled adolescent in Nigeria (Somorin, 2008) and their rights are often overlooked in the design and implementation of policies generally (Umoh, 2008 and Somorin, 2008). There is need for scientific basis for comparative description of the experiences of Students with physical and sensory impairments (SwPSI) in special schools (SS) and integrated schools (IS). Further, the self-perceived needs of these students are yet to be assessed as well as factors influencing their HR-QoL

In Nigeria, we live in an environment that is not fully prepared for disabilities. Culturally, disability is oftentimes seen as a curse or a thing of negative influence on the family and community, which consequently affects the support received by the disabled in Nigeria. Alms giving to the disabled occasioned by cultural and religious demands also place them at the mercy of the givers. However, WHO guides and supports countries to increase awareness about disability issues, improve disability data, scale up public health programs and community based initiatives that promote health and rehabilitation (WHO-DAR 2006-2011). This study intends to explore the factors affecting students' abilities to cope with challenging situations in their environment. Addressing issues relating to their HR-QoL at this phase of life (adolescence) also may provide a basis for living a productive life and prevent further impairments. Services for the disabled people in Nigeria are meager, and the existing ones are in bad shape (Somorin, 2008). A study of this nature will serve as a source of statistical information necessary for planning effective services for the disabled in Oyo state and Nigeria at large.

1.5. STUDY OBJECTIVES

General objective:

The general objective of this study is to comparatively determine the HR-QoL of Students with physical and sensory impairments (SwPSI) in special and integrated schools in Ibadan, Oyo state.

Specific Objectives:

Specific objectives of this study are to:

1. Describe HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan.
2. Compare the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan.
3. Determine if there is significant difference in HR-QoL of students with single disability and those with multiple disabilities in both schools.
4. Assess self-perceived needs of SwPSI attending special and integrated schools in Ibadan.
5. Determine the factors influencing the HR-QoL of students with physical and sensory impairments under study.

1.6. RESEARCH QUESTIONS.

1. What is the HR-QoL of students with physical and sensory impairments attending special and integrated schools in terms of level of performance in physical activities, general health, mental health, vitality and general participation in family, school and community activities?
2. Is there any significant difference between the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan?
3. Is there any significant difference in the HR-QoL of students with single physical disabilities and those with multiple physical disabilities in both special and integrated schools?
4. What are the self perceived needs of SwPSI attending special and integrated schools in Ibadan?
5. What are the factors influencing the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan?

1.7. NULL HYPOTHESES

1. There is no significant difference in the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan.
2. There is no statistical association between school setting, family environment, school environment, personal characteristics, intervention/aides used as well as the type of physical disability of the students and their HR-QoL.
3. There is no significant difference in the HR-QoL of students with specific forms of physical disability.
4. There is no statistically significant difference between HR-QoL domain scores of students attending special and integrated schools.
5. There is no statistically significant difference between HR-QoL domain scores of males and females attending special or integrated schools.
6. There is no statistically significant difference between the HR-QoL domain scores of students with single and multiple physical disabilities.

1.8. SCOPE OF STUDY

This study will focus on students with sensory impairments and physical disabilities attending special and integrated schools in Ibadan. Although there are various types of

disabilities in adolescents, this study will only focus on the specific forms of physical disabilities and impairments namely: the visually impaired students, deaf/hard of hearing, students with limb deformities, students with mobility difficulties including those with congenital disabilities, muscular dystrophy, arthritis, multiple sclerosis, spinal injuries, those affected by poliomyelitis, strokes, amputees, and /or injury through accidents. HR-QoL will be described in terms of interpersonal relationship, level of performance in physical activities, general health, mental health, vitality and general participation in family, school and community activities. These aspects are adequately covered in the instrument to be used for data collection.

1.9. OPERATIONAL DEFINITION OF TERMS.

Disability: A physical or mental condition that prevents the use of body parts completely or partially or makes learning difficult or impossible; Disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within a range considered normal for an individual (WHO-ICF, 2001).

Handicap: Is a disadvantage for a given individual resulting from an impairment or disability that limits or prevents the fulfillment of a role that is normal (depending on the age, sex cultural factors) for that individual (WHO-ICF, 2001).

Physical disabilities: Difficulties with physical activities, which involve sitting, standing, positioning, moving, communicating, writing, manipulating school tools/materials, and self-care, that impact on learning or access to the curriculum (Min. of Education, New Zealand, 2007).

Disabled person/people: a person or people (group of individuals) with an impairment or health condition who encounters disability or is perceived to be disabled (Asian Development Bank, 2005).

The Disabled: People with impairments (physical, sensory), and because of this impairment/disability can not cope with regular school/class organization and methods without formal special educational training (National Policy on Education, Federal Republic of Nigeria, 2004).

Impairment: a characteristic and condition of an individual's body or mind, which unsupported has limited, does limit or will limit that individual's personal or social functioning in comparison with someone who has not got that characteristic or

condition. Impairment relates to a physical, intellectual, mental or sensory condition; as such it is largely an individual issue. Accordingly, disability is the way(s) in which people with impairments are excluded or discriminated against; as such, it is largely a social and development issue. People with impairments are people with specific conditions while people with disabilities are people with impairments who are excluded or discriminated against due to environmental factors (Edmonds, 2005). Impairments can also be referred to as problems in body function or structure such as significant deviation or complete loss (WHO-ICF, 2001).

Individual Education Programme (IEP): An IEP is a documented programme for an individual student that covers the complete cycle of assessment, planning, provision, and evaluation (Min. of Education, New Zealand, 2007).

Accommodation: *Accommodation* is a curricular, environmental, or testing adaptation that does not fundamentally alter the general curriculum, lower standards, or change the construct being measured on a test (Min. of Education, New Zealand, 2007).

Quality of life: Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life (WHOQOL, 1998)

Deaf/Hard of Hearing students: The term deaf/hard of hearing covers the range of students from those who are profoundly deaf to those with partial hearing. This can include students who can/cannot lip-read and those with/without speech. Included also are those whose hearing impairment is from birth and that which has arisen from illness or accident (UCD-DSS, 2008).

Major life activity: Examples of major life activities include walking, sitting, standing, seeing, hearing, speaking, breathing, learning, working, caring for oneself, and performing manual tasks (WHO 1997).

'Activity' (replacing the term 'disability' in the International Classification of Impairments, Disability and Handicap (ICIDH), 1980) relates to the nature and extent of functioning at the level of the person (WHO 1997).

'Participation' (replacing the term 'handicap' in the ICIDH, 1980) reflects the nature and extent of a person's involvement in life situations at society level, and reflects the interplay between impairments, activities, health conditions and contextual factors (e.g. physical and social environmental factors) (WHO 1997).

'Activity limitation' and 'participation restriction' are the terms used to describe negative experience in the activity and participation dimensions, respectively. Within each dimension a classification structure is provided, which can be used to organize information on aspects of the disability experience (WHO 1997).

Disabling condition: A disease, disorder or event that leads to impairment, activity limitation or participation restriction (WHO, 1997).

Environmental factors: These are factors that make up the physical, social, and attitudinal environment in which people live and conduct their lives (WHO, 2001).

Special schools: A **special school** is a school catering for students who have special educational needs due to severe learning difficulties, physical disabilities or behavioural problems. Special schools may be specifically designed, staffed and resourced to provide the appropriate special education for children with additional needs. Students attending special schools generally do not attend any classes in mainstream schools (Turnbull, 2002)

Integrated schools: these are schools that accommodate both students with impairments as well as those without impairments in the same classroom and taught by the same teacher. It can also mean having a different classroom for students with impairments in a setting for students without impairments. The National policy on Education 2004 (students with special needs) did not explain in detail the meaning of inclusive education but it was mentioned in section 10, unit 96 (c) i, that “all necessary facilities that would ensure easy access to education shall be provided; e.g. inclusive education or integration of special classes and units into ordinary/public

schools under the UBE scheme”. "Inclusion" involves practices wherein students with special educational needs spend most or all of their time with non-disabled students (Allen & Schwartz, 2001).

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CHAPTER TWO

LITERATURE REVIEW

2.1. DEFINITION OF DISABILITY

The use of correct definition and use of terms especially regarding sensitive issues such as disability is very important. United Nations Organizations and National Education Association of Disabled Students (NEADS), 2008, recommends that “persons with disability” should be used rather than “the disabled” in addressing people with various forms of disability and impairments. In Nigeria, students with disability are now referred to as students with special needs. Unquestionably, defining disability is one of the major challenges, both practically and politically, when making the connection between disability and development, however, consensus on a definition would enhance evaluation and research.

A common working definition would also facilitate communication and education and provide people with disabilities, their representative organizations, related groups, and development practitioners with a framework for profiling, measuring, replicating, and advancing disability policies into sound programming and sustainable development (Edmonds, 2005). There has been significant progress, however, in terms of the evolution of the basic philosophical foundations that characterize our global response to disability and how disability is defined and classified. Nigeria has adopted the WHO (1980) definition of disability:

Disability is viewed as a restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. Excesses or deficiencies of customarily expected activity, performance and behaviour characterized disability and these may be temporary or permanent, reversible or irreversible and progressive or regressive (WHO, 1980).

For the 2002 National Survey on Disability report in Nigeria, the 1993 UN definition of disability was adopted

“A disabled person is defined as an individual who on account of injury, disease or congenital deformity is substantially handicapped in obtaining or keeping employment, or in understanding normal chores of daily living on his own without external assistance/support (UN, 1993).

The 2004 National Policy on education however defined the disabled person as:

“People with impairments (physical, sensory), and because of this impairment/disability, can not cope with regular school/class organization and methods without formal special educational training”.

It is noteworthy here that only the physical and sensory types of impairments were mentioned in the definition, however, categories of disabilities outlined in the policy entails more than physical and sensory impairments. Categories of impairments outlined in the policy include the following:

- a. visually impaired (blind and the partially sighted);
- b. hearing impaired (deaf or partially hearing);
- c. physically and health impaired (deformed limbs, asthmatic);
- d. mentally retarded (educable, trainable, bed ridden)
- e. emotionally disturbed (hyperactive, hypoactive/the socially maladjusted/behaviour disorder);
- f. speech impaired (stammerers, stutterers);
- g. learning disabled (have psychological/neurological educational phobia or challenges);
- h. multiply handicapped.

2.2. HISTORICAL OVERVIEW OF QUALITY OF LIFE STUDIES

Studies of quality of life (QOL) first came to the fore in the United States in the mid-1970s with the exploring of perceptions of subjective well-being within the general population (Andrews and Withey, Campbell et al, 1976), as well as the use of more objective, community focused “social indicators” (Bauer 1996; Duncan, 1969). More recently, interest in assessing health-related quality of life (HRQOL) has increased

within health care research (Carr 1996; Leplège 1997; Spilker 1990; Testa and Simonson 1996), particularly in studying outcomes of medical interventions and in associating increases in life quality with costs associated with medical care. Numerous QOL studies have also focused on documenting the well-being and conditions of living of those with chronic medical conditions and disabilities (Brown and Gordon, 1999). This forward momentum within the health care arena has not really been deterred by criticism and warnings about the uses and misuses of QOL data (Ebrahim, 1995).

2.3. DISABILITY

One third of people with disabilities are children and two thirds of them have preventable disabilities (Peat 1997). One child in 10 is born with or acquires a disability because of preventable diseases, congenital causes, malnutrition, micronutrient deficiencies, accidents and injuries, armed conflicts, or land mines (CIDA, 2001). In the last decade of the 20th century, 2 million children were killed in wars and more than 5 million were disabled (CIDA, 2000). Surprisingly, according to WHO (2001), the number of people with disabilities is expected to increase. The reasons are complex and multifaceted and largely due to health, demographic, and development factors. These include poor nutrition (including vitamin A deficiency), the aging population, increase in violence, conflicts, land mines, HIV/AIDS, measles and polio, traffic and occupational accidents, disaster, and substance abuse. Increased commercialization of the health sector is also a factor, as is the inaccessibility of services to address such basic needs as prenatal and primary health care, rehabilitation, education, access to clean water and sanitation, employment and income security. Finally, reductions in infant and maternal mortality rates are leading to survival of more people with disabilities.

When persons become disabled, their needs are sometimes manageable and the quality of life and participation of such people can improve with proper knowledge and skills on how to live independently. This can be done by increasing their technical skills through education and professional development, and functional independence through clinical treatment, health and rehabilitation, access to community, public and private sector resources and services, and support to manage and participate in family and community decision making (Edmonds 2002b; HRDC 2002). The problem is that

these resources and skills remain largely inaccessible. For instance, less than 2% of people with disabilities have access to rehabilitation and less than 5% have access to education (Elwan 1999; Miles 1999). United Nations 1998 data showed that at least 350 million people with disabilities live in areas where the services they need are not available. As a result, society is deprived of access to the talents and skills and contribution of this very large population of people with disabilities.

2.4. PHYSICAL DISABILITIES

2.4.1. CATEGORIES

According to the US Task Force on Physical Disabilities and Chronic Health Conditions (2003), Physical disabilities include but are not limited to impairments, chronic illnesses, traumatic brain injury, arthritis, and visual, hearing, mobility, and manual limitations. It is therefore necessary to develop a basis for identifying physical disability. In an attempt to delineate 'physical disability' primarily on the basis of activity limitation some problems may be encountered. Simple activities (e.g. gripping an object) can be readily identified as physical or otherwise. However, complex activities (e.g. driving) are more difficult to label because the use of many different parts are involved. (PDCA, 2004). As a matter of fact, delineating activities as physical, intellectual or sensory is based on what parts of the body are involved in the activity. Therefore, to identify 'physical disability' it may be more appropriate to take an approach based largely on factors operating at the body level (i.e. corresponding to the impairment dimension of the International Classification of Impairments, Disability and Handicap (ICIDH) (Fig 2.2)).

A physical disability may then be identified as a disability associated with a physical impairment. Physical activity limitations may also be used to identify physical disability, but should be defined as limitations in performing simple activities that are clearly associated with physical abilities rather than intellectual, sensory, etc. The difficulty of defining physical impairment has tended to be solved by compiling lists of physical impairments (e.g. United Nations Disability Statistics Data Base (UN-DISTAT) and expert report recommendation). People with physical disabilities often must rely upon assertive devices such as wheelchairs, crutches, canes, and artificial limbs to obtain mobility and certain aides or device to ameliorate physical impairments. For the purpose of this survey, impairment-based operational definition

of physical disability (described in Section 1.9) shall be used. The list of physical impairments (and disabling conditions) that was used to identify physical disability include: the visually impaired students, deaf/hard of hearing, wheel chair users, students with mobility difficulties including those with congenital disabilities, muscular dystrophy, arthritis, multiple sclerosis, spinal injuries, strokes, amputees, and /or injury through accidents.

2.4.2 Types of Physical Disabilities

The major categories under the Physical Disability Group include:

- 1. Musculo-Skeletal Disability/Impairments:** It is defined as the inability to carry out distinctive activities associated with movements of the body parts due to muscular or bony deformities, diseases or degeneration. The disabilities grouped under musculo-skeletal disability are: Absence, Loss or Deformity of Limbs, Osteogenesis imperfecta, Muscular Dystrophy
- 2. Neuro Musculo Disability:** It is defined as the inability to perform controlled movements of affected body parts due to diseases, degeneration or disorder of the nervous system. The categories are: Cerebral Palsy, Spina Bifida , Poliomyelitis , Stroke , Head Injury , Spinal Cord Injury
- 3. Visually impaired:** Only 5% of 'blind' people can't see anything. Visual impairments can be caused by a multitude of factors, including disease, accidents, and congenital illnesses. There is a difference between the needs of visually impaired individuals and blind people.
- 4. Hearing impaired:** Deafness and hearing loss can be caused by a wide range of factors, including physical damage, disease during pregnancy, or exposure to very loud noises. There is a distinction between people who are deaf and those who have a hearing impairment. Those hearing up to three years of age (when language begins to develop) often have comparatively good speech and lip-reading ability.

2.5. CAUSES OF PHYSICAL DISABILITY AND SENSORY IMPAIRMENTS

Various causes of physical disability have been identified and are discussed below:

- i. **Medical conditions:** A wide range of medical conditions can cause physical disability such as muscular dystrophy, arthritis, cerebral palsy, head injury, multiple sclerosis etc.
- ii. **Accidents/Physical Trauma:** Some accidents result into various serious conditions such as amputation, spinal injury, brain injury affecting limb control and motor skills. People with head injury suffer from hearing loss and sometimes there can be damage to the centre of the brain and the ear itself.
- iii. **Disease or Illness:** The causes of different diseases are different. For example **Measles** result in auditory nerve damage. **Mumps** result in profound sensori-neural hearing loss and **Meningitis** leads to auditory nerve damage or cochlea damage etc.
- iv. **Genetic factors:** Both recessive and dominant genes can cause mild and deep hearing disability. Some of the disabilities occurs due to hearing disability are Usher syndrome, Stickler syndrome etc.
- v. **Long Term exposure to Environmental Noise:** Exposure to high levels of noise for long term such as people living near airports or freeways can cause permanent hearing disability.
- vi. **Medications:** Some medications such as macrolide, aspirin and NSAIDs can cause irreversible damage to the ear; Alcohol and hard drugs.
- vii. There are many causes of visual disabilities which are:- Eye infections, diabetes, brain, injury, stroke, accidents, glaucoma.

2.6. IMPACT OF DISABILITY

Despite the fact that many persons with disability remain invisible; the impact of their disability on the affected individuals, families and communities cannot be overemphasized. Persons with disabilities are poor because they are denied access and opportunities most basic to human development viz education, income, and self-

esteem (Edmonds, 2005). However, people with disabilities have the capacity to become productive citizens and contribute to national development (Edmonds, 2005). Taking into consideration the impact on families, the lives and livelihood of more than 800 million people, or about 25% of the world population, are affected (WHO, 2001). Given their large numbers, the short-term costs of educating and integrating persons with disabilities will be surpassed by the long-term savings to families and society. Countries enjoy productivity gains and economic returns when disabled people are allowed to develop their skills and intellectual and physical potential, and engage in economic activities (Edmonds, 2005). The needs of people with disabilities and their families must then be identified and addressed in a manner consistent with and reflective of their dynamic qualities, capacities, vulnerabilities, and expectations.

2.7. THE EVOLUTION OF DISABILITY EXPLANATORY MODEL

Discussion around disability is about people and their social relationships, and as such it is about the life of people with disabilities and their interaction with the community and the environment. Further, those defined as people with disabilities do not necessarily view themselves that way (McColl and Bickenbach 1998). People have the right to be called what they choose (WHO, 2001) and as a result, there is no single accepted definition of disability. According to Fougeyrollas et al, (1999) the reality of disability is not the business of a social minority; it concerns most of the population at some point in their lives.

The estimated 650 millions of people with disabilities in the world are no more identified as a monolithic group. They bring a variety of experiences on the personal level and on the types and degrees of social exclusion and stigmatization in relation with their life context (Fougeyrollas et al, 1999). Due to epidemiologic and demographic reasons, the rise of chronicity and long term functional limitations challenged and stressed the insufficiency of the curative biomedical model: *a cause -a disease -a treatment*. Consequently the development of a rehabilitation model with a comprehensive approach to the individual including functional limitations and long term social integration personal needs and supports is affected. The rehabilitative perspective is focused on the individual and not only the defective organ but is dominated by the assistance and power of experts (Fougeyrollas et al, 1999).

2.8. CHALLENGES FACED BY STUDENTS WITH PHYSICAL DISABILITY

The term physical disability encompasses a wide variety of conditions that may affect a student's mobility, stamina, and/or functioning. Common causes of physical disabilities include conditions or injuries that result in limited function, paralysis, or amputation; disorders such as arthritis, cerebral palsy, sickle cell anemia, multiple sclerosis, or muscular dystrophy and respiratory or cardiac diseases. These conditions not only impair mobility, but also may affect the students' strength, speed, endurance, coordination, and dexterity. The nature and extent of physical disabilities vary with individuals. Some physical disabilities are invisible, nevertheless, have a profound effect on a student's ability to perform. Invisible conditions include those that cause chronic fatigue or pain, such as lupus, Epstein-Barr, rheumatoid arthritis, heart conditions, asthma and other health impairments. Students with these diseases may fluctuate in their ability to meet the demands of an academic setting. One day they are able to function fully without any special considerations, another day they may require bed rest or even hospitalization (Disabled World web page, 2008).

Students with limb function limitations may have difficulty getting in and out of classrooms and buildings or performing course activities requiring manual dexterity and writing. Students whose disabilities are limited to their lower bodies need fewer accommodations related to academic requirements. The classroom environment, however, may require some modification in order for these students to participate in all aspects of the course (webpage on disabled students, retrieved 22nd May, 2008). Difficulties with physical activities, such as sitting, standing, positioning, moving, communicating, writing, manipulating school tools/materials, and self-care, impact on learning or access to the curriculum (Min. of Education, New Zealand, 2007).

2.9. QUALITY OF LIFE (QoL) CONCEPT

Quality of life is regarded as a non-tangible concept which subjectively measures the degree of well-being felt by an individual or group of people. QoL is also defined as a subjective judgment of the quality of one's own life, and is not equivalent with health or functional status. Quality of life reflects a holistic, broad view of health encompassing experiences in three spheres of life (Lindstrom & Kohler, 1991):

1. the external sphere (i.e., employment, education, and independent living)

2. the interpersonal sphere (i.e., marriage and relationships), and
3. the personal sphere (i.e., self-esteem and self-concept)

In spite of general agreement concerning the importance of QoL as an outcome, the way in which this concept should be defined and measured is far from clear. Nevertheless, it is important to measure QoL² in order to compare different populations, different disease groups or a group with a long term condition compared with a healthy population; to evaluate the effectiveness of interventions and to make decisions about services for example, deciding between two treatment options (Barlow, 2008).

2.10. CURRENT ISSUES RELATING TO MEASURING THE HRQoL OF ADOLESCENTS WITH PHYSICAL DISABILITIES

The meaning of the concept of QoL is much debated because the subjective information about health status is based on the individual's perception of health that ought to include physical, spiritual, psychological and social dimensions of well-being and functioning. A critical notion is that there exists an underlying universal standard of the quality of human life, even though each individual has a unique perception of the quality of their life, influenced by their cultural environment, past experience, personal values, and aspirations.

QoL is a multidimensional construct encompassing several core domains, generally identified as material conditions, physical status and functional abilities, social interactions, and emotional well-being (White-Koning et al, 2005). Each of these domains can be considered from objective and subjective perspectives. Broadly, an

² Examples of QoL models/tools developed or adopted for use with individuals with disabilities and medical conditions include: *the Short Form (SF)-36 Health Survey* (Ware and Sherbourne, 1992), *the Sickness Impact Profile* (Bergner, 1976), *the Reintegration to Normal Living Index* (Wood-Dauphinee et al, 1988), *the Community Integration Questionnaire* (Willer et al, 1994 and 1993), *the Barthel Index* (Brazil et al, 1997); *Health Utilities Index, Mark 3*; *WHO QoL*; *Euro QoL*; *SIP (Sickness Impact Profile)* / *FLP (functional limitations profile in UK)*; *Nottingham Health Profile*; *the Youth Quality of Life (YQOL)* and *Gross Motor Function Classification System (GMFCS)*(Barlow, 2008).

objective assessment of QoL focuses on the physical and social activity and material life conditions of an individual, whereas a subjective perspective places emphasis on each individual's perception of their quality of life. There is now ample evidence that the relation between objective living conditions and subjective well-being is weak, (White-Koning et al, 2005), hence, the need for assessing both perspectives. In this study, we only focus on the subjective perspective of the health related quality of Life of students with physical and sensory impairments.

A number of specific issues arise in adolescents QoL assessment due to age and developmental level. Compared with adults, they have less experience on which to base their interpretation of events. Their less-developed cognitive skills make comprehension and articulation of abstract concepts more difficult and affect their ability to recall behaviour and emotions from defined time periods, as required by most questionnaires. Furthermore, there is a need for instruments based on children's own interests and life values, rather than modified questionnaires developed by and for adults using adult conceptualizations of QoL (White-Koning et al, 2005). According to Brown and Gordon, (1999) little agreement has been reached on the definition of QOL, also many studies are carried out with no thought given to the definitional distinctions incorporated into the QOL tools adopted or for their implications for the research questions being pursued and a variety of methodological (rather than definitional) problems weaken the applicability and generalizability of results. For example, too many researchers under-identify the respective samples studied, so that in the end we have very little understanding of whose life quality is being delineated. These methodological issues are beyond the scope of this study. Instead, the goal of this study is to comparatively and quantitatively determine the quality of life of students with physical and sensory impairments in Ibadan, and also to determine the effectiveness of interventions available in the different schools under study.

Another issue is the placement of value judgment on domains being considered in measuring HRQoL which could be implicit to the individual (adolescent) or explicit. This is hoped to be taken care of to an extent in this study since the questions are to be asked by skilled interviewers. HRQoL models differ in the breadth of content areas or domains incorporated. At one end of the continuum are studies of QoL that adopt

single variables as indicators of QoL, such as measures of depression or work status (Brown and Gordon, 1999); And on the other end other HRQoL focus on a relatively wide range of components such as Short Form Survey - SF-36 which focus on 8 domains of human functioning. The ICIDH definitions of impairment, disability and handicap are currently being revised (WHO, 1997) after being in place since 1980. In the system being tested, attention is being placed on **impairment, activity and participation**, thus focusing more fully on functioning within a broad social context. This is reflected in this study as shown in figures 2.3 and 2.4.

2.11. MEASURING HR-QOL OF ADOLESCENTS WITH PHYSICAL DISABILITIES

Measuring QoL is difficult in children and adolescents, and this is reflected in the few suitable instruments available (Gerharz et al., 2003). Several instruments rely on the opinions of a proxy (parent or carer) but self-assessment by the child/adolescent is preferable where possible. The need for child self-assessment is supported by finding little concordance between child and proxy assessments (Gerharz et al., 2003). “Quality of life” is a complex, abstract, multidimensional concept that defines an individual’s satisfaction or happiness with the aspects of life that he or she considers important. Health related QoL reflects an attempt to restrict the concept of QoL to those aspects specifically related to health (Ghislandi et al, 2002). Interest has been growing in the assessment of HR-QoL, and various approaches have been proposed. Several instruments are available, ranging from multidimensional scales in which each health dimension is represented by an individual score, to global ones in which a single value assesses the overall health condition and from disease-specific scales, relevant and sensitive only to particular diseases to generic ones valid for any health condition (Ghislandi et al, 2002).

HR-QoL issues are particularly relevant in clinical areas in which the impact of medical interventions is not directly measurable using traditional clinical outcomes such as morbidity, mortality and survival. An example is rehabilitation, usually defined as the “application of all measures aimed at reducing the impact of disabling or handicapping conditions and at enabling disabled and handicapped people to achieve optimal social integration. (Ghislandi et al, 2002). Knowledge about health behaviour of children with physical disabilities is important in health promotion

efforts to prevent the development of secondary conditions (Kalnins et al, 1999). Given the risk that children/adolescents with physical disabilities face from the possible development of secondary conditions, understanding their health behaviour and its psychological and social correlates is important (Wood, 1994).

Comparisons of adolescent students with and without physical disabilities on standard health indicators would provide important new information to identify areas in which health promotion interventions should be implemented. Research has demonstrated that children with physical disabilities are less likely than their counterparts without physical disabilities to smoke, drink and use drugs (Steele *et al.*, 1996). However, they are more likely to have unhealthy eating patterns, and engage in sedentary leisure activities, e.g. watching television at the expense of regular physical exercise (Steele *et al.*, 1996). Adolescent children with physical disabilities have markedly more positive attitudes towards parents, teachers and classmates (Stevens *et al.*, 1996). In Nigeria, there is paucity of information on the attitude of adolescents with disability towards parents and society at large.

2.12. DISABILITY MODELS

Models of disability³

Models of Disability are tools for defining impairment and, ultimately, for providing a basis upon which government and society can devise strategies for meeting the needs of disabled people. Models are influenced by two fundamental philosophies. The first sees disabled people as dependent upon society. This can result in paternalism, segregation and discrimination. The second perceives disabled people as customers of what society has to offer. This leads to choice, empowerment, equality of human rights, and integration.

The Medical Model (Biological-Inferiority or Functional-Limitation Model)

This model of disability which was illustrated in the initial (1980) WHO's definitions of impairment, disability and handicap was devised by medical practitioners and views people with disabilities as 'lacking' or 'abnormal'. Consequently, the disabled

³ The models were adapted from: ALLFIE- Alliance For Inclusive Education; www.models_of_disability_definitions.htm and webpage on models of disability: keys to perspective a free online publication aimed at improving knowledge on disability. retrieved 07/01/09)

are institutionalized and segregated since they are viewed as the problem and in need of '*special care*' which restricts disabled people's opportunities to make choices, control their lives and develop their potential. Despite the fact that the model recognizes that poor economic climate will adversely affect a disabled person's work opportunities, it still seeks a solution within the individual by helping him or her overcome personal impairment to cope with a faltering labour market. This model has dominated the formulation of disability policy for years. Although this model is of therapeutic importance to the disabled in curing or alleviating the physical and mental conditions of many disabled people, it does not offer a realistic perspective from the viewpoint of disabled people themselves because most disabled persons would readily reject the concept of being abnormal.

The Expert/Professional Model

In this model, the expert/professionals follow a process of identifying the impairment and its limitations (using the Medical Model), and taking the necessary action to improve the position of the disabled person. This relationship has been described as that of fixer (the active professional) and fixee (the passive client) which clearly contains an inequality that limits collaboration. Although a professional may be caring, the imposition of solutions can be less than benevolent. If the decisions are made by the "expert", the client has no choice and is unable to exercise the basic human right of freedom over his or her own actions. In the extreme, it undermines the client's dignity by removing the ability to participate in the simplest, everyday decisions affecting him or her.

The Tragedy/Charity Model

The Tragedy/Charity Model depicts disabled people as victims of circumstance, deserving of pity. This and Medical Model are probably the ones most used by non-disabled people to define and explain disability. Traditionally, this model is used by non-governmental organizations and charities in the competitive business of fund-raising where the disabled children are depicted alongside young "victims" of famine, poverty, child abuse and other circumstances which, many disabled people find negative and thoroughly offensive. This however, is dis-enabling, stigmatizing and the cause of much discrimination. The idea of being recipients of charity lowers the

self-esteem of people with disabilities. In the eyes of "pitying" donors, charitable giving carries with it an expectation of gratitude and a set of terms imposed upon the beneficiary. This is not to advocate dismantling of NGOs and individuals caring for the disabled, but there is need to educate charity managers and professionals to review the way they operate and ensure that funds are channelled to promote the empowerment of disabled people and their full integration into the society as equal citizens – requiring respect and not pity.

The Social Model/Citizenship model

The Social Model views disability as a consequence of environmental, social and attitudinal barriers that prevent people with impairments from maximum participation in society. It is best summarised in the definition of disability from the Disabled Peoples' International:

"the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others, due to physical or social barriers."

The social model focuses on creating positive attitudes towards persons with disabilities in the society. The emphasis is overcoming environmental barriers which obstruct full participation of the disabled in their communities. The social model facilitates a shift from the disabling conditions as portrayed in the charity and medical models to the environment as a disabling factor, concept such as abuse, isolation and marginalization were used to depict the negative impact of environment on disabling condition. This Model implies that the removal of attitudinal, physical and institutional barriers will improve the lives of disabled people, giving them the same opportunities as others on an equitable basis. Taken to its logical conclusion, there would be no disability within a fully developed society. The Model, however, faces two challenges. Firstly, as the population gets older the numbers of people with impairments will rise and making it harder for society to adjust. Secondly, its concepts can be difficult to understand, particularly by dedicated professionals in the fields of charities and rehabilitation. These have to be persuaded that their role must change from that of "cure or care" to a less obtrusive one of helping disabled people take control of their own lives.

The Social Adapted Model

This is a new model, built upon the Social Model, but incorporating elements of the Medical Model. It accepts that impairments identified by the latter are significant, but stipulates that far more problems are created for disabled people by social and environmental causes. Not all problems of impairment can currently be addressed, but if we recognise our environment as discriminatory we can do much to change it so that disabled people are enabled to higher achievement. Unlike the Social Model, the Social Adapted Model recognises that the inability of some disabled people to adapt to the demands of society may be a contributory factor to their condition. However, it still maintains that disability stems primarily from a social and environmental failure to account for the needs of disabled citizens. The advantage of this Model is that it does not concentrate on individuals' limitations, but takes account of peoples' capabilities and potential.

The Economic Model

Under this Model, disability is defined by a person's inability to participate in work; the degree to which impairment affects an individual's productivity and the economic consequences for the individual, employer and the state. Such consequences include loss of earnings for and payment for assistance by the individual; lower profit margins for the employer; and state welfare payments. This Model is used primarily by policy makers to assess distribution of benefits to those who are unable to participate fully in work. In recent years, however, the preoccupation with productivity has conflicted with the application of the Medical Model to classify disability to counter fraudulent benefit claims, leading to confusion and a lack of co-ordination in disablement policy. The problem faced by users of this model is that of the choice between the payment of the disabled employee for loss of earnings, or the employer for loss of productivity? The first carries stigma for the disabled person by underlining their inability to match the performance of work colleagues. With the latter, difficulties arise in correctly assessing the correct level of subsidy. The true value of the Economic Model is to achieve an equitable, effective, value-for-money distribution of disability related benefits.

The Customer/Empowering Model

This is the opposite of the Expert Model. Here, the professional is viewed as a service provider to the disabled client and his or her family. The client decides and selects what services they believe are appropriate whilst the service provider acts as consultant, coach and resource provider. Recent operations of this Model have placed financial resources into the control of the client, who may choose to purchase state or private care or both.

The Religious Model

The Religious Model views disability as a punishment inflicted upon an individual or family by an external force. It can be due to misdemeanours committed by the disabled person, someone in the family or community group, or forbears. Birth conditions can be due to actions committed in a previous reincarnation. Sometimes the presence of "evil spirits" is used to explain differences in behaviour, especially in conditions such as schizophrenia. Acts of exorcism or sacrifice may be performed to expel or placate the negative influence, or recourse made to persecution or even death of the individual who is "different". In some cases, the disability stigmatises a whole family, lowering their status or even leading to total social exclusion. Or it can be interpreted as an individual's inability to conform within a family structure. Conversely, it can be seen as necessary affliction to be suffered before some future spiritual reward. It is an extreme model, which can exist in any society where deprivation is linked to ignorance, fear and prejudice.

Models are not to be seen as a series of exclusive options with one superior to or replacing previous sets. Models change as society changes. The objective of relating these models in this paper is to develop and operate a cluster of models, which will empower people with disabilities, giving them full and equal rights alongside their fellow citizens.

2.13 PROVISIONS OF EDUCATION FOR PERSONS WITH DISABILITY.

It is estimated that around 40 million (or just over one third) of the 115 million children currently out of school have disability, most of which are often neither visible nor simply diagnosed (UNESCO, 2004). The education of students with

(physical) disabilities, which is of primary importance in achieving the 8 Millennium Development Goals (MDGs), is the inclusion of persons with disabilities in general education programme⁴. Nigeria has exerted tremendous and well-documented efforts to address the problems confronting persons with special needs. One of these laudable efforts is the promulgation of Section 10 of the 4th edition of the National Policy on Education (2004), which gives guidelines on special education for students with special needs. This policy posits that it is the responsibility of the Federal Ministry of Education in collaboration with relevant ministries and Non-Governmental Organisations/International agencies to coordinate special education activities in Nigeria. According to this policy, the education of children with special needs shall be free at all levels. Conversely, the provisions in the 2004 National Policy on education did not specify the different types of educational settings/models for the children with disabilities.

With response to this need, the following has been identified from literature as methods of providing education for adolescents with disability. Present what obtains in Nigeria is a situation where students with disabilities either attend special schools or integrated schools. Nevertheless, it is important to develop and adapt a multidimensional method of providing education for persons with disability in Nigeria.

INCLUSION: The model referred to as inclusion involves the combination of integrated education classes with special education services. In this model, students with special needs are educated with their normal peers for at least half of the day.

The concept of inclusion is internationally recognized and it promotes a sense of co-operation in the learner as well as promote healthy competition among children of different abilities, giftedness and background. Its advantages include cost-effectiveness, optimum use of school facilities since all learners are accommodated in the same building and have the same teachers; promotion of familiarity between disabled and non-disabled persons such that their interaction is normal and without embarrassment and also promotes a co-operative school community, in which everyone is accommodated and able to participate.

⁴ (The WB, UNESCO, UNICEF and UNDP, hope to achieve this under the EFA flagship which was elaborated in a conceptual paper on the Right to Education for Persons with Disability: towards inclusion, released by UNESCO in December, 2004)

Much has been written about rationale for merging special and general education and resulting benefits of properly conducted inclusive programs. Properly conducted inclusive programme has been discovered to be of benefits to children with disabilities, children without disabilities and teachers.

Benefits for Children with Disabilities

- More stimulating environments
- Role models who facilitate communication, social, and adaptive behaviors
- Improved competence in IEP objectives
- Opportunities to make new friends and share new experiences
- Greater acceptance by peers
- Membership in a class and in the school

Benefits of Inclusion for Children without Disabilities

- More accepting of individual differences
- More comfortable with students w/ disabilities
- Become more helpful in general
- Acquire leadership skills
- Improved self-esteem

Benefits of Inclusion to Teachers

- Awareness/appreciation of individual differences in all children
- Access to specialists/resources that can help all children
- Learn new teaching techniques that can help all children.

(National Study of Inclusive Education, 1995)

Inclusive education differs from previously held notions of 'integration' and 'mainstreaming', which tended to be concerned principally with disability and 'special educational needs' and implied learners changing or becoming 'ready for' accommodation by the mainstream. By contrast, inclusion is about the child's right to participate and the school's duty to accept the child. Inclusion rejects the use of special schools or classrooms to separate students with disabilities from students without disabilities. A premium is placed upon full participation by students with disabilities and upon respect for their social, civil, and educational rights. Inclusive schools no longer distinguish between "general education" and "special education"

programs; instead, the school is restructured so that all students learn together (Scheyer et al, 1996).

Inclusion has just two sub-types (the first is sometimes called *regular inclusion* or *partial inclusion*, and the other is *full inclusion* (Bowe, 2005). In a "partial inclusion" setting, students with special needs are educated in regular classes for nearly all of the day, or at least for more than half of the day (Bowe, 2005). Whenever possible, the students receive any additional help or special instruction in the general classroom. Most specialized services are provided outside a regular classroom, particularly if these services require special equipment or might be disruptive to the rest of the class (such as speech therapy), and students are pulled out for these services. In this case, the student occasionally leaves the regular classroom to attend smaller, more intensive instructional sessions in a resource room, or to receive other related services, such as speech and language therapy, occupational and/or physical therapy, and social work (Bowe, 2005). This approach can be very similar to many mainstreaming practices (Bowe, 2005). Students with disabilities who are not included are typically either mainstreamed or segregated.

MAINSTREAMING: Integrated education classes combined with special education classes is a model often referred to as mainstreaming. In this model, students with special needs are educated with their normal peers during specific time periods. A mainstreamed student attends some general education classes, typically for less than half the day, and often for less academically rigorous classes. For example, a young student with significant intellectual disabilities might be mainstreamed for physical education classes; art classes and storybook time but attend reading and mathematics classes with other students that have similar disabilities. They may have access to a resource room for remediation of course content (Wikipedia, 2010).

SEGREGATION: (Self-Contained): Full-time placement in a special education classroom may be referred to as segregation. In this model students with special needs spend no time with their normal peers i.e. segregated student attends no classes with non-disabled students. Segregated students may attend the school as their neighbors, but their time exclusively in a special-needs classroom. Alternatively, these students

may attend a special school (Oloko, 2008)⁵. He or she might attend a special school that only enrolls other students with disabilities, or might be placed in a dedicated, self-contained classroom in a school that also enrolls general education students (Wikipedia, 2010).

EXCLUSION: A student who does not receive instruction in any school is said to be excluded. One of the differences between developed and developing society is that the disabled are not excluded in formal education in the former because there is a legal mandate for special education services. In developing countries, even when there is a legal mandate for the disabled to attend schools, inadequate monitoring poses problems for the accurate assessment of the magnitude of the excluded. In Nigeria, it may be valid to state that a majority of disabled children are excluded from schooling owing to social, economic, cultural and educational factors.

ACCOMODATION: This is a curricular, environmental, or testing adaptation that does not fundamentally alter the general curriculum, lower standards, or change the construct being measured on a test (Min. of Education, New Zealand, 2007). Accommodation in special education refers to adjustments that make learner with special needs competent and proficient to take part in the integrated classroom setting. Accommodation means changes in course content, teaching strategies, standards, test presentation, location, timing, scheduling, and expectations. Student responses, environmental structuring and or other attributes which provide access for a student with a disability to participate in a course which do not fundamentally alter or lower the standard or expectation of the course. Accommodations include but not limited to incorporating dissimilar types of teaching devices and techniques, as audiotape, technology, graphic organizers.

MODIFICATION: This on the other hand refers to changes in course in course content, teaching strategies, standards, test presentation, location, timing, scheduling, expectations, student responses, environmental structuring and/or other attributes which provide access for a student with a disability to participate in a course, which

⁵ Explanations on inclusion, segregation, mainstreaming and modification were extracted from the National Baseline Survey of Persons with Disability, 2008, and yet to be published as the time of compilation of this study.

fundamentally alters or lowers the standard or expectations of the course. The two terms are often used interchangeably, but they are not identical in terms of the teaching and learning outcomes. The expectation is that the moment those accommodations are made they do not obstruct the standards of achievement. In this regard it can be said that accommodations often provide alternative ways for learners to acquire information on what they have learned with others.

COLLABORATION: Collaboration involves the use of teaming approaches for problem-solving and program implementation. This strategy also involves the special educators as part of the instructional or planning team; here, integrated teachers, special education teachers, and other specialists collaborate (e.g., co-teaching, team teaching, teacher assistance teams) to provide education for the students with disability.

The common practices as described in Wikipedia online encyclopedia on inclusion (education), (last updated November 2010) agrees with the practice in Nigeria. Students in an inclusive classroom are generally placed with their chronological age-mates, regardless of whether the students are working above or below the typical academic level for their age. Also, to encourage a sense of belonging, emphasis is placed on the value of friendships. Teachers often nurture a relationship between a student with special needs and a same-age student without a special educational need. Another common practice is the assignment of someone/guide (usually co-students) to accompany a student with special needs at all times (for example in the cafeteria, on the playground, on the bus and so on). This is used to show students that a diverse group of people make up a community, that no one type of student is better than another, and to remove any barriers to a friendship that may occur if a student is viewed as "helpless." Such practices reduce the chance for elitism among students in later grades and encourage cooperation among groups (Strully and Strully, 1996).

2.14 MODEL OF HUMAN FUNCTIONING AND DISABILITY (WHO-ICF MODEL)

According to Stewart and Rosenbaum, 2003, the World Health Organisation's two models of health and disability that were published in 1980 and 2001 (Figs 2.1 and

2.2) respectively demonstrate how global views about health and disability have changed in a relatively short time. One key change is a shift in language from negative terms such as 'impairment', 'disability' and 'handicap' to the neutral terms 'body function and structure', 'activity', and 'participation', respectively. A second change is that the term 'disability' is now an umbrella term to represent the dynamic interaction between person and environment. In contrast to the traditional view that disability resided just within the person this change reflects the idea that 'disability' is a social construction involving an interaction of the person and their community or society. As well, the change in terminology reflects a move toward the identification of 'participation' as an important dimension of health.

A significant modification in the model was made when the implied linear connection between 'impairment', 'disability' and 'handicap' was changed with the inclusion of a series of bi-directional arrows that link these (and other) elements of health, functioning and disability. Because all the components of the model are now linked to each other, the possibility that any aspect of function can and probably will affect another, in a non-linear manner, is formally recognized. Thus, for example, it is possible to explore the impact of a change in an individual's 'participation' on their 'activity' and even the expression of the 'impairment' that may underlie the functional challenges.

This systemic way of thinking is more dynamic than the linear connections presented by the original ICIDH model (Stewart and Rosenbaum, 2003). Two significant additions to the original ICIDH model reflect recent views about the social construction of health and disability. They are classified as contextual factors that may impact a person's health state. The first contextual component is 'environmental factors' which can be physical, social, cultural or institutional in nature. The second component is 'personal factors' such as gender, age, education and lifestyle. These two contextual factors influence and modify other components of disease or disorder, and need to be identified and considered in the mix of forces that together contribute to the dimensions of 'body function/structure', 'activity' and 'participation' (Stewart and Rosenbaum, 2003). To summarize, the WHO chose a 'bio-psychosocial' approach to health, functioning and disability in the new ICF model, in order to provide "a

coherent view of different perspectives of health from a biological, individual and social perspective" (WHO, 2001).

Another issue that emerges from this expanded way of thinking about functional well-being involves recognizing the differences between people's 'capacity' and 'performance' (Tieman, 2002; WHO, 2001). These are two terms that the WHO has introduced as qualifiers to the Activities and Participation component of the new ICF. The 'capacity' qualifier describes an individual's ability to execute a task or action at the highest probable level of functioning. The 'performance' qualifier describes what an individual actually does in his or her current environment (WHO, 2001). Table 2.1 below outlines an information matrix proposed by the WHO to differentiate these concepts. Although these new qualifiers have not been tested yet, they do provide us with a way of thinking about health and disability at individual and societal levels of functioning.

Table 2.1: Activities and Participation Information Matrix (WHO, 2001)

Domains	Qualifiers	
	<i>Capacity</i>	<i>Performance</i>
1. Learning and applying knowledge		
2. General tasks and demands		
3. Communication		
4. Mobility		
5. Self-care		
6. Domestic Life		
7. Interpersonal interactions and relationships		
8. Major Life Areas		
9. Community, social and civic life		

Service providers assessing children with disabilities usually want to know what the child is capable of doing at their best (their 'capacity'). For example, to evaluate the mobility capacity of a child with cerebral palsy, the assessment would usually be done in an environment most conducive to the child's best performance. A barrier-free environment, with smooth surfaces and as few obstructions as possible, often in a laboratory or clinic setting would be used. Of course in natural environments (such as

home, school and community) many surfaces are uneven, the hallways are crowded and there may be stairs to be negotiated. In this way, the school-based 'performance' of independent mobility may be quite different from the clinic-based 'capacity' of a child. Service providers must be aware of the possibility of these differences in the activity and participation levels of the children they see (Stewart and Rosenbaum, 2003).

The formal acknowledgment of the 'personal factors' component of the ICF model recognizes the importance of personal choices, interests, likes and dislikes of the person whose 'activity' and 'participation' are being addressed in a therapy program. In fact it is likely that the impact of the 'functional therapy' approach reported by Ketelaar et al. (2001) had much to do with the self-chosen goals pursued by the children and parents in the experimental group (Stewart and Rosenbaum, 2003). The ICF model 'gives permission' to address people's self-determined goals very broadly. These might, for example, include becoming 'independently mobile' or being able to 'communicate effectively', rather than focusing only on 'walking' or 'talking'. This emphasis argues that what people do is more important than that they do things 'normally'. Hence, this model promotes the acceptance of variation and difference and also to celebrate the achievement of self-defined goals accomplished within particular and unique range of skills and limitations.

Imrie (2004) evaluated the theoretical underpinnings of the ICF, arguing that the ICF fails to specify in detail the content of some of its main claims about the nature of impairment and disability, which may limit its educational capacity and influence. Imrie opined that the ICF needs further conceptual clarification and development in several key areas. Hurst (2003) traced the thinking about persons with disabilities before and after the formulation of the ICIDH in 1980, including the ICF in its present iteration. She discussed the major shift from the medical model of disability to the interactive model and the effects of Environmental Factors on all aspects of health and functioning. She concluded that proper use of the Environmental Factors within the ICF will foster suitable policies, systems, and services for health care and support; provide measurable indicators for health status and sustainable development; and provide support for the recognition that disability is a human rights issue.

In summary, numerous authors support the ICF framework and its utility for rendering comparable health information from multiple settings, across various applications, and across countries. It also appears to be recognized as a framework that promotes recognition of the role of environmental factors in all aspects of health and functioning. However, several authors point to drawbacks in conceptualization of specific components, which are in need of further study and development (Bruyère et al, 2005). Moller (2003) highlighted selected strengths and weaknesses of the ICF that were found during a study of people with deaf-blindness; questionnaires and personal interviews were used to examine the application of the ICF framework to this population. These authors found five circumstances that could not be accounted for using the ICF to code survey responses: fast variation in functioning because of different personal and environmental factors, choosing not to do an activity because of a health condition, time loss affecting quality of life, health risks related to particular impairments, and obligations. The authors concluded that the ICF needs further development to address these questions to be useful in the study of deaf-blindness.

2.15. CONCEPTUAL FRAMEWORK

The ICF-WHO provides a conceptual model of disability that recognizes that disability is not solely a function of a person's health condition, but is the result of an interaction between the physical and social environment, personal characteristics and a health condition (Houtenville et al, 2001). One of the aims of the ICF is to enable the comparison of data across countries, however, relatively little is known about the subjective experience of disability in middle and low-income countries (Misajon et al, 2008). According to Stewart et al, 2003, the WHO-ICF model of functioning (fig 2) and disability provides many more 'points of entry' for people seeking both to enhance activity and participation of children whose functional well-being is at risk, and to prevent secondary impairments.

In 1980 the World Health Organization (WHO) published the International Classification of Impairments, Disabilities and Handicaps (ICIDH) (WHO, 1980). The ICIDH was a classification of the "consequences of disease", developed by the WHO as part of a family of classifications to code a wide range of information about various aspects of health. The original ICIDH included a conceptual model in which

'diseases' and 'disorders' were linked to their possible consequences, specifically 'impairments', 'disabilities' and 'handicaps' (Figure 2.1). The model helped people see that a consideration of 'disease' alone provided an incomplete perspective of health status. It also encouraged people to recognize the impact of a disorder on an individual's function and capacity to engage fully in their lives.

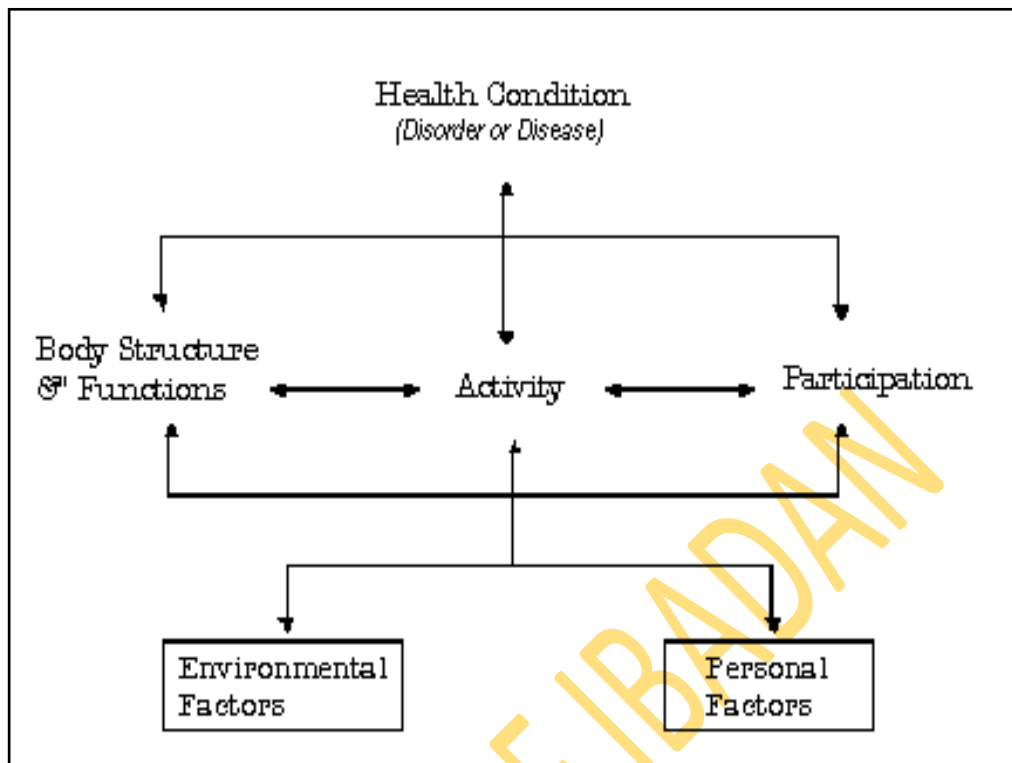
Figure 2.1: The original ICIDH model (WHO, 1980)

Disease —> Impairment —> Disability —> Handicap

This model has however, been seen as problematic and concerns such as the negative portrayal of the consequences of diseases in terms of 'disability' and 'handicap' and the linear (and unidirectional) connections among the elements of the ICIDH model have been expressed.

The WHO then published the new classification system after nine years of review: the International Classification of Functioning, Disease and Health, or ICF (WHO, 2001) and a new model of human functioning and disability (Figure 2.2) was presented.

Fig 2.2, ICF-WHO Framework for disablement, 2001.



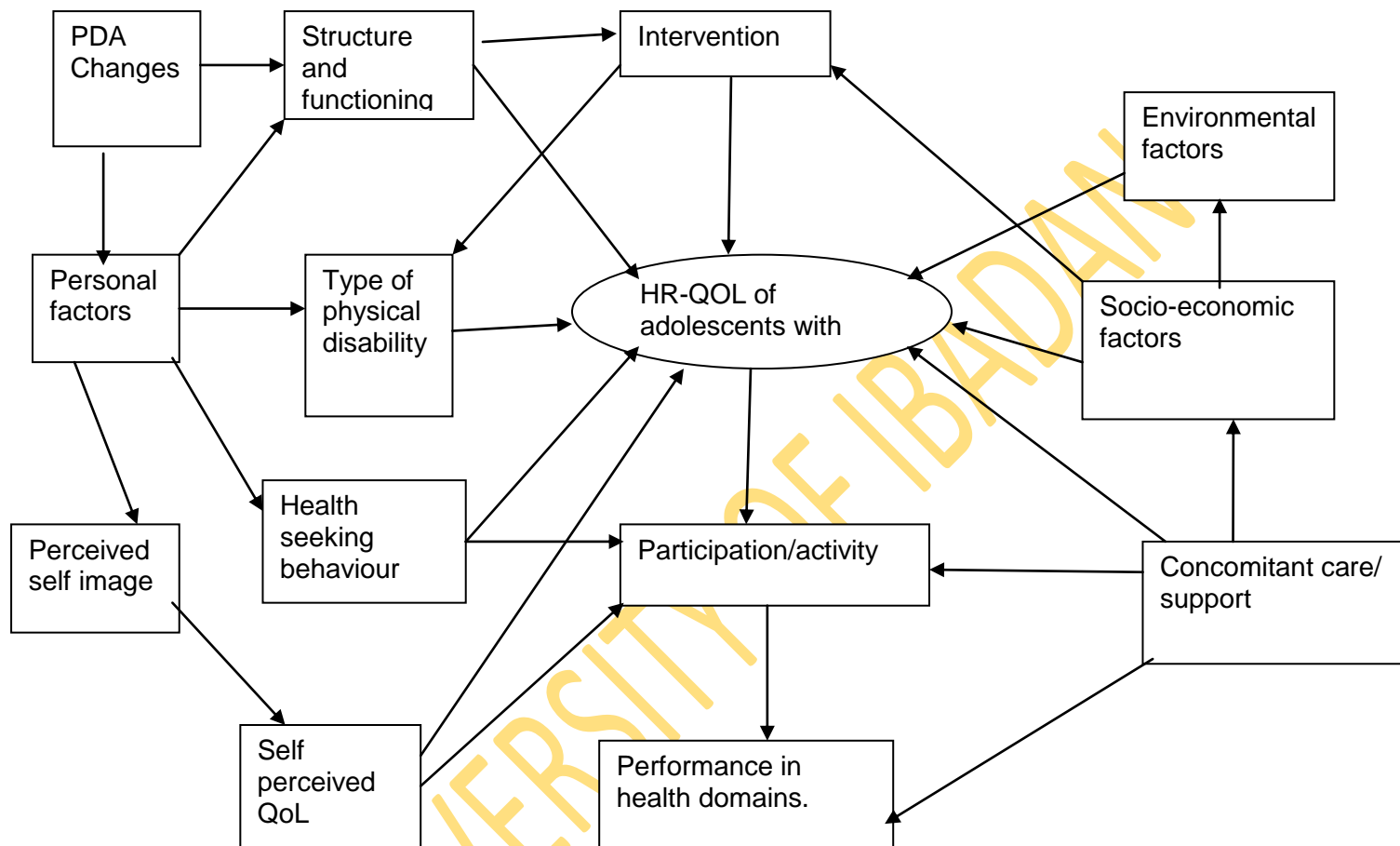
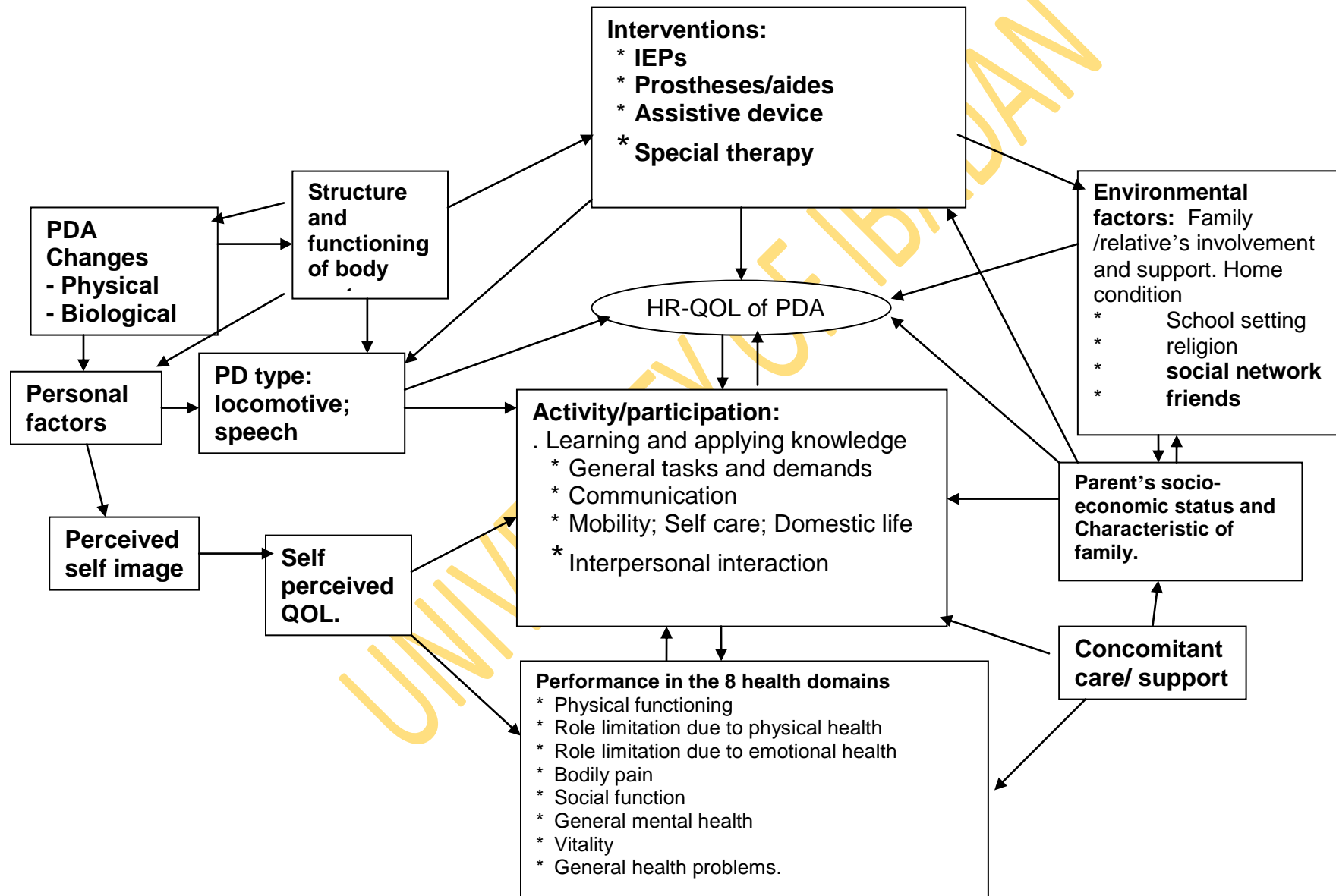


Figure 2.3. Micro Model of the framework for exploring determinants of HR-QoL of Adolescents with disability. Adapted from WHO-ICF framework for disablement, 2001.

Figure 2.4. Macro Model for the framework for exploring determinants of HR-QoL of adolescents with disability. (Adapted from WHO Activity and Participation Information Matrix, 2001; WHO-ICF Framework for Disablement, 2001 and the SF-36 model)



As reflected in the macro-model conceptual framework, a combination of the 36-item Short-Form Health Survey (SF-36), (see appendix V) which is a 36-item; disease-non-specific, self-reported measure that assesses patients' HR-QoL and that of WHO-ICF, 2001 shall be employed in this study. The items on the original SF-36 scale for assessing the HR-QoL of people with disability have been adapted to suit this study. This is reflected on the items on the questionnaire for this study for the domains of QoL namely level of performance in general activities, general health, mental health, vitality and general participation as well as the conceptual model developed (Figs 2.2, 2.3 and 2.4;).

It is very important to note that the relationship between the elements of the model for conceptual framework in this study goes beyond a one-way or two-way relationship; it is actually a complex multidimensional inter-relationship. QoL is often seen as a continuum, hence, according to (Brown and Gordon, 1999); at the midpoint of the continuum are correlational or predictive models. These models not only posit diverse domains that "capture" QoL but also pinpoint linkages (correlational or predictive) between domains. In other words, models of this type provide more than a list of domains found in descriptive models, but less than an explanation of how domains relate to each other, which is associated with truly causal models.

2.16. THE SF36 SCORING SYSTEM (see Appendix V).

It consists of 36 questions, 35 of which are compressed into eight multi-item scales: (1) physical functioning is a ten-question scale that captures abilities to deal with the physical requirement of life, such as attending to personal needs, walking, and flexibility; (2) role-physical is a four-item scale that evaluates the extent to which physical capabilities limit activity; (3) bodily pain is a two-item scale that evaluates the perceived amount of pain experienced during the previous 4 week and the extent to which that pain interfered with normal work activities; (4) general health is a five-item scale that evaluates general health in terms of personal perception; (5) vitality is a four-item scale that evaluates feelings of pep, energy, and fatigue; (6) social functioning (SF) is a two-item scale that evaluates the extent and amount of time, if any, that physical health or emotional problems interfered with family, friends, and other social interactions during the previous 4 wk; (7) role-emotional (RE) is a three-item scale that evaluates the extent, if any, to which emotional factors interfere with

work or other activities; and (8) mental health is a five-item scale that evaluates feelings principally of anxiety and depression. Hence, in the SF36 scoring system, the scales are assessed quantitatively, each on the basis of answers to two to ten multiple choice questions, and a score between 0 and 100 is then calculated on the basis of well-defined guidelines, with a higher score indicating a better state of health (Freeman et al, 1996 and Rothwell et al, 1997).

The scales of SF36 are summarized into two dimensions. The first five scales make up the "physical health" dimension, and the last five form the "mental health" dimension. The scales vitality and general health are parts of both dimensions (appendix V). Hence, each dimension includes three specific and two overlapping scales (Rothwell et al, 1997). The SF36 also includes a question about self-evaluation of change in health during the past year (reported health) that does not belong to any score or dimension or the total SF36 score (Rothwell et al, 1997; Peto et al, 1995). The scores of the two dimensions and the total SF36 score are based on mathematical averaging of the scale components. It is important to note that the *vitality* and *general health* scales are overlapping components of both the *physical health* and *mental health* dimensions. Question 2, self-evaluation of change in health during the past year (reported health), does not belong to any score, dimension, or the total SF36 score. The Medical Outcomes Study 36-item Short-Form Health Survey (SF-36) is a widely used, generic, patient-report, health status measure (Ware, 1993). It is recommended for use in health policy evaluations, general population surveys, clinical research, and clinical practice (Stewart et al, 1988).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. RESEARCH DESIGN

This was a cross sectional study. Both quantitative and qualitative methods of enquiry were used to obtain data.

3.2. LOCATION OF STUDY

The location for the study was Ibadan, Oyo state, Nigeria. Oyo state has 33 local governments on the whole while Ibadan has 11 local governments. The population of Oyo state is 5,591,589 (NPC, 2006) and the population of children with disabilities in Oyo state is about 15,821 (NSD, 1996). The total number of primary and secondary schools admitting students with physical and sensory impairments are 29 in Oyo state with a total of 15 in Ibadan. However participants for this study were selected from those located within Ibadan metropolis.

The total number of special schools for the disabled/handicapped in Ibadan metropolis is 7, namely:

1. Ibadan School for the Deaf, Poly Road, Ijokodo, Ibadan.
2. Home School for the Handicapped, Ijokodo, Ibadan.
3. School for the Deaf, Oke-Bola Ibadan.
4. School for the Handicapped Ring Road, State Hospital, Ibadan.
5. School for the Handicapped HLA Compound, Agodi, Ibadan.
6. Omoyeni School for the Handicapped Children, Aperin, Ibadan.
7. C.A.C. Special School for the Handicapped, Oniyanrin, Ibadan.

The Integrated schools which admit students with physical disabilities and sensory impairments or with a special section for the handicapped within the integrated school include:

1. Methodist Grammar School, Bodija, Ibadan.
2. Aperin Oniyere Grammar School, Orita Aperin, Ibadan.

3. Ijokodo High School, Junior School I, Ibadan.
4. Ijokodo High School, Model School II, Ibadan.
5. Ijokodo High School, Senior, Ibadan.
6. Cheshire High School I, Poly Road, Ibadan.
7. Cheshire High School II, Model, Poly Road, Ibadan.
8. Cheshire High School, Senior, Ibadan.

3.3. SAMPLE SIZE DETERMINATION

The actual sample size for this study was determined after a pilot study had been conducted in order to derive the standard deviation and the mean HR-QoL scores applicable to Oyo state setting. The Pilot study was conducted in one special and one integrated schools (N = 43).

Below is the calculation which reflects how the sample size was determined:

Since two comparative groups were involved in the study i.e. students with physical and sensory impairments (SwPSI) who attended special schools and those who attended integrated schools, the formula below was considered.

There was also need to apply the design effect in order to minimize errors emanating from the determination of the actual total population of the students with physical and sensory impairments in Ibadan.

$$N = \frac{deff \cdot [(Z_{(1-\alpha/2)} + Z_{(1-\beta)})^2 SD^2]}{d^2} = \frac{2(1.96 + 1.65)^2 \times 7.26^2}{3.5^2} = 112.145$$

Where:

N = study sample size

deff = design effect = usually assumed to be 2.

d = sampling error of difference in mean HR-QoL to be detected = 3.5 (i.e. level of precision)

α = type 1 error= 5% (2 tailed test)

SD = standard deviation from the pilot study = 7.26

$Z_{(1-\alpha/2)}$ = 1.96 (appropriate value from the standard normal distribution)

Power of the study = 95%

$Z_{(1-\beta)}$ = 1.65 (appropriate value from the standard normal distribution)

The required sample size is estimated as a minimum of about 120 for each comparative group. However in order to make up for losses/incompleteness of questionnaire (about 25%) the sample size was increased to 150 for each comparative group.

Thus, the approximated total sample size = at least 300 respondents (for the 2 comparative groups)

3.4. INCLUSION CRITERIA

Students included in this study were those with physical and sensory impairments who were 10 years of age and above attending integrated and special primary and secondary schools for the handicapped in Ibadan, Oyo state. Only those who volunteered to participate were enrolled. Specifically, students enrolled for the study included: the visually impaired students, deaf/hard of hearing, students with limb deformities, students with mobility difficulties including those with congenital disabilities, muscular dystrophy, arthritis, multiple sclerosis, spinal injuries, those affected by poliomyelitis, strokes, amputees, and /or injury through accidents.

3.5. EXCLUSION CRITERIA

Students attending integrated and special schools who were excluded from the study included students without any physical or sensory impairment, those with mental health problems and those with mental illness/retardation in combination with any physical disabilities as mental health problems/impairments could be a confounder in measuring the health related quality of life of students with physical and sensory impairments.

3.6. POPULATION OF INTEREST

This included students in government owned primary and secondary schools in Ibadan with one or more physical and/or sensory impairment of ages 10 years and above.

3.7. SAMPLING TECHNIQUE.

Cluster sampling technique was employed in this study. A list of government owned special schools for the handicapped/disabled children and integrated schools admitting students with disabilities were obtained from the Ministry of Education,

Oyo state (special education section). From this list, schools with eligible students for the study were selected. All eligible students (who met the inclusion criteria) were recruited for the study. Each school from where respondents were drawn was regarded as a cluster.

3.8. INSTRUMENT

Data for this study was obtained through a 62-item structured, pretested, interviewer administered questionnaire with 10 sections namely:

1. Socio-demographic variables,
2. Family environment,
3. School environment,
4. Personal factors,
5. Interpersonal relationship,
6. General participation,
7. Checklist for type of disability,
8. Types of intervention in place,
9. Performance assessment and
10. General health conditions (self perceived health status, vitality and mental health).

Quality of life Domains that were assessed using the instrument included: level of performance in physical activities, general health, mental health, interpersonal relationship, vitality and general participation. Each domain was scored in such a way that quality of life can be computed and those with highest scores were regarded as having highest level of quality of life with scores ranging from 0 – 84 (appendix III). Domains such as general health, mental health and vitality were assessed on a 4-point likert scale. However, magnitude for each question were based on the expected response while performance assessment in physical activities were assessed using a 4-point scale which was measured in terms of frequency of experience of difficulty or pain when carrying out daily activities: always- 1, frequently-2, rarely- 3, never- 4 (appendix VI). Domains of HR-QoL assessed with points include interpersonal

relationship-11, general participation-15, performance in physical activities-19, general health-12, vitality-12 and mental health-15. Factors for considerations in this study were cumulated as shown in the different sections of the questionnaire included environmental factors (Family and school environments), personal factors, socio-economic status of parents, type of physical disability and interventions/IEP. Missing values or unanswered items on the questionnaire were regarded as '0', hence, a person-specific HR-QoL mean score was calculated based on the existing answers. The HR-QoL of respondents was later categorized into 4 as follows and later dichotomized into high/low HR-QoL:

HR-QoL scores

HR-QoL scores were categorized into three (3). SwPSI with scores of 0 - 27 points were categorized as those with low HR-QoL while those who scored between 28 – 55 points were regarded as those with average HR-QoL. Those with HR-QoL scores of 56 – 84 were regarded as those with high HR-QoL. In addition, a structured table, with relevant columns and rows, was also used to obtain relevant data from registers and their teachers in order to obtain information about academic/vocational performance (average of the previous session) of the participants. Expert opinions were obtained from direct caregivers/teachers in the special and integrated schools as well as personnel in the Ministry of Special Education and Social Welfare of Oyo state secretariat Ibadan. In addition, a pre-test was conducted in Methodist Grammar School, Bodija Ibadan. The questions on the interview instrument were standardized and structured by correcting/adjusting/restructuring those questions that were difficult to answer or those that could not be easily interpreted using the braille and sign language.

Validity and reliability

In order to ensure content validity, the instrument was scrutinized by experts who reviewed the questionnaire in relation to the research objectives, after which ambiguous and irrelevant items were removed from the questionnaire. Face validity was achieved by clarifying items on the questionnaire, presenting them in simple terms and translation of the questionnaire items into Yoruba in the attempt to facilitate understanding and ease of completing the questionnaire (Appendix VII). For reliability, the questionnaire was pretested (n=43) and analyzed in order to determine the intra-class correlation coefficient using Kappa's test and Cronbach's coefficient

(test- retest reliability). From the pre-test the Intra-class correlation coefficient using Kappa's test = 0.651 (average measures for the 6 domains and total HR-QoL core) while Cronbach's coefficient = 0.659 (based on standardized items).

3.9. DATA COLLECTION PROCEDURES

Key In-depth Interview and open discussion with some SwPSI in both special and integrated schools were carried out before the development of the instrument to ensure internal/content validity of the instrument.

Letter of introduction was obtained from the Institute of Child Health as well as letter of approval from the UI/UCH Ethical Review Committee, UCH, Ibadan. Copies of these letters were submitted to the Ministry of Education, Ministry of Health, and Ministry for Women Affairs, Community development and Social Welfare in Oyo state and to the principals/coordinators of the involved schools where the study participants were selected.

The assistance of four (4) special education teachers were employed in the study for the collection of data from students with physical disabilities who could not communicate without the use of sign language. Prior to this, the researcher explained the content of the questionnaire to the special education teachers and the intent of the researcher, the study objectives were also made known to them in detail. Translation and back translation of the content of the data collection instrument to local dialect (Yoruba to English and vice versa) was done for better understanding of the questionnaire items and to ensure uniformity. In addition, the teachers of SwPSI in both special and integrated schools had a briefing with the research assistants prior to interview sessions to ensure uniformity in responding to the questions. They were also closely observed during interview sessions.

Research assistants (special education teachers) were trained on how to administer the interviewer structured questionnaire to PDS. The interviews with all participants was face-to-face and with one student at a time using the semi-structured questionnaire. It was also required of their teachers in the course of the study to clarify certain information about individual students, especially the use of Individual Education Programs and coping/progress with vocational/academic work.

3.10. METHOD OF DATA ANALYSIS

Analysis of data collected was done using the SPSS for windows version 15.0 to analyze significant relationship of factors influencing HR-QoL of SWPSI, significant differences in HR-QoL of the two comparative groups (special and integrated schools), P-values, computation of means, standard deviations and standard errors. Descriptive statistics were used to summarize the socio-demographic information of study participants. To determine the factors influencing HR-QoL of students under study, logistic regression analysis using the Chi square test for test of significance was used. Each of the factor variable was dichotomized as close to the median value as possible. A significant difference in HR-QoL of the two comparative groups was determined using independent t-test. Pearson Chi-square was used to determine significant difference in physical disability between SwPSI attending special and integrated schools. Independent t-test was used to determine significant difference in mean HR-QoL of SwPSI attending special and Integrated schools while ANOVA was used to delineate significant difference in HR-QoL of SwPSI in special and integrated schools with various forms of disability after which Post Hoc test to reveal the least significant difference (LSD) was carried out. As a standard for hypothesis testing, p-value was 0.05.

3.11. ETHICAL CONSIDERATIONS.

The following are the ethical issues considered in the study.

1. Mal-eficence: The study was of no known harm to the participants i.e. the students with physical and sensory impairments.
2. Voluntariness: Willing participants only were enrolled in the study with no undue coercion or duress.
3. Informed Consent: Group and individual informed consent was obtained before enlisting them as participants. This was done by interacting with the students about the objectives and nature of the study a week before data collection. Informed consent forms were attached to each questionnaire and were signed/thumb-printed before being enlisted as participant.
4. All participants were treated with dignity and respect. Before the interview sessions, the students were re-informed about the study and they were allowed to make individual decision as to whether they want to participate or not.

5. Individual right to participation/withdrawal: Only SwPSI who agreed to participate in this study were enrolled for the study. There was no penalty for not participating in the study, or discontinuing the interview without completely filling the questionnaire. This was to prevent coercion and to facilitate voluntary participation.
6. Confidentiality: Confidentiality of all information obtained was maintained. Names or any trace of identity of the participants was not reflected in any way. In the course of obtaining personal information of the student from the teachers/coordinators, anonymity was maintained. All these were explained to the research assistants prior the study.
7. Benefits: The information obtained shall be used for policy formulation on strategies to be employed in the provision of effective services for SwPSI in Ibadan, Oyo state and Nigeria on a broader view. This will in turn benefit individual SwPSI as the formulation aims to improve their quality of life. No risk is involved in the study.
8. Incentives such as biros, pencils, rulers and eraser were provided for participants. This was to make up for the time spent during the interview.
9. Instructions to interviewers included the following:
 - They must exercise patience in dealing with each of the participant as it may take some time to answer questions on recall.
 - Each participant must be treated with respect and dignity and anonymity maintained
 - They are not to pre-empt the interviewee; each participant must be allowed to answer questions independently.
 - Every explanation must be within the context of the study and in line with stated objectives.

3.12. STUDY LIMITATION

Capacity of individual students in real life day to day activities were not studied neither was it compared with performance as recommended by the current ICF model. The degrees of impairments (especially for the visually, speech and hearing impaired students) were not determined as no diagnostic test was conducted on the research participants; the determination of the type of impairment or disability was recorded based on self report of impairment(s).

CHAPTER FOUR RESULTS

The basic results of this study are presented in this chapter in form of descriptive statistics, tables and charts. Information was obtained through the use of a 62-item interviewer structured questionnaire administered to 330 respondents in special and integrated schools admitting students with physical and sensory impairments (SwPSI) in Ibadan, Oyo state.

4.1 Distribution by type of school

The total number of integrated and special schools where respondents were recruited for this study is reflected in table 4:1 with the respective population of respondents. A total of 330 respondents were recruited, 197 (59.7%) from special schools and 133 (40.3%) from integrated schools in Ibadan.

Table 4.1: Distribution of SwPSI by name of school in Ibadan

Name of school		Category of school	Number of participants	Percent (%)
1.	Aperin Oniyere Grammar School	Integrated	11	3.3
2	Ijokodo High School, Junior I and Model School II	Integrated	15	4.5
3.	Cheshire High School I	Integrated	10	3.0
4.	Cheshire High School II	Integrated	8	2.4
5.	Cheshire High School, Senior	Integrated	21	6.7
6.	Ijokodo High School, Senior	Integrated	21	6.4
7.	Methodist Grammar School, Bodija	Integrated	47	14.2
	Sub-Total	Integrated	133	40.3%
8.	C.A.C. Special School for the Handicapped, Oniyanrin	Special	20	6.1
9.	School for the Handicapped HLA Compound, Agodi	Special	10	3.0
10.	Home School for the Handicapped, Ijokodo	Special	8	2.4
11	Ibadan School for the Deaf, Poly Road	Special	58	17.6
12.	Special Rehabilitation Center, Moniya	Special	20	6.1
13.	School for the Deaf, Oke-Bola	Special	14	3.9
14.	Omoyeni School for the Handicapped Children, Aperin	Special	44	13.3
15.	School for the Handicapped, Ring Road State Hospital	Special	23	7.0
	Sub-Total	Special	197	59.7%
	Integrated: (n=133) Special (n= 197)	Total	330	100.0
	Grand Total (N=330)			

4.2 Distribution of SwPSI by demographic characteristics (Table 4.2a)

Age: Mean age of respondents was 15.3 years \pm 3.9 with minimum of 10 years, maximum of 31 years and range of 21. Majority of the SwPSI were within ages 10 and 20 years: 10 – 15 years (55.2%); 16 – 20 year (34.2%) and those who are 21 – 25 years constituted 9.7%. No SwPSI above 25 years was found in the special schools under study while those above 25 years who were found in integrated schools only constituted 0.9%. Significant difference was found in the age groups of SwPSI attending integrated and special schools ($p < 0.05$).

Sex: Male and females SwPSI constituted 57.6% and 42.4% respectively. In special schools, males and females constituted 54.7% and 45.3% respectively while male and female SwPSI in integrated schools constituted 65.5% and 34.5% respectively. The number of male and female students in integrated and special schools who participated in this study is not statistically significantly different ($p > 0.05$).

Religion: Christian SwPSI accounted for 70.9%, Muslims accounted for 26.7% while 2.4% were traditional worshippers. The number of Christians, Muslims and traditionalist in integrated and special schools who participated in this study are not significantly different ($p > 0.05$).

Ethnicity: Distribution according to ethnicity showed that 83.0% of respondents were Yoruba, 10.9% were Ibo, 3.9% were Hausa and 2.1% belonged to other Nigerian tribes. The number of SwPSI from these ethnic groups are not statistically significantly different from one another in both integrated and special schools ($p > 0.05$).

Marital status of parents: Students who reported that their parents were married and staying together accounted for 71.2%. Those who reported that their parents were married but not staying together were 28.8%. Only few (10.0%) had divorced parents. The number of students who reported the marital status of their parents are not statistically significantly different in both schools ($p > 0.05$).

Type of family: Respondents from monogamous family accounted for 72.1% while 27.9% were from polygamous homes. The number of students who hail from monogamous or polygamous family attending integrated and special schools are statistically significantly different ($p < 0.05$).

Parent's highest level of education: 39.1% of respondents do not know their parents highest level of education while 20.6% were not sure. However, 12.7% reported that the highest level of education of their parents was OND/HND while 10.0% reportedly have graduate parents from the university. These proportion of students' parents with different levels of education are statistically significantly different in the 2 schools under study ($p < 0.05$).

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Table 4.2a: Frequency distribution of SwPSI by demographic characteristics

VARIABLES	Special school (n=197)		Integrated school (n=133)		Total (n=330)		Significant differences
	Freq	%	Freq	%	Freq	%	
Age (years) range							$X^2 = 33.74^*$ Df = 4 P = 0.000
10 – 15	153	77.7	29	21.8	182	55.2	
16 – 20	35	17.7	78	58.6	113	34.2	
21 – 25	9	4.6	23	17.3	32	9.7	
26 – 30	.	.	2	1.5	2	.6	
31 – 35	.	.	1	0.8	1	.3	
Sex							$X^2 = 2.842$ Df = 1 P = 0.112
Male	106	53.8	84	63.2	190	57.6	
Female	91	46.2	49	36.8	140	42.4	
Religion							$X^2 = 1.679$ Df = 2 P = 0.432
Christianity	140	71.1	94	70.7	234	70.9	
Islam	54	27.4	34	25.6	88	26.7	
Traditional	3	1.5	5	3.8	8	2.4	
Ethnicity							$X^2 = 4.551$ Df = 3 P = 0.208
Yoruba	168	85.3	106	79.7	274	83.0	
Igbo	15	7.6	21	15.8	36	10.9	
Hausa	9	4.6	4	3.0	13	3.9	
Others	5	2.5	2	1.5	7	2.1	
Marital status of parents of SwPSI							$X^2 = 2.323$ Df = 2 P = 0.313
Married and staying together	145	73.6	90	67.7	235	71.2	
Married but not staying together	33	16.8	29	21.8	62	18.8	
Divorced	19	9.6	14	10.5	33	10.0	
Type of family which SwPSI belong							$X^2 = 4.985^*$ Df = 1 P = 0.033
Monogamous	150	76.1	88	66.2	238	72.1	
Polygamous	47	23.9	45	33.8	92	27.9	
Parents highest level of education							$X^2 = 48.754^*$ Df = 8 P = 0.000
Not known	101	51.3	28	21.1	129	39.1	
Non formal	13	6.6	2	1.5	15	4.5	
Pry school	5	2.5	5	3.8	10	3.0	
SSCE	8	4.1	11	8.3	19	5.8	
NCE	6	3.0	6	4.5	12	3.6	
OND/HND	19	9.6	23	17.3	42	12.7	
University graduate	9	4.6	24	18.0	33	10.0	
Others	.	.	2	1.5	2	.6	
Not sure	36	18.3	32	24.1	68	20.6	

*Significant difference at $P < 0.05$

4.3. Distribution of SwPSI by their mother's occupation

Majority (64.2%) of the SwPSI reported that their mothers were self-employed or engaging in a form of business or the other. Lesser proportion reported their mother's occupations as civil servants (20.5%), law enforcement agent (1.4%), clergy (0.7%) and apprentice or assistant (1.0%). Respondents who reported that their mothers had no work or were housewives accounted for 12.3% (Table 4.2b).

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Table 4.2b: Frequency distribution of SwPSI by their mother's occupation

Mother's occupation		Special		Integrated		Total	
		Freq	(%)	Freq	(%)	Freq	(%)
1	Housewife/none	23	13.6	13	10.5	36	12.3
2	Self employed/business woman	109	64.5	79	63.7	188	64.2
3	Apprentice/assistants	3	1.8	.	.	3	1.0
4	Clergy	2	1.2	.	.	2	0.7
5	Armed forces/law enforcement agents	3	1.8	1	0.8	4	1.4
6	Civil servants	29	17.2	31	25.0	60	20.5
	Total	169	100	124	100	293	100

NB:

Some students reported that their mothers were dead in both special and integrated schools while some do not know their mother's occupation.

4.4. Distribution of SwPSI by their father's occupation

Majority (68.5%) of the respondents in both special and integrated schools reported that their fathers are either self-employed or engaged in a form of business or the other. Other categories of occupation as reported by the SwPSI include driver (11.5%); civil servant (26.6%); armed force officer (6.3%); gateman/gardener (1.1%) and clergyman (4.6%) (Table 4.2c).

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Table 4.2c: Frequency distribution of SwPSI by their father's occupation

Father's occupation		Special		Integrated		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
1	Self employed/business man	90	52.3	53	46.5	196	68.5
2	Driver	26	15.1	7	6.1	33	11.5
3	Civil servant	35	20.3	41	36.0	76	26.6
4	Clergy	10	5.8	3	2.6	13	4.6
5	Armed forces	9	5.2	9	7.9	18	6.3
6	Gatemen/gardener	2	1.2	1	0.9	3	1.1
	Total	172	100.0	114	100.0	286	100.0

NB:

Some students reported that their fathers were dead in both special and integrated schools while some do not know their mother's occupation.

4.5. Distribution by type of disability in both integrated and special schools

Categories of students interviewed included those with hearing and speech impairments (32.1%), hearing impairments only (24.2%), multiple physical deformities (12.4%), speech impairments only (7.0%), visual impairments only (4.5%), limb impairments (13.6%), hearing impairments with other physical deformities (2.7%), speech impairments with other physical deformities (2.7%) and other (uncategorized) types of physical deformities (0.6%) (figure 4.1).

Figure 4.2 shows the distribution of SwPSI in special and integrated schools. SwPSI in both integrated and special schools who have hearing and speech impairments accounted for 33.8% (45) and 31.0% (61) respectively. SwPSI with hearing impairments alone accounted for 14.3% (10) and 28.4% (56) in integrated and special schools respectively. Those with multiple physical deformities accounted for 14.3% (20) and 10.2% (21) in integrated and special school respectively. Special schools had more SwPSI with speech impairments only (8.1% (16)) than in integrated schools where they accounted for 5.3% (7). Those with deformed limb(s) accounted for 9.8% (13) and 15.1% (10) in integrated and special schools respectively. Those with amputated limb(s) were 2.5% (5) in special schools and 2.3% (3) in integrated schools.

Figure 4.1. Frequency distribution by type of physical disability in both special and integrated schools in

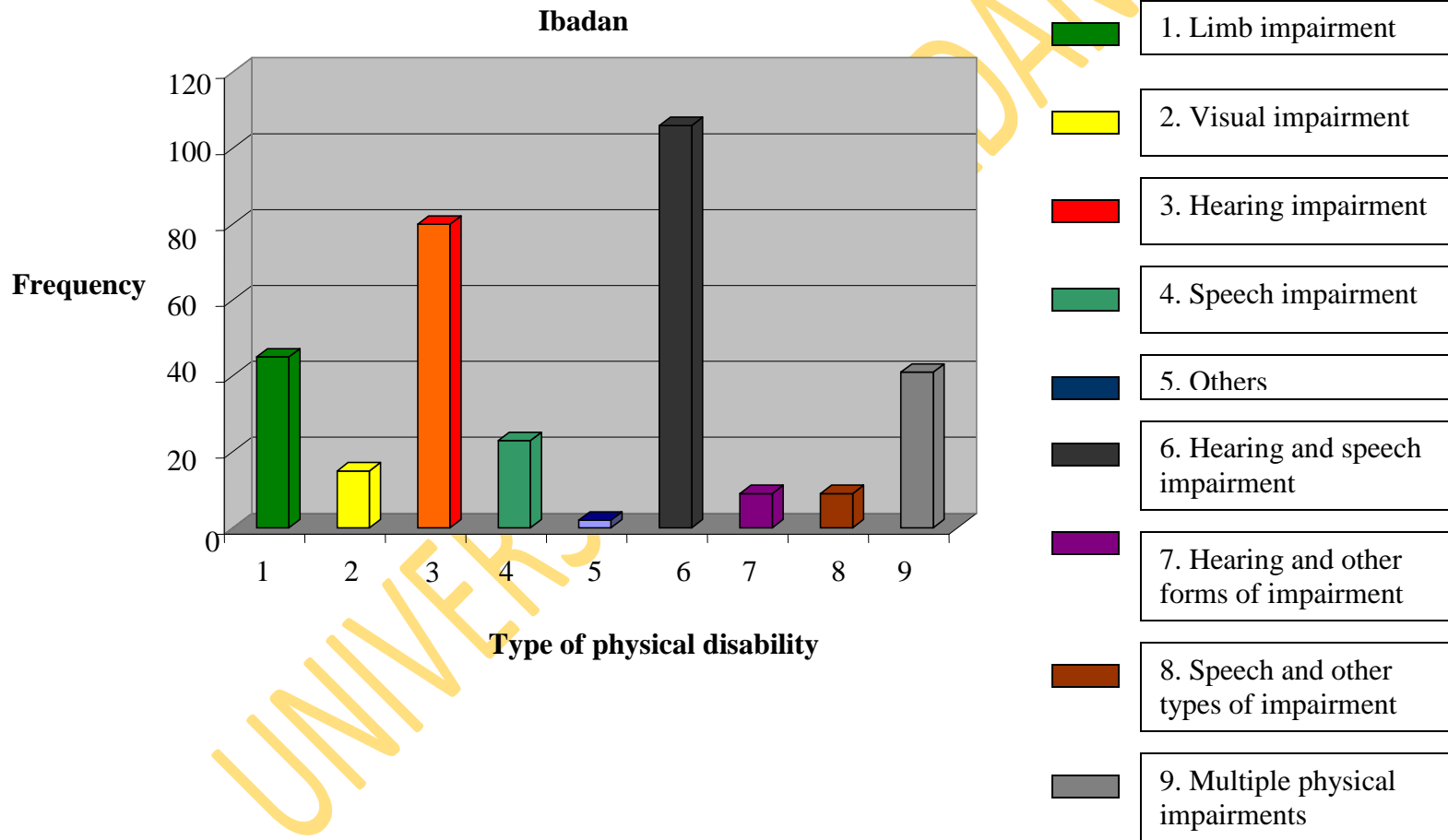
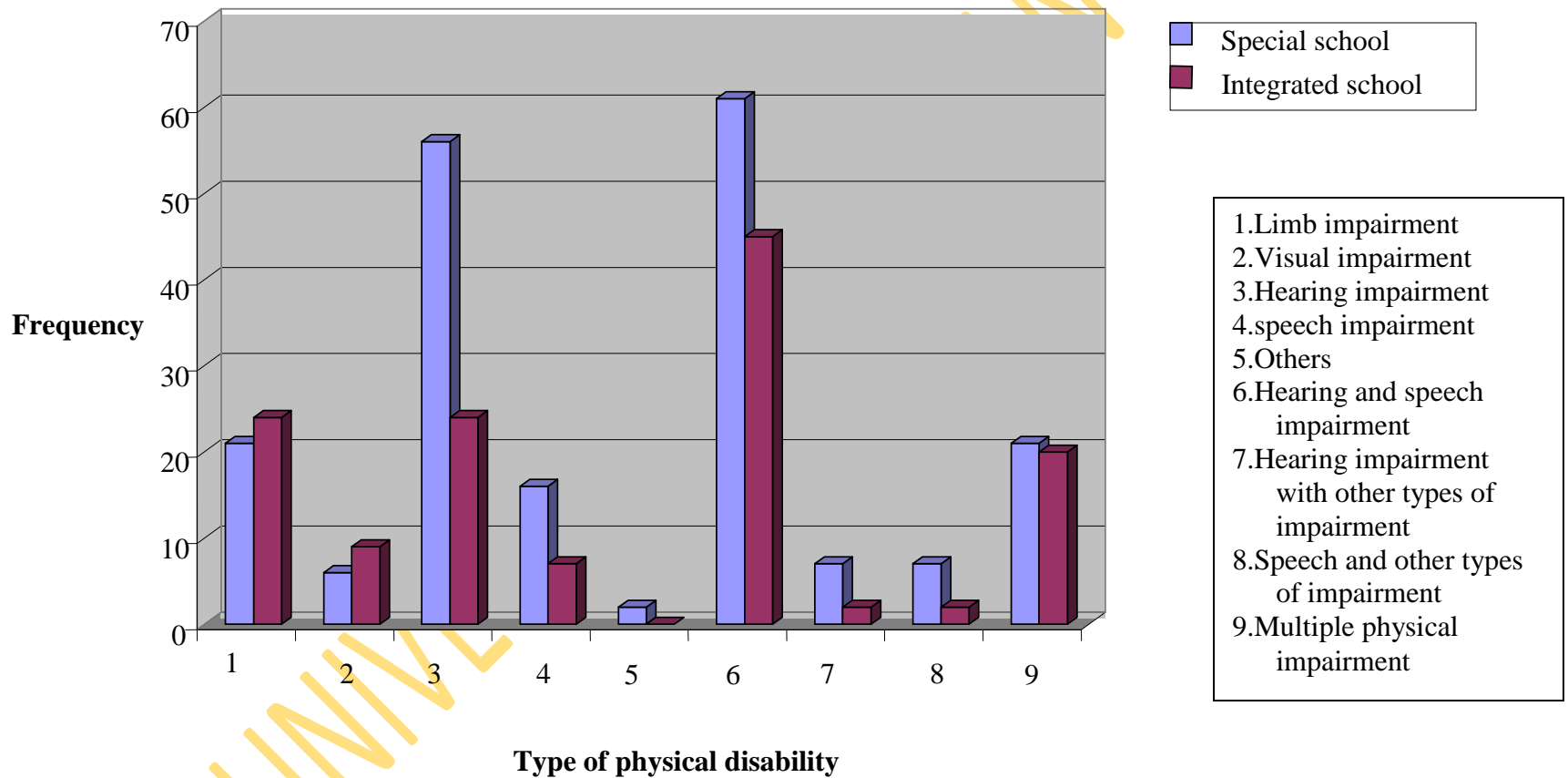


Figure 4.2 Distribution of various forms of physical disabilities by type of school



4.6. Reason for being sent to school as reported by SwPSI in special and integrated schools

Reasons which SwPSI gave for coming to school included education/academic reasons (53.9%), disability (13.9%), future reasons (6.1%), knowledge and skill acquisition (4.5%), socialization/play (3.6%) and education for disabled (1.5%) respectively. These are similar for both school groups. 12.4% had no reason while 1.2% had other reasons for being sent to school. It is noted here that only few (2.7%) gave combinations/lists of reasons above why they have been asked to be enrolled in schools and only 3.6% of the students indicated socialization/play as a reason for being sent to school (Table 4.3).

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Table 4.3: Reason for being sent to school as reported by SwPSI in special and integrated schools

Reason for coming to school		Special		Integrated		Total	
		Freq	Percent	Freq	Percent	Freq	Percent
1	Academic/education/ Learn	94	47.7	84	63.2	178	53.9
2	Future reasons/personal improvement	7	3.6	13	9.8	20	6.1
3	Knowledge/skill acquisition	13	6.6	2	1.5	15	4.5
4	Disability	26	13.2	20	15.0	46	13.9
5	Education for the disabled	3	1.5	2	1.5	5	1.5
6	Socialization/play	11	5.6	1	0.8	12	3.6
7	Combination of reasons	5	2.5	4	3.0	9	2.7
8	No reason indicated	34	17.3	7	5.3	41	12.4
9	Other reasons	4	2.0	.	.	4	1.2
Total		197	100.0	133	100.0	330	100.0

4.7. HR-QoL of SwPSI

Table 4.4a-d shows the response to each of the items in the HR-QoL domains that were obtained from questions on the validated questionnaire, developed by the researcher using a combination of SF-36 and WHO-ICF (2001) model.

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Table 4.4a: Response of SwPSI to questions in the different domains of HR-QoL

	Domain	Special(n=197)		Integrated(n=133)		Total(n=330)	
		Freq	%	Freq	%	Freq	%
1	Interpersonal interaction/relationship						
	Q32- I have a friend I love and talk with:						
	Yes	51	21.0	20	23.0	71	21.5
	No	192	79.0	67	77.0	259	78.5
	Q33- For how long have you been friends						
	NA	45	22.8	25	18.8	70	21.2
	None	3	1.5	3	2.3	6	1.8
	Recently	4	2.0	1	0.8	5	1.5
	Under 1 year	11	5.6	4	3.0	15	4.5
	1 – 3 years	103	52.3	7	5.4	174	52.7
	Over 3 years	26	14.2	26	19.5	54	16.4
	Long time	3	1.5	3	2.3	6	1.8
	Q34- I like meeting new people						
	Yes	61	25.1	13	14.9	74	22.4
	No	182	74.9	74	85.1	256	77.6
	Q35- If yes, I feel shy when I meet them						
	Yes	57	28.9	46	34.6	103	31.2
	No	98	41.4	77	57.9	175	53.0
	NA	42	21.3	10	7.5	52	15.8
	Q36- Generally I feel shy in the presence of nondisabled adolescents						
	Yes	79	40.1	37	27.8	116	35.2
	No	118	59.9	96	72.2	214	64.8
2	General participation						
	Q 37-Home/family activities						
	Shopping	1	0.5	2	1.5	3	.9
	Laundrying	7	3.6	3	2.3	10	3.0
	Cooking	12	6.1	9	6.8	21	6.4
	Cleaning	18	9.1	26	19.5	44	13.3
	Fetching of water	27	13.7	5	3.8	32	9.7
	Sweeping	2	1.0	2	1.5	4	1.2
	Running errands	1	0.5	1	0.8	2	0.6
	All the above	39	19.8	40	30.1	79	23.9
	Two or more of the above	44	22.3	19	14.3	63	19.1
	None of the above	46	23.4	24	18.0	70	21.2
	Others	0	0	2	1.5	2	0.6

Table 4.4b: Response of SwPSI to questions in the different domains of HR-QoL

(contd.)

Domain (contd.)	Special(n=197)		Integrated(n=133)		Total(n=330)	
	Freq	%	Freq	%	Freq	%
Q 38- Take part in sporting activities						
Yes	106	53.8	73	54.9	179	54.2
No	91	46.2	60	45.1	151	45.8
Q 39- I get to school around:.....						
NA	20	10.2	0	0	20	6.1
Irregular	7	3.6	4	3.0	11	3.3
After 9 am	1	0.5	0	0	1	.3
Between 8 and 9 am	80	40.6	46	34.6	126	38.2
Before 8 am	89	45.2	83	62.4	172	52.1
Q 40- Engage in any religious activities in school, church or mosque						
No	109	55.3	55	41.4	164	49.7
Yes	88	44.7	78	58.6	166	50.3
Q 41- If yes, Type of religious activity engage in:						
Attend services only	4	2.0	1	0.8	5	1.5
Attend and play one role or the other/participate	57	28.9	36	27.1	93	28.2
School fellowship activities	2	1.0	18	13.5	20	6.1
Actively belong to a unit/worker	22	11.2	15	11.3	37	11.2
NA	32	16.2	31	23.3	63	19.1
None	80	40.6	32	24.1	112	33.9

Table 4.4c: Response of SwPSI to questions in domains of HR-QoL (contd)

S/N	Domain	Special(n=197)		Integrated(n=133)		Total (n=330)	
		Freq	%	Freq	%	Freq	%
	Q-42 In the community, type of activities I engage in?						
	Attend ceremonies	19	9.6	23	17.3	42	12.7
	Play/watch games	10	5.1	12	9.0	22	6.7
	Run errands	1	0.5	0	0	1	.3
	Other activities	4	2.0	3	2.3	7	2.1
	Combined activities	0	0	4	3.0	4	1.2
	None	163	82.7	91	68.4	254	77.0
3	Performance in physical activities						
	Q-43-49 Experience difficulty or pain when performing the following activities:						
	Seeing: always	12	6.1	13	9.8	25	7.6
	Frequently	8	6.6	12	9.0	20	6.1
	rarely	28	14.2	15	11.3	43	13.0
	never	149	75.6	93	69.9	242	73.3
	Hearing: always	126	64.0	74	55.6	200	60.6
	frequently	33	16.8	12	9.0	45	13.6
	rarely	10	5.1	5	3.8	15	4.5
	never	28	14.2	42	31.6	70	21.2
	Speaking/talking: always	138	70.1	64	48.1	202	61.2
	Frequently	26	13.2	34	25.6	60	18.2
	rarely	12	6.1	3	2.3	15	4.5
	never	21	10.7	32	24.1	53	16.1
	Mobility: always	34	17.3	30	22.6	64	19.4
	frequently	26	13.2	31	23.3	57	17.3
	rarely	28	14.2	23	17.3	51	15.5
	never	109	55.3	49	36.8	158	47.9
	Gripping/holding/writing:						
	always	25	12.7	21	15.8	46	13.9
	frequently	31	15.7	25	18.8	56	17.0
	rarely	39	19.8	30	22.6	69	20.9
	never	102	51.8	57	42.9	159	48.2
	Learning, memorizing, recall, knowledge application:						
	always	28	14.2	17	12.8	45	13.6
	frequently	74	37.6	45	38.8	119	36.1
	rarely	39	19.8	32	24.1	71	21.5
	never	56	28.4	39	29.3	95	28.8
	Self care/ADL: always	11	5.6	9	6.8	20	6.1
	frequently	31	15.7	23	17.3	54	16.4
	rarely	52	26.4	31	23.3	83	25.2
	never	103	52.3	70	52.6	173	52.4

Table 4.4d: Response of SwPSI to questions in domains of HR-QoL (contd)

S/ N	HR-QoL Domain	Special (n= 197)			
		Strongly Agree	Agree	Disagree	Strongly Disagree
		Freq (%)	Freq (%)	Freq (%)	Freq (%)
4	General health				
50	I seem to get sick easier than others	32 (16.2%)	55 (27.9%)	77(39.1%)	33 (16.8%)
51	I am as healthy as anyone I know	64 (32.5%)	69 (35.0%)	44 (22.3%)	20 (10.2%)
52	I expect my health to get worse	12 (6.1%)	40 (20.3%)	84 (42.6%)	61 (31%)
53	My health is excellent	57 (28.9%)	68 (34.5%)	60 (30.5%)	12 (6.1%)
5	Vitality				
54	I always feel full of life	51 (25.9%)	82 (41.6%)	57 (28.9%)	7 (3.6%)
55	I have a lot of energy	50 (25.4%)	75 (38.1%)	63 (32.0%)	9 (4.6%)
56	I feel worn out all the time I engage in normal school activity	45 (22.8%)	86 (43.7%)	49 (24.9%)	17 (8.6%)
57	I always feel tired after accomplishing any task.	45 (22.8%)	87 (44.2)	50 (25.4%)	15 (7.6%)
6	Mental health				
58	I feel I should have accomplished more than what I have accomplished presently	63 (32.0%)	64 (32.5%)	53 (26.9%)	17 (8.6%)
59	I am a nervous person/ I only feel nervous when answering questions in class	35 (17.8%)	65 (33.0%)	73 (37.1%)	24 (12.2%)
60	I often feel down cast /downhearted and low without any known cause	30 (15.2%)	72 (36.5%)	68 (34.5%)	27 (13.7%)
61	I always feel calm and peaceful	61 (31.0%)	90 (45.7%)	37 (18.8%)	9 (4.6%)
62	I am a happy persons	76 (38.6%)	82 (41.6%)	32 (16.2%)	6 (3.0%)

Table 4.4d: Response of SwPSI to questions in domains of HR-QoL (contd)

S/N	HR-QoL Domain	Integrated (n= 133)			
		Strongly Agree	Agree	Disagree	Strongly Disagree
		Freq (%)	Freq (%)	Freq (%)	Freq (%)
4	General health				
50	I seem to get sick easier than others	29 (21.8%)	29 (21.8%)	42 (61.6%)	33 (24.8%)
51	I am as healthy as anyone I know	42 (31.6%)	51 (38.3%)	31 (23.3%)	9 (6.8%)
52	I expect my health to get worse	17 (12.8%)	29 (21.8%)	44 (33.1%)	43 (32.3%)
53	My health is excellent	50 (37.6%)	45 (33.8%)	29 (21.8%)	9 (6.8%)
5	Vitality				
54	I always feel full of life	46 (34.6%)	51 (38.3%)	31 (23.3%)	5 (3.8%)
55	I have a lot of energy	47 (35.3%)	40 (30.1%)	39 (29.3%)	7 (5.3%)
56	I feel worn out all the time I engage in normal school activity	44 (33.1%)	49 (36.8%)	29 (21.8%)	11 (8.3%)
57	I always feel tired after accomplishing any task.	28 (21.1%)	53 (39.8%)	39 (29.3%)	13 (9.8%)
6	Mental health				
58	I feel I should have accomplished more than what I have accomplished presently	60 (45.1%)	47 (35.3%)	17 (12.8%)	9 (6.8%)
59	I am a nervous person/ I only feel nervous when answering questions in class	29 (21.8%)	48 (36.1%)	35 (26.3%)	21 (15.8%)
60	I often feel down cast /downhearted and low without any known cause	24 (18.0%)	48 (36.1%)	45 (33.8%)	16 (12.0%)
61	I always feel calm and peaceful	39 (29.3%)	65 (48.9%)	23 (17.3%)	6 (4.5%)
62	I am a happy persons	53 (39.8%)	55 (41.4%)	16 (12.0%)	9 (6.8%)

4.8. HR-QoL scores of SwPSI attending special and integrated schools:

Total HR-QoL score:

Maximum obtainable HR-QoL score was 84 while minimum is zero. As shown in table 4.5; the maximum HR-QoL score obtained was 76 while the minimum was 15 with an overall mean of 49.0 ± 10.4 (SE = 0.57). For SwPSI in Integrated schools (Table 4.6), minimum HR-QoL score obtained was 21 and maximum of 76 with mean of 50.1 ± 10.0 ; (SE = 0.87) range of 55. Minimum and maximum HR-QoL scores of SwPSI attending special schools were 15 and 76 respectively with mean of 48.3 ± 10.6 (SE = 0.76) and range of 61.

Null hypothesis (H₀): *There is no significant difference in the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan.*

Data obtained from this study supported this hypothesis. As shown in table 4.6, independent sample t-test at 0.05 level of significance (2 tailed test) showed that no significant difference was found between the HR-QoL of SwPSI in special and Integrated schools (df = 328, p-value = 0.140).

The domain scores for both special and integrated schools as reflected in table 4.6 are as follows:

Interpersonal relationship score:

SwPSI had a mean interpersonal relationship score of 7.3 ± 2.4 on a maximum scale of 11. SwPSI in Integrated schools had a mean interpersonal relationship score of 7.5 ± 2.4 (max = 10). This reflects a good level of interpersonal relationship among SwPSI attending integrated schools. SwPSI in special schools had a mean interpersonal interaction/relationship score of 7.1 ± 2.4 on a maximum scale of 11. However there is no significant difference in the interpersonal relationship score of students in special and integrated schools.

General participation score:

In the general participation domain, SwPSI had overall mean score of 8.2 ± 3.0 (maximum = 15). On a maximum scale of 15, SwPSI attending integrated schools had a mean score of 9.0 ± 2.9 while those in special schools scored 7.7 ± 2.9 . The general participation scores of students in integrated schools is significantly higher than those in special schools (p<0.05)

Performance in Physical activities score:

SwPSI obtained an overall mean performance in physical activity score of 12.0 ± 3.7 (maximum = 19). The mean score obtained when performance in physical activities of SwPSI in Integrated schools were assessed was 12.1 ± 3.6 on a maximum scale of 12. SwPSI in special schools had a mean performance in physical activity score of 11.9 ± 3.7 on a maximum scale of 19. No significant difference exists in these scores in both schools.

General Health score:

The overall mean general health score was 7.4 ± 2.6 (maximum = 12). SwPSI in integrated schools had a mean general health score of 7.4 ± 2.6 on a maximum scale of 12 while those in special schools had a mean general health score of 7.3 ± 2.6 on a maximum scale of 12. These scores are not statistically significantly different.

Vitality score:

The overall mean vitality score was 6.2 ± 2.4 (maximum = 12); SwPSI in integrated schools had a mean vitality score of 6.3 ± 2.3 on a maximum scale of 12 while those in special schools had a mean vitality score of 6.1 ± 2.5 ($p > 0.05$).

Mental health score:

The overall mean mental health score was 8.0 ± 2.6 (maximum = 15). SwPSI in integrated schools had a mean mental health score of 7.7 ± 2.5 on a maximum scale of 15 while those in special schools had a mean mental health score of 8.2 ± 2.7 on a maximum scale of 15 ($p > 0.05$).

It can be deduced here that SwPSI in both special and integrated schools had a little above average scores in each of the individual domains that were cumulated in order to obtain the HR-QoL.

Null hypothesis (H_0): There is no statistically significant difference between HR-QoL domain scores of students attending special and integrated schools. Data obtained in this study showed that no statistically significant difference exist between the total and HR-QoL domain scores of SwPSI in special and those in integrated schools in Ibadan ($p > 0.05$) except in general participation scores ($p < 0.05$) where students in integrated schools had higher scores (Table 4.6).

Table 4.5: Analysis of overall HR-QoL domain and total scores for SwPSI

QoL domain scores N = 330	Minimum obtainable Score	Maximum obtainable Score	Mean/SE		Std. Deviation
			Mean	Std. Error	Statistic
Interpersonal interaction/relationship	0	11.00	7.3	.13	2.4
General participation	0	15.00	8.2	.16	3.0
Performance in physical activities	0	19.00	12.0	.20	3.7
General health scores	0	12.00	7.4	.14	2.6
Vitality scores	0	12.00	6.2	.13	2.4
Mental health scores	0	15.00	8.0	.15	2.7
HR-QoL total score obtained	15.00	84.00	49.0	.57	10.4

Figure 4.3: HR-QoL scores of students with various physical disabilities in special and

Integrated school in Ibadan

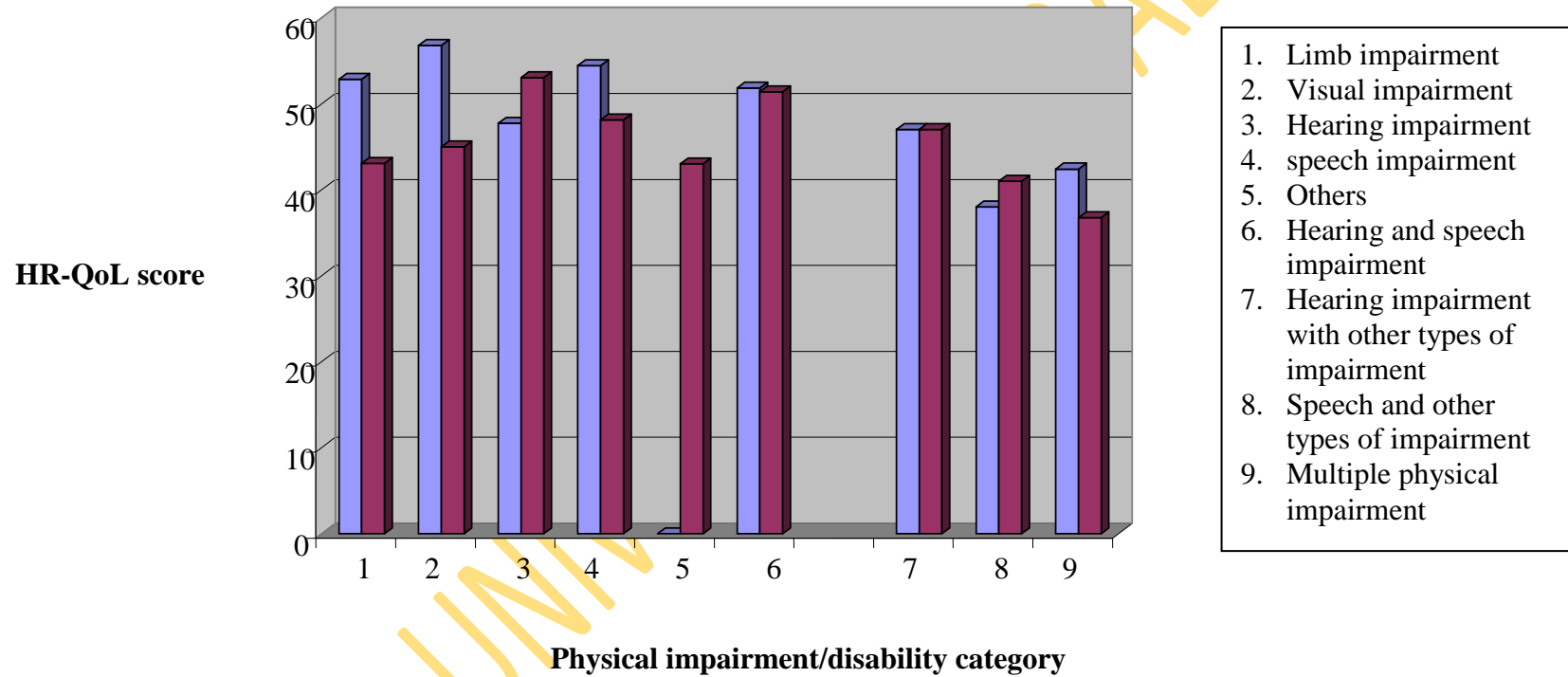
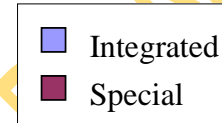


Table 4.6. Mean HR-QoL domain scores of SwPSI in Integrated and Special schools

HR-QoL domains	School setting	N	Mean HR-QoL	Sig (2-tailed) df = 328
Interpersonal interaction/relationship	Integrated	133	7.5	0.188
	Special	197	7.1	
General participation	Integrated	133	9.0	0.000*
	Special	197	7.7	
Performance in physical activities	Integrated	133	12.1	0.690
	Special	197	12.0	
General health scores	Integrated	133	7.4	0.821
	Special	197	7.3	
Vitality scores	Integrated	133	6.3	0.490
	Special	197	6.1	
Mental health scores	Integrated	133	7.7	0.119
	Special	197	8.2	
HR-QoL total score obtained	Integrated	133	50.0	0.140
	Special	197	48.3	

*Significant difference at $P < 0.05$

4.9. Description of mean HR-QoL scores of the students with the various forms of physical disabilities

On a 76 point scale of HR-QoL the group of SwPSI with the highest mean HR-QoL were those with visual impairments (52.1 ± 12.6) followed by those with hearing and speech impairments (51.6 ± 10.1) then hearing impairments (51.4 ± 7.8), speech impairments (50.0 ± 7.9), limb impairments (48.3 ± 10.1), hearing impairment and other physical deformity (47.0 ± 9.2), other impairments (43.0 ± 18.4), speech and other physical disability (40.3 ± 6.4) as well as multiple physical disability (39.5 ± 11.1) (see fig 4.3).

Null hypothesis (H_0): There is no significant difference in the HR-QoL of students with specific forms of physical disability.

Significant difference was found in the HR-QoL of students with various forms of physical disabilities in integrated and special schools. Students with different forms of physical disabilities/impairments in integrated schools had higher HR-QoL scores except those with hearing, speech and other types of physical deformities (Table 4.7). Multiple comparisons however showed that only the HR-QoL of students with limb impairments, hearing impairments and multiple physical disabilities were statistically different. HR-QoL of students in integrated schools with limb impairment was found to be significantly higher than those in special schools. Those with hearing impairment in special schools had a significantly higher HR-QoL while those with multiple physical disabilities in integrated schools had significantly higher HR-QoL scores.

On a HR-QoL 84 point scale, students in integrated schools with visual impairment had the highest mean HR-QoL score of 52.07, followed by those with hearing and speech impairments (51.59), hearing impairments only (51.43), speech impairments (50.04), limb impairments (48.27), hearing impairments with other physical disability (47.00), other impairments/disability (43.0), speech and other impairments (40.33) and those with multiple physical disability (39.51).

Null hypothesis (H_0): There is no statistically significant difference in HR-QoL domains of SwPSI with various forms of physical disabilities attending special and integrated schools.

Analysis of variance showed that there is significant difference in the following HR-QoL domains of students with various forms of physical disabilities attending special and integrated schools: general participation, performance in physical activities, general health and vitality (Table 4.8).

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Table 4.7 Comparison of HR-QoL of students with various forms of physical disabilities in integrated and special schools (multiple comparisons)

s/n	Physical Disability types	INTEGRATED		SPECIAL		Tcal	Significant difference (df=1)	ANOVA Sig
		Mean HR-QoL	Std. Error	Mean HR-QoL	Std. Error			
1	Limb impairment	52.83	1.89	43.05	1.84	195.6*	P < 0.05	df = 328 F = 7.816 p = 0.000*
2	Visual impairment	56.78	3.28	45.00	5.61	6.62	p> 0.05	
3	Hearing impairment	47.71	0.96	53.02	1.11	35.40*	P < 0.05	
4	Speech impairment	54.43	2.52	48.13	1.96	11.25	P > 0.05	
5	Others	.	.	43.00	13.0	3.31	P > 0.05	
6	Hearing and speech impairment	51.84	1.61	51.40	1.23	1.16	p> 0.05	
7	Hearing impairment and other types of physical disability	47.00	1.00	47.00	3.90	0	p>0.05	
8	Speech and other types of physical impairment	38.00	2.00	41.00	2.69	4.35	P> 0.05	
9	Multiple physical impairment	42.40	2.35	36.76	2.43	58.0*	p<0.05	
10	Total	50.10	0.87	48.3	0.77		p>0.05	

* Significant difference at p < 0.05

Table 4:8 Analysis of Variance of domain scores of students with various forms of disability in both special and integrated schools in Ibadan

HR-QoL domains of students with various forms of physical disability in special and integrated schools		Sum of Squares	df	Mean Square	F	Sig.
General participation	Between Groups	155.892	8	19.487	2.236	0.025
	Within Groups	2797.514	321	8.715		
	Total	2953.406	329			
Performance in physical activities	Between Groups	931.184	8	116.398	10.812	0.000
	Within Groups	3455.740	321	10.766		
	Total	4386.924	329			
General health scores	Between Groups	208.244	8	26.031	4.139	0.000
	Within Groups	2018.980	321	6.290		
	Total	2227.224	329			
Vitality scores	Between Groups	254.528	8	31.816	6.198	0.000
	Within Groups	1647.669	321	5.133		
	Total	1902.197	329			
Mental health scores	Between Groups	116.671	8	14.584	2.127	0.033
	Within Groups	2194.180	320	6.857		
	Total	2310.851	328			
Interpersonal interaction/relationship	Between Groups	18.012	8	2.252	.380	0.931
	Within Groups	1899.894	321	5.919		
	Total	1917.906	329			
HR-QoL total score	Between Groups	5840.016	8	730.002	7.897	0.000
	Within Groups	29579.874	320	92.437		
	Total	35419.891	328			

*Significant difference at $P < 0.05$

4.10. Description of HR-QoL scores of male and female SwPSI attending special and integrated schools:

As shown in table 4.8, male SwPSI had a mean HR-QoL score of 49.2 ± 10.0 while the females had 48.8 ± 10.9 . When the domain scores were considered, male SwPSI had higher scores in general participation while both sexes had similar scores in the other domains.

Null hypothesis (H_0): There is no statistically significant difference between HR-QoL domain scores of males and females attending special or integrated schools.

No statistically significant difference was found in the HR-QoL domain scores of male and female SwPSI attending special and integrated schools in Ibadan ($p > 0.05$) (reflected in table 4.9). Also, no statistically significant difference was found in the HR-QoL of male and female SwPSI in relation to whether they attend integrated or special schools in Ibadan ($F = 0.08$; $p > 0.05$).

Table 4.9. Mean HR-QoL domain scores of Male and female SwPSI in special and integrated schools in Ibadan

HR-QoL domains	Sex	N	Mean±SD	Sig (2-tailed) df = 328	ANOVA
Interpersonal interaction/relationship	Male	190	7.3±2.5	0.949	df = 328 F = 0.087 p = 0.768
	Female	140	7.3±2.3		
General participation	Male	190	8.4±2.9	0.229	
	Female	140	8.0±3.1		
Performance in physical activities	Male	190	11.9±3.3	0.690	
	Female	140	12.1±4.0		
General health scores	Male	190	7.4±2.6	0.857	
	Female	140	7.3±2.6		
Vitality scores	Male	190	6.2±2.4	0.833	
	Female	140	6.2±2.4		
Mental health scores	Male	190	8.0±2.6	0.800	
	Female	140	8.1±2.7		
HR-QoL total score	Male	190	49.2±10.0	0.768	
	Female	140	48.8±10.9		

4.11. Description of HR-QoL scores of students with single and multiple physical disabilities.

SwPSI with single disability had HR-QoL score of 50.3 ± 9.1 as compared to those with multiple disabilities who had 47.7 ± 11.5 . With domain comparisons, those with single disability had higher scores in general participation, performance in physical activities, general health and vitality. However, both SwPSI with multiple and single physical disabilities had similar scores in other domains (table 4.10).

Null hypothesis (H_0): There is no statistically significant difference between the HR-QoL domain scores of students with single and multiple physical disabilities.

Although statistically significant difference was found in the total HR-QoL score of students with single and multiple physical disabilities ($p < 0.05$), no statistically significant difference was found in the HR-QoL domain scores of SwPSI with single and multiple physical disabilities ($p > 0.05$) except in performance in physical activities and vitality scores ($p < 0.05$). Students with single physical disability had higher scores in performance in physical activities and vitality (Table 4.10).

Table 4.10. Mean HR-QoL domain scores of SwPSI with single and multiple physical disabilities.

HR-QoL domains	classification of type of physical deformity	N	Mean±SD	Sig (2-tailed) df = 328
Interpersonal interaction/relationship	single disability	166	7.2±2.4	0.690
	multiple disability	164	7.4±2.5	
General participation	single disability	166	8.5±2.7	0.100
	multiple disability	164	8.0±3.2	
Performance in physical activities	single disability	166	12.7±3.3	0.000*
	multiple disability	164	11.2±3.9	
General health scores	single disability	166	7.4±2.5	0.536
	multiple disability	164	7.3±2.7	
Vitality scores	single disability	166	6.5±2.2	0.019*
	multiple disability	164	5.9±2.6	
Mental health scores	single disability	166	7.9±2.4	0.467
	multiple disability	164	8.1±2.9	
QoL total score	single disability	166	50.3±9.1	0.022*
	multiple disability	164	47.7±11.4	

*Significant difference at P<0.05

4.12. Variables associated with the HR-QoL of students with physical and sensory impairments attending special and integrated schools in Ibadan.

For the purpose of analysis HR-QoL that was assessed on an 84 point-scale as explained in chapter 3 was categorized into high HR-QoL, average HR-QoL and low HR-QoL.

Only 1.5% and 4.1% of SwPSI in integrated and special schools respectively had low HR-QoL. Those who had average HR-QoL accounted for 75.2% and 71.6% in integrated and special school respectively. This study did not show any significant difference between the categories of HR-QoL of SwPSI in special and integrated school (table 4.11c, chart 4.4)

Null hypothesis (H₀): There is no statistical association between HR-QoL categories and school setting, family environment, school environment, sex, type of physical disability, category of physical disability, parent's socio-economic status, personal characteristics and use of intervention/aides.

As shown in table 4.11 a and b, stepwise logistic regression of categorical variable with HR-QoL categories revealed significant associations between *family environment* ($X^2 = 16.412$, $p < 0.05$); *type of physical disability* ($X^2 = 62.489$, $p < 0.05$); *category of physical disability* ($X^2 = 6.808$; $p < 0.05$); *socioeconomic status of parents* ($X^2 = 12.725$, $p < 0.05$); *personal characteristics* ($X^2 = 9.266$, $p < 0.05$); and *type of aides/intervention used* ($X^2 = 37.576$, $p < 0.05$).

In this study, no significant association was found between the 3 categories of HR-QoL (high, average and low) and the type of school attended ($X^2 = 1.892$, $p > 0.05$); school environment ($X^2 = 3.45$, $p > 0.05$) and use of Individual Education Plan (IEP) ($X^2 = 5.765$, $p < 0.05$). At 5% level of significance, the null hypothesis is therefore restated thus:

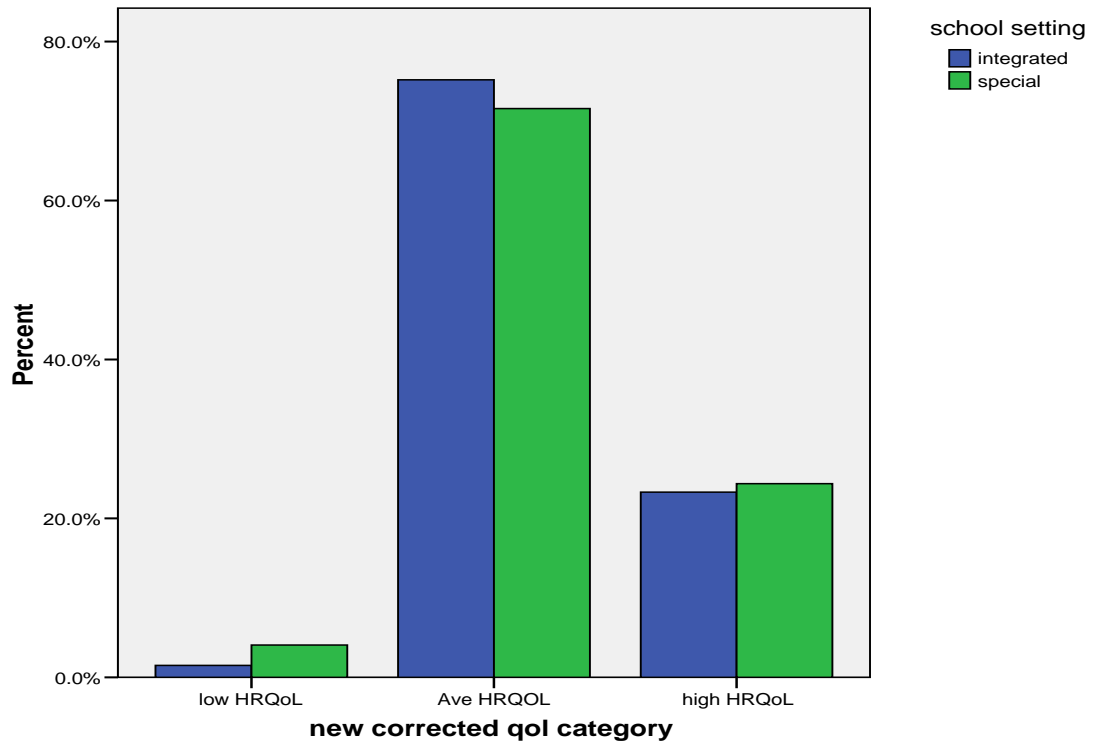
There are statistically significant associations between HR-QoL categories and family environment, school environment, type of physical disability, category of physical disability, socioeconomic status of parents, personal characteristics and use of IEP. Significant associations were found between high HR-QoL of respondents and good family environment; good personality characteristics; less severe forms of physical disability and high socio-economic status of parents (table 4.11a and b).

HR-QoL categories	School setting				Significant difference
	Integrated		Special		
	Freq	%	Freq	%	
Low HR-QoL	2	1.5	8	4.1	$X^2 = 1.88$ Df = 2 P = 0.388
Ave HR-QoL	100	75.2	141	71.6	
High HR-QoL	31	23.3	48	24.3	

Table 4.11c:
Distribution
of HR-QoL
categories
by type of
school
attended

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Chart 4.4. Distribution of categories of HR-QoL of SwPSI in integrated and special schools



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Table 4.11a; Associations between variables and HR-QoL categories of students with physical disabilities attending both special and integrated schools.

VARIABLES	LOW HR-QOL	AVE. HR-QOL	HIGH HR-QOL	TOTAL N= 330	X²	DF	P-VALUE			
School setting										
Integrated	2	100	31	133	1.892	2	0.388			
Special	8	141	48	197						
Family environment										
Good	1	118	54	173	16.412	2	0.000*			
Poor	9	123	25	157						
School environment										
Good	8	195	71	274	3.45	2	0.177			
Poor	2	46	8	56						
Sex										
Male	3	142	45	190	3.304	2	0.192			
Female	7	99	34	140						
Type of physical disability										
Limb impairments	0	35	10	45	62.489	16	0.000*			
Visually impairment	1	9	5	15						
Hearing impairment	0	57	22	79						
Speech impairment	0	19	4	23						
Other deformity	0	1	1	2						
Hearing and speech impairments	1	70	35	106						
Hearing impairment with other physical deformity	0	8	1	9						
Speech impairment with other physical deformity	0	9	0	9						
Multiple physical deformity	8	33	1	42						
Category of Physical Disability										
Single	1	123	42	166				6.808	2	0.033*
Multiple	9	118	37	164						

* Correlation is significant at P< 0.05 (2-tailed).

Table 4.11b; Associations between variables and HR-QoL categories of students with physical disabilities attending both special and integrated schools.

VARIABLES	LOW HR-QOL	AVE. HR-QOL	HIGH HR-QOL	TOTAL N= 330	X²	DF	P-VALUE
Socio-economic status of parents							
High	0	80	37	117	12.725	3	0.013*
Low	10	161	42	213			
Personal characteristics							
Good	1	129	48	178	9.266	2	0.010*
Poor	9	112	31	152			
Use of aides/intervention							
Wheel chair	0	12	1	13	37.576	16	0.002*
Walking sticks/crutches	2	6	2	10			
Braille	0	2	2	4			
Visual aides	1	1	0	2			
Sign language teacher	5	148	53	206			
Vocational training	0	15	0	15			
Regular consultation with specialist	0	7	1	8			
Combined intervention	2	34	13	49			
None	0	16	7	23			
Use of IEP							
No	10	177	65	252	5.765	2	0.056
Yes	0	64	14	78			

* Correlation is significant at P< 0.05 (2-tailed).

4.13 Significant difference in the physical disabilities between SwPSI attending special schools and those attending integrated schools

As shown in table 4.12, Pearson Chi-Square tests revealed no significant difference in the various physical and sensory impairments between SwPSI attending special schools and those attending Integrated schools ($X^2 = 15.279$, Df= 8, P = 0.054).

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Table 4.12; Significant difference in disability between students in special and integrated schools using Pearson's Chi square test

	TYPE OF PHYSICAL DISABILITY	SCHOOL SETTING						SIGNIFICANT DIFFERENECE
		Special		Integrated		Total		
		Freq	%	Freq	%	Freq	%	
1	Limb impairment	21	10.7	24	18.1	45	13.6	$X^2 = 15.279$ Df= 8 P = 0.054
2	Visual impairment	6	3.1	9	6.8	15	4.6	
3	Hearing impairment	56	28.4	24	18.1	80	24.2	
4	Speech impairment	16	8.1	7	5.3	23	7.0	
5	Others	2	1.0	0	0	2	0.6	
6	Hearing and speech impairment	61	31.0	45	33.8	106	32.1	
7	Hearing impairment and other types of physical disability	7	3.6	2	1.5	9	2.7	
8	Speech and other types of physical impairment	7	3.6	2	1.5	9	2.7	
9	Multiple physical impairment	21	10.7	20	15.0	41	12.4	
	Total	197	100	133	100	330	100	

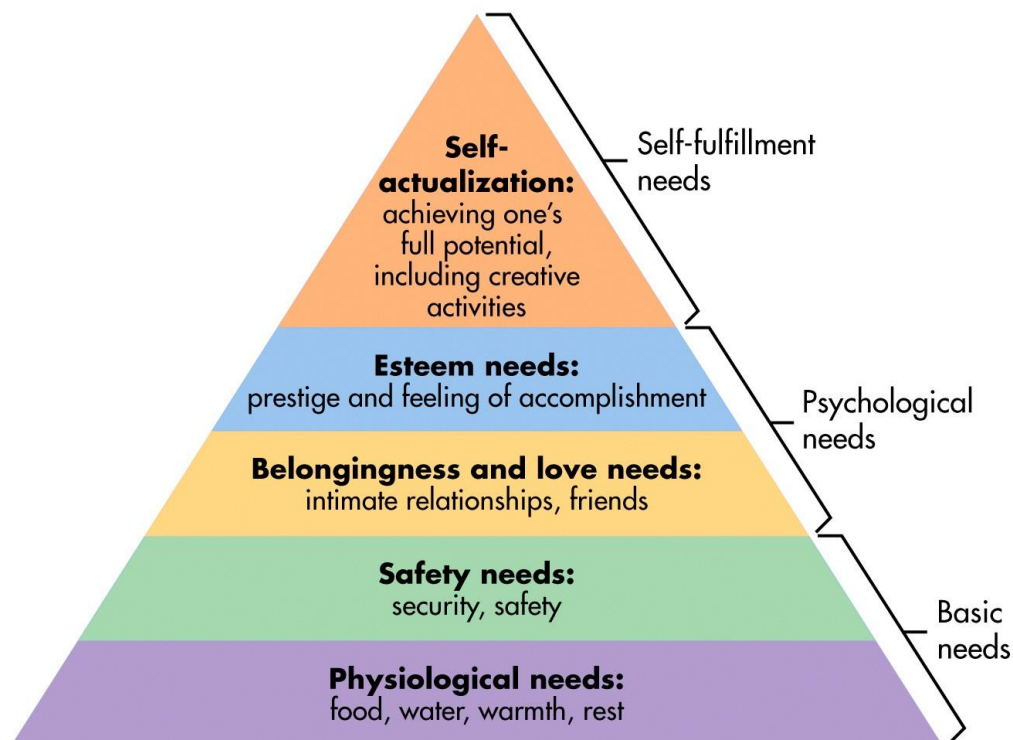
Significant difference at $p < 0.05$

4.14. Self-perceived needs of SwPSI in special and integrated schools

SwPSI indicated several needs for living a fulfilled life. For the purpose of analysis, these needs were grouped into the following using Abraham Maslow's Hierarchy of human needs:

- a. Survival needs which comprised of financial, well-being, physical, food and shelter needs.
- b. Love and belonging needs which comprised of expressed emotional needs, communication needs and the need for love and compassion expressed to them by others in the society.
- c. Self-esteem needs expressed as encouragement and motivation from others in the society by having regard and positive opinions about them.
- d. Self-actualization needs expressed as the need for sound education, marriage and fulfilled dreams.
- e. Spiritual needs: Living a fulfilled life to some SwPSI require the help of God.
- f. Combination of needs: Some SwPSI expressed a combination of the needs above in order to live a fulfilled life.
- g. None: Other SwPSI expressed no need for living a fulfilled life.

Maslow's hierarchy of needs pictorial representation



Students who indicated survival needs for living fulfilled lives were 36.1%. The proportion of SwPSI who indicated love /belonging and self-esteem needs in integrated schools were 12.8% and 0% respectively. As reflected in the discussion above SwPSI who indicated self-actualization and spiritual needs constituted 18.1% and 3.8% respectively. Few (15.8%) students indicated combination of needs. The perceived needs reported for living fulfilled lives among children attending special schools are similar to those in integrated schools (table 4.13). However, test statistics (X^2) showed a significant difference between these responses ($p < 0.05$).

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Table 4.13; Perceived needs for living a fulfilled life- as reported by the SwPSI

Perceived needs for living a fulfilled life		School setting		
		Integrated	Special	Chi square test
		Freq (%)	Freq (%)	
1	Survival needs	48 (36.1)	68 (34.5)	$X^2 = 17.34$ Df = 6 P = 0.008*
2	Love and belonging needs	17 (12.8)	42 (21.3)	
3	Self esteem needs	0 (0)	3 (1.5)	
4	Self actualization needs	24 (18.1)	14 (7.1)	
5	Spiritual needs	5 (3.8)	4 (2.0)	
6	Combination of needs	21 (15.8)	25 (12.7)	
7	None	18 (13.5)	41 (20.8)	
Total		133 (100)	197	

*The Chi-square statistic is significant at $P < 0.05$.

CHAPTER FIVE

DISCUSSION

5.1 Socio-demographic characteristics of respondents

In this study, greater proportions of students were recruited from special schools because the population of students in special schools was higher than those in integrated schools. Parents of SwPSI oftentimes enroll them into special schools. The bulk of respondents were from the Yoruba ethnic group which might be due to the location of the study.

Categories of students interviewed in this study comprised of those with physical impairments/disabilities such as: hearing and speech impairments, hearing impairments only, limb impairments, hearing impairments with other physical deformity, speech impairments, visual impairments, speech impairment with other physical deformity as well as those with multiple physical disabilities. Majority of SwPSI interviewed in both schools had hearing and speech impairments.

5.2 Reason for being sent to school as reported by SwPSI in special and integrated schools

None of the students attending integrated schools identified socialization/play as a reason for being sent to school unlike their peers in special schools. This might be connected to lack of facilities to encourage socialization of SwPSI in the integrated schools. Also, none of the students from both special and integrated schools indicated rehabilitation as a reason for being sent to school. The concept of rehabilitation which is a major reason for integration or segregation of students with impairments could be beyond their comprehension. Majority however indicated education/academic reasons for being sent to school. Being in school to learn was the common reason students gave for going to school in this study but for students with disabilities it might go beyond that due to their special needs which should be put into consideration.

On the other hand, students might not have been educated or made to realize reasons for being sent to special or integrated schools. Every student with physical disability is expected to reach their full potential in school, and be able to make a successful transition to adulthood and the world of further and higher education, training or work. Assessing the HR-QoL of these students in special or integrated schools enables us to plan and determine effective methods of facilitating the aforementioned. One can then say that this might be difficult to achieve if students with physical disabilities themselves do not know why they were sent to school (whether special or integrated). Thus the ultimate reason for special education according to Heward and Orlansky (1980) which is the achievement of self sufficiency and academic success should be emphasized to SwPSI in both special and integrated schools.

5.3 HR-QoL of SwPSI attending special and integrated schools

5.3.1. Total HR-QoL:

Anomalies have arisen that seriously call into question the validity of segregating students with specific physical, intellectual, or emotional needs. Moreover, these anomalies demand that new paradigms be created and embraced (Villa, Thousand, Stainback, & Stainback, 1992). In this study, SwPSI in integrated schools had a relatively higher HR-QoL score than those in the special schools. However slight differences existed when each of the domains was considered (discussed in subsequent sections in detail). As reiterated by Villa et al. 1992, although teachers and teaching assistants may be fully committed to helping students acquire basic skills, many students seem disinterested, unwilling, or incapable of learning the skills. Moreover, students who do master certain skills often fail to retain the newly acquired skills or cannot replicate them in situations outside of the classroom. As a consequence, many "graduates" of self-contained classrooms enter directly into sheltered workshops or segregated prevocational training programs where they must continue to practice the same basic life skills. The result is that people with disabilities, unable to make the transition into community life, spend their years continuously *preparing* for life.

This study revealed that there is no significant difference in the HR-QoL of SwPSI in special and integrated schools in Ibadan and that those in integrated schools only have a relatively higher mean HR-QoL score than their counterparts in special schools.

This is a strong point of concern because the reason for placing students with physical disabilities in special schools is to enhance their quality of life and to facilitate effective integration into the society. This purpose is thus defeated since no statistical significant difference was found in their HR-QoL. A similar study conducted in China by Jau-Hong et al, 2009, also discovered that there were no significant differences in overall objective or subjective QoL between students in mainstream and special schools. Further, it is important to note that severity of disability was not controlled for while delineating HR-QoL scores.

As suggested by Oloko, 2008, it might be helpful to arrange that children attend day-institutions that cater for their disability and reunite with their families at night. Sometimes, it might be best for a child to actually reside in appropriate institutions for a while, while receiving treatment or being rehabilitated to become functional depending on the degree of impairment or disability. The point of concern however, is to determine whether the child is placed in the least restrictive environment. Along with this thought, Sharman 1996, inferred that the program should be child centered, meaning some children can be completely integrated, and some children, those with the most severe disabilities, should be in special settings.

Providing Services in the *Least Restrictive Environment* according to IDEA legislation and regulations require that to the maximum extent that appropriate students with disabilities must be educated with their nondisabled peers. It involves the adequate supply of qualified personnel, to selection of appropriate curriculum and instructional methods, and to maintain active parent involvement. Ciampi, (2005) reported that keeping students with disability in neighbourhood integrated schools was cost effective - "Over 1 million children, many of whom would have been placed in separate schools and institutions 25 years ago, are being educated in neighborhood schools, saving an average of \$10,000 per child per year" (OSERS, 2001). In Nigeria, it could also be of economic benefit to the state and nation if integrated education for SwPSI can be thoughtfully implemented (even though it might not give immediate results).

5.3.2. Pattern of HR-QoL among students with various forms of physical disability

It is rather surprising to discover in this study that students with visual impairments had the highest HR-QoL score. Students with visual impairments have unique needs that must be addressed if they are going to become independent, productive citizens to the greatest degree possible. It is expected that students with visual impairments, especially those starting at birth, have expanded needs to compensate for their loss of vision. Wagenbreth et al, (2009) in their study discovered that patients with visual field defects showed considerable reductions in vision – and HR-QoL compared to the healthy control persons. Students with multiple physical disabilities had the least HR-QoL. It was also noted in this study that students with single physical disability had a significantly higher HR-QoL score than their peers with multiple physical disability. It has been documented that severity of disability influence HR-QoL. This study also affirms this in the subsequent discussion section.

On the whole, students with different forms of physical and sensory impairments in integrated schools had higher HR-QoL scores except those with hearing, speech and other types of physical deformities. HR-QoL of students in integrated schools with limb impairment was found to be significantly higher than those in special schools. Conversely, those with hearing impairment in special schools had a significantly higher HR-QoL than those in integrated schools. Thus, as deduced from this study, it may be helpful to enroll students with hearing impairments in special schools. However, further studies need to be conducted in order to establish this fact.

Analysis of data collected in this study showed a significant difference in the following domain scores of students when the various forms of physical disabilities were factored in: general participation, performance in physical activities, general health and vitality. Students in integrated schools with limbs impairments had the highest general participation score and performance in physical activities score. It is surprising to discover that students with visual impairments reported the highest scores in general health and vitality domains.

5.3.3 Pattern of Domain HR-QoL among SwPSI in integrated and special schools

Interpersonal interaction/relationship:

SwPSI in integrated schools had a relatively higher score in the interpersonal relationship domain than their counterparts in the special schools. This can be attributed to the fact that they have students without disabilities with whom they can interact and possibly share different life experiences and vice versa. Previously, doubts existed whether a student's attitude toward those with disabilities became more positive, and whether social interactions really took place (Block, 1995; Archie & Sherrill, 1989) when students with disability were educated together with the non disabled. Further, Butterfield (1991) has suggested that consideration should be given to what happens to a child with a disability after school hours, and if he/she really has some social life.

General participation in family, school, religious and community activities:

The World Health Organization's (WHO) new International Classification of Functioning, Disability and Health, defines 'participation' as "involvement in a life situation" (2001). For children and youth, involvement in life situations includes participation in recreational and leisure activities as well as school and work activities. Recreational and leisure activities include artistic, creative, cultural, active physical, sports, play, social, and skill-based activities (Kalscheur, 1992; King et al., 2003; Sloper, Turner, Knussen, & Cunningham, 1990).

SwPSI in integrated schools reported a higher general participation score which might be due to availability of variety of activities which they are exposed to in the family and school as compared to those in special schools who are confined and only have limited activities to participate in. Half of the SwPSI claimed to engage in religious activities in school or religious institutions, however, only few appear to actively participate in religious activities. It is rather not surprising that SwPSI had a mean general participation score of just a little above average, owing to the fact that majority do not participate in any community activities. Those who however indicated that they participate in community activities mentioned activities which are not directly targeted at the adolescents with physical and sensory impairments. Again, this can be attributed to the lack of activities to participate in. It has been documented that

children with disabilities tend to be more restricted in their participation in daily activities (e.g., formal and informal leisure and recreation activities outside of school, household tasks, and social engagements) than their peers, and that the scope of their activities is limited (Brown & Gordon, 1987; Canadian Institute of Child Health, 1994; Stevenson, Pharoah & Stevenson, 1997; McDougall et al., 2004). Compared to children without disabilities, children with disabilities tend to engage in fewer recreational and social activities (Brown & Gordon, 1987; Sillanpää, 1987). Children with disabilities often feel socially isolated (Anderson & Clarke, 1982; Blum et al., 1991; Cadman et al., 1987; LaGreca, 1990; Law & Dunn, 1993).

It can be deduced from the previous chapter that few SwPSI in special and integrated schools in Ibadan claim to participate in support group activities specially recommended for those with disabilities in their schools. The activities mentioned by respondents however, are those which have not been specifically designed to assist the SwPSI to successfully integrate into the school and society. Adolescent students with disability are in need of special facilities in schools in order to assist them with integration into the society. In recognition of this dire need, specific interventions aimed at improving the HR-QoL of SwPSI should be provided. Such activities can include specific group activities in schools including peer support groups where life challenges and way forward can be discussed with the assistance of a mentor or mentoree/specialist.

Participation in activities is the context in which people form friendships, develop skills and competencies, express creativity, achieve mental and physical health, and determine meaning and purpose in life (Kinney & Coyle, 1992; Lyons, 1993; Brown, Brown, & Bayer, 1994). Also Participation enables children to understand societal expectations and acquire the physical and social competencies needed to function and flourish in their homes and communities (Brown & Gordon, 1987; Larson & Verma, 1999). Satisfaction with activities has been found to be an important predictor of children's behavioral and emotional well-being (Brown & Gordon, 1987; Rae-Grant, Thomas, Offord, & Boyle, 1989; Sandler, Ayers, Suter, Schultz, & Twohey-Jacobs, 2004). Thus, the goal of rehabilitation interventions which is to enable children to participate fully in the life of their family and community (King et al, 2002) needs to be embraced by policy makers and special education teachers.

Interventions should also include information groups, career and educational counseling, access to the internet and the ability to communicate with successful alumni students. These will assist them to develop necessary skills to effectively interact with others as well as develop a positive self image, and understand changes inherent in normal development in relation to their disability. It is then not out of place to introduce community based, integrated accessible and participatory principles and strategies for development, building on local capacity, which is needed to replace the inadequacy of past exclusionary and specialized institution-based, paternalistic services as recommended by Peat, 1997; Elwan, 1999; Edmonds, 2002 and Winnan et al, 2002. Increasing participation of children and adolescents with disabilities is a major goal of two US Federal laws, the IDEA (1997) and section 504 of the Rehabilitation Act of 1973. Though neither law requires inclusion of students with disability in integrated classroom, but both require that a significant effort be made to find an inclusive placement in the society (Edwards et al, 2003).

Performance in physical activities:

Performance in physical activities was assessed based on the frequency of pain or difficulty experienced when performing the following physical activities: seeing; hearing; speaking/talking; mobility (walking, -half a mile; crawling, climbing, kneeling, or standing for too long); gripping, holding objects or writing; learning/memorizing, recall or knowledge application; self care in activities of daily living like dressing, feeding, bathing etc. The physical activities assessed in this study were informal i.e. unstructured activities. These type of activities do not have rules, leader, coach nor instructor (e.g., lessons and sports) but are initiated by the child and are more spontaneous in nature (Law, King, King, Kertoy, Hurley, Rosenbaum, Young, Hanna, and Petrenchik, 2006). SwPSI in integrated schools were found to have higher performance score in informal physical activities. Integrated schools in Nigeria, just like regular schools have variety of activities which students engage themselves in.

Sport has been identified as a powerful force in socialization and independent of the type of schools. Through sport, people with disabilities can reach empowerment- having power to control and manage their own affairs and being seen as competent citizens. Through living an active life, a person with a disability has a chance to

become an independent adult, although often dependent on the support of others (Soeder, 1995). Some students with disabilities tends to be less active than his/her peers, and the normal pace of motor development may be slow and irregular (Sherman, 1996). Involvement in sporting activities facilitates the development of motor skills and improved abilities for daily living, such as coordination, balance, flexibility and strength.

General health:

Measurement of general health of students with physical and sensory impairments in this study was done with the use of the SF 36 scoring system model. In this model, specific questions relating to the general health of the students with physical and sensory impairments were asked. These questions include perception of healthiness, personal scaling of health status and being as healthy as anyone. General health scores were approximately the same for SwPSI in both special and integrated schools. This study has shown that perception of general health is unaffected by the type of school attended by SwPSI.

Vitality:

Collins English dictionary (2003) defines vitality as physical or mental vigour or energy. Vitality is viewed by some as characteristics, principle, or force that distinguishes living things from nonliving things. Vitality in this study was assessed based on vigour, energy, feeling tired and worn out frequently. The vitality score for SwPSI in integrated school was higher than those in special schools. This study therefore shows that integration improves vitality of students with physical and sensory impairments. Again, it is worthy to note here that severity of physical disability was not controlled for. Few studies have been carried out to assess the vitality of students with physical disability. Nonetheless, a survey conducted by Feld et al, 2003, showed that the mean scores of the vitality subscale were significantly lower than that of the normed sample.

Mental health:

Across the population of students studied, SwPSI had mental health scores of approximately average. It was reported by Morris (2004a) that people with disabilities are just as likely as the general population to experience mental health problems. They

may be even more likely than the general population to need and use mental health services. Possible reasons for this as explained by Morris, 2004b may include – higher rates of poverty and unemployment amongst disabled people which are associated with poor mental health; the greater risks of abuse experienced by disabled children and adults. It is suggested that people with physical impairments and mental health support needs tend to be overlooked by policy-makers and commissioners of services. Many people with disabilities report having difficulty accessing mental health services because of their physical impairments. Many also have difficulty accessing physical disability services because of the inadequate recognition of mental health needs with disability related services (Morris, 2004b).

When HR-QoL domains were considered, students with multiple physical disabilities had a higher score in the mental health domain (although not statistically different). As discussed earlier, the need to concentrate on improving the mental health of students with physical disabilities is still imperative considering the fact that students with multiple physical disabilities only had slightly above average score in this domain.

5.4 HR-QoL of male and female SwPSI in special and integrated schools

Males had a higher HR-QoL which is not significantly different from their female counterparts. When the domain scores were considered, males had about the same scores as female students. Also no statistically significant difference was found in the HR-QoL of males and females in relation to whether they attend integrated or special schools. In a similar study conducted in Taiwan, it was discovered that females with physical disabilities also appear to have a lower subjective QoL in health and emotion (Jau-Hong et al, 2009).

5.5 Correlates of HR-QoL of SwPSI in both special and integrated schools

In this study, factors that were discovered to be influencing HR-QoL of students with physical disabilities in special and integrated schools include: family environment, type of physical disability, socio-economic status of parents, personal characteristics, and use of aides/intervention

Family environment: Family environment was found to be significantly correlated with the HR-QoL of SwPSI. Among students in both special and integrated schools, only few SwPSI reported being visited regularly or often by their parents or family members in the school while majority reported not being visited at all in both special and integrated schools. Children with disabilities need love and acceptance from their parents and siblings but as much as possible they should not be openly pitied (Oloko, 2008). Apart from the child's functional ability, family participation in social and recreational activities and family values related to intellectual and cultural activities have been found to influence a child's participation in the environment (Law et al., 2006). Improving the family environment of a child with physical disability is not only necessary to improve participation but also to improve HR-QoL. Achieving an improved family environment for SwPSI culminates into integrating the student in a regular school where a student can attend school for specified periods of the day and then enjoys the company of his/her family members. The benefits of this approach (inclusion) which cannot be overemphasized has been elaborately discusses earlier in chapter 3.

Type of physical disability: Studies have shown that disability lowers HR-QoL and that adolescents with disabilities tend to have a lower HR-QoL when compared with those without disability (Edwards et al, 2003). It was also discovered in this study that severity of physical disability affects the HR-QoL i.e. the more severe the physical disability the lower the HR-QoL. As shown earlier in the previous chapter, students with multiple physical disabilities had the least HR-QoL while those with only unequal length of limbs had the highest HR-QoL.

Socio-economic status of parents: In this study, the socio-economic status of parents has been found to be a factor influencing the HR-QoL of students with physical disabilities. Poverty is well known to affect the quality of life people in general.

Personal characteristics: It was discovered in this study that personal characteristics influences HR-QoL. This is not considered to be out of place considering the fact that disability is not solely a function of a person's health condition, but the result of an interaction between the physical and social environment, personal characteristics and

health condition (Houtenville et al, 2001). WHO ICF model of disability (2001) also reflects that personal factors go a long way to influence an individual's HR-QoL.

Use of aides/intervention: In this study, there is significant association between the use of aides/intervention and the categories of HR-QoL. It is known, that use of aides, intervention and assistive devices by persons with disability or impairments assist in improving their quality of life.

Notably, in this study, no significant association was found between HR-QoL categories and the type of school attended, school environment and use of Individual Education Plan (IEP). This might be connected to the findings in this study that no significant difference was found between students with physical and sensory impairments attending special and integrated schools.

5.6 Self perceived needs of SwPSI in special and integrated schools for living a fulfilled life

According to (King and Cathers, 1998) most adolescents with disabilities want what all adolescents generally want in life i.e. happiness, meaningful occupation, fulfilling relationships, independence, being believed in, and being accepted by others. Considering the fact that the bulk of respondents in this study are adolescents, the needs expressed might imply the needs of adolescents with disabilities. Contrary to popular opinion, adolescence is not a time of turmoil and strife for most individuals (Eccles et al., 1993). When the environment meets the psychological needs of adolescents, who are asserting their independence in all ways (physically, socially, cognitively, and emotionally), adolescence can be a relatively "smooth" period of transition between childhood and adulthood (Eccles et al., 1993). During late adolescence, most young people with average cognitive ability start careers or begin higher education, move away from home, develop their personal relationships, and consolidate their identities (Hallum, 1995). These developments ultimately affect their quality of life, success in life, and happiness (King and Cathers, 1996). Students with physical disabilities in this study expressed similar needs; however, when compared across those in special and integrated schools variation exist in their expressed needs.

Maslow posited that the needs of human beings could be divided and prioritized into five "levels." Individuals do not seek the satisfaction of a need at one level until the previous "level of need" is met. The five levels of need identified by Maslow were Physiological, Safety/Security, Belonging/Social Affiliation, Self-Esteem, and Self-Actualization. SwPSI in this study identified variety of needs ranging from survival needs (which was expressed by majority particularly those in special schools), need for love and belonging, self-esteem, self-actualization, spiritual to combinations of these needs. It is important to note here that greater proportion of SwPSI attending special schools expressed survival needs, self-esteem needs as well as love and belonging needs. Conversely, none of the students under study in integrated schools expressed self-esteem needs when compared to those in special schools. They seem not to see disability as a limitation. Thus it may be stated that self-esteem can be taken care of by integration.

On the other hand, fewer SwPSI in integrated schools expressed survival needs as well as love and belonging. Then again, it can be said that integration of students with physical and sensory impairments with their peers without disability may take care of these needs. Remarkably, greater proportion of students in integrated schools expressed self-actualization needs. Although every child with disabilities has the potential to become self-actualized it is an issue not often discussed in the literature. For the child with multiple disabilities self-actualization may only occur when her basic life needs are met, when her environment is safe and free of abuse, when her efforts are noticed and respected, when she feels loved and appreciated by friends and family without having to earn this right, when she feels a sense of self-worth, and when she is free to pursue activities involving self-control and choice (Nosek and Fuhrer 1992).

Belonging - having a social context - is requisite for the development of self-esteem and self-confidence (Villa et al, 1992). This is why Maslow posited self-esteem above belonging in his hierarchy. Without a social context in which to validate a person's perceived worth, self-worth is not internalized. Despite the essential importance of belonging as a precursor to the development of self-esteem and the motivation to pursue education, it is interesting to note that this is the one level of Maslow's hierarchy for which schools provide little nurturance or assistance (Villa et al, 1992

cited by Norman Kunc). We have practices and programs to support physiological needs, safety needs, learning structures to build confidence and esteem (e.g., cooperative group learning, mastery learning models with individualized objectives and performance criteria, esteem building curricular units), and specialized learning needs in a vast array of curriculum domains. Yet, creating caring communities has not been a practice in the segregated, exclusive schools in Nigeria. It has been discovered that social support, whether from family or significant others outside the home, can be an important influence on QoL of adolescents with disabilities (Edmond et al, 1998; Wallander and Varni, 1998). There are very few, if any, rewards or payoffs to student with impairments and disabilities for learning new activities in Nigeria. Most rewards are not policy based but often given as donations emanating from pity for the disabled.

Persons with disabilities are poor because they are denied access and opportunities most basic to human development viz education, income, and self-esteem (Edmonds, 2005). However, people with disabilities have the capacity to become productive citizens and contribute to national development (Edmonds, 2005) provided necessary infrastructures are put in place to aid their effective and appropriate integration into the society.

Specifically, needs expressed by SwPSI for self-actualization include: school/educational needs such as better attention from teachers; learning equipment e.g. Braille machines, typewriters, laptops, talking calculators and Marburg; skilled teachers and vocational training. In the US, IDEA '97 states that students with disabilities must *be involved in* the general curriculum, and the law includes several requirements that help explain this involvement: (1) ensuring that the student's IEP goals address how the student will be involved in and progress in the general curriculum; (2) specifying in the student's IEP appropriate supplementary aids and services, accommodations, modifications, or supports that will help the student be involved in and progress in the general curriculum; and (3) explaining in the student's IEP why he or she will not participate with children without disabilities in the integrated classroom. SwPSI in this study have also indicated similar needs which will facilitate their involvement in the general curriculum.

It is however not enough to be involved in the general curriculum but also to progress. The law also requires that students with disability *must progress* in the general curriculum. Progress in the general curriculum can be thought of as involving three parts: (1) measuring the student's progress in reaching IEP goals; (2) including students with disabilities in State and district-wide assessments, with appropriate accommodations, where necessary; and (3) developing State performance goals and indicators and providing reports on progress toward meeting these goals and indicators (Karger and Hitchcock, 2003). This can be adopted in Nigeria for the education of SwPSI. As cited in Eric Digest (2007) it is imperative that teachers, students and parents be involved in the successive inclusion of student with disability in the general education classroom. In Nigeria, the situation is often that SwPSI are placed in special schools without being involved in the education of the child. This fact is consistent with the findings in this study (see section 5.9).

The lack of progress of these students is often blamed on the student. Some students are seen as having such severe disabilities that they are incapable of learning appropriate behaviour and skills. Research and experience are showing that students in segregated programs do imitate and learn, but often what they imitate and learn is the *inappropriate* behaviour of their classmates (Villa et al., 1992). Furthermore, there is growing documentation of students who seemed incapable of learning appropriate behaviour and skills in segregated settings achieving these previously unattainable goals once integrated into regular classrooms. It seems, then, that the adherence to current paradigms within special education has resulted in the creation and maintenance of what Norman Kunc termed "retarded immersion" classes. Students are immersed in an environment of "retarded behaviour" and learn how to be retarded.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1. SUMMARY

Health Related Quality of Life (HR-QoL) is a multidimensional psychological construct, which encompasses physical, psychological, social, functional areas of life, and the impact of health and illness on these areas. HR-QoL of students with physical disabilities is affected by interaction with the family, school and the society especially during the period of transition into adulthood. There is paucity of data on issues relating to the HR-QoL of Students with Physical Disabilities (SwPSI) in Nigeria which may provide a basis for facilitating effective integration into the society and living productive lives. This study was designed to describe and compare HR-QoL of students attending special and integrated schools in order to establish a basis for separating or including students with physical disabilities in special or integrated schools. Other objectives of this study were to assess perceived needs of SwPSI, determine factors influencing their HR-QoL and compare the HR-QoL of students with various forms of physical disabilities.

It was discovered that there is no significant difference between HR-QoL of students with physical disabilities attending special and integrated schools in Ibadan although students in integrated schools had higher HR-QoL. In addition, the delineated perceived needs of SwPSI include: financial needs, school/educational needs, emotional needs, physical needs, social/communication needs, well-being/future needs, spiritual needs and self esteem needs. Also students with severe forms/combinations of physical disabilities were found to have the least HR-QoL.

6.2 CONCLUSION

Students with Physical and Sensory Impairments in integrated schools had higher HR-QoL scores than their peers in the special schools. Also, it was deduced from the study that SwPSI in integrated schools had higher scores in general participation, interpersonal interaction/relationship, performance in physical activity, general health, and vitality. Conversely, SwPSI in special schools had higher score in the mental health domain of HR-QoL. Further, students with limb impairments, visual impairments, speech impairments, hearing plus speech impairments had higher scores in HR-QoL. On the other hand, students with hearing impairments only had significantly higher HR-QoL scores. Significant association was found between HR-QoL and family environment, school environment, type of disability, severity of disability, parental socio-economic status, personal characteristics and the use of Individual Educational Plan (IEP). SwPSI in integrated schools identified more of physiological needs and self-actualization needs while those in special schools identified more of love and belonging needs and self esteem needs.

6.3 RECOMMENDATIONS

Based on the findings of this study the following recommendations are made:

1. Provision of adequate facilities for integrated schools is an implication for improving the HR-QoL of students with physical and sensory impairments in Ibadan rather than keeping them in special schools with those with severe disability.
2. Furthermore, the results stressed the need for having more interaction time with families of SwPSI, increasing effort to assist SwPSI in developing positive self concept and the utilization of Individual Education Plan (IEP) as means of improving HR-QoL as well as facilitating appropriate integration and productivity in the society.
3. Following the findings in this study, it is imperative to enroll students with physical disabilities (such as limb, visual and speech impairments) in well-equipped integrated schools in order to improve

their HR-QoL rather than keep them in special schools. Special educational and social facilities however need to be put in place for those with hearing/speech impairments and multiple physical disabilities. Attending integrated schools (with properly implemented program) provides students with physical disabilities exposure to a more stimulating environment and the opportunity to continuously interact with their peers without disability. This consequently will facilitate their appropriate integration into the society.

4. Deliberate Policies such as provision of financial and social security for SwPSI should be developed and implemented. This is based on the fact that socio-economic status of parents had significant correlation with HR-QoL of SwPSI. Also in this study, largest proportion of SwPSI identified financial needs hence, it then becomes imperative for the Nigerian government to come to the aid of people living with disabilities and formulate and implement policies that will be of financial assistance to SwPSI.
5. Students with physical and sensory impairments need to have Individual Educational Plan (IEP) mapped out by the teacher and family. This will maximize their potential and thus improve their HR-QoL.

Implication for further studies

The findings in this study, obtained from students (who are mainly adolescents) with physical disabilities attending special and integrated government owned primary and secondary schools in Ibadan, should form an important basis of comparison for future studies of these age groups. Also it is important to compare the performance of these students in physical activities with their capacity. This study did not compare the HR-QoL of students without disability as well as other types of disability, it is therefore imperative for further studies to investigate the difference in HR-QoL of other types of disabilities in comparison with those without disabilities. The severity of physical disability should be controlled for while delineating HR-QoL of SwPSI in both integrated and special schools.

REFERENCES

- Allen, K.E., and **Schwartz, I. S.** (2001). The exceptional child: Inclusion in early childhood settings (4th edition). Albany, NY: Delmar Publishing.
- Anderson, E.M., & Clarke, L. (Eds.). (1982). Disability and adolescence. New York: Methuen.
- Andrews, F.M. and Withey, S.B. (1976). *Social indicators of well-being: America's perceptions of quality of life*. New York: Plenum.
- Barlow, J. (2008). Quality of life: Can we measure it? The Association of the British Pharmaceutical Industry online Journal. [Pubmed].
- Battaglia, M., Russo, E., Bolla, A., Chiuuso, A., Bertelli, S., Pellegri, A. et al. (2004). International classification of functioning, disability and health in a cohort of children with cognitive, motor, and complex disabilities. *Developmental Medicine and Child Neurology*, 46: 98-106.
- Bauer, R.A. (1996). *Social indicators*. Cambridge (MA): MIT Press; 1996.
- Bergner, M., Bobbitt, R.A., Pollard, W.E. (1976). The Sickness Impact Profile: Validation of a health status measure. *Med Care*. 14: 57 – 67.
- Berzon, R.A., Donnelly, M.A., Simpson, R.L. et al. (1995). Quality of life bibliography and indexes: 1994 update. *Qual Life Res*. 4:547 – 569.
- Blum, R.W., Resnick, M.D., Nelson, R., & St. Germaine, A. (1991). Family and peer issues among adolescents with spina bifida and cerebral palsy. *Pediatrics*, 88(22), 280-285.
- Bourskovski, G.V. et al. (2002). World Health Organisation Research Training on Disability, *International Journal of Mental Health*, spring **31**(1): 49-62.
- Bowden, A., Fox-Rushby, J.(2003). A systematic and critical review of the process of translation and adaptation of generic health-related quality of life measures

in Africa, Asia, Eastern Europe, the Middle East, South America. *Social Science Medical* **57**:1289-1306. [Pubmed].

http://www.hqlo.com/sfx_links.asp?ui=1477-7525-6-6&bibl=B8

- Bowe, Frank. (2005). *Making Inclusion Work*. Merrill Education/Prentice Hall. Cited in Wikipedia, free encyclopedia (wikipedia foundation, Inc.) Inclusion (Education). Last updated 3rd November, 2010
- Brazil, L., Thomas, R., Laing, R., et al. (1997). Verbally administered Barthel Index as functional assessment in brain tumour patients. *Journal of Neuro Oncology* 34:187 – 192.
- Brown M., & Gordon, W.A. (1987). Impact of impairment on activity patterns of children.
- Brown, M. and Gordon, W. A. (1999). Quality Of Life as a Construct in Health and Disability Research. *The Mount Sinai Journal of Medicine* 66(3) May 1999; 160-170
- Brown, M., Diller, L., Fordyce, W., et al. (1980). Rehabilitation indicators: Their nature and uses for assessment. In: Bolton B, Cook DW, editors. *Rehabilitation client assessment*. Baltimore: University Park Press; 102 – 117.
- Bruyère, S., Vanlooy, S. and Peterson, D. (2005). The International Classification of Functioning, Disability and Health (ICF): Contemporary literature overview. *Rehabilitation Psychology*, 50(2).© 2005 Educational Publishing Foundation. Originally published in *Rehabilitation Psychology*, a publication of the American Psychological Association.
- Burnett, J. J. (1996). What Services Marketers Need to Know About the Mobility – Disabled Consumer. *Journal of Services Marketing*, 10(3): 3-20.
- Cadman, D., Boyle, M., Szatmari, P., & Offord, D.R. (1987). Chronic illness, disability, and mental and social well-being: Findings of the Ontario Child Health Study. *Pediatrics*, 79, 805-813.

- Cadwallader, T.W., Wagner, M., and Garza N. (2003) NLTS2 report (Participation In Extracurricular Activities – chapter 4)
- Campbell, A., Converse, P.E. and Rodgers, W.L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.
- Canadian Institute of Child Health (1994). The health of Canada's children: A CICH profile. Ottawa, ON: Author
- Canadian International Development Agency (CIDA). (2001). *CIDA's Action Plan on Child Protection*. Ottawa: Ministry of Public Works and Government Services Canada.
- Carr, A.J. (1996). A patient-centered approach to evaluation and treatment in rheumatoid arthritis: The development of a clinical tool to measure patient-perceived handicap. *Br J Rheumatol* 35:921 – 932.
- Carr, A.J., Thompson, P.W. and Kirwan, J.R. (1996). Quality of life measures. *Br J Rheumatol* 35:275 – 281.
- Ciampi Marcie, (2005). Maximizing the potential of a special needs child.
www.myseams.org
- Craig, H. (1993-1997). IDRC Monthly and Weekly reports. Social policy: responding to people's needs- from disability to opportunity.
- Daniel, S.O. (1978). An Epidemiology of Physical Conditions of Destitute (beggars) a study in Lagos to classify destitute in Gbagada camp, Lagos. [Pubmed].
- DAR-WHO Action plan. (2006-2011). Disability And Rehabilitation (DAR) Team Department of Injuries and Violence Prevention (VIP), Non communicable Diseases and Mental Health (NMH) Cluster World Health Organization 20, Avenue Appia, CH-1211 Geneva 27, Switzerland.
- Disability and Rehabilitation (DAR-) World Health Organization Action plan 2006-2011 online document.

- Disabled World web page. (2008) "[Invisible Disabilities Information: What are Invisible Disabilities?](http://www.disabled-world.com/disability/types/invisible/)". <http://www.disabled-world.com/disability/types/invisible/> retrieved July 2012
- Duncan, O.D. (1969). *Toward social reporting: Next steps*. New York: Russell Sage Foundation.
- Ebrahim, S. (1995). Clinical and public health perspectives and applications of health-related quality of life measurement. *Soc Sci Med* 41:1383 – 1394.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents = experiences in schools and in families. *American Psychologist*, 48, 90-101.
- Edmonds L. J. (2005). *Disabled People and Development, Poverty and Social Development Papers - Poverty Reduction and Social Development Division Regional and Sustainable Development Department Asian Development Bank*. No. 12/ June;
- Edmonds, L. J. (2002). *The Critical Dimensions of Disability and Development*. Kingston: Queen's University-ICACBR.
- Edmonds, L.J., (2005) *Disabled People and Development; POVERTY AND SOCIAL DEVELOPMENT PAPERS No. 12/ June*. Asian Development Bank, Printed in the Philippines.
- Edwards, T.C., Patrick, D.L and Topolski T.D. (2003). Quality of life of adolescents with perceived disabilities. *Journal of Pediatric Psychology*, vol 28 no 4, 2003. 233 -241.
- Elwan, A. (1999). *Poverty and Disability: A Survey of the Literature. Social Protection Discussion Paper*. Washington, DC: World Bank.
- Emond, I. Fortin, L. and Picard, Y. (1998). Perceptions of social support of students with learning disabilities and dropping out. *Canadian Journal of Education*, 23: 237-250.

- Enwemeka, C.S. (1984). Physical deformities in Nigerian schools: the Port Harcourt Cohort study. *International Journal of Rehabilitation and Research*; 7(2); 163-72. [Pubmed] (HINARI).
- Eric Digest, (2003), Including Students with Disabilities in General Education Classrooms ERIC EC Digest #E52. Kid source online.
- Feld R. ; Colantonio A. ; Yoshida K. ; Odette F. ; *Psychological reports* (2003), vol. 93, No1, pp. 75-83 [9 page(s) (article)]
- Fougeyrollas, P. Centre Interdisciplinary de Recherché en Réadaptation et Integration Sociale (CIRRIS-IRDQP-RIPPH-RI) QUÉBEC CANADA.
[Www.ripph.qc.ca](http://www.ripph.qc.ca) / ripph@irdpq.qc.ca
- Fougeyrollas, P., Bergeron, H., Cloutier, R., Côté, S. and Michel, G. (1999). Quebec classification: Disability creation process; INDCP, Quebec.
- Freeman, J.A., Langdon, D.W., Hobart, J.C. and Thompson, A.J. (1996). Health-related quality of life in people with multiple sclerosis undergoing inpatient rehabilitation. *J Neurol Rehabil.* 10: 185–194.
- Gerharz, E.W., Eiser, C. and Woodhouse, C.R.J. (2003). *BJU International*. Volume 91 Issue 2, Pages 150 – 154. Published Online: 7 Jan 2003
- Ghislandi, S., Apolone, G., Garattini, L. and Ghislandi, I. (2002). Is EQ-5D a valid measure of HRQoL in patients with Movement Disorders? A comparison with SF-36 and FIM questionnaires. *The European Journal of health economics* 3(2): 125 – 130. Published online by Springer.
- Gill, C.J. (2001). Divided understandings: the social experience of disability. In G.L. Albrecht and K.D. Seelman (Eds.). *Handbook of Disability Studies*. Thousand Oaks, CA: SAGE.
- Grenot-Scheyer, Bishop, Jubala, & Coots (1996). The Inclusive Classroom Teacher Created Materials, Inc. [*The Inclusive Classroom*](#)
- Guyatt GH, Feeny DH, Patrick DL. Measuring health related quality of life. *Ann Intern Med* 1993; 118: 622–629.

- Hallum, A. (1995). Disability and the transition to adulthood: Issues for the disabled child, the family, and the pediatrician. *Current Problems in Pediatrics*, January, 12-50.
- Heward and Orlansky. (1980). Definition of Special Education. Cited in Special Needs: Education and Rehabilitation. Written by Emeka Desmond Ozoji.
- Houtenville, A., Ruiz-Quintanilla, S. and Weathers R. (2001). *Evaluating Survey Questions used to identify Disability: An application of the international classification of functioning, disability and health care, ICF*. Cornell University.
- Human Resources Development Canada (HRDC). (2002). *Advancing the Inclusion of Persons with Disabilities*. Hull, Quebec.
- Hurst, R. (2003). The international disability rights movement and the ICF. *Disability and Rehabilitation*, 25, 572-576.
- Imrie, R. (2004). Demystifying disability: A review of the international classification of functioning, disability and health. *Sociology of Health and Illness*, 26, 287-305.
- Jau-Hong, L., Yun-Huil, J., Shwn-Jen, L., Chien Hung, L., Hui-Yi, N., Ya-Ling, T., and Sing Kai, L. (2009) Do physical disabilities affect self perceived quality of life of adolescents. *Informa health care*; Vol 31, No. 3, pgs 181 – 188.
- Kalnins, I. V., Steele, C., Stevens, E., Rossen B., Biggar D., Jutai J. And Bortolussi J. (1999). Health survey research on children with physical disabilities in Canada. *Health Promotion International* 14(3): 251-260, September 1999
© Oxford University Press
- Kalscheur, J.A. (1992). Benefits of the Americans with Disabilities Act of 1990 for children and adolescents with disabilities. *American Journal of Occupational Therapy*, 45(5), 419-426.

- Karger, J., & Hitchcock, C. (2003). *Access to the general curriculum for students with disabilities: a brief for parents and teachers*. Wakefield, MA: National Center on Accessing the General Curriculum. http://www.cast.org/publications/ncac/ncac_accessparents.html
- Kerrie, P., Maria, D., Gina, A. Johanna, D. and Marianne, K. (1998). Quality of Life: What Does It Mean in Rehabilitation? *The Journal of Rehabilitation* Vol 64.
- Ketelaar, M., Vermeer A, Hart H, van Petegem-van Beek, E. and Helders, P.J. (2001). Effects of a functional therapy program on motor abilities of children with cerebral palsy. *Physical Therapy* 81(9), 1534-45.
- King, G., Law, M., King, S., Rosenbaum, P., Kertoy, M., & Young, N. (2003). A conceptual model of factors affecting the recreation and leisure participation of children with disabilities. *Physical & Occupational Therapy in Pediatrics*, 23(1), 63-90.
- King, G., Tucker, M. A., Baldwin, P., Lowry, K., LaPorta, J., & Martens, L. (2002). A Life Needs Model of pediatric service delivery: Services to support community participation and quality of life for children and youth with disabilities. *Physical & Occupational Therapy in Pediatrics*, 22(2), 53-77.
- Kings, G. and Cathers, T. (1998). What Adolescents want in life: Implications http://www.hqlo.com/sfx_links.asp?ui=1477-7525-6-6&bibl=B16 for service delivery. Published by Can-Child centre for childhood disability research. McMaster University.
- LaGreca, A.M. (1990). Social consequences of pediatric conditions: Fertile area for future investigation and intervention? *Journal of Pediatric Psychology*, 15, 285-307.
- Law, M., Finkelman, S., Hurley, P., Rosenbaum, P. King, S., King, G., & Hanna, S. (2004). The participation of children with physical disabilities: Relationships with diagnosis, physical function, and demographic

- variables. *Scandinavian Journal of Occupational Therapy*, 11(4), 156-162.
- Law, M., King, G., King, S., Kertoy, M., Hurley, P., Rosenbaum, P., Young, N., Hanna, S., & Petrenchik, T., (2006). *Patterns and Predictors of Recreational and Leisure Participation for Children with Physical Disabilities*. Published and distributed by *CanChild* Centre for Childhood Disability Research. Keeping Current online journal #02-2006
- Leplège, A. and Hunt, S. (1997). The problem of quality of life in medicine. *JAMA* 278:47 – 50.
- Lindström, B., & Köhler, L. (1991). Youth, disability and quality of life. *Pediatrician*, 18, 121-128.
- Makas, E. (1988). positive attitude towards disabled people: Disabled and Non-disabled person's perspectives. *Journal of Social Issues*, 44:49-61.
- Mccoll, M., and Bickenbach, J. (eds.). (1998). *Introduction to Disability*. London: W.B. Saunders Co.
- McDougall, J., King, G., DeWit, D., Miller, L., Hong, S., Offord, D., LaPorta, J., & Meyer, K. (2004). Chronic physical health conditions and disability among Canadian school-aged children: A national profile. *Disability and Rehabilitation*, 26(1), 35-45.
- Miles, M. (2000). **Disability on a Different Model: glimpses on an Asian heritage.** *Disab Soc* 2000, 15(4):603-618. [Pubmed].
http://www.hqlo.com/sfx_links.asp?ui=1477-7525-6-6&bibl=B7
- Minaire, P. (1993). Proceedings of the 1991 International Symposium on Data on Aging. Models of disability. *Vital Health Stat* 5(7):9 – 17.
- Ministry of Education, Research Division; New Zealand, (2007), *Integrated Effective Service Provision for Children and Young people with Physical Disabilities: A summary of two research projects.*

- Misajon,R. Pallant, J., Manderson, L. Chirawatkul, S. (2008). Measuring the impact of health problems among adults with limited mobility in Thailand: further validation of the Perceived Impact of Problem Profile. Biomed Central Ltd. An Open Access article distributed under the terms of the Creative Commons Attribution License. (<http://creativecommons.org/licenses/by/2.0>). Published January 21, 2008.
- Moller, K. (2003). Deaf-blindness: A challenge for assessment. Is the ICF a useful tool? *International Journal of Audiology*, 42, S140-S142. (Suppl. 1)
- Morris, J. (2004a) “*One town for my body, another for my mind*”: *Services for people with physical impairments and mental health support needs*. York: Joseph Rowntree Foundation.
- Morris, J. (2004b) *People with physical impairments and mental health support needs: a critical review of the literature*. York: Joseph Rowntree Foundation.
- MSN Encarta dictionary (accessed October 11, 2007). Definition of inclusion,. [Archived](#) 2009-10-31.
- MSN encarta dictionary, 2010-11-05
- National Education Association of Disabled Students (NEADS) (2008). Online publication.
- National Policy on Education (2004) (4th Edition), Federal Republic of Nigeria, National educational Research and Development Council (NERDC) press, section 10, pg 47.
- National Survey on Disabled (NSD) persons in Nigeria Document, (1996).
- Nosek, M., & Fuhrer, M. (1992). Independence among people with disabilities: I. A heuristic model. *Rehabilitation Counseling Bulletin*, 36(1), 6–31.
- Obiakor, E.F. (1998). Special education reform in Nigeria, prospects and challenges. *European Journal of Special Needs Education*, vol 13, issued 01/03/1998, pgs 57-71.

- Odufa, B.O. (2007), Towards Sustainable Public Transport for Disabled People in Nigerian Cities. Online document.
- Office of Special Education and Rehabilitation Services (OSERS), (2001). USA.
- Oloko, S.B.A. (2008). National Baseline Survey of People With Disabilities (PWD) Educational and Psychological Needs of persons with disabilities. Unpublished.
- Peat, M. (1997). *Community Based Rehabilitation*. London: W.B. Saunders Co. Canadian International Development Agency (CIDA). 2000. *CIDA's Social Development Priorities: A Framework for Action*. Ottawa: Ministry of Public Works and Government Services Canada.
- Peto, V., Jenkinson, C., Fitzpatrick, R. and Greenhall, R. (1995). The development and validation of a short measure of functioning and well-being for individuals with Parkinson's disease. *Qual Life Res.* 4: 241–248. [\[crossref\]](#) [\[Medline\]](#) [\[Order article via Infotrieve\]](#)
- Physical Disability Council of Australia (PCDA) document, May 2004.
- Ravens-Sieberer, U., Schmidt, S., Gosch, A., Erhart, M., Petersen, C. and Bullinger, M. (2007). Measuring subjective health in children and adolescents: results of the European KIDSCREEN/DISABKIDS Project. *GMS Psychosoc Med.* 4:Doc08. Vol. 4, ISSN 1860-5214.
- Rothwell, P.M., Mcdowell, Z., Wong, C.K. and Dorman, P.J. (1997). Doctors and patients don't agree: cross sectional study of patients' and doctors' perceptions and assessments of disability in multiple sclerosis. *BMJ.* 314: 1580–1583. [Pubmed].
- Sands, T. (2006). A Voice of Our Own: Advocacy by women with Disability in Australia and Pacific. www.pwd.org.au. Pp.51-62
- Sherman A. (1996). *Mainstream, where did we fail?* Challenge Publication Ltd, Gale, Israel.

- Sillanpää, M. (1987). Social adjustment and functioning of chronically ill and impaired children and adolescents. *Acta Paediatrica Scandinavica*, (Suppl. 340), 1-70.
- Sloper, P., Turner, S., Knussen, C., & Cunningham, C. (1990). Social life of school children with Down's syndrome. *Child: Care, Health and Development*, 16(4), 235-251.
- Smith, Alan (2007) **Education and Conflict: an emerging field of study**. In: *Education, Conflict and Reconciliation: International Perspectives*. (Eds: Leach, Fiona and Dunne, Máiréad), Peter Lang, pp. 19-32. ISBN 978-3-03910-945-6
- Somorin, K. (2008). Nigeria: Mainstreaming the Disabled into Governance, Online all Africa.com Publication. Retrieved 7th May, 2008. A recent Media parley organized by the International Republican Convention in Abuja, with one of the resource persons, being Mrs. Ekaete Judith, the Executive Director of Family Centered Initiative for Challenged Persons (FCICP).
- Spilker, B. (Ed). (1990). *Quality of life and pharmaco-economics in clinical trials*. Philadelphia: Lippincott-Raven.
- Steele, C. A., Kalnins, I. V., Jutai, J. W., Stevens, S. E., Bortolussi, J. A. and Biggar, D. (1996). Lifestyle health behaviours of 11- to 16-year-old youth with physical disabilities. *Health Education Research*, 11, 173—186. [Pubmed].
- Stevens, S. E., Steele, C. A., Jutai, J. W., Kalnins, I. V., Bortolussi, J. A. And Biggar, D. (1996) The psychosocial health of 11- to 16-year-old youth with physical disabilities. *Journal of Adolescent Health*, 19: 157—164. [ISI][Medline]
- Stevenson, C., Pharoah, P., & Stevenson, R., (1997). Cerebral palsy - the transition from youth to adulthood. *Developmental Medicine and Child Neurology*, 39, 336-342.

- Stewart, A.L., Hays, R.D. and Ware, J.E. Jr. (1988). The MOS Short-Form General Health Survey: reliability and validity in a patient population. *Med Care*. 26: 724–735.[[Medline](#)]
- Stewart, D. and Rosenbaum, P. (2003). Can Child Center for Childhood Disability Research: A applying the WHO’s ICF in Childhood Disability; McMaster University. *Keeping current*, Monday 2005, 2008.
- Stewart, D., Rosenbaum, P, (2003), The International Classification of Functioning, Disability, and Health (ICF) A Global Model to Guide Clinical Thinking and Practice in Childhood Disability; *canchild* Centre for Childhood Disability Research; online publication.
- Strully, J., & Strully, C. (1996). Friendships as an educational goal: What we have learned and where we are headed. In W. Stainback & S. Stainback (Eds.), *Inclusion: A guide for educators*. Balitmore: Paul H. Brookes Publishing Co.
- Susame, K. (2005). Assessing Quality of Life of Children and Youth with Disabilities: review of Available Measures, Published and distributed online by Can Child Center for childhood disability research.
- Testa, M.A. and Simonson, D.C. (1996). Assessment of quality-of-life outcomes. *N Engl J Med* 334:835 – 840.
- The WHOQOL Group. The World Health Organization Quality of Life Assessment (WHOQOL). Development and psychometric properties. *Soc Sci Med* 1998;46:1569-1585.
- Tieman, B. (2002). Usual Mobility Methods of Children with Cerebral Palsy: A Comparison across Home, School, and Outdoors/community Settings. Unpublished Doctoral Thesis. Philadelphia: Hahnemann University.
- Turnbull, R. (2002). "Exceptional Lives: Special Education in Today's Schools (3rd ed.) Merrill Prentice Hall. New Jersey.

- UNESCO document on Policy Guideline on Inclusion in Education, (2009),
UNESCO, Paris.
- UNESCO, (2004), A Conceptual Paper on the Right to Education for Persons with
Disabilities: Towards Inclusion, Dec, 2004. An EFA Flagship.
- United Nations. (1998). *Basic Facts about the United Nations*. New York. Available:
<http://www.un.org/aboutun/basicfacts/index.html>
- University College Dublin, Disability Support Service, UCD-DSS; www.ucd.ie
- Villa, R., Thousand, J., Stainback, W. & Stainback, S. *Restructuring for Caring &
Effective Education*. Baltimore: Paul Brookes, (1992). Cited in ‘The Need
to Belong: Rediscovering Maslow's Hierarchy of Needs’ by: Norman
Kunc. Axis Consultation and Training Ltd.
- Wagenbreth C., Frank G.H., Sabel B.A., Gall C. (2009). Impairments of Vision and
Health related Quality of Life in Stroke Patients with Homonymous Visual
Field Defects. Sept 2009, [Epub ahead of print]
- Wallander, J.L and Varni, J.W. (1998). Effects of pediatric chronic physical disorders
on child and family adjustment. *Journal of Child Psychology and
Psychiatry*, 39:29-46.
- Ware, J.E. and Sherbourne, C.D. (1992). The MOS 36-item Short-Form Health
Survey (SF-36). I: Conceptual framework and item selection. *Med Care*
30:473 – 483.
- White-Koning, M., Bourdet-Loubère, S., Colver, A. and Grandjean, H. (2005).
(SPARCLE collaborative Group). Subjective quality of life in children
with intellectual impairment – how can it be assessed? *Developmental
Medicine & Child Neurology* 47: 281–285
- Whiteneck, G.G. Measuring what matters: key rehabilitation outcomes. *Arch Phys
Med Rehabil* 1994; **75**: 1073-1076. MEDLINE
- WHO (1948). Constitution of the World Health Organization. Geneva.

- WHO (2001). International Classification of Functioning Disability and Health (ICF), Geneva, WHO.
- WHO (2001). *International Classification of Functioning, Disability and Health*. Geneva: World Health Organization.
http://www.hqlo.com/sfx_links.asp?ui=1477-7525-6-6&bibl=B1
- WHO (2008). Online publication on disabilities. Retrieved 17/06/2008.
- Wikipedia, free encyclopedia (Wikipedia foundation, Inc.) Inclusion (Education). Last updated 3rd November, 2010.
- Willer, B., Ottenbacher, K.J. and Coad, M.L. (1994). The community integration questionnaire. A comparative examination. *Arch Phys Med Rehabil* 73:103 – 111.
- Willer, B., Rosenthal, M., Kreutzer, J.S., et al. (1993). Assessment of community integration following rehabilitation for traumatic brain injury. *J Head Trauma Rehabil* 8(2):75 – 87.
- Wiman, R., E. Helander, and J. Westland. (2002). Addressing the Needs of the Poorest of the Poor – People with Disabilities and the Health Sector. Washington, DC: World Bank. International Centre for the Advancement of Community Based Rehabilitation (ICACBR). 2001. *War Victims Rehabilitation Project in Bosnia and Herzegovina Final Report*. Kingston: Queen's University-ICACBR.
- Wood, D.W. (1994). *Preventing Secondary Conditions Associated with Spina Bifida or Cerebral Palsy: Proceedings and Recommendations of a Symposium*. Spina Bifida Association of America, Washington, DC.
- Wood-Dauphinee, S.L, Opzoomer, M.A., Williams, J.I, et al. (1988). Assessment of global function: The Reintegration to Normal Living Index. *Arch Phys Med Rehabil* 69:583 – 590.

- World Health Organization Quality of life group. (1994). A development of the World Health Organization Quality of Life Assessment Instrument (the WHOQoL). In J. Orley and W. Kuyken (Eds), Quality of life assessment International perspectives, Berlin: Springer – Verlag.
- World Health Organization. (1980). International Classification of Impairment, Activity and Participation - ICDH-2. Geneva: World Health Organization.
- World Health Organization. (1980). International Classification of Impairments, Disabilities, and Handicaps. Geneva.
- World Health Organization. (1997). ICDH-2: International Classification of Impairments, Activities, and Participation (Beta-I draft for field trials). Geneva.
- World Health Organization. (2001). International Classification Functioning, Disability and Health (ICF). Geneva: World Health Organization.
- World Health Organization. (2001). *International Classification of Functioning, Disability and Health*. Geneva. Available: www.who.ch/icf
- Ziebland, S., Fitzpatrick, R. and Jenkinson, C. (1993). Tacit models of disability underlying health status instruments. Soc Sci Med 1993; 37:69 – 75.

APPENDICES
Appendix I: NOTICE OF FULL APPROVAL

UNIVERSITY OF IBADAN

Appendix II
Consent form

HEALTH RELATED QUALITY OF LIFE OF STUDENTS WITH PHYSICAL DISABILITIES IN SPECIAL AND INTEGRATED SCHOOLS IN IBADAN, OYO STATE.

The Purpose of this study is to provide scientific document for describing the experience of adolescents with physical disabilities in relation to their families, environment and their day-to-day challenges and achievement in terms of activity limitation, performance and capacity and to identify factors influencing their HR-QoL. The information obtained shall be used for policy formulation on strategies to be employed in the provision of effective services for the students with physical disabilities.

Each research participant shall be interviewed on the items on the questionnaire which is expected to last for about 15-20 minutes. For this study at least a total of 300 participants shall be involved.

The study is not expected to pose any risk on the participants rather they stand to benefit from the result of the study and also participants shall be given incentives such as writing materials.

Consent to participate in this research shall be voluntary and shall be obtained individually after a detailed explanation of the study has been done. Confidentiality of all the information obtained shall be maintained. Only students that are physically disabled shall be involved in this study. Participants who do not wish to continue with this study can withdraw from the study at any point in time without any penalty attached to it.

If you agree with these terms/conditions for participation in this study, kindly sign or thumb-print in the box provided.

Thanks for your anticipated co-operation.

Yours truly, Tomori Oluwakemi, MPH Child and Adolescent Health student; Institute of Child Health. College Of Medicine, Faculty of Public Health. **08060360408.**

Appendix III
Indices used in describing factor variables utilized in the Bivariate/logistic regression analysis.

Variable	Type of data	Dichotomized*
Family Environment * <ul style="list-style-type: none"> ✚ Parent's marital status ✚ Family type ✚ Presence of sibling(s) with disability in the family ✚ Number of children in the family ✚ Duration of stay with parents or significant other ✚ Visitation in school by family member(s) ✚ Communication of family member with sign language (if applicable) ✚ Attending to visitors when at home 	Ordinal	Good / Poor
School environment* <ul style="list-style-type: none"> ✚ Permanent seat in class ✚ Promotion with other class mates ✚ Experience of bullying/cheating in school as a result of disability ✚ Availability of support group for the handicapped students in the school 	Ordinal	Good /Poor
Socio economic status of parents* <ul style="list-style-type: none"> ✚ Mother's occupation ✚ Father's occupation ✚ Highest level of education of parents 	Ordinal	high / Low
School setting <ul style="list-style-type: none"> ✚ Special ✚ Integrated 	Nominal	Special /integrated
Personal characteristics* <ul style="list-style-type: none"> ✚ Interest in involvement in activities around ✚ Loneliness/withdrawal/sadness as a result of disability ✚ Experience of discomfort/loneliness/withdrawal/sadness when abused with regards to your disability 	Ordinal	Good /Poor
Type of physical disability	Nominal	
Intervention/Aides used	Nominal	
Use of Individual Education Plan (IEP)	Ordinal	
HR-QoL categories based on Scores 10 – 41 (low) 42 – 84 (high)	Ordinal	Low HR-QoL High HR-QoL

* The variables were scaled and dichotomized as close as possible to the median value.

Appendix IV**Table 4.4: Details of questions on the instrument from which HR-QoL domain scores were cumulated.**

DOMAINS OF QOL	MAXIMUM OBTAINABLE SCORE	COMBINATIONS
Interpersonal relationship	11.00	Questions 32 – 36
General participation	15.00	Questions 37 – 42
Performance in physical activities	19.00	Questions 43 – 49
General health scores	12.00	Questions 50 – 53
Vitality scores	12.00	Questions 54 – 57
Mental health scores	15.00	Questions 58 – 62
Obtainable HR-QoL total scores	84.00	

Appendix V; Measurement model of the SF-36 (adapted from Ware et al, 1995)

ITEMS	SCALES	Dimensions					
3. Vigorous activities	Scale 1: Physical Functioning (PF)	Dimension A: PHYSICAL HEALTH					
4. Moderate activities							
5. Lift, carry groceries							
6. Climb several flights							
7. Climb one flight							
8. Bend, kneel							
9. Walk mile							
10. Walk several blocks							
11. Walk one block							
12. Bathe, dress							
13. Cut down time				Scale 2: Role-Physical (RP)	Dimension A: PHYSICAL HEALTH		
14. Accomplished less							
15. Limited in kind							
16. Had difficulty	Scale 3: Bodily Pain (BP)	Dimension A: PHYSICAL HEALTH					
21. Pain-magnitude							
22. Pain-interfere	Scale 4: General Health (GH)			Dimension A: PHYSICAL HEALTH			
1. General health rating							
36. Excellent							
34. As healthy as anyone							
33. Sick easier							
35. Health worse	Scale 5: Vitality (VT)						
23. Pep/life							
27. Energy							
29. Worn out							
31. Tired	Scale 6: Social Functioning (SF)	Dimension A: PHYSICAL HEALTH					
32. Social-extent							
20. Social-time							
17. Cut down time	Scale 7: Role-Emotional (RE)			Dimension A: PHYSICAL HEALTH			
18. Accomplished less							
19. Not careful							
24. Nervous	Scale 8: Mental Health (MH)					Dimension B: MENTAL HEALTH	
25. Down in dumps							
26. Peaceful							
28. Blue/sad							
30. Happy							
2. Change in reported health							

Appendix VI

Interviewer Structured Questionnaire.

HEALTH RELATED QUALITY OF LIFE OF STUDENTS WITH PHYSICAL DISABILITIES IN SPECIAL AND INTEGRATED SCHOOLS IN IBADAN, OYO STATE.

Name of school:

1. Ibadan School for the Deaf, Poly Road, Ijokodo, Ibadan.
2. Home School for the Handicapped, Ijokodo, Ibadan.
3. School for the Deaf, Oke-Bola Ibadan.
4. School for the Handicapped Ring Road, State Hospital, Ibadan.
5. School for the Handicapped HLA Compound, Agodi, Ibadan.
6. Omoyeni School for the Handicapped Children, Aperin, Ibadan.
7. C.A.C. Special School for the Handicapped, Oniyanrin, Ibadan.
8. Methodist Grammar School, Bodija, Ibadan.
9. Aperin Oniyere Grammar School, Orita Aperin, Ibadan.
10. Ijokodo High School, Junior School I, Ibadan.
11. Ijokodo High School, Model School II, Ibadan.
12. Ijokodo High School, Senior, Ibadan.
13. Cheshire High School I, Poly Road, Ibadan.
14. Cheshire High School II, Model, Poly Road, Ibadan.
15. Cheshire High School, Senior, Ibadan.

A. Demographic variables.

Please tick the appropriate response.

1. **School setting:** Integrated () Special ()

2. **Who enrolled you in this school?**

.....

3. **Do you know why you have been asked to come to this school?** Yes () No ()

If yes, give reason(s)

.....

.....

4. **Present Age:**

Year(s) spent in this School.....

5. **Sex:** Male () Female ()

6. **Religion:**
7. **Ethnicity:**
8. **Marital status:**
9. **Marital status of parent:**
10. **Type of family:** Monogamous () Polygamous ()
11. **Mother's occupation.**
- Father's occupation:**
12. **Parent's highest level of education:**

B. Environmental factors: Please tick as appropriate.

I. Family environment

13. **Presence of a sibling with disability in the family:** Yes () No ()
14. **Number of children in the family:**
15. **Duration of stay with parents:**
16. **How often do any of your family member come to visit you?**
.....

17. Do your parents or relatives communicate with you using sign language?
Yes () No () Not applicable ()
18. Are you always allowed to see visitors at home? Yes () No ()

II. School environment

19. Do you have a Permanent Sitting Position in class? Yes () No ()
20. Are you always promoted with your other class mates? Yes () No ()
Not applicable ()
21. If No, does this affect your friendship with them? Yes () No ()
22. Do you experience being bullied or cheated by other students? Yes () No ()
23. Is there any support group like clubs / support groups for people like you in the school? Yes () No ()
24. If yes, do you participate in the activities? Yes () No ()
Specify type of activity

C. Personal characteristics

- 25. I always like to be involved in activities around me: Yes () No ()
- 26. Who encourages you most of the time?
.....
- 27. How often do you (as a result of your disability) feel lonely, withdrawn, or sad?
.....
- 28. Do you experience this when someone use your disability to abuse you? Yes ()
No ()
- 29. Do you think you need anything that will help you live a fulfilled life? Yes ()
No ()
- 30. If yes, what do you think you need?
.....
- 31. Average academic/vocational performance for the past one year
Below average ()
Average ()
Above average ()
No record ()
Poor ()
Excellent ()

D. Interpersonal and interaction/ relationship

- 32. Do you have a friend you love and talk with? Yes () No ()
- 33. For how long have you been friends?.....
- 34. Do you like meeting new people? Yes () No ()
- 35. If yes, do you feel shy when you meet them? Yes () No () Not applicable
= 2
- 36. Do you generally feel shy in the company of non disabled adolescents? Yes = ()
No ()

E. General participation. Indicate the type of activity

In family: What types of home activities do you engage in or assist with?
.....
.....

.....
.....
37. Do you take part in sporting activities? Yes () No ()

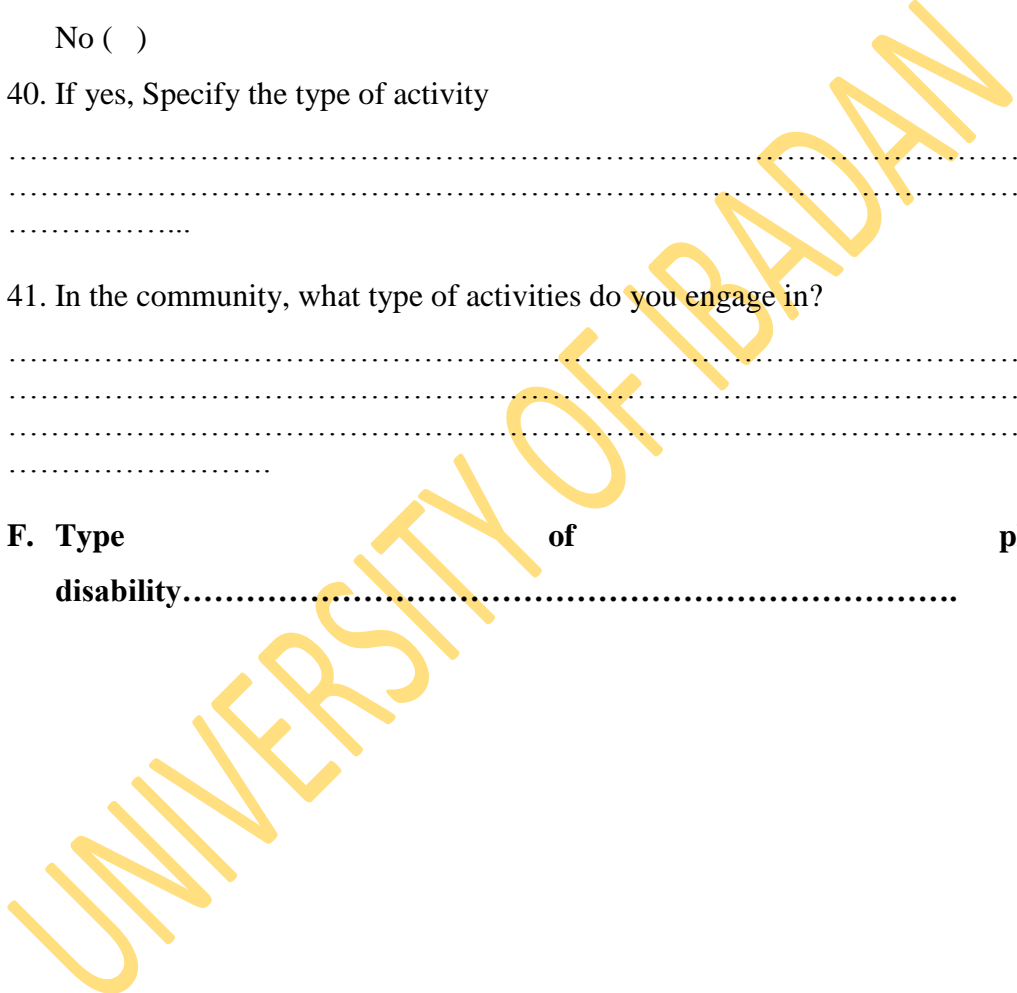
38. Around what time do you usually get to School?
.....
.....

39. Do you engage in any religious activities at school, church or mosque? Yes ()
No ()

40. If yes, Specify the type of activity
.....
.....
.....

41. In the community, what type of activities do you engage in?
.....
.....
.....
.....

F. Type of physical disability.....



G. Use of aides or interventions.

.....

Individual Education Programme

Does your teacher teach you separately in class when you don't understand? Yes ()

No ()

Does the teacher use any special chart, aid or method to teach you in class among other students? Yes () No ()

H. Quality of life of respondents - performance assessment

The table below reflects how often you experience difficulties/pain when performing the following activities, please respond appropriately as follows.

No		Without assistance (performance)			
	Activity	Always	Frequently	Rarely	Never
43	Seeing				
44	Hearing				
45	Speaking/ Talking				
46	Mobility (walking, -half a mile; crawling, climbing, kneeling, or standing for too long)				
47	Gripping objects, holding or writing.				
48	Learning, memorizing, recall or knowledge application.(reading, writing)				
49	Self-care/ ADL- bathing dressing, feeding ,etc.				

I. This section is to access the general health condition of the PDA

	General health	Strongly agree	Agree	Disagree	Strongly disagree
50	I seem to get sick easier than others				
51	I am as healthy as anyone I know				
52	I expect my health to get worse				
53	My health is excellent				
	Vitality				
54	I always feel full of life				
55	I have a lot of energy				
56	I feel worn out all the time I engage in normal school activity				
57	I always feel tired after accomplishing any task.				
	Mental health				
58	I feel I should have accomplished more than what I have accomplished presently				
59	I am a nervous person/ I only feel nervous when answering questions in class				
60	I often feel down cast /downhearted and low without any known cause				
61	I always feel calm and peaceful				
62	I am a happy persons				

Appendix VII :
YORUBA VERSION OF THE DATA COLLECTION INSTRUMENT

**ORO ILERA TI O NI SE PELU AWON AKANDA OMO ILE IWE AWON
AKANSE EDA ATI ILE IWE TI IJOBA TI GBOGBO GBO NI ILU IBADAN,
IPINLE OYO**

GBIGBA LATI KO'PA

Eredi ise iwadi yin i lati pese awon akosile ti yio so nipa iriri awon odo langba ti won ni alebu ara ati ibasepo ti o wa larin won ati idile pelu ebi won, agbegbe won ati ipenija ojojumo ati aseori won, papaa nigbati a ba wo awon ifasehin ti ailera won nmu ba won. Ninu iwadi yi, ao o tun gbe awon nkan ti o le se iranlowo fun igbesi aiye won ati awon nkan ti o le maa mu ifasehin ba won. Awon eri oro ti a ba kojo lori ise iwadi yin i a o lo lati gbe eto isenilojo kale lori awon amuye ti a nilati ran awon akanda lowo.

Enikankan ti o ba lowo ninu eto yin i a o fi oro wa lenu wo lori awon ohun ti a ti to sile ninu iwe iwadi yi fun iseju bi medogun si ogun iseju. A o si fi oro wa enia ti o to ogorun meta lenu wo lori ise iwadi yi.

Ko si ewu kankan ti yio wu awon olukopa. Kaka be, gbogbo won ni yio ri ere je lori abo ise iwadi yi. A o ti le fun awon olukopa ni awon nkan we we we bi ohun ikowe.

Gbigba lati kopa ninu ise iwadi yi yio je ti aifipa muni, ati wipe a o se lehin ti aba ti salaye eredi re ti a fi nse eleyi. Gbogbo awon oro ti a ba gba tabi ko sile lori eto yin i a o se ni bonkele. Awon amo ilei we ti o ni alebu ara nikan ni yio kopa ninu ise iwadi yi.

Olukopa ti o ba fel ati ma tesiwaju ninu iwadi yi le se be lai si ijiya kankan.

Bi o ba fe lati kop a ninu ise yi, jowo bu owo lu tab ite ika si aye ti a ti fi sile fun eleyi.

A dupe fun afowosowopo re.

Emi ni tiyin ni tooto,

Oluwakemi Tomori,

Akeko onipele keji lori Ilera omode ati odo langba, ile eko ati ikose lori omoede ati odo langba. Ero ibanisoro : 08060360408

Oro ilera lori igbe aye ti o ni se pelu awon akanda omo ilei we ti awon akanda enia ati ilei we ti ijoba ti gbogbo gbo ni Ibadan, ipinle Oyo.

Awon Ibere fun Olukopa:

A. Awon awomoni:

Fa ila si idi eyi ti o ba ba o mu:

1. Iru Ile iwe : - Ile iwe ti gbogbo gbo
 - Ile iwe ti awon akanda nikan
2. Tani o mu o wo ilei we yi :
3. Nje o mo idi ti a fi mu o was i ilei we yi?.....
Ti o ba je Beeni, so idi tabi awon idi yii.....

-
4. Ojo ori re: Iye odun ti mo ti lo ni ilei we yi.....
 5. Obi : Okunrin (); Obirin ()
 6. Esin: Omoleyin Jesu (); Islamu (); Esin Ibile (); Omiran.....
 7. Eya: Yoruba (); Igbo (); Hausa () Omiran:
 8. Motigbeyawo/loko (); Nko ti gbeyawo/loko ()
 9. Awon obi ti gbeyawo/Loko: (); Awon obi mi ko ti gbeyawo/loko () won ti pinya ()
 10. Iru Ebi wo: Oniyawo pupo () Oniyawo kna ()
 11. Ise ti iya re nse.....; ise ti baba re nse.....
 12. Ise ti o gajulo ti awon obi re ka: Iya; Baba

B. Awon nkan arigbamu lori ayika ati agbegbe:

I. Ayika ati agbegbe nip ati ebi:

13. Se akanda enia wa ninu ebi re

14. Iye ania ti o wa ninu ebi re:

15. Iye igba ti o mba awon obi gbe? Lojoojumo (); Ni igba isinmi ni ile eko (); Lekankna ()

16. Emelo ni awon ebi re nwa lati be o wo?

17. Se awon ebi re nlo awon ede amin lati ba o soro?.....

18. Se a man gba o laye lati ria won ti o ba wa be o wo?

II. Ayika ati agbegbe ilei we:

19. Se oni aye kna pato ti o man joko sin i ile eko re? Beeni () Beeko ()

20. Se iwo naa ma n ni igbega pelu awon elegbe re ninu iyara ikeko? Beeni (); Beeko ()

21. Bi o ba je beeko, se eyi ni nkan se pelu ibasorepo awon elegbe re? Beeni () Beeko ()

22. Nje o ni iriri ki akegbe re ma fi o se yeye tabi yan o je? Beeni () Beeko ()

23. Se egbe kankna wa ni ilei we re lati ran enia bi iru re lowo? Beeni () Beeko ()

24. Bi Beeni, se ohun ko pa ninu awon eto won? Beeni () Beeko ()
Daruko iru awon eto bee:.....

C. Awomoni ti ara eni:

25. Mo man fel ati kopa ninu awon eto tin lo ni ayika mi. Beeni () Beeko ()

26. Tani o man mu o lori y ani opolopo igba?
.....

27. Nitori ailera re, Igba melon i agara idanikan wa ma n da o, Dori re kodo tabi ba o ninu je?

a. Ni gbogbo igba () b. Lekookan () c. kii saba si (); d. Ko tis i ri ()

28. Se o man ni iriri yi nigbati enikan ba fi aisedede re bu o: Beeni () Beeko ()

29. Nje o ro pe o nilo ounkoun lati gbe igbe aiye ti o pegede? Beeni () Beeko ()

30. Bi o ba je beeni, kini o lero wipe o nilo

.....

31. Abajade awon eko re ni odun kan sehin?

.....

D. Ibasepo larin ara eni

32. Se o ni ore ti o feran ti o si ma nba soro? Beeni () Beeko ()

33. O ti to igba wo ti eti di jo je ore?

34. Se o feran lati ma be awon enia titun pade? Beeni () Beeko ()

35. Bi beeni se oju maa n ti o nigbati o ba pade won? Beeni () Beeko ()

36. Se oju ma n ti o ni awujo awon abarapa? Beeni () Beeko ()

E. Kikopa gbogbo gbo: so awon ir uti iwo nkopa ninu re:

37. Ninu Ebi: Iru awon nkan won ni i iwo nkopa, fun apere raja kakiri; aso fifo, ounje sise, ile gbigba, omi pipon; daruko awon ise miran

.....

38. Nje oun kopa ninu ere idaraya?

39. Bi agogo melon i o mansaba de ilei we?

.....

40. Nje ohun ko ipa kankan ninu oro esin, ni ilei we tabi ni ile ijosin? Beeni () Beeko ()

41. Bi Beeni, Da oruko awon ipa ti ohun nko

.....

42. Ni agbegbe re, iru awon nkan won i iwo nse ti o fi o han bi olukopa?.....

F. Iru awon alebu ara : fi wan han bi won ti ba o mu

- Ese ti a ti ge
- Owo tabi ese ti o ni alebu
- Oju fifo (die tabi patapata)
- Odi ti ko Gboro (die tabi patapata)
- Aile Soro
- Aile dara gbe (isan eyin ti ijamba ti se tabi fi alebu miran han
- Apa kukuru tabi apa ti o gun ju

- Awon eya ara ti o mehe
- Awon alebu tabi ailera miran

G. Iru awon nkan iranwo tabi ona idola:

- Keke fun awon akanda
- Opa ti a fi n rin
- Iwe adase fun awon afoju (Buraili)
- Awon irinse ti a fi n Gboro
- Awon irinse ti a fin riran
- Awon oluko ti n fowo soro
- Idani leko lori ise owo
- Igbani ni iyanju/imoran lori ona abayo
- Riri awon akose mose ni g a gbo

I lana Eko fun Iwo nikan:

- Nje awon oluko re ma n da o ko ninu kilasi nigbati oye ohun ti won ba nko o ko ba ye o? Beeni () Beeko ()
- Nje Oluko re ma n lo awon aworan miran tabi apejuwe miran lati ko o ninu iyara ikeko? Beeni () Beeko ()
- Awon ona wo ni o ni lo lati je ka le se iranwo fun o.....

H. Iru igbe aiye olukopa: Bi o se le se si laisi wipe a ran o lowo....

No	Ise	Bi o ti le se lai si iranwo			
		Ni igba gbogbo	Telentele	Lekokan	Ko see se rara
43	Ririran				
44	Gbogboran				
45	Siso oro				
46	Irin-na (Ririn bi maili kan, wiwo rin, bibe kesseke, rin lori ikunle tabi duro peju)				

47	Gbigba nkan mu, didi nkan mu, tabi kiko iwe pelu gege				
48	Kiko eko, hiha nkan sori; pipe nkan was i iranti ati bebe lo....				
49	Titoju ara eni wiwe, wiwo aso, ounje jije ati be be lo				

Abala yin i lati woye eto ilera awon akanda odo:

s/n	Ilera ihagbogbo	Mo faramo gidigidi	Mo fara moo	Nko fi ara moo	Nko fi ara mo paapa
50	Mo ma n ni aissan ju awon elo miran				
51	Mo ni ilera gege bi awon elomiran ti mom o				
52	Mo nreti ki ilera mi leesi				
53	Ilera mi ye koro koro Eroja alafia mi				
54	Mo ni alafia mi				
55	Mo ni alafia ti o peye ninu mi				
56	Mo ma ndi kojere ni gbogbo igbati mo ba nse ise ni ile iwe				
57	O ma nre mi nigba Kugba ti mo ba n sise Ilera ti Agbara				
58	O ye ki nti se aseiyori ju bi mot i se lo				
59	Mo je eniti ko da ara re				

	loju				
60	A maa remi lati inu okan mi wa				
61	Ara mi a ma bale mo si wa ni alafia				
62	Mo je eniti inu re ndun				

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