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**Early Intervention for Children with Disability: The Parameters Necessary
for Effective Implementation**

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This work is dedicated to God Almighty, for His kindness, protection and mercy over me. Also, to children living with disabilities; they are the reason, I decided to study special education. To my lovely mother and her desire in educating a girl child. Lastly but not the least, to my dearest husband who has always shown me, unconditional love.

Certification

I, Okoye (Igoni), Joy Sade with student ID number D140580, certify that this dissertation titled “Early intervention for children with disability: the parameters necessary for effective implementation” and submitted as partial requirement for doctoral study programme of Special Education Studies was carried out by me. All sources in any form cited and used have been acknowledged in the text and in the list of reference.

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The mentioned above title dissertation has been carried out by Okoye, Joy Sade under my supervision.

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Date

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Abstract

Early intervention has become a global and cultural issue because of the different indigenous early intervention programmes, government policies or legislation, parents and the involvement of professionals. Therefore, this study aimed to examine the parameters needed for effective implementation of early intervention for children with disabilities. For the aim of the study to be achieved, the research investigates the influence or effect of the child-family centred approach of early intervention, professional team involvement, legislation or policy for early intervention, programmes and services as parameters for the effective practice of early intervention. Four research questions were posed, and four hypotheses formulated for the study. Sample survey design was adopted for the study. Purposive sampling technique was employed to select 204 participants (40.7 percent male and 59.3 percent female). The Likert scale questionnaire with 23 items and an interview guide were used as the instrument for data collection. To test the hypotheses, and to ascertain whether to accept or reject them, the data collated from the Likert scale were analysed using One Sample T-test in the Statistical Package for Social Science (SPSS). All the hypotheses were tested at 0.05 percent level of significance with $p < .001$ and 203 degrees of freedom. The results reveal that the child-family centred approach of early intervention influences intervention for children with disabilities. Professional team involvement as well as legislation/policy influence the intervention for children with disabilities. Programmes and services of early intervention greatly impact intervention of children with disabilities. The study concluded that the child-family centred approach, professional team involvement, legislation or law, programmes and services of early intervention are the necessary factors that need to be in place if intervention must be meaningful for development, growth, and learning of children with disabilities. As such, government and professionals should increase public awareness of the benefits of early intervention for all children with disabilities or who are at risks for developmental disabilities. Professionals should collaborate with parents to the latter of their children's intervention no matter their views and opinions. Public policy for funding should be enacted, for adequate accessibility of early intervention programmes for parents and families with low income.

Keywords: Early intervention, children with disability, child-family approach, legislation/policy, professionals, programmes and services.

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Theoretical Section

Chapter One Introduction

1.1 Background of Research

Igoni & Potmesil (2014) noted that early childhood special needs education became globalised because of the Salamanca Declaration of 1994, which called on people and governments to invest in early intervention and identification strategies for children with disabilities. Early intervention practices have been studied by many scholars. Ackah & Appiah (2009; 2011); Unegbu (2012); and Igoni & Potmesil (2014) attested that early intervention is an essential contributor and catalyst for the development of a culture of positive attitudes towards children with disability in countries like Nigeria and Ghana. As Nigeria struggles towards attaining the quest for Education for All (EFA) and the Millennium Development Goals (MDGs), an integrated, inclusive and effective early intervention programme becomes inevitable for children with disabilities (Ackah & Appiah, 2009; 2011). This would provide mutual benefits for children with disabilities, parents and families, educators and professionals and the society at large (Ackah & Appiah 2009; 2011; Unegbu 2012; Igoni & Potmesil 2014).

However, failing to start interventions as early as possible is seen as missing an important opportunity for learning and favourably influencing early brain development (Spiker, Hebbeler & Mallik, 2005; Ackah & Appiah, 2009; 2011; Ackah, 2011; Igoni & Potmesil 2014). On the other hand, early intervention promotes the development of the child and well-being of families. Chen (2014) and Igoni & Potmesil (2014) explained that professionals of any discipline who are concerned with children's growth and development know that the early identification of infants who either have disabilities or are at risk of developing them is essential, as is the provision of appropriate services to promote children's developmental progress. The authors acknowledged that "the primary purpose of early intervention is to promote the development and learning of very young children by helping their families identify and put into practice ways to support their healthy growth. Because the infant is a member of a family system that has a significant role in the infant's early care, experience, and future early intervention services need to be family-centred rather than child-centred. As such, working in collaboration, early interventionists and families identify,

develop and provide early and appropriate learning experience to facilitate the child's learning and development" (p.3, p.7 & 8).

In addition, there are three primary reasons for intervening early in the development of a child with a disability. These are i) to enhance the child's development; ii) to provide support and assistance to the family, and iii) to maximize the child's intervention and family's benefit to society (Omumu, et al., 2012; Igoni & Potmesil 2014; Crawford & Weber, 2014). Hence, "only through early identification and appropriate programming can children develop their potential" (p.1, Kames and Lee 1978, cited in Omumu et al., 2012; Igoni & Potmesil 2014; Crawford & Weber, 2014). Early intervention programmes have a significant impact on the parents and siblings of an infant or young child with a disability. The family of a young child with a disability often experiences disappointment, social isolation, added stress, frustration and helplessness. The compounded stress of the presence of the child with a disability may affect the family's well-being and interfere with the child's development (Omumu, Oriafio & Odirin Omiegbe, 2012; Igoni & Potmesil, 2014; Crawford & Weber, 2014). Ibid authors pointed out that families of children with disabilities are found to experience increased instances of divorce and suicides in Nigeria and the children with disability are more likely to be abused than children without disability.

Igoni & Potmesil (2014), Crawford & Weber, (2014) posited that early intervention can result in parents having improved and positive attitudes, positive information and skills, and more leisure time for themselves and their children with disability. Heward (1996) and Igoni & Potmesil (2014), attested that early intervention reduces the effects of disabilities or prevents the occurrence of learning and developmental problems later in life for children presumed to be at risk for such problems. It thus, provides support for the child and family that will help prevent the child from developing additional problems or disabilities. More so, instances abound in literature that the earlier the intervention, the more effective it is. Cooper, (1981); Garland, Stone, Swanson & Woodruff, (1981); Maisto & German, (1979); Strain, Young, & Horowitz, (1981) cited in Omumu et al., (2012) and Igoni & Potmesil (2014) explained that with interventions at birth or soon after the diagnosis of a disability or high-risk factors, the developmental gains are greater, and the likelihood of developing problems is reduced.

However, Beckman-Bell, (1981); Cooper, (1981); Garland et al., (1981); Karnes, (1983), Lovaas & Koegel, (1973); Shonkoff & Hauser-Cram, (1987) in Omumu et al., (2012); Crawford & Weber, (2014) and Igoni & Potmesil (2014) revealed that the involvement of parents in their child's

treatment is also important. Evidence in the literature reveal that parents of children with disability need support and skills necessary to cope with their child's disability. The authors stressed that the outcomes of family intervention include the parent's ability to implement the child's programme at home and reduced stress that facilitates the health of the family. As such, both factors appear to play an important role in the success of the programme with the child. According to Shonkoff & Hauser-Cram, (1987); Strain & Odom in Omumu et al., (2012) and Igoni & Potmesil (2014), certain structural features are related to the effectiveness of early intervention, regardless of the curriculum model employed. Successful programmes are reported to be more highly structured than less successful ones. In other words, maximum benefits are recorded in programmes that are clearly specified and frequently monitor child and family behaviour objectives; precisely identify interventionist behaviours and activities that are to be used in each lesson; utilize task analysis procedures; and regularly use child assessment and progress data to modify instruction (Igoni & Potmesil 2014).

Guralnick (2005) and Igoni & Potmesil (2014) alluded that making sure that the availability of well-coordinated, highly effective early intervention programmes in every community, each representing contemporary principles and practices, is held to be a reasonable goal by the policy makers, parents, and professionals. Guralnick (2005) stressed that early childhood intervention is important and beneficial to children with disabilities, as well as their families. Siblings, educators and professionals, and society derive maximum benefits. Practically, a fundamental responsibility of parents and caregivers in every society is to nurture their young ones for full integration into that society. From a practical viewpoint, promoting the health and development of children with disabilities increases their preparedness to participate as adults in the economic life of their communities (Ackah & Appiah, 2009; 2011; Igoni & Potmesil 2014).

Furthermore, in many countries in Europe and America, early intervention programmes for children and persons with disabilities are effective due to their intervention programmes which are indigenous to their people and are integrated into their existing special education delivery models. The current trends in the practice of early intervention for children and persons with disability are adapted to suit individual country needs. In Nigeria, early intervention programmes are prepared by special educationist in the child's later life. Also, for Nigeria to be able to establish indigenous early intervention programmes for children or infants and persons with disability, the existing

structures of special education must be reviewed, with early intervention programmes being properly integrated into them (Igoni & Potmesil 2014).

It is of great worth to note that early intervention is becoming a national and cultural issue because of the different indigenous early intervention programmes, government policies or legislations, parents and professionals' involvement. Therefore, it is meaningful to know and consider what makes the practice of early intervention for children with disabilities effective and well implemented in some countries in Europe and America. And it is also important to review the parameters necessary for effective implementation in Nigeria. This seeks to describe and recommend what needs to be in place for the effective practice of early intervention for children with disabilities in Nigeria.

1.2 Statement of the problem

Early intervention could be said to comprise of support, services and experiences to prevent or minimise long-term problems as early as possible. Early intervention can be offered at any age before or in the early stage of disabling conditions and circumstances. However, the services are to ensure the best for the child with disability and ensure that the child's potentials are better developed so that he/she will be better adjusted for use in the future. More so, early intervention services are offered to promote the development of infants, toddlers, or preschoolers under the age of six who are at risk for or have developmental delays and disabilities. And to promote the well-being of families that have such children, hence, parents are involved as caregiver and learners. Having looked around the Nigerian society, it is important to note that early intervention practice is minimal or non-existent when compared to what is obtainable in many countries in Europe and American. Their early intervention programmes for persons with disability are effective and are indigenous to their people and are integrated into their existing special education delivery model. In Nigeria, the identification of children with disability is not done early enough for early planning and placement by the government since there are no laws backing up their rights. And to make matters worse, the identification is left alone for the family with such a child until he/she is brought to be enrolled into primary special school. With this, parents including the educated ones, are sad that their children are disabled, and many resort to hiding their disabled children instead of looking for a way to help develop the children's potential and educate them.

In addition, many studies have unveiled that a lack of dedicated services and appropriate government legislation has hampered the management of disability in Nigeria. Until recently, government's and the peoples' attitude towards the disabled has been that the problem is an individual one, which must be either managed by the family or the disabled themselves (Ekpenyong, 2010; Igoni & Potmesil, 2014). While some people express shock towards disability, others exhibit embarrassment and pity, while others have denied them of certain rights and privileges (Ekpenyong, 2010; Igoni & Potmesil 2014). It is against this background that the researcher intends to describe and investigate the effect of programmes and services, legislations or policies, child-family centred, and professional team partnership on the practice of early intervention for children with disabilities. This will help Nigeria to implement an effective practice of early intervention for her children with disabilities.

1.3 Purpose of the research

The purpose of the research is to examine, investigate and describe necessary parameters needed for effective implementation of early intervention practices in Nigeria. It would focus on the different ways other countries carry out their early interventions pertaining to infants, toddlers or children with disabilities. To achieve this purpose, the research would be conducted to investigate: (i) policies as a necessity for the implementation of early intervention practices for children with disabilities. (ii) Early intervention programmes and services available for infants and toddlers with disabilities. (iii) Parents-professional partnership in early intervention for children with disabilities. Therefore, the research focus on these questions:

- i. To what extent do child-focused and family-centred interventions serve as effective tools in intervening for children with disabilities?
- ii. To what extent have the professional teams been effective in early intervention practice for children with disabilities?
- iii. To what extent does legislation or policy influence early intervention practice for children with disabilities?
- iv. What programmes and services are best for the practice of early intervention?

1.4 Significant of the study

This research will be important to Nigeria because it is what the researcher has found to be the biggest obstacles in the implementation of early intervention. Early intervention practices are minimal or non-existent in Nigeria. Because of this, there is a good reason to research on the necessary parameters or factors/guidelines that have made other countries whose practice of early intervention for children with disabilities has proven to be effective or well implemented. However, Nigeria lacks what it takes to effectively implement the practice of early intervention. Thus, this research might prove to be invaluable to Nigeria which has been struggling in special education and more specifically in early intervention practice for children with disabilities. Therefore, these parameters will change the implementation of her early intervention programmes and services for children with disabilities and their respective families.

1.5 Definition of terms

For the avoidance of ambiguity, variation in terms meaning and understanding, the following terms are defined according to usage and meaning in this study.

Early Intervention: This comprises a set of support, services and experiences to prevent or minimise long-term problems as early as possible.

Disability: This is a condition of being restricted or unable to perform a task or function because of impairment.

Children with Disability: These are infants or toddlers living with one or more disabilities e.g. intellectual disability, hearing impairment, visual impairment, physical disability, attention-deficit hyperactivity disorder, speech and language disorder, etc.

Parents: In this study, it specifically refers to the individuals who gave birth to or nurture and raise a child with a disability.

Parameters: Factors or guidelines that determine the smooth implementation of early intervention practices.

Policies/legislation: Laid down rules and regulations of a country guiding the practice of early intervention and rights of children with disabilities.

Chapter Two Literature Review

2.1 Early Intervention in United States

In the United States, early intervention is the system of supports for infants and toddlers with disabilities and their families because of Part C of the Individuals with Disabilities Education Act (IDEA). Early intervention in the United States is a strongly legislation/policy-oriented endeavour (Turnbull et al., 2007; cited in McWilliam 2015). States and their local programmes do what the Part C regulations tell them to do, little more and little less (McWilliam, 2015). However, Alliston, (2007), reported that the legislation has created two components of an early intervention system in which the first focusing on infants and toddlers (birth to three years of age IDEA Part C) and the second addressing the needs of preschool children (three to five years old, IDEA Part B, Section 619). And the key elements are:

- for children from birth to three years, the purpose of legislation is “... to develop and implement a statewide, comprehensive, coordinated, multidisciplinary, interagency system that provides early intervention services for infants and toddlers with disabilities and their families” (Guralnick, 2005a, p. 4; Alliston, 2007, p. 24).
- For three to five years old children, early intervention services end and the child receives early childhood special education. Guralnick (2005a), & Alliston, (2007) states that while there are differences in the legislation for under threes and three to five years old, he gives the example of less family involvement in programmes for three to five years old children (preschoolers), but the basic elements remain intact (i.e. they share basic elements). Nevertheless, Guralnick (2005a) explains that despite expectations for a convergence in structural components, various specific practices, service guidelines and philosophical perspectives, “analyses have revealed surprisingly large variations across states for many components of statewide early intervention systems” (p. 5).

In the U.S, home is the most commonly reported setting for early intervention services for infants and toddlers with disabilities or at risk of developmental delay. Infants, toddlers, and young children who are aged three to five years in early childhood education programmes are increasingly participating in a range of inclusive early childhood setting rather than in specialized programmes

for children with special education needs (Buysse & Wesley, 2005; cited in Alliston, 2007). For the United States to provide more services for children with disabilities, the Early Head Start programme was established to render comprehensive family support that include job training, education, housing and food, along with a child care component for infants, toddlers and pregnant women who meet income eligibility requirements (Zhang, Fowler & Bennett, 2004; in Alliston, 2007). It is worth to note that the Early Head Start and Head Start programmes reserve at least ten percent of their enrollment opportunities for children with developmental delays and their respective families who are also serviced by early intervention (IDEA Part C) programmes. Thus, the families do not need to meet the family income eligibility criterion of Head Start (Ramey & Ramey, 1998; in Alliston, 2007).

2.2 Early Intervention Practice in Greece

Apart from the National legislation, Greece has been committed to international conventions and is a signatory to the Convention on the Rights of the Child (UN) and The Salamanca Statement 1994. With regards to the national legislation, the concept of early intervention was first mentioned in Law 2817/2000 according to which Diagnosis, Evaluation and Support Centres (DESC) were established for children especially aged 3 or more, which had the responsibility amongst others to introduce, design and implement intervention programmes (Tavoulari, Katsoulis & Argyropoulos, 2014). Currently, Special Education Act of 2008 (L3699/2008), allows preschool special educational units to implement early intervention programmes for children till the 7th year of their age (Tavoulari, et al., 2014; Vonikaki & Toumazani, 2015). However, the Act has an inclusive character and mentions that inclusion objectives are achieved through Early medical diagnosis and Systematic intervention during pre-school age provided by the local special school units, through the development of early intervention classes (article 2, §6c). These early intervention classes will operate within Special Kindergartens to support children aged 0-4 (Article 8 §1a). Although, the implementation of early intervention programmes in Special Kindergartens idles and the operation framework remains unclear (Tavoulari, Katsoulis & Argyropoulos, 2014).

According to Kydoniatou, et al., (2009) cited in Tavoulari, Katsoulis & Argyropoulos, (2014), (Article 8, §2) early intervention programmes are included and applied in the programmes of the Special Kindergartens which are staffed by special kindergarten teachers (Article 18 §1.1e) who

construct, implement and evaluate them, based on their studies and experience, since their role is not legally clarified. Unfortunately, despite the Special Education Act legislation (L3699/2008, articles 8 & 32), early childhood intervention is not systematically applied in Greece (Drossinou & Kaderoglou, 2005; in Vonikaki & Toumazani, 2015). This is due to the lack of units, inadequate education and the lack of coordination at the administrative level (De Moor, et al., 1998 in Tavoulari, Katsoulis & Argyropoulos, 2014). Nowadays, early intervention in Greece is provided by the following organizations:

- Public services for early intervention,
- Private institutions,
- Non-profit organizations (NPOs),
- Associations of parents of children with disabilities,
- Non-governmental organizations. And each of the organizations has its own operating rules and provides services to a different age range (0-4 or 2-6 or 0-6).

Nevertheless, all early intervention programmes are focused both on child and family. As a result, it is expected that interpersonal relationships, built on trust, may be developed between families and early intervention staff. As such, parents feel that they are not alone, but, on the contrary, they have the support and guidance of qualified scientific personnel with which they develop interpersonal relationships and often feel them as their family members (Tavoulari, Katsoulis & Argyropoulos, 2014). Early intervention programmes must be provided free of charge, whenever possible, taking into consideration the financial resources of the parents or others caring for the child (UN, 1990, article 23, §3). In Greece, different organizations are responsible for the provision of early intervention services, and the sources of funding differ (Tavoulari, Katsoulis & Argyropoulos, 2014).

2.3 Early Intervention Practice in Czech Republic

Jeřábková, (2013), and Igoni & Potmesil (2014), acknowledged that the care for children and persons with disability in Czech Republic is on the state level, ensured especially by three departments, namely; health care system, social care system and school system. Ibid authors further explained that the care is directed and funded by the Ministry of Labour and Social Affairs

of CR (MoLSA), Ministry of Health of CR (MH) and Ministry of Education, Youth and Sports of CR (MEYS). Jeřábková, (2013), noted that the legislation defines the basic activities of each services, costs of its provision, qualification of workers in social services, ways of setting and maintaining the quality of social services etc.

In early intervention, the practice is carried out through social services with an Act no. 108/2006 Coll., passed for effective practice. The Social Service Act No. 108/2006 asserted that early intervention services are field or possibly ambulatory service provided to a child and parents of a child of 0 up to 7 year of age who is disabled or whose development is threatened due to an adverse social situation. Thus, the service is focused on support provided to the family and the development of a child in view of his specific needs. According to subsection (1), early intervention services should include the following basic activities:

- a) Upbringing, educational and activation activities,
- b) Mediating contacts with the social environment,
- c) Social therapeutic activities,
- d) Assistance with asserting rights, justified interests and looking after personal matters (54, Act No. 108/2006 Coll., on Social Services) in Igoni & Potmesil, (2014).

However, this Act completely changed the existing practice of providing cares for persons with disability. The flow of finances changed, the number and character of social services which can be provided increased significantly, the rights and obligations of social services providers and user changed, etc. (Jeřábková, 2013; Igoni & Potmesil 2014). Hence, the act is continually amended and revised according to how effective or not its implementation in practice proves to be (Jeřábková, 2013; Igoni & Potmesil 2014).

It is worth to note that early intervention commenced in the Czech Republic after the social changes in the 1989 and the first achievement in the field linked to the establishment of a network of early intervention centres named after Ms. Terezie Hradilkova (1999) whose efforts, time, energy and investment along her colleagues provide and shape special educational intervention services that focuses on families of children with disabilities. The Social Services Act helped to firmly and clearly enshrine early intervention as a service within the social services system (Li & Potmesil, 2016).

In sum, early intervention procedural standards in the Czech Republic include acceptance, agreement on the services to be provided, service planning, providing the services, counselling process, education, training and activation, assistance in promoting the rights and interests of the clients, termination of the intervention service, intervention evaluation and feedback, documentation, complaints and dealing with them, personnel standards, further training of employees, supervision, organizational items, and operating standards (Li & Potmesil, 2016).

2.4 Early Intervention Practice in Australia

Australian approaches to early intervention have been strongly influenced by U.S. research, policy and practice (Kemp & Hayes, 2005; in Alliston, 2007). The authors further stated that a range of services is provided in different states and territories, for children up to the compulsory school age of six years. These services include home-based and centre-based services (or a combination of those), itinerant support programmes within early childhood education services, parent support programmes, clinical and home-based therapy programmes, and special playgroups (Kemp & Hayes, 2005; cited in Alliston, 2007).

According to the website of the Department of Education, Training and the Arts, cited in Alliston (2007), described the delivery of early intervention services in Queensland, which are aimed at young children with disabilities in the areas of physical impairment, intellectual impairment, hearing impairment, vision impairment, Autism Spectrum Disorder, speech-language impairment and/or multiple impairments. Early childhood intervention programmes and services consist of two phases:

- Phase one- from birth to approximately three years, the programme consists of home-based and/or centre-based playgroups. Home-based intervention is provided by the parents within the family context and supported by members of a transdisciplinary team that may consist of teachers, occupational therapists, physiotherapists, speech-language pathologists, nurses, guidance officers, and/or other specialist personnel (DETA in Alliston, 2007);
- Phase two- for children from approximately three years to five years of age, is provided by an early childhood intervention programmes. In these programmes, teachers and other specialist staff with experience and/or qualifications in early childhood intervention

facilitate children's learning through small group and individualized interactions. However, the learning experiences provided to individual children and groups are planned and delivered in collaboration with parents and other professionals supporting the child's development (DETA in Alliston, 2007).

Early intervention practice in Australia has no federal laws that mandate early intervention services or how they are delivered. But, Commonwealth and State Disability Discrimination Act/legislation support the rights of people with disabilities to access services and facilities to which they are entitled (Kemp and Hayes, 2005; cited in Alliston, 2007). Ibid authors ascertained that early intervention is the responsibility of individual states and territories and most funding is delivered by their departments of education, health and/or community services. Thus, there is also federal funding available to support non-governmental programmes.

2.5 Early Intervention Practice in Nigeria

In Nigeria, the National Policy on Education document (2004) defined early childhood intervention or education as the education provided in an educational institution to children prior to their entering the primary school. This includes the Crèche, Nursery and the kindergarten (Eni-Olorunda, 2015). Though very crucial, early intervention for children with disabilities in Nigeria is far from implementation. Nevertheless, there is no structure in place for early detection and identification of children with disabilities and early intervention at the governmental level (Agunloye et al., 2011; Igoni & Potmesil 2014). In addition, most developing countries including Nigeria's policies, programmes and budgets have not reflected the seriousness and the effect early intervention has on children with disabilities. Hence, the issue of provision of appropriate intervention programmes that should begin with adequate identification and assessment is inadequate (Osuorji, 2008; in Eskay, Onu & Igbo 2012).

Agunloye, Pollingue, Davou, & Osagie (2011), and Igoni & Potmesil (2014) confirmed that there are limited numbers of evaluation specialists. Evaluative services, in terms of the nature of the disability, learning needs of children and eligibility for intervention or special education services are carried out by special education teachers at the school level or through few referrals to special centres. They further explained that at the special centre, there is no extensive battery of tests in

place to determine eligibility for the category of learning disabilities. As such, most children classified as qualified for special education services are those with obvious disabilities that focus on visual impairment, hearing impairment, speech impairment, intellectual disability, learning disabilities, and orthopaedic impairment. While behaviour disorder, autism, traumatic brain injury, and emotional disability are not yet a priority that demands attention.

Eskay, Onu & Igbo (2012) further enumerate the problems associated with early intervention practice in Nigeria as follows:

- Non-existence of facilities or screening, identification assessment, and evaluation.
- Stagnation of programmes due to inadequate funds.
- Only educational and vocational programmes are available and may not be based on data collected and equipment is outdated.
- Poor attitudes of the public towards the disabled. Some parents would rather avoid screening their disabled children, and others may not seek intervention due to ignorance.
- Lack of enforced legislature.
- Lack of accurate data to show accurate figures of children needing intervention. Thus, no reliable data on the prevalence of disabilities among Nigerian children.

In other words, there is no Law that separates early intervention, special education services from vocational and rehabilitation services. It is observable that children who qualify for special education services automatically qualify for vocational and rehabilitation services (Agunloye et al., 2011; Igoni & Potmesil 2014). However, “Free and appropriate special education services are only available to children up to the age of 16 when transition services are provided to move them to senior secondary schools or vocational/technical institutions” (p.94, Ibid authors). To implement a functional early intervention practice in Nigeria, Abang (2005), cited also in Igoni & Potmesil (2014) posited that what is needed is the enactment of a Federal Law by Nigeria aimed at young children with disabilities and their families. This Law should provide direct services to infants and young children with disabilities as well as their families, assessment devices, curriculum materials and parents teaching materials. The author suggested that under this Law, incentives should be given to states or NGOs for establishing programmes for infants or toddlers with disabilities.

2.6 Current Trends in Early Intervention

The current trends in early intervention practice are from evidence-based practice and natural environment.

Evidence-Based Practice

Evidence-based practice is a decision-making process that integrates the best available scientific research evidence with family and professional wisdom and values (Buysse and Wesley 2006). They are informed by research findings and demonstrate a relationship between the characteristics and consequences of an intervention that advises service providers about what they can do to produce a desired outcome (Dunst, Trivette & Cutspec 2007; Chen, 2014).

In recent years, the field of special education has embraced the trend toward evidence-based practice i.e. professional practice that has shown to be effective based on available research evidence (Chen, 2014). Ibid author explained that evidence-based movement in medicine began in 1980s and stated that clinical practice and decisions must be based on research evidence and spread to related health care fields including nursing, occupational therapy, physical therapy and speech and language pathology. However, the federal legislation known as No Child Left Behind Act (NCLB 2001) ordered that educational policies and practices implemented by school districts in the United States should be based on scientific evidence. Hence, NCLB and subsequent professional discourse (Buysse & Wesley, 2006; Coalition for Evidence-Based Policy 2002; Finello, Hampton & Poulson, 2011; in Chen, 2014) propelled professionals in special education and early intervention to examine common and current intervention practices with the goal of identifying and implementing practices that have been demonstrated through research to be effective.

On this note, practitioners should evaluate interventions and their professional practices by examining the evidence base and monitoring the results of their practices to fully implement evidence-based practices that has shown to be effective in collaborating with families and promoting children's development. Such as:

- Establishing supportive relationships with families (Dunst, 2002; Klein & Chen, 2008; McWilliam & Scott, 2001 in Chen, 2014)

- Following intervention practices that address the family system by helping to build the family's capacity for responsive child rearing, which has a positive influence on parents-child interactions and child development (Keilty, 2010; Trivette, Dunst, & Hamby, 2010; Chen 2014)
- Embedding interventions within everyday routines, which provides natural learning opportunities to develop skills within a meaningful activity and increases the caregiver's competence and confidence in promoting the child's development (Campbell & Sawyer, 2007; Chen, 2008; Chen et al., 2007; Dunst, Bruder, Trivette, & Hamby, 2005; McWilliam, 2010; Raab & Dunst, 2004 and in Chen 2014) etc.

Natural Environments

Early intervention services are usually provided in a child's home and in a variety of community setting like community play groups, day care centres, centre-based programmes for young children with disabilities, Early Head Start programmes, and specialized clinics for vision and hearing tests, speech and language services, or occupational and physical therapy (Chen, 2014). The term natural environments denote the settings or environments that are natural or typical for a same-aged infant or toddler without a disability, may include the home of community settings, and must be consistent with the provisions of §303.126 (CPIR, 2018).

Part C of the Individuals with Disabilities Education Act (IDEA) requires that eligible infants and toddlers with disabilities receive needed early intervention services in natural environments to the maximum extent appropriate (CPIR, 2018). Whereas, the IFSP required to describe these natural environments or provide a justification for why services cannot be provided in natural environments (Chen, 2014). Ibid author explains that for infants and toddlers, natural environments include the family home, child care, early childhood and community setting with typically developing peers.

Providing services in the natural environment requires a paradigm shift for early intervention professionals, a refocusing from child-centred to family and community-centred services and a partnership with adult family members and other related adults (Forney, 2018). It is also intended to provide opportunities for children to learn and develop skills in everyday activities and social interactions in the same environment in which the skills are used and needed (Chen, 2014).

Forney, (2018, p.2&3) suggests the following as tips for providing services in natural environment:

- Natural environments can be anywhere a child lives, learns and plays. Open your mind to the learning possibilities inherent in many naturally occurring situations and activities.
- Remember that you are a guest in the family's home, the daycare, etc., and conduct yourself accordingly.
- Consider the needs of all who are the potential learners in the child's environment (e.g., mom, dad, grand mom, babysitter, daycare provider, brother, sister, etc.) as well as the child's needs.
- Be flexible and consider options – get a feel for the environment, culture, lifestyle, etc., and respect each family's individual differences.
- Services should initiate from the family/child needs, not from the professional's evaluation data.
- Children learn best during naturally occurring situations rather than from imposed structured situations – try to train families to take advantage of natural opportunities during functional daily routines to apply therapeutic strategies. Recommendations should not interfere with natural routines but should enhance them.
- Don't assume that skills learned by a young child in one environment will easily generalize to another environment.
- Follow the child's lead during activities to encourage optimal learning. Your plans should be a guide, not rigid and dogmatic.
- Think of yourself more as a teacher and family coach than as a provider of direct service to the child.
- Use a lot of demonstration and hand-over-hand modelling of activities with the adult learners to ensure that they are comfortable repeating activities with the child.
- Help families get the technology support they need to make the most of the natural environment (e.g., adaptive positioning equipment, adapted toys, communication devices, etc.) and be sure they know how to use them.
- Listen to what families/caregivers are telling you and encourage sharing of information and questioning. If you are not sure you are being understood, give examples and ask the individual to restate it to you in some format.

- Work together as a team with family members, educators, and others providing services to the family – share information and don't be afraid to give up some territory to another if you have ensured they have the skills needed to perform without you.
- Learning should be fun for all involved – keep a good sense of humor and revisit the child in you as you work with families.

2.7 Child-focused and Family-Based Intervention

Child-Focused/Centred Intervention

According to Meisels & Shonkoff, (2000) & Hickman, et al., (2011) the child-centred, developmental perspective early intervention has their roots in early-childhood special education and Medicaid's Early and Periodic Screening, Diagnosis, and Treatment Programme of the 1960s. And the predominant service delivery model focused on providing child-centred, hands-on direct care to eligible children (Guralnik, 1997; in Hickman, et al., 2011) based on a developmental framework (Hickman et al. 2011). A child-centred approach recognizes that children's rights and needs are the primary focus for development. A child grows and develops not in a vacuum but as part of a family, a community, a culture and a nation. A child-centred approach inevitably requires strengthening social systems for care and well-being of the entire society. (UNDP, 2001). For children with disabilities or delays, the primary goals of early intervention services were to discourage or inhibit the use of abnormal or compensatory movement patterns and hasten or facilitate progression along the predictable developmental sequence (Atwater, 1991; cited in Hickman, et al., 2011). In a comprehensive analysis of child-centred direct early intervention, Guralnik reported short-term improvements for children with cognitive impairments. Long lasting effects were also significant and dependent upon intensity and specificity of the early intervention programmes (Guralnik, 1998 in Hickman, et al., 2011). Early intervention results in significant benefits for children. Specifically, early intervention supports the communication, play and behaviour of children (Neofotistou et al., 2014).

In child-centred or focused intervention, the professionals seek to work directly with the child through a centre-based programme of early education and care (Powell 2010). Professionals provide individualized services to a child with a disability, to improve the intensity of a one-on-

one intervention approach (Powell 2010). However, this type of intervention may provide occasional opportunities for parents to be involved in the programme, for instance, monthly group meeting providing parenting education (Powell 2010). Greatest impacts are mentioned when parents are involved in the intervention and when children are younger than 3 years (Bailey et al., 2005; Hospers-Blauw & Algra-Hadders, 2005; in cited in Neofotistou et al. 2014). Hence, parent participation is encouraged but not required, and is viewed as an adjunct to direct work with the child (Powell, 2010). The impact evaluation of implemented child-focused programmes confirmed their contribution to the social-cognitive development in children, development of their social competence, improved school achievements, reduced dropout and repetition rates, reduced need for special education, continued education, reduced behavioural problems in adolescence and lower abuse of psychoactive substance (Golubović, Marković, & Perović, 2015).

Family-Based/Centred Intervention

The field of early intervention in developed and developing countries, has been undergoing a philosophical shift in how practitioners view and interact with families of infants and toddlers with special needs (Özdemir, 2007). There has been movement away from child-centred service provision to family-centred practices (Mahoney & Bella, 1998; as cited in Özdemir, 2007). Family-centred practices, deduced from the social support model of Dunst (1985), have been adopted and used by varying human services, early intervention, education, health care, and other help-giving programmes, especially the IDEA Part C early intervention programme (Adams et al., 2013; Bruder, 2000; Bruder, 2010; Dunst, 2000; Dunst, 2002; Dunst et al., 1994; Dunst, Trivette, & Hamby, 2007; cited in Fang, 2017). Family-centred definition has evolved over time (Harbin, McWilliam & Gallagher, 2000 cited Bailey, 1987; Barber, Turnbull, Behr, & Kerns, 1988; Dunst, 1985; Dunst, Johanson, Trivette, & Hamby, 1991; Fewell & Vadasy, 1986; Rosenberg, 1977; Odom & McLean, 1993). McWilliam, Tocci & Harbin (1995) in Harbin, McWilliam & Gallagher (2000) developed a comprehensive definition, identifying four dimensions of family-centred principles, policies and practices which are responding to family priorities, empowering family members, employing a holistic approach to the family and demonstrating insight and sensitivity to families.

A family-centred approach to early intervention is demonstrated by beliefs and practices that treat families with dignity and respect and ensures the active involvement of family members in the

mobilization of resources and support necessary for them to care and rear their children in ways that have optimal child, parent, and family benefits (Dunst, Trivette, & Hamby, 2008; as cited in Bruder, 2010). Family-centred practices, family-driven and needs-based, focus on family goals and the unique needs of the family to achieve these goals. This approach does not consider the child as the sole focus of intervention but treats the family as the unit of intervention. It emphasizes empowerment of families as the crucial goal to enhance family capabilities for coping with stress and arranging resources to further meet the developmental needs of the child (Fang, 2017). Families and parents are the most important people needed to make early intervention work. They help prevent many risks and causes of disabilities before pregnancy or birth. Parents are the primary intervenors; important partners and collaborators (Kay, 2004; in Ackah & Appiah, 2009) at home and school for children in the early years (Ackah & Appiah, 2009). Also, great emphasis has been placed on notions of parents as teachers, parents as advocates, and parents as classroom assistants. But families differ in terms of makeup or structure and hierarchy, roles, cultural and linguistic backgrounds, faith backgrounds, values and belief systems, personal resources, and priorities and concerns for their children (Hanson, 2003; Barber, Turnbull, Behr, & Kerns, 1988 in Klein and Gilkerson, 2000). So also, do they differ in their roles and levels of involvement (Hanson, 2003).

Part C and Part B under IDEA recognize the importance of families through the provision of services (Turnbull et al., 2007; as cited in Bruder, 2010). Part C was designed to recognize the unique role of families in their child's learning. The introductory of the Part C (then H) amendment states that Congress identified an "urgent and substantial need" to enhance the capacity of families to meet the special needs of their infant and toddler (EHA Amendments of 1986, 42 U.S.C., sec 671 (a)). To meet this need early intervention services must be delivered through the development of an Individualized Family Services Plan (IFSP), which can include services that target families such as family training, counselling, and home visits; service coordination; social work; and special instruction (Bruder, 2010). Studies have revealed that effective IFSPs are a central element required to comprehensively address individual needs of both children and families receiving early intervention services (Bruder, 2010; Byington & Whitby, 2011; Dunst et al., 1994; Xu, 2008; in Fang, 2017). The author asserted that the purpose of Individual Family Service Plan (IFSP) is to ensure the family's needs are met while respecting the family's selections concerning types and frequencies of services. Also, children who are eligible for early intervention services must receive

IFSPs through the assistance of service coordinators and other interventionists. Each family has an assigned service coordinator to assist children and their families in accessing early intervention services based on IFSPs (Fang, 2017). In the process of early intervention services, families are encouraged to challenge disagreeable service delivery arrangements and advocate for their priorities and needs. Through involvement in planning and coordinating with the service coordinators and early intervention professionals, families should experience increased control over their lives (Fang, 2017). Thus, Turbiville, Schaffer, Schaffer, & Brammel (1997) cited in Turnbull, Turbiville & Turnbull, (2000) confirmed that parents report a greater sense of control and direction when services are family centred.

According to Ackah & Appiah, (2009), successful intervention programmes for children with disabilities take great care to involve parents as they are children's earliest and most influential teachers. Parents can take active roles in determining their children's educational needs and goals. They can be trained to assist in programme planning and/or teaching activities either at the centre or home. The authors noted that parents can learn strategies for imparting specific skills and competencies to their own children based on the assumption that with appropriate instruction, modelling and reinforcement they can become effective teachers of their own children. However, specific areas of parents training must include understanding the nature and prognosis of the condition, physical management, managing self-care and daily living activities, guidance and behaviour management, responding appropriately to different or unexpected behaviours (Ackah & Appiah, 2009). Families are a key component in early childhood intervention systems and, as such, must be accommodated as a service delivery variable that contributes to the overall effectiveness of services. There is ample evidence to suggest the powerful effect families have on their children's development (Dunst, 2007; Dunst, Trivette, & Hamby, 2006; Lynch & Hanson, 2004; Shonkoff & Phillips, 2000; cited in Bruder, 2010). These effects are the direct result of both the characteristics of the family (such as family culture, background, composition, and living conditions), and the interactions, experiences, and beliefs of the family (Guralnick, 2005b; cited in Bruder, 2010).

Malekpour et al., (2014) reported the meta-analysis investigation on the efficacy of family-centred intervention done by Farmer, Compton, Burns and Robertson (2002). The result showed that family-based intervention decreased ADHD symptoms. Also, Kazdin (2001) cited in Malekpour

et al., (2014) opined that family-based and child-centred interventions had a good impact on decreasing ADHD symptoms. More so, in a study carried out by Doostzade, Alamdarloo, & Shojaee (2017) on effectiveness of family-centred early intervention, the result indicated that the design and implementation of programmes with family-centred approach reduce anxiety, depression, and other psychological disorders in mothers of children with disability and helps them a lot in raising their children. The authors further confirmed that family-centred early intervention has a positive effect on the parents of children with disability. Hence, helps them accept the conditions and limitations of their children so that they can manage the problems of the children while at the same time maintaining their own mental health (Doostzade, Alamdarloo, & Shojaee (2017).

Alliston (2007) cited a study by Mahoney, Boyce, Fewell, Spiker & Wheeden (1998) that re-examined developmental outcomes from four early intervention research studies (involving over 600 children). This study found that intervention effectiveness appeared to be related to changes in the parents' style of relating to or caring for their children, rather than to the amount of support received or the amount or intensity of child-directed services that children received. In fact, family-centred practices of Part C early intervention services have shown both direct and indirect effects on both child and family outcomes (Fang, 2017). Research has used varying analytic strategies and involved a variety of variables to further understand the relationship between family-centred delivery of early intervention services and child (e.g., mental, cognitive, and communication abilities), parent (e.g., mental and physical conditions, parenting behaviours, self-efficacy belief), and family functioning (e.g., family competence, family well-being) (Bruder, 2010; Byington & Whitby, 2011; Dunst et al., 2007a; Dunst et al., 2007b; Dunst & Trivette, 2009; Thompson et al., 1997; Xu, 2008; cited in Fang, 2017).

On the other hand, a review of literature on family-centred practice indicates that barriers exist in the actual utilization of family-centred practices in early intervention service delivery, with professionals challenged to understand and accept a family's views when they are different from their own (Minke & Scott, 1995; in Evans et al. 2016). With that said, early intervention practitioners are more likely to adopt those practices that support their personal values and reject those that are incompatible, regardless of whether practices are recommended by a field (McWilliam 1999 in Evans et al., 2016). However, when early intervention professionals listen

carefully to families concerns about their children and respond by providing strategies, then families are supported in caring for them. As a result, parents learn to read their child's communicative signals and interact in more developmentally facilitative ways (Brooks-Cuun, Berlin, & Fuligui, 2000; Chen, 1999; Ozkan & Sucouglou, 2011; Pechat, et al. 2004 as cited in Neofotistou et al. 2014).

Turnbull, Turbiville & Turnbull, (2000) confirmed that families find that sharing information and decision making helps them maintain equal footing in the involvement of their children's intervention. The family-centred early intervention services not only could help children safely remain in their homes, but also help them have stabilized placements (CWIG, 2013 in Fang 2017). Thus, families play a critical role in early intervention for young children with disabilities. Unless parents learn how to work effectively with their child, the gains accomplished in an early intervention programme may not be maintained (Turnbull & Turnbull, 1996; cited in Lee, 2003).

2.8 Professional Team Involvement in Early Intervention

Early intervention professionals are a diverse group, reflecting the complexities of young children's learning, development and health (Flottman, McKernan & Tayler, 2011). They use multidisciplinary approaches to provide better support to families and draw on the skills and expertise of their peers (VEYLDF, p.10 in Flottman, McKernan & Tayler, 2011). The professionals work collaboratively to share information and plan to ensure holistic approaches to children's learning and development; understand each other's practice, skills and expertise, and make referrals when appropriate; and build on children's prior learning and experiences to build continuity for their learning and development from birth to eight years of age (VEYLDF, p.10 Flottman, et al. 2011). An important criterion for the success of early intervention, is the forming of partnerships with families and working collaboratively with them (Neofotistou et al. 2014). Partnerships and collaborations between parents and professionals are essential elements to effectively empower parents to achieve family-driven goals and child developmental outcomes. Hence, during the intervention process, professionals should highly respect families' values and choices regarding their involvement in the provisions of services as well as emphasize family strengths rather than weaknesses. While supporting and meeting families' individual needs, professionals should engage families in planning services to further promote family competence

in meeting the child's needs (Bruder, 2010; Byington & Whitby, 2011; Dunst, 2000; Dunst et al., 1994; Dunst et al., 2007a; in Fang, 2017).

Researchers allude that providing multi-disciplinary, comprehensive intervention across linked areas such as behaviour, social, communication, regulation, etc. early in development can have a significant positive impact on later cognitive and academic functioning (Shonkoff & Phillips, 2000; in Stahmer, et al., 2011). Several studies have highlighted the benefits of holistic and multidisciplinary approaches to meeting children's learning and development capabilities and needs (Kelley, 1996; Anning et al., 2006, King, 2009; Silverman, 2010; cited in Flottman et al. 2011). Holistic approaches that make the best use of each professional's skills, knowledge and experience occur in joint interest that involve effective communication and shared goals (Kelley, 1996; Lumsden 2005; Woodruff and O'Brien, 2005; Flottman et al. 2011). According to Flottman, McKernan & Tayler (2011), no two early intervention professionals have the same skills, knowledge and experience. Partnership plays a key role in ensuring children's diverse learning and development needs are met. Kelley (1996) in Flottman, et al., (2011) found that partnership approaches can result in faster and more personalized responses to child and family needs, including establishing eligibility for special education programmes, or meeting emergency family needs for shelter, money and medical treatment.

Farrell and Walsh (2010), Flottman, et al., (2011) and Bruder (2010) attributed that early intervention professionals encounter many opportunities to engage in collaborative problem-solving with those who have different philosophies, professional backgrounds and knowledge, helping to ensure the best possible outcomes and more comprehensive service for children and families. Early intervention professionals and family members learn from each other and use shared strategies in their interactions with their child. A true team approach is created where parents and early intervention professionals develop interventions to promote the child's development. Given that families know their child the best, they have the information needed to guide the early intervention professionals in the development of an effective and individualized family service programmes. (Chen, 1999; McWilliam et al., 1995, Horn, 2012; cited in Neofotistou et al. 2014).

The contemporary model of early childhood intervention is family-centred, and these adult-to-adult interactions between caregivers and professionals significantly influence the family's well-

being, parenting skills, and positive parental perceptions of their child's behaviour (Dunst, 2007; in Harjusola-Webb, Gatmaitan, & Lyons, (2013). Research evidence stresses the value of professionals working in partnership to share expertise in early childhood settings (Trepanier-Street, 2010 in Flottman et al., 2011), and the importance of these professionals' ability to build collaborative relationships (Green et al, 2006 in Flottman et al., 2011).

Flottman et al., (2011) acknowledged that professionals work together both within and between services. Early childhood services are also increasingly diverse, and most children attend several different education, health and other services during their early development. This diversity can result in fragmentation for children and families, who often face more than one issue or need at any given time and thus may be accessing several services at once (McWayne et al, 2008; Flottman et al., 2011). Partnerships between individual professionals, can help to overcome this fragmentation (McWayne et al., 2008; Bruder, 2010; in Flottman et al., 2011). Research evidence reveal that professionals' teamwork results in more effective and efficient services than those provided individually (Cook, 1996; Artken, Bakker & Branscombe, 2009; Enderby, 2002; cited in Wanjiru, 2016).

Harjusola-Webb, Gatmaitan, & Lyons, (2013) posited that early intervention professionals or practitioners play a critical role in the process of family empowerment and helping families to advocate for their child. As such, partnerships between early intervention professionals is important for all children, including children with disability, developmental delay or other additional needs, who may require the support of professionals across several settings and disciplines (Wesley et al., 2004; King, et al., 2009; Trepanier-Street, 2010; Flottman et al., 2011). In sum, for early intervention to be effectively implemented in Nigeria, professionals should recognise the rights of all children with disabilities and that of their respective family. Collaborate among themselves to deliver services that support family empowerment, parenting skills, developmental needs of the child and advocating for the children's right. Thus, implies that the extent of professional team involvement, collaboration or partnership in offering services to families of children with disabilities determine the progress in promoting family trust, confidence and competence in meeting their children's need.

Related Qualified Professionals and Team Members Roles in Early Intervention

From the beginning, early intervention has involved many disciplines and fields of study, such as psychology, health, early childhood education, special education, physical therapy, occupational therapy, and speech-language pathology etc., all working together to support a child and the child's family (Bruder, 2010; in Raver & Childress, 2014). The actual combination of professionals who make up the early intervention team depends on the child's IFSP. Regardless of team composition, the primary task of this team is to support the family's competence and confidence with promoting a child's development toward the outcomes desired by the family in the child's everyday life (Raver & Childress, 2014). The author maintained that the most important member of the early intervention team is the parent or caregiver. And followed by the professional who is identified as a family's primary service provider. Service providers from any discipline can be designated as the primary service provider, depending on who is most appropriate to help the family and child (Raver & Childress, 2014).

According to EISP 34 CFR § 303.13, the following are the types of qualified professionals who provide early intervention services for children with disabilities and their respective families:

- Audiologists
- Family therapists.
- Nurses.
- Occupational therapists.
- Orientation and mobility specialists.
- Pediatricians and other physicians for diagnostic and evaluation purposes.
- Physical therapists.
- Psychologists.
- Registered dietitians.
- Social workers.
- Special pedagogue, educators, including teachers of children with hearing impairments (including deafness) and teachers of children with visual impairments (including blindness).
- Speech and language pathologists.

- Vision specialists, including ophthalmologists and optometrists.

Raver & Childress, (2014) explained the professional team members' roles and are described as follows:

Educator: The educator usually has training in early childhood education, early childhood special education, or child development. This provider helps the team gain a global, whole-child perspective of a child's development. The educator participates in screenings, evaluations, and assessments; assists in developing IFSPs; and provides special instruction if he or she is selected as the primary service provider. Special instruction is the phrase used in Part C of IDEA to describe educational services provided to infants and toddlers and their families. Educators may also facilitate playgroups or other group activities with children, siblings, and families (Raver & Childress, 2014).

Speech-Language Pathologist: The speech-language pathologist has training in developing and improving communication and speech. Speech-language pathologists typically get little direct experience with infants and toddlers with special needs during their graduate training, although the field is embracing family-centred practices in natural environments (Woods, Wilcox, Friedman, & Murch, 2011 in Raver & Childress, 2014). These specialists address communication development; participate in screenings, evaluations, and assessments; participate in IFSP development; and provide specific speech and/or language interventions in natural settings. Some speech-language pathologists also treat oral-motor and feeding issues (Raver & Childress, 2014).

Physical Therapist: Physical therapists have been trained to facilitate, improve, and maintain motor development and functioning. They are involved in screenings, evaluations, assessments, and IFSP development; they also provide motor interventions in natural settings. Because infants and toddlers with developmental disabilities and/or delays often have difficulty generalizing and maintaining new skills, these children learn motor skills best through high-frequency, naturally occurring activities in their natural environments (Shelden & Rush, 2001; in Raver & Childress, 2014). Providing motor-related services in natural settings decreases the problems related to poor generalization because the child has an opportunity to use and practice skills in the very environments in which he or she needs to use those skills (Raver & Childress, 2014).

Occupational Therapist: Occupational therapists are trained to maximize fine motor development, play, feeding, and other adaptive skills. Like physical therapists and speech-language therapists, they may have minimal experience working with infants and toddlers in their training programmes (Raver & Childress, 2014). Occupational therapists may also address sensory processing issues. They tend to participate in screenings, evaluations and assessments, and IFSP development and offer interventions in natural settings. Occupational therapists tend to use more family-centred approaches when they work in families' natural environments in early intervention than when they provide school-based services with older students, although strong differences occur among therapists and practice settings (Fingerhut et al., 2013; in Raver & Childress, 2014). Training parents to provide the intervention is a viable, time-saving, and evidence-based alternative to clinic-based services for all therapists (e.g., speech-language pathologists, physical therapists, occupational therapists). The time saved by coaching the parent in skills and therapies, the child needs, makes it possible for more children to be served at a lower cost per child (Hanft & Pilkington, 2000; in Raver & Childress, 2014).

Service Coordinator: The service coordinator usually has training in a variety of child and/or family-related disciplines. This person acts as a case manager who oversees the implementation of the IFSP; collaborates with families', other team members and community partners; and links families to resources such as health, social services, or respite care services (Raver & Childress, 2014). In some programmes, team members may have blended roles, serving as both a service coordinator and an educator or therapist, or they may have a "dedicated role" and only provide service coordination. The primary duties of a service coordinator are participation in screenings, evaluations, and assessments (but not necessarily conducting testing); facilitating IFSP development; ensuring that the IFSP is implemented as agreed; and serving as the primary point of contact for families (Raver & Childress, 2014).

Medical Personnel: Any medical professional who works with the child and family can participate on the early intervention team. This may be a pediatrician, primary care physician, or specialist, such as a geneticist, developmental pediatrician, neurologist, physiatrist, audiologist, or nutritionist. These professionals usually serve on the team in a consulting role to ensure that interventions support a child's development and learning without interfering with a child's health needs (Raver & Childress, 2014).

Other Professional Members: Based on a child's delays or disabilities, other professionals may need to be included on the team. These team members commonly include a vision specialist, a hearing specialist, an infant mental health/behavioural specialist, or the family's child care providers (Raver & Childress, 2014).

Other Family-Selected Members: In addition to these professionals, parents or caregivers can designate other individuals whom they consider important to their family to serve on the team, such as extended family members and family friends. To some extent, the role that each team member plays on the early intervention team depends on the model of service delivery used in the specific programme (Raver & Childress, 2014). The interactions among team members of different disciplines and between the family and professional team members contribute to the success of the team and are linked to the teaming model. Understanding how team members interact and which practices are recommended for early intervention teams is important as teams come together to support families (Raver & Childress, 2014).

Conclusively, for a well implemented and effective early intervention, professionals from various disciplines and fields of study involved in early intervention need to come together and work towards a common goal that supports children with disabilities and families. As such, resulting in a wide range of services and programmes that meet the child's development and outcomes desired by the family in the child's daily life.

2.9 Legislation/Policy for Early Intervention

Early intervention programmes and services have been in existence for a while. Keilty (2010) and Hanson (2003) noted that major national legislative initiatives (states, local communities and private programmes) have ensured that services are more universally provided and available for families whose children are eligible for early intervention. Before the passage of these laws, many localities provided early intervention programmes, but many others did not. Thus, service availability was uneven and depend on where families lived, their child's disability and their child's age. Legislation redressed these inequities and created a new system of services (Hanson, 2003). This law has provided the regulatory infrastructure for establishing a system of early intervention services and programmes (Hanson, 2003). Early intervention services and

programmes to families and their young infants and toddlers are mandated and funded under Part C of the Individuals with Disabilities Education Act (IDEA) (Lanzi, Ramey & Ramey 2007; Keilty, 2010; Igoni & Peters, 2015).

IDEA is a federal law that governs how states and public agencies implement IDEA regulations by providing early intervention, special education and relevant services to young children with disabilities and their families (Fang, 2017). IDEA is a replacement of the Education for All Handicapped Children Act of 1975 which was the first federal regulation that provided education rights to all school-aged children with disabilities to receive an appropriate public education (Igoni & Peters 2015; Lanzi, Ramey, & Ramey, 2007; and EAHCA in Fang, 2017). This law addresses early intervention for children with disabilities from birth and provide Individualized Family Service Plan (IFSP) for each child and family. And with the law, the term “handicapped” was replaced with “disabled” and there is a real understanding that individuals can have disabilities or impairments and not be “handicapped” (US DEOSPRS, 2010 in Belcher, Hairston-Fuller, & McFadden, 2011; Eskay, Onu & Igbo, 2012).

According to Hebbeler, Greer & Huttom (2011) and US Department of Education, Office of Special Education Programmes, Data Analysis Systems (2009) in Adams, Tapia and CCD (2013), states are charged to carry out intervention services under Part C programme in IDEA. As such, this has shown huge success on several levels. By 1992, 143 000 children and their families were receiving services via Part C. In 2009, that number had risen to 349 000, or 2.67% of the US population 3 years or younger. With IDEA Part C, there is increasing importance on quality measures of outcome, provision of services in the child’s natural environment, and identification efforts for eligible infants (“child find”). And there is a strengthening of the relationship between early intervention and services being rendered in each state according to the Child Abuse Prevention and Treatment Act Reauthorization Act of 2010 (Pub L No. 111-320) (US Department of Health and Human Services 2011 in Adams, Tapia & CCD 2013). Due to state-to-state variations regarding eligibility criteria, definitions of “developmental delay,” and state budgetary priorities, the nature of early intervention services can seem heterogeneous when viewed through a national lens. Nevertheless, two core concepts remain stable across Part C programmes across the country: Nurturing relationships are the fundamental elements for optimal early development; and IDEA Part C is dedicated to helping families better understand their infants and to coordinating

the various regional systems and services available to the family and child (Adams, Tapia & CCD 2013).

IDEA supported the institution of culturally relevant assessments that are associated with instructional curricula, interventions that accommodate different learning styles, and classroom environments that reflect diverse cultural heritages. Key components in IDEA outline child and parent rights and invite parents to be team members, to work in partnership with the school professionals (Belcher, Hairston-Fuller & McFadden, 2011). In addition, some European countries have established social policies that exemplify early intervention, to progressive family policies that cater for parental leave, childcare, home-health visiting and family support programmes. For instance, the European social policy infrastructure includes income transfers, health care, and housing assistance, which provide a solid basis for supporting child and family services (Kamerman, 2000; in Lanzi, Ramey & Ramey 2007; Igoni & Peters, 2015). Both Part C and Part B under the law recognize the importance of families in the provision of services (Turnbull et al., 2007; in Bruder 2010; Igoni & Peters 2015).

Since the enactment of IDEA, children (3-21 years) have had the opportunity to access free, appropriate public education at no cost to the parents or family, while the expansion of IDEA has included children aged birth to three under Part C programmes (IDEA 2004, Office of Special Education Programmes 2000; in Twardzik, Cotto-Negron & MacDonald, 2017). This federal law 108-446 made it possible for early intervention programme to conduct comprehensive and coordinated child find activities to identify infants and toddlers who are at risk for developmental delay or disabilities as early as possible (Harbin, McWilliam & Gallagher, 2000; IDEA 2004; Twardzik, Cotto-Negron & MacDonald, 2017). Also, the law requires that individual professionals from different disciplines work to integrate all services and therapies (Harbin, McWilliam & Gallagher, 2000).

Harbin, McWilliam & Gallagher, (2000) contended that early intervention legislation/law established not only the child but the child's family as legitimate recipients and calls for the development of an individualized family service plan (IFSP) for each recipient of services. The authors further attested that the legislation for early intervention practice required children and families to be assessed and served in settings in which children without disabilities are cared for and taught. In addition, the legislation, provides procedural safeguards for the child with

disabilities and his or her family. The procedural safeguards section of the law instructs that parents will be informed of their rights (Harbin, McWilliam & Gallagher, 2000). McClelland et al., (2006); Weikart, (1998); Campbell et al., (2002); Jenkins et al., (2006); in Twardzik, Cotto-Negron & MacDonald, (2017) ascertained that due to the enactment of the law, receiving early intervention services has shown to improve independence, academic achievement and economic outcomes for society.

Summarily, early intervention both in the United States and in Nigeria have policies in place which aid children with disabilities. Furthermore, both policies deal with identification, referral, assessment, placement, legal mandate, programmes and services, to mention just a few. However, the United States policies are enacted, and the law is effective. On the contrary, those policies of Nigeria are not enacted. Consequently, this leads to ineffective practices of early intervention, and it is especially so in the operations of privately owned organisations. In addition, Nigeria's policies do not specify the requirements for support and care available and mandatory for children from 0 through 3 years of age, as such, it creates a great gap in offering and implementing early intervention services. In the United States, however, through the Disabilities Educational Act (IDEA), it is the law that children with disabilities in the United States are served without any limitations. Given the fact, Nigeria should enact a Federal law that aims at infants and toddlers with disabilities and their families as well. This will help to implement and offer intervention services based on the Federal standard and not by private organisations or individuals. This law also should aim at separating and establishing the difference among early intervention from special education and rehabilitation services just like IDEA.

2.10 Programmes and Services for Early Intervention

Early Intervention Programmes

Early intervention programmes vary according to the place, age of child and the special support, the child and the family needs. However, most programmes are provided in the child's home, in a centre or in a combination of both settings. Early intervention programmes are preventive, compensatory and remedial (Ackah & Appiah, 2009). Early childhood intervention programmes seek to prevent or minimise the physical, cognitive, and emotional limitations of children with

disabilities (Blackman 2002; cited in Anderson et al., 2003). A systematic review done by Flippin, & Crais, (2011); Matson, Mahan, & LoVullo, (2009) cited in Acar, & Akamoglu (2014), indicated that early intervention programmes by the application of supporting meaningful and functional parent participation seem most promising to influence child's development. Similarly, Guralnick and Albertini, (2006) as cited in Blackburn, (2016) asserted that it is a realistic expectation that early intervention programmes can prevent risk factors from exerting negative influences on children's development and even for children with intellectual disabilities, early intervention can not only minimise intellectual delay, but other secondary complications as well.

The Royal Australasian College of Physicians, Paediatric & Child Health Division (TRACPPCHD) (2013) position statement, reported a meta-analysis carried out by Shonkoff & Hauser-Cram (1987) in 1986 which examined the effects of early intervention programmes and services on a broad range of children with disabilities younger than 3 years of age, and their families. The results indicated that early intervention is effective in promoting developmental progress in infants and toddlers with biologically based disabilities. Also, programmes oriented towards less severely affected children, which enrolled children before 6 months of age and encouraged high levels of parent involvement, achieved the best outcomes (Stoneman & Rugg 2012; Centre for Community Child Health, Royal Children's Hospital Melbourne 2002 as cited in TRACPPCHD, 2013). Nevertheless, early intervention programmes include:

Home-Based Programme

According to Hebbeler et al., (2007); and Campbell & Sawyer, (2007), home-based programme is currently the most or primary frequent means of providing early intervention services to families and young children with disabilities. Home-based programme depends heavily on parental training and cooperation i.e. the parents assume the primary responsibility of caregivers and teachers for their children with disability (Ackah & Appiah, 2009). The home as a location for early intervention services evolved as states addressed the Part C natural environments requirement and defined as natural environments as a location where services occur, thus, homes came to be viewed as the default natural environment for Part C (Campbell & Sawyer, 2007). Ibid authors explained that in 1993, 47% of infant-toddlers received early intervention services in the home and by 1997; 2004, this percentage had increased to 59% and 83% respectively. The home programme might be designed for caregivers to work on targeted outcomes between intervention visits (Dunst, Trivette,

Humphries, Raab & Roper, 2001; cited in Campbell & Sawyer, 2007). This programme is for providing multiple kinds of support for families i.e. emotional, material, and informational (McWilliam, 2010).

Chen (2014), enumerated advantages of home-based programme for the child and family, which include:

- The home is the most natural environment for the child and family (Cook & Sparks, 2008; Keilty, 2010; McWilliam, 2012 in Chen, 2014) and the environment that is likely to be the most comfortable for them (Chen, 2014).
- Meeting families in their familiar environment facilitates the implementation of family-centred practices (Dunst, 2002) and culturally responsive services (Lynch & Hanson, 2011) and helps establish supportive relationships with families (McWilliam & Scott, 2001; in Chen, 2014).
- Delivering services in the home of a child and family, where the daily activities of the household can be observed and built upon in a functional and meaningful way, provides the context for ecologically valid interventions that are based on the family's everyday routines (McWilliam, 2010) and natural learning opportunities (Dunst et al., 2005; cited in Chen, 2014).

However, Campbell and Coletti (2013) identified strategies that early intervention professionals can use during home visits that will help caregivers promote children's developmental outcome.

The strategies include:

- Demonstration with narrative: Interventionist demonstrates child intervention strategy(ies) and provides verbal narrative of what he/she is doing. For example, the early interventionist shows the caregiver how to use handover-hand technique to assist child in self-feeding; while doing so, the interventionist explains why the strategy is used, how to effectively do the strategy, and/or when to use the strategy.
- Caregiver practice with feedback: The Caregiver practices child intervention strategy(ies) while early interventionist provides suggestions and feedback. For example, the caregiver uses the hand-over-hand technique to assist the child in self-feeding. While early interventionist watches the caregiver use the strategy and provides feedback to the

caregiver in the form of suggestions to improve the effectiveness of the strategy and/or reinforcement of how well the strategy is being used.

- **Guided Practice:** Caregiver and interventionist take turns or share in implementation of a child intervention strategy. For example, the caregiver-child-provider are together in a triadic interaction where the provider may demonstrate a child intervention strategy and then the caregiver may practice directly with the child. Or, the interaction may begin with the caregiver demonstrating and the provider giving feedback.
- **Conversation and Information Sharing:** early Interventionist and caregiver share information related to child or family issues. Information sharing may be in a back-and-forth exchange or either the interventionist or caregiver may be the sole information-sharer. For example, the early interventionist and caregiver may discuss what may happen when the caregiver-child attend a feeding clinic. Or, the interventionist or caregiver specifically states that the child has a problem with eating textured food. Both the interventionist and the caregiver pose and comment on strategies to improve child's tolerance for textured food.
- **Problem-Oriented Reflection:** early Interventionist and/or caregiver identify specific problem areas or issues and jointly consider strategies to improve outcome. For example, early Interventionist and caregiver together discuss possible strategies for improving mealtimes with caregiver sharing which ones have been tried with what outcomes or which ones might be incorporated into this family's mealtime.

Family-Centred and Culturally Responsive Programme

According to Chen (2014), family-centredness refers to principles and practices that are individualized, flexible, respectful of, and responsive to each family. Dunst, (2002) as cited in Chen (2014) posited that family-centred practices involve sharing information so that families can make informed decisions about interventions and services, using the family's priorities to guide the focuses and goals of intervention, promoting collaboration between families and professionals, and helping families obtain access to resources that facilitate positive results for both the child and family. It is also tailored to the child's individual and unique family system i.e. to the family's beliefs, culture, language, composition, socioeconomic level, and attitudes towards disability (Lynch & Hanson, 2011; Turnbull, Turnbull, Erwin, Soodak, & Shogren, 2011; cited in Chen,

2014). Information should be presented in a way that the family understands and prefer, as well as providing interpreter to translate discussion if the family and the interventionist do not share common language (Chen, 2014). Culturally responsive programme creates welcoming and culturally inclusive environments where all families are encouraged to participate in and contribute to children's learning and development. Practitioners are knowledgeable and respectful of diversity and provide services and supports in flexible ways that are responsive to each family's cultural, ethnic, racial, language and socioeconomic characteristics (ECIA, 2016).

Hospital-Based Programme

Hospital-based early intervention services are provided to hospitalized newborns and their families. Usually such children are low-birth-weight and other high-risk newborns who require specialized health care (Ackah & Appiah, 2009).

Routines-Based Intervention Programme

Dunst, et al., (2008) cited in Chen, (2014) opined that familiar context of a routine activity supports environment-based contingency experiences-responses that are appropriate to the child and that reinforce his or her understanding and ability to communicate, thus, enable the child to anticipate and participate in an activity and understand its meaning. However, at the outset of working with a family, it is important for the early interventionist to ask the family members to describe a typical day for their child i.e. the usual activities, how the child participates in them, and what is easy or difficult (Klein, Chen & Haney, 2000; cited in Chen 2014). Further, the typical daily routine is the family's Monday-through-Friday schedule. If the child goes to day care for part of the day, the early interventionist can focus on activities from the time the child wakes up in the morning until he or she goes to day care and the activities from the time the child arrives home until he or she goes to bed (Chen, 2014). Routine activities are already existing opportunities for children to learn both developmental competencies and their family's values and culture, learning what is meaningful and important to the individual child and family (Keilty, 2010). The author further explained that there is no different for children with or at risk for developmental delays or disabilities. Therefore, routine activities are excellent times to use early intervention strategies for learning (Keilty, 2010).

Centre-Based Early Intervention Programme

Centre-based early intervention programme is considered as natural learning environment and important for children with disabilities, especially for children who need high-quality and specialized services, such as children with visual impairments, hearing loss, physical impairments and autism along with their families (Chen, 1999; Bricker, 2001; Joint Committee of ASHA-CED, 2006; Maring, 2006; Richert, 2007; Roberts et al., 2011; Saaa-Lehrer, 2012; cited in Chen, 2014). Also, high-quality centre-based early intervention programmes have a clear philosophy of developmentally appropriate practice, family involvement, and approaches to support both the child's development and the caregiver's confidence and competence in promoting child's development (Chen, 2014). Centre-based environment for early intervention have certain advantages. They provide toddlers with activities and structure in preparation for a preschool routine, and at the same time, family members benefit from opportunities to interact with other families and team members (Chen, 2014). This programme is a good option for families whose children are 18 to 36 months of age but, to whether a programme provides a safe and nurturing experience, a primary consideration for families in selecting a centre-based programme should be whether the centre-based environment supports the child's learning and development (Chen, 2014).

Combined Home-Centre Programmes

This model combines centre-based activities and home visitation. It is based on the premise that young children with disabilities require more intervention than a few hours a day. The programme combines a variety of professionals in a centre with the continuous attention and sensitive care of parents at home (Ackah & Appiah, 2009).

Child-Care Programme

Chen, (2014) explained that when a child with disability is in a child-care programme, early interventionists may conduct visits at the programme site instead of or in addition to home visits, depending on the amount of time the child spends in child-care during the week. Although specific setting for service delivery visits is based on the family's priorities and circumstances. Ibid author further opined that the role of the early interventionists might vary depending on the circumstances and characteristics of the child-care programme when he or she arrives for a visit. Child-care

programmes are considered a natural environment for early intervention service delivery since they serve children without disabilities (Chen, 2014).

Early Intervention Services

Early intervention services mean developmental services that are provided under public supervision, selected in collaboration with the parents; and are provided at no cost, except where Federal or State (USA) law provides for a system of payments by families, including a schedule of sliding fees; and designed to meet the developmental needs of an infant or toddler with a disability and the needs of the family to assist appropriately in the infant's or toddler's development, as identified by the IFSP Team, in any one or more of the following areas, including: physical development, cognitive development, communication development, social or emotional development; or adaptive development (EISP 34 CFR § 303.13). Chen & Klein, (2008a); Dunst & Kassow, (2008) cited in Chen (2014), acknowledged that the primary focus of early intervention services should be to support interactions between caregivers and children and caregiving environments to promote children's optimal development.

IDEA identifies a variety of services that may be provided through early intervention when appropriate to meet the individual needs of an infant (Hebbeler, Spiker, Morrison, & Mallik, 2008; cited in Chen 2014; EISP 34 CFR § 303.13):

- **Assistive technology**

Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of an infant or toddler with a disability (EISP 34 CFR § 303.13). The term does not include a medical device that is surgically implanted, including a cochlear implant, or the optimization (e.g., mapping), maintenance, or replacement of that device (EISP 34 CFR § 303.13). Assistive technology service means any service that directly assists an infant or toddler with a disability in the selection, acquisition, or use of an assistive technology device (EISP 34 CFR § 303.13). The term includes:

- (a) The evaluation of the needs of an infant or toddler with a disability, including a functional evaluation of the infant or toddler with a disability in the child's customary environment (EISP 34 CFR § 303.13);
- (b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by infants or toddlers with disabilities (EISP 34 CFR § 303.13);
- (c) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices (EISP 34 CFR § 303.13);
- (d) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programmes (EISP 34 CFR § 303.13);
- (e) Training or technical assistance for an infant or toddler with a disability or, if appropriate, that child's family; and
- (f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services) or other individuals who provide services to or are otherwise substantially involved in the major life functions of, infants and toddlers with disabilities (EISP 34 CFR § 303.13).

- **Audiology**

Audiology services include: (i) Identification of children with auditory impairments, using at-risk criteria and appropriate audiologic screening techniques; (ii) Determination of the range, nature, and degree of hearing loss and communication functions, by use of audiological evaluation procedures; (iii) Referral for medical and other services necessary for the habilitation or rehabilitation of an infant or toddler with a disability who has an auditory impairment; (iv) Provision of auditory training, aural rehabilitation, speech reading and listening devices, orientation and training, and other services; (v) Provision of services for prevention of hearing loss; and (vi) Determination of the child's individual amplification, including selecting, fitting, and dispensing appropriate listening and vibrotactile devices, and evaluating the effectiveness of those devices (EISP 34 CFR § 303.13).

- **Family training, counselling, and home visits**

Family training, counselling, and home visits means services provided, as appropriate, by social workers, psychologists, and other qualified personnel to assist the family of an infant

or toddler with a disability in understanding the special needs of the child and enhancing the child's development (EISP 34 CFR § 303.13).

▪ **Health services**

Health services mean services necessary to enable an otherwise eligible child to benefit from the other early intervention services under this part during the time that the child is eligible to receive early intervention services (EISP 34 CFR § 303.13). The term includes: (1) Such services as clean intermittent catheterization, tracheostomy care, tube feeding, the changing of dressings or colostomy collection bags, and other health services; and (2) Consultation by physicians with other service providers concerning the special health care needs of infants and toddlers with disabilities that will need to be addressed while providing other early intervention services (EISP 34 CFR § 303.13). However, the term does not include:

- ✓ Services that are:
 - i. Surgical in nature (such as cleft palate surgery, surgery for club foot, or the shunting of hydrocephalus); or
 - ii. Purely medical in nature (such as hospitalization for management of congenital heart ailments, or the prescribing of medicine or drugs for any purpose); or
 - iii. Related to the implementation, optimization (e.g., mapping), maintenance, or replacement of a medical device that is surgically implanted, including a cochlear implant. Thus, nothing in this part:
 - limits the right of an infant or toddler with a disability with a surgically implanted device (e.g., cochlear implant) to receive the early intervention services that are identified in the child's IFSP needed to meet the child's developmental outcomes.
 - This prevents the early intervention service provider from routinely checking either the hearing aid or the external components of a surgically implanted device (e.g., cochlear implant) of an infant or toddler with a disability are functioning properly
- ✓ Devices (such as heart monitors, respirators and oxygen, and gastrointestinal feeding tubes and pumps) necessary to control or treat a medical condition; and

- ✓ Medical-health services (such as immunizations and regular “well- baby” care) that are routinely recommended for all children (EISP 34 CFR § 303.13).

- **Medical services for diagnosis and evaluation**

Medical services mean services provided by a licensed physician for diagnostic or evaluation purposes to determine a child’s developmental status and need for early intervention services (EISP 34 CFR § 303.13).

- **Nursing services**

Nursing services include: (i) The assessment of health status for providing nursing care, including the identification of patterns of human response to actual or potential health problems; (ii) The provision of nursing care to prevent health problems, restore or improve functioning, and promote optimal health and development; and (iii) The administration of medications, treatments, and regimens prescribed by a licensed physician (EISP 34 CFR § 303.13).

- **Nutritional services**

Nutrition services include: (i) conducting individual assessments in: (a) Nutritional history and dietary intake; (b) Anthropometric, biochemical, and clinical variables; (c) Feeding skills and feeding problems; and (d) Food habits and food preferences; (ii) Developing and monitoring appropriate plans to address the nutritional needs of children eligible under this part, based on the findings in (i) and (iii) Making referrals to appropriate community resources to carry out nutrition goals (EISP 34 CFR § 303.13).

- **Occupational therapy**

Occupational therapy includes services to address the functional needs of an infant or toddler with a disability related to adaptive development, adaptive behaviour, and play, and sensory, motor, and postural development (EISP 34 CFR § 303.13). These services are designed to improve the child’s functional ability to perform tasks in home, school, and community settings, and include: (i) Identification, assessment, and intervention; (ii) Adaptation of the environment, and selection, design, and fabrication of assistive and orthotic devices to facilitate development and promote the acquisition of functional skills; and (iii) Prevention or minimization of the impact of initial or future impairment, delay in development, or loss of functional ability (EISP 34 CFR § 303.13).

- **Physical therapy**

Physical therapy includes services to address the promotion of sensorimotor function through enhancement of musculoskeletal status, neuro-behavioural organization, perceptual and motor development, cardiopulmonary status, and effective environmental adaptation (EISP 34 CFR § 303.13). These services include: (i) Screening, evaluation, and assessment of children to identify movement dysfunction; (ii) Obtaining, interpreting, and integrating information appropriate to programme planning to prevent, alleviate, or compensate for movement dysfunction and related functional problems; and (iii) Providing individual and group services or treatment to prevent, alleviate, or compensate for, movement dysfunction and related functional problems (EISP 34 CFR § 303.13).

▪ **Psychological services**

Psychological services include: (i) Administering psychological and developmental tests and other assessment procedures; (ii) Interpreting assessment results; (iii) Obtaining, integrating, and interpreting information about child behaviour and child and family conditions related to learning, mental health, and development; and (iv) Planning and managing a programme of psychological services, including psychological counselling for children and parents, family counselling, consultation on child development, parent training, and education programmes (EISP 34 CFR § 303.13).

▪ **Social work services**

Social work services include: (i) Making home visits to evaluate a child's living condition and pattern of parent-child interaction; (ii) Preparing a social or emotional developmental assessment of the infant or toddler within the family context; (iii) Providing individual and family-group counselling with parents and other family members, and appropriate social skill-building activities with the infant or toddler and parents; (iv) Working with those problems in the living situation (home, community, and any centre where early intervention services are provided) of an infant or toddler with a disability and the family of that child that affect the child's maximum utilization of early intervention services; and (v) Identifying, mobilizing, and coordinating community resources and services to enable the infant or toddler with a disability and the family to receive maximum benefit from early intervention services (EISP 34 CFR § 303.13).

▪ **Special instruction**

Special instruction includes: (i) The design of learning environments and activities that promote the infant's or toddler's acquisition of skills in a variety of developmental areas, including cognitive processes and social interaction; (ii) Curriculum planning, including the planned interaction of personnel, materials, and time and space, that leads to achieving the outcomes in the IFSP for the infant or toddler with a disability; (iii) Providing families with information, skills, and support related to enhancing the skill development of the child; and (iv) Working with the infant or toddler with a disability to enhance the child's development (EISP 34 CFR § 303.13).

▪ **Speech and language pathology**

Speech-language pathology services include: (i) Identification of children with communication or language disorders and delays in development of communication skills, including the diagnosis and appraisal of specific disorders and delays in those skills; (ii) Referral for medical or other professional services necessary for the habilitation or rehabilitation of children with communication or language disorders and delays in development of communication skills; and (iii) Provision of services for the habilitation, rehabilitation, or prevention of communication or language disorders and delays in development of communication skills (EISP 34 CFR § 303.13).

▪ **Vision services**

Vision services mean: (i) Evaluation and assessment of visual functioning, including the diagnosis and appraisal of specific visual disorders, delays, and abilities that affect early childhood development; (ii) Referral for medical or other professional services necessary for the habilitation or rehabilitation of visual functioning disorders, or both; and (iii) Communication skills training, orientation and mobility training for all environments, visual training, and additional training necessary to activate visual motor abilities (EISP 34 CFR § 303.13).

▪ **Transportation to enable the infant and family to receive early intervention services**

Transportation and related costs include the cost of travel and other costs that are necessary to enable an infant or toddler with a disability and the child's family to receive early intervention services (EISP 34 CFR § 303.13).

Depending on their needs, young children with disabilities and their families might receive many or all these services (Chen, 2014).

Eligibility for Early Intervention Services

IDEA requires each state to conduct “child find” to promptly identify infants who are eligible for early intervention services. Child find is a process that includes public awareness, screening, and evaluation to identify and refer children and families as early as possible to early intervention services (Chen, 2014). The following are the three eligibility criteria identified by IDEA for early intervention services:

- i. A developmental delay in one or more of the following areas:
 - Physical development (including health, motor, vision, and hearing)
 - Adaptive behaviour (self-help)
 - Cognitive, communication and social-emotional development
- ii. An established risk or a diagnosed condition that has a high probability of resulting in developmental delay, including Down syndrome, cerebral palsy, visual impairment, and multiple disabilities.
- iii. A biological or environmental risk, such as medical or home conditions that may significantly compromise a child’s health and development if early intervention is not provided (IDEA, 2004; Chen, 2014).

According to Rosenberg, Robinson, Shaw, & Ellison, (2013) cited in Chen, (2014), eligibility criteria for developmental delay varies from state to state and as such influences the percentage of children and families who receive early intervention services. Due to this, some children who might be eligible for early intervention services are not being served. Howard, Williams & Lepper, (2010) in Chen, (2014) stated that the federal government allowed each state to decide whether to serve infants who demonstrate a biological or environmental risk (children in poverty or children whose parents have a disability), due to this risk conditions, many states did not include them in their early intervention system.

Team Models for Service Delivery

Early intervention services involve more than one professional in serving a child and family, as such, it is critical to put in place an effective model for collaboration among service providers to promote communication and provide effective, coordinated, and cohesive service. Thus,

Multidisciplinary, interdisciplinary and transdisciplinary are described as the primary three team models for service delivery (Horn & Jones, 2005; cited in Chen, 2014).

Multidisciplinary Model

This model is frequently used for conducting assessments. It is based on a traditional medical model in which each provider or physician provides separate treatment and shares written reports. In early intervention, each service provider, possibly including an early childhood educator, teacher certified in the special education, occupational therapist, psychologist, and speech and language therapist, conducts his or her own assessment of the infant, and develops and implements the resulting interventions without reference to the efforts of the others serving the child and family. Information from the perspective of each discipline is shared mainly through access to written reports (Chen, 2014). This approach lacks the benefits of team synthesis and, in some cases, may result in duplicative services for families (Raver & Childress, 2014).

Interdisciplinary Model

This model is commonly used in implementing interventions, is a more coordinated approach to early intervention services. Although service providers still conduct individual assessments and provide discipline-specific interventions, they make a concerted effort to share the results of their assessments and develop interventions collaboratively (Chen, 2014; Raver & Childress, 2014).

Transdisciplinary Model

The transdisciplinary model, although the most challenging to implement, is generally the recommended model of collaboration for delivering a variety of early intervention services to children and families. Professionals work together to conduct assessments, share their expertise in developing interventions, and move beyond their own discipline-specific objectives for the infant by implementing interventions that promote overall development (Chen, 2014; Raver & Childress, 2014). The transdisciplinary approach has three operational features:

- Use of arena assessment-planned interactions with the child by one adult that are observed by parents and by service providers of multiple disciplines
- Intensive and ongoing communication among team members to collaborate and share information, knowledge, and skills

- Role release, or assigning strategies and activities usually performed by one discipline to other team members, which involves sharing expertise, valuing other perspectives, and trusting team members (King et al., 2009; Chen, 2014; Foley, 1990; Obe, et al., 2011).

Under this model, each team member contributes to the intervention process according to their expertise. Service providers and family members learn from each other and use shared strategies in their interactions with the child. Although the effectiveness of a transdisciplinary team approach is enhanced through the sharing of expertise and role release, service providers need to realize when additional expertise is necessary and where to find help (Chen, 2014).

2.11 Research Foundations for Early Intervention Practices

Igoni & Potmesil (2014) enumerated and explained Dunst four different kinds of intervention practices used to illustrate what is known about the characteristics of practices that positively affect the learning and development of infants and toddlers with disabilities. These include the followings:

- Response-contingent child learning.
- Parent responsiveness to child behaviour.
- Everyday natural learning opportunities.
- Capacity-building help-giving practices.

On the other hand, these are by no means the only practices that constitute the content and scope of early intervention (e.g., Guralnick, 2005; Odem & Wolery, 2003; cited in Dunst 2007). But, they do make up a conceptually and operationally coherent set of practices that taken together provide one way of thinking about parent-mediated, evidence-based early childhood intervention (Dunst, 2000, 2004; in Dunst 2007).

2.11.1 Response-Contingent Child Learning

According to Hulsebus, (1973) in Dunst (2007); Igoni & Potmesil (2014), response-contingent child learning refers to environmental arrangements by which a child's production of a behaviour

produces or elicits a reinforcing or interesting consequence that increases the rate, frequency, or strength of behaviour responding. The movement and sound of a mobile that occurs because of an infant swiping the apparatus is an example of this type of learning. Lipsitt & Werner, (1981) in Dunst, (2007) and Igoni & Potmesil (2014) pointed out that Infants without disabilities or delay typically learn and remember this kind of relationship by two to three months of age. According to Watson, (1966) in Dunst (2007), infants' recognition of the relationship between what they do and what happens in response to their behaviour is called "contingency awareness" or it could be called "contingency detection" (Rochat, 2001; in Dunst, 2007, p165). Dunst (2007) opined that this awareness or detection is often manifested by concomitant social-emotional behaviour. An infant's ability to understand that he or she is the agent of an environmental consequence produces social-emotional responses because cognitive achievement is pleasurable (Haith, 1972; in Dunst 2007; Igoni & Potmesil 2014).

Dunst, (2003); Hutto, (2003); in Dunst (2007) and Igoni & Potmesil (2014), maintained that the extent to which infants and young children with disabilities can learn the relationship between their behaviour and its consequences has been the focus of investigation in more than 50 studies spanning some 40 years. Thus, the characteristics of response-contingent learning opportunities associated with variations in rates and patterns of learning in children with disabilities has been examined in three research syntheses of this practice (Dunst, 2003; Dunst, Storck, Hutto, & Snyder, 2006; Hutto, 2003; in Dunst, 2007; Igoni & Potmesil, 2014). Dunst (2007) stressed that these syntheses included analyses of how long it takes children with disabilities to learn a response-contingent relationship, the correlates of rapidity of learning, the relative effectiveness of different types of environmental arrangements and reinforcers, and whether children with disabilities manifest social-emotional responses because of contingency awareness or detection in a manner like their typically developing peers.

As earlier mentioned, result of the findings from available studies, show that children with disabilities are capable of response-contingent learning and that these kinds of learning opportunities constitute a useful early intervention practice for these children (Lancioni, 1980 cited in Dunst, 2007). It is also important to note that there are differences in the patterns of learning among children with disabilities compared with their typically developing peers (Dunst, 2007; Igoni & Potmesil 2014). Infants without disabilities typically demonstrate response-contingent

learning in as few as two to four minutes. In contrast, it often takes children with disabilities considerably longer to demonstrate the same kind of learning (Hutto, 2003; in Dunst 2007) in which rapidity of learning is differentially affected by a few factors.

As it might be expected, the more profoundly delayed a child's learning is when he or she is first provided with response-contingent learning opportunities, the longer it takes the child to learn the relationship between his or her behaviour and its consequences (Dunst, 2007; Igoni & Potmesil, 2014). Dunst (2007) further revealed that response-contingent learning opportunities "either arise naturally as part of children's everyday interactions with people or objects or can be intentionally arranged so that children have opportunities to learn the relationship between their behaviour and its consequences. These kinds of learning opportunities are especially important for infants and toddlers with disabilities because they promote children's acquisition of behaviour that can be used to initiate and produce desired effects" (p.166).

2.11.2 Parent Responsiveness

Shonkoff & Phillips (2000) in Dunst (2007), and Igoni & Potmesil (2014) noted that parents' sensitivity and responsiveness to their infant or toddler's behaviour during parent-child interactions is a potent determinant of child development. Affleck, McGrade, McQueeney & Allen, 1982; Marfo, 1988 in Dunst (2007) and Igoni & Potmesil (2014) also alluded that encouraging and supporting parents' use of a responsive interactional style with children with disabilities has been recognized as an important early intervention practice for more than 25 years. Generally, it is recognized that parent responsiveness is a complex process that includes different elements and features that both individually and in collectively influence child learning and development (De Wolff & Van IJzendoorn, 1997; cited in Dunst 2007; Igoni & Potmesil 2014). Thus, this process includes but is not limited to, parental response quality, timing, appropriateness, affect, and comforting (Dunst 2007; Igoni & Potmesil 2014). Parents' contingent responsiveness to their children's behaviour is associated with improved child functioning (Dunst 2007; Igoni & Potmesil, 2014). The effectiveness of the parents' behaviour is maximized when the parent is attuned to the child's signals and intent to communicate, when the parent promptly and appropriately responds to the child's behaviour, and when parent-child interactions are

synchronous and mutually reinforcing (Kassow & Dunst, 2004; 2005; cited in Dunst 2007; Igoni & Potmesil 2014).

On the other hand, the extent to which parents' responsiveness to the behaviour of children with disabilities influences the children's behavioural and developmental outcomes and this has been assessed in three practice-based research syntheses (Trivette, 2003; Trivette, 2004; Trivette & O'Herin, 2006; cited in Dunst 2007; Igoni & Potmesil 2014). In addition, the studies of children with disabilities reveal that parents' responsiveness to the children's behaviour shows much the same kind of relationship with the outcomes that constitute the focus of investigation as is found in studies of children without disabilities (Dunst 2007; Igoni & Potmesil 2014). Ibid authors attributed that the reason parent responsiveness is "associated with positive child benefit is perhaps best understood by considering what it "teaches" a child. A parent who is responsive to a child's efforts and success, who is helpful and supportive when necessary, and who is encouraging and facilitative, helps a child learn that the parent is nurturing and dependable, which are exactly the kind of environmental conditions that are necessary catalysts for optimal learning and development" (p.168). This seems necessary especially for infants and toddlers with disabilities, who often need an extra boost to learn about their own capabilities as well as the behavioural propensities of others (Dunst 2007; Igoni & Potmesil 2014).

2.11.3 Natural Learning Opportunities

Goncu (1999) cited in Dunst (2007) and Igoni & Potmesil (2014) acknowledged that children's lives throughout the world are an admixture of everyday activities that are the contexts for learning culturally meaningful behaviour. Experiences and opportunities afforded children, as part of everyday life are the "ordinary setting in which children's social interaction and behaviour occur. They are the, who, what, where, when, and why of daily life" (p. 201, Farver, 1999 in Dunst, 2007; Igoni & Potmesil 2014). Everyday activities according to Dunst et al. (2000), cited in Dunst (2007) and Igoni & Potmesil (2014) can be defined as natural learning environments in which contextually meaning and functional behaviour is learned, further increasing children's participation in family and community life.

Dunst (2006), Masiello and Gorman (2006), Raab and Dunst (2006b), Trivette and Click (2006) as cited in Dunst (2007) and Igoni & Potmesil (2014) reported that the extent to which infants and toddlers with disabilities participate in everyday activities and benefit from these natural learning opportunities has been examined in several practice-based research syntheses. Hence, findings on naturally occurring learning opportunities indicate that everyday life is made up of some 22 different categories of natural learning opportunities (Dunst et al. 2000; in Dunst 2007; Igoni & Potmesil 2014) and that preschool children with and without disabilities, on average, participate in about 40 to 50 different kinds of activities on a regular basis (Dunst & Bruder 1999; in Dunst 2007; Igoni & Potmesil 2014). More so, Dunst, Hamby, et al. (2002) as cited in Dunst (2007) and Igoni & Potmesil (2014) noted that during the first three years of a child's life, participation in everyday family and community activities increases in a relatively linear fashion, although at different rates depending on the everyday activity.

Moreover, Dunst (2007), and Igoni & Potmesil (2014) reported that infants with disabilities from birth to six months of age are typically involved in about 19 and 11 activities in family and community respectively. While toddlers with disabilities from 30-36 months of age are involved in about 34 family activities and 21 community activities. Thus, infants and toddlers with disabilities on average tend to participate in somewhat fewer everyday activities compared with their typically developing peers (Dunst 2007; Igoni & Potmesil 2014). The differences in the experiences and opportunities afforded children with disabilities are due less to their disabilities and more to their parents' beliefs about the value of everyday learning opportunities (Trivette, Dunst and Hamby 2004; cited in Dunst 2007; Igoni & Potmesil 2014).

Many studies reveal that learning opportunities that either provided a context for interest expression or had interest-evoking features were associated with positive and decreased negative child functioning (Dunst, 2007; Igoni & Potmesil 2014). The authors mention that the benefits were greatest in situations in which interest-based learning occurred in the context of everyday activities, in which the pattern of relationships between the characteristics of the activities and benefits to the child were like children with and without disabilities. In sum, the fabric of a child's life is made up of everyday activities which include but not limited to the kind of responses-contingent and parent-child interaction learning opportunities. Everyday activities are powerful contexts for child learning, and when used as sources of learning opportunities for children with

disabilities, they can and generally do have positive child benefits as well as parent benefits (Dunst, 2007; Igoni & Potmesil 2014).

2.11.4 Capacity-Building Help-Giving Practices

With the efforts of practitioners, early intervention effectiveness is considered when parents' and children's competence and confidence are strengthened. Thus, parents' sense of their own parenting abilities is considered a mediating factor influencing the kinds and characteristics of learning opportunities given to their children (Dunst, Trivette, and Hamby, 2006b; cited in Dunst, 2007; Igoni & Potmesil 2014). However, the extent to which practitioner help-giving practices influence (i) parents' competence in performing their roles and tasks; (ii) parents' confidence in carrying out parenting responsibilities and (iii) parents' enjoyment in interacting and playing with their children was assessed as part of three research syntheses of family-centred help-giving practices (Dunst, Trivette, & Hamby 2006a; 2006b; Dunst, Trivette, Hamby, & Snyder 2006; as cited in Dunst 2007; Igoni & Potmesil 2014).

Based on the different syntheses studies conducted with parents of children with disabilities who were involved in early childhood intervention programmes, three different kinds of family-centred help-giving practices were examined as potential determinants of parenting abilities: relational help giving, participatory help giving, and parent-practitioner collaboration (Dunst 2007; Igoni & Potmesil 2014). Relational help giving involves practices typically associated with a good clinical practice. While participatory help giving involves practices that promote parent decision making and action based on choice necessary to obtain desired resources or attaining desired goals. And parent-practitioner collaboration involves practices in which partners work together to plan courses of action and to decide what will be the foci of intervention (Dunst, 2007; Igoni & Potmesil 2014).

Notably, collaboration had no discernible direct or meditational effects on parenting competence, confidence, or enjoyment, whereas relational help giving had small direct effects and somewhat larger meditational effects on the three parenting measures; while participatory help giving had both large direct effects and large meditational effects on parenting competence, confidence and enjoyment (Dunst & Dempsey, cited in Dunst, 2007; Igoni & Potmesil 2014). It is noteworthy to

consider the fact that the nature of the relationships between help giving and parenting was much alike for parents of children with or without disabilities (Dunst 2007; Igoni & Potmesil 2014).

Apparently, participatory help giving proved to be more important determinant of parenting competence, confidence, and enjoyment (Dunst 2007; Igoni & Potmesil 2014). Obviously, practitioners who use participatory help-giving practices with families encourage and support parents' involvement in experiences that provide contexts for them to successfully provide their children with learning opportunities that benefit parents as well as children (Dunst 2007; Igoni & Potmesil 2014). When practitioners support parents and parents in turn support their children, both parents and children realize a heightened sense of competence and confidence (Dunst 2007; Igoni & Potmesil 2014).

2.12 Theoretical Perspectives /Framework

In describing the practices of a successful early intervention for children with disabilities, many frameworks have been developed to guide this practice. These frameworks have emerged from developmental ecology, developmental-psychoanalytic perspective, behavioural and educational perspectives, and neurobiological bases. However, for this research, the integrated holistic model, Guralnick's early development and risk factors model, and Dunst and Trivette's resource-based approach are employed as the theoretical frameworks that guide this research.

2.12.1 The Integrated Holistic Model

Walls and O'Connor (2005) introduced the Integrated Holistic Model and described it as the key building blocks of effective early intervention, based on the best practice as reflected in international research. This model has eight interconnected rings containing the key elements of the model. It also proposes what happens within the microcosm of the family who has a young child with disability with the mesocosm of the organization and the macrocosm of society at large (Walls and O'Connor, 2005).

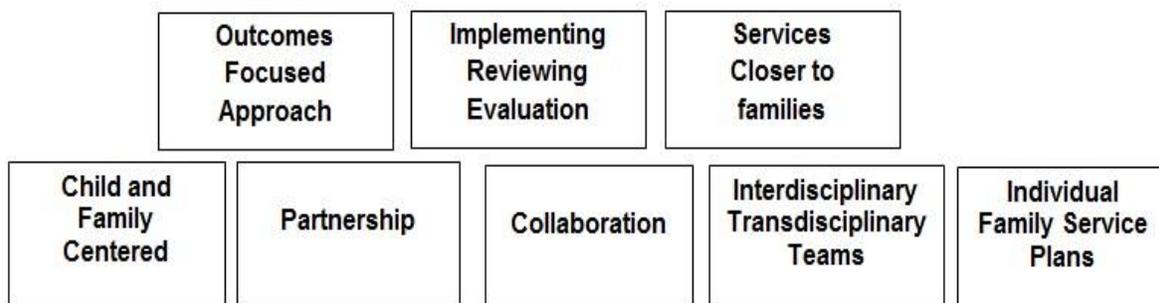


Figure 1: Eight Building Blocks of the Integrated Holistic Model.

Adapted from Walls, M. and O'Connor, M. (2005) Building blocks to best practice-introducing an "integrated holistic model" of early intervention with children and families. In Schonfeld, H., O'Brien, S. and Walsh, T. (Eds.), Questions of quality: Defining, assessing and supporting quality in early childhood care and education. Paper presented at Dublic Castle, 23-25 September (pp. 393-409). CECDE, The Gate lodge, Drumcondra, Dublin 9.

Walls and O'Conner (2005) ascertained that the key elements of the integrated holistic model include child and family centred approach; partnership; collaboration; interdisciplinary/transdisciplinary approach; individual family service plans; bringing services closer to families; implementing, reviewing and evaluation; outcomes focused approach (as shown in figure 1). Walls and O'Connor (2005) reported that Begun (1996) defined child and family centred approach as transforming, by placing the family at the centre and viewing the service provider as a collaborator. Ibid authors opined that families are not just a collection of individuals but a complex system. They also noted that it is not just about receiving information for assessment purposes and for parents to provide therapy, but rather the inclusion of the whole family in the process.

However, Brinker et al. (1994) cited in Walls and O'Connor (2005) ascertained that the simultaneous goals of early intervention are to facilitate the development of the infant with disabilities and to assist the parents in their adaptation to their child. Partnership involves a movement away from the expert model of professionals gathering information and making decisions about service provision (Walls and O'Connor, 2005). Rosin et al., (1996) cited in Walls and O'Connor, (2005) explained that family-centred early intervention creates the need to change how parents and service providers work together. Crais (1993), in Walls and O'Connor (2005) opined that the key issues in making collaboration successful are to focus on process versus outcome and the extent to which the service is family directed or professional directed. Hence, the essence of collaboration is a choice, involving parity among participants, based on mutual goals,

dependent on shared responsibility for participation and decision making, sharing resources and accountability for outcomes (Walls and O'Connor, 2005).

An Interdisciplinary/transdisciplinary team is the mechanism which makes the heart of the intervention work. The approach recognizes that young children with disabilities typically have multifaceted needs that can be addressed more effectively by a team rather than by a single service provider (Tuchman, 1996; in Walls and O'Connor, 2005). Individual family service plan (IFSP), Walls and O'Connor (2005) reported that Crais and Wilson (1996) affirmed the guideline, mandating an individual family service plan (IFSP) for each child and family, the identification of the parents' concerns, priorities, and resources, and focus on increased decision making by parents have prompted early intervention professionals to discover new and creative ways to engage parents and other caregivers in the early intervention process.

Walls and O'Connor (2005) contended that bringing services closer to families involve changes in the way services are provided. In addition, this involves the setting up of outreach services and increasing home and community visits. Implementing, reviewing and evaluation, Bauman et al. (1997) in Walls and O'Connor (2005) explained that inadequate levels of programme evaluations are evident. However, within the past ten years, there has been a substantial increase in the move to service evaluation. Finally, outcomes-focused approach requires a paradigm shift from looking at the services people receive to looking at what goals are achieved (Walls and O'Connor, 2005).

2.12.2 Guralnick's Early Development and Risk Factors Model

Igoni & Potmesil (2014) and Wolery, (2000) reported Guralnick (1997; 1998) model that links factors influencing early childhood development to the components of early intervention programmes. The model suggests a connection of programme features, child and family characteristics and outcomes (Wolery 2000; Igoni & Potmesil 2014).

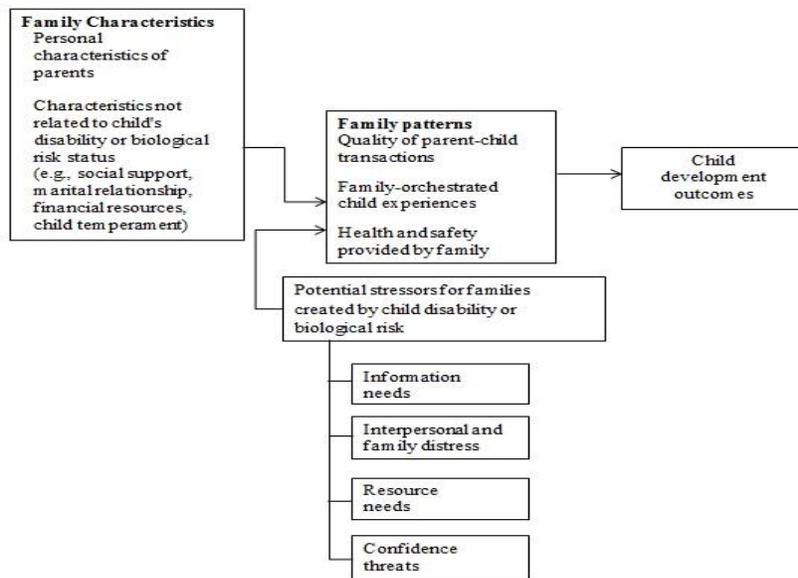


Figure 2: Guralnick’s model of factors influencing children’s developmental outcomes.

Adapted from Guralnick, M.J. (1998, p324) Effectiveness of Early Intervention for Vulnerable Children: A Developmental Perspective. In AJMR, Vol. 102, No. 4. Also, Wolery, M. (2000, p193) Behavioural and Educational Approaches to Early Intervention. In Shonkeff, J.P. and Meisels, S.J. (Eds). Handbook of Early Childhood Intervention. 2nd ed. Cambridge University Press.

In this model, Guralnick ascertained that the experiential factors governing the course of child developmental outcomes can be divided into three sets of family patterns of interaction: the quality of parent-child transactions, family orchestrated child experiences, and health and safety provided by the family (as shown in figure 2 above). The author explained that for parent-child transactions, the dimensions and characteristics of family interaction patterns that appear to support optimal development include responding contingently, establishing reciprocity, providing affectively warm and nonintrusive interactions, appropriately structuring and scaffolding the environment, being discourse-based, and ensuring developmentally sensitive patterns of caregiver-child interactions (Guralnick 1998; Igoni & Potmesil, 2014).

The second family pattern of interaction governing child developmental outcomes consists of children’s experiences with the social and physical environment that are orchestrated by family members, primarily parents. These includes the variety and developmental appropriateness of toys and materials provided, general stimulation value of the environment, and the frequency and nature of contacts with other adults and children that occur through parent-based friendship and family networks or alternative care arrangement (Guralnick, 1998; Igoni & Potmesil 2014). Guralnick (1998) described in the last stage of family pattern of interaction that parents are directly

responsible for ensuring the general health of and establishing a safe environment for their child as such, obtaining immunizations, providing adequate nutrition, and protecting child from violence.

Wolery (2000) alluded that the family patterns, do not occur in a vacuum but they are influenced by two other components of the model which are the family characteristics and the potential stressors. The family characteristics component includes two broad contextual factors: the personal characteristics of the parents and the characteristics of the child that are not related to his/her disability. Hence, family characteristics occur within the context of historical and current events and conditions (Wolery, 2000), such as the degree of depression, level of education, and intergenerational parenting experiences including cultural expectation. While characteristics not related to the child's disability or risk status includes quality of the marital relationship, child temperament, available support that include family resources and social support networks (Guralnick, 1997, cited in Wolery, 2000; Igoni & Potmesil 2014).

Additionally, Wolery (2000) contended that potential stressors due to the child's disability may interfere with family carrying out the family patterns. The potential stressors were classified into four namely; information needs that arise due to the child's disability, interpersonal reactions and family distress that may occur because of the child's disability, resource needs, and confidence threats implies the notion that having a child with disabilities may interfere with the family day-to-day problems that arise and as a result may cause them to question their actions and judgments (Wolery, 2000; Igoni & Potmesil 2014).

Conclusively, the model maintained that intervention programme should contain three major components which are resource supports, social supports, and information and services (Guralnick, 1997; cited in Wolery, 2000; Igoni & Potmesil 2014). These components are designed to address the stressors. Hence, addressing the stressors, early intervention programmes will help families carry out the family patterns that directly influence children's developmental outcomes (Wolery 2000; Igoni & Potmesil 2014).

2.12.3 Dunst and Trivette's Resource-Based Approach

The approach of resource-based on early intervention (Trivette, Dunst & Deal, 1997 in Wolery 2000; Igoni & Potmesil 2014) grew from the work of Dunst and his colleagues as well as the research of other investigators. Early intervention is the provision of support to families of infants and young children from members of informal and formal social support networks that impact both directly and indirectly upon parental, family and child functioning. The above definition led to the development of resource-based model (Wolery, 2000; Igoni & Potmesil 2014) as shown below.



Figure 3: Resource-Based Model of Dunst and Trivette.

Adapted from Wolery, M. (2000, p.194). Behavioural and Educational Approaches to Early Intervention. In Shonkoff, J.P. and Meisels, S.J. (eds). Handbook of Early Childhood Intervention. 2nd ed. Cambridge University Press, USA.

The resource-based model of early intervention assumed that families and children are embedded within several influential ecological systems, and families as well as communities have assets and strengths (Wolery, 2000; Igoni & Potmesil 2014). The model seeks to promote the use of those strengths, hence placing emphasis on developing partnerships with families as contrasted to promoting paternalism and on empowering families to make decisions and be independent of early interventionists as compared to professionals making decisions and usurping the family's role in determining their own paths of actions (Dunst 1985, in Wolery 2000; Igoni & Potmesil 2014). In addition, this model recognized how support and assistance provided is highly related to

perceptions of how effective it is and especially how the helping relationship is established will predict how useful that help was (Dunst et al., 1994 cited in Wolery, 2000; Igoni & Potmesil 2014).

The resource-based model has three components namely; sources of support, community resource mapping and building community capacity. According to Trivette et al., (1997) in Wolery, (2000) and Igoni & Potmesil (2014), Source of support, enumerated four categories which are social network members (e.g. persons from whom the family seeks assistance, guidance, and nurturing), associational groups (e.g. range of potential community organizations such as church groups, civic events, service clubs etc.), community programme and professionals (e.g. child care programmes, hospitals, employment agencies, medical services, etc.), and specialized services (e.g. services designed specifically for families, children, or both such as mental health agencies, specialists, referral services, etc.). The above categories are commonly associated with early intervention programmes (Wolery, 2000; Igoni & Potmesil 2014). While Community resource mapping involves identifying the various kinds of resources that exist in a given neighborhood, village, and county and, identifying the location of each resource. Therefore, serves as a source from which families of children with disabilities can find and access resources they deem important (Trivette et al., in Wolery, 2000; Igoni & Potmesil 2014). Finally, building community capacity recognized the strengths and assets of a community (Trivette et al., in Wolery 2000; Igoni & Potmesil 2014). The authors recommended a three-step process used in building community capacity: “i) identifying the strengths of community people and groups, ii) demonstrating how these strengths addresses child and family desires, and iii) eliminating barriers through use of other resource” (p.196).

In sum, this model relies more on assisting families in addressing their priorities in the context of their existing and potential relationships with available and accessible community resources and sources of support. Hence, the model promotes families’ participation in opportunity factors as well as to reduce the impacts of risk factors (Wolery, 2000).

2.13 Summary

From the literature review, early intervention is very crucial for the learning and development of children with disabilities. Early intervention does not only reduce the effect of disabilities or

prevents the occurrence of learning and developmental problems later in life. But also help to provide support and needed assistance to family's as well as maximizing the child's intervention and the family's benefit to the society at large. The current trends in early intervention practices are from evidence-based practice and natural environment. As such, practitioners should evaluate interventions and their professional practices by examining the evidence base and monitoring the results of their practices to fully implement evidence-based practices that has shown to be effective in collaborating with families and promoting children's development (Chen, 2014). While the eligible infants and toddlers with disabilities should receive needed early intervention services in their natural environments (e.g. child's home, community play groups, day care centres, centre-based programmes, etc.) to the maximum extent appropriate (IDEA, 2004; CPIR, 2018). In addition, response-contingent child learning, parent responsiveness to child behaviour, and capacity-building help-giving practices has positively affect learning and the development of infants and toddlers with disabilities.

In describing the practice of a successful early intervention for children with disabilities, many frameworks have been developed to guides this practice. These frameworks have emerged from developmental ecology, developmental-psychoanalytic perspective, behavioural and educational perspectives, and neurobiological bases. However, the integrated holistic model, Guralnick's early development and risk factors model, and Dunst and Trivette's resource-based approach are employed as the theoretical frameworks that guide this research. Findings based on the available literature have reported the effective approaches of child-family centred, professional team involvement, legislation, and programmes and services on intervention of children with disabilities and their respective families. Families are a key component in early childhood intervention systems and, as such, must be accommodated as a service delivery variable that contributes to the overall effectiveness of services (Dunst, 2007; Dunst, Trivette, & Hamby, 2006; Lynch & Hanson, 2004; Shonkoff & Phillips, 2000 cited in Bruder, 2010). These effects are the direct result of both the characteristics of the family (such as family culture, background, composition, and living conditions), and the interactions, experiences, and beliefs of the family (Guralnick, 2005b cited in Bruder, 2010).

Early intervention involved many disciplines and fields of study, such as psychology, health, early childhood education, special education, physical therapy, occupational therapy, speech-language

pathology etc. all working together to support the child and his/her family (Bruder, 2010; Raver & Childress, 2014). The combination of these professionals makes up the early intervention team to delivery services, although it depends on the child's Individual Family Service Plan. Regardless of team composition, the primary task of this team is to support the family's competence and confidence with promoting a child's development toward the outcomes desired by the family in the child's everyday life (Raver & Childress, 2014). More so, the established early intervention legislation/law across the globe has made it possible for children and families to be assessed and served in settings where children without disabilities are cared for and taught. And as well as the development of an individualized family service plan for each eligible child and family (Harbin, et al., 2000).

In sum, the programmes and services for early intervention vary according to the place, age of child and the special support, the child and the family requires. The programmes are preventive, compensatory and remedial. They seek to prevent or minimise the physical, cognitive, and emotional limitations of children with disabilities as well as exerting risk factor negative influences on children's development.

Practical Section

Chapter Three Research Methodology

This chapter presents the methodological approach used to carry out the study. It focuses on research design, area of study, population and sample, sample techniques, research questions, research hypotheses, research instruments, validity and reliability of the instrument, procedure for data collection, and data analysis strategies.

3.1 Research Design

Research designs are types of inquiry within qualitative, quantitative, and mixed methods approach that provides specific direction for procedures in a research design (Creswell, 2014). Others called them strategies of inquiry (Dezin & Lincoln in Creswell, 2014). The research design is a plan on how a research work is carried out. Better still, it is the conceptual structure within which research is conducted, and constitutes the blueprint for the collection, measurement, and analysis of data. As such the design includes an outline for the writing of hypothesis and its operational implications to the final analysis of data (Bhatta, 2013). For this study, the sample survey design was adopted because it deemed most appropriate to properly specify the context, structure, purpose and scope of the study. It includes cross-sectional and longitudinal studies using questionnaires and structured interviews for data collection with the intent of generalizing from a sample to a population (Fowler, 2008 cited in Creswell, 2014).

3.2 Study Area

The study was carried out in two geographical regions of Nigeria namely; the South-South (6 states) and South-West (6 states). Nigeria is located on the West Coast of Africa, bordering the Niger Republic in the north, Chad and Cameroon to the east and the Benin Republic in the west. Its shoreline lies on the Gulf of Guinea to the south and Lake Chad to the northeast. It is estimated to have over 178.5 million people in 2016. It is a heterogeneous society with more than 250 ethnic and language groups (The World Fact Book, 2008). Her most populous and politically influential ethnic and language groups include Igbos, Hausas, and Yorubas. Nigeria got her independence from Britain in 1960. Thereafter, she experienced almost 16 years of military rule and a new

constitution was adopted in 1999, which brought about a peaceful transition to civilian government. Theoretically, Nigeria practices a democratic system of government. However, the military characteristic still influences the system of government. Her population from the South-South and South-West regions predominantly comprises of farmers, traders and civil servants. English is her official Language.

3.3 Population and Sample of the Study

The population of the study consists of professionals that provide various services in early intervention programmes and services, coordinators of early intervention/rehabilitation centres, parents or caregivers of children with disabilities and their respective families. The study sample size (participants) comprised of 83 (40.7%) Male and 121 (59.3%) Female of which greater number of them has bachelor 73 (35.8%), master/PhD 55 (27%), college education 54 (26.5%) and high school 22 (10.8%). Their working experience are 8 (3.9%) 1-6 months, 36 (17.6%) 7 months–1 year, 66 (32.4%) 2-4 years, 54 (26.5%) 5-10 years and 40 (19.6%) for 11 above. And age ranges from 34 (16.7%) for under 29, 86 (42.2%) for 30-39, 68 (33.3) for 40-49, while 16 (7.8) for 50-59. Below are figures showing the summary of demographic information of the participants:

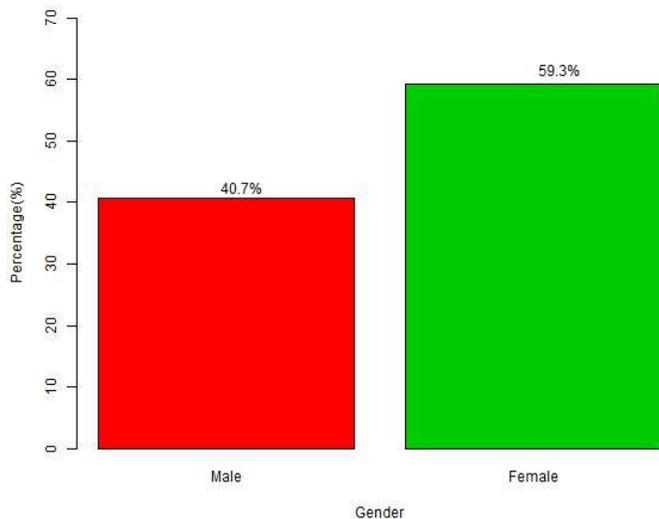


Figure 4: Gender of Participants.

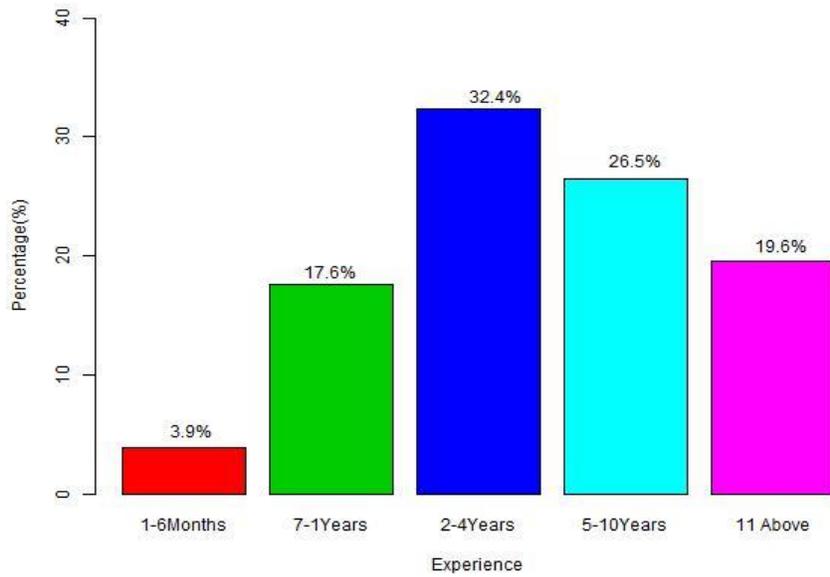


Figure 5: Working Experience of Participants.

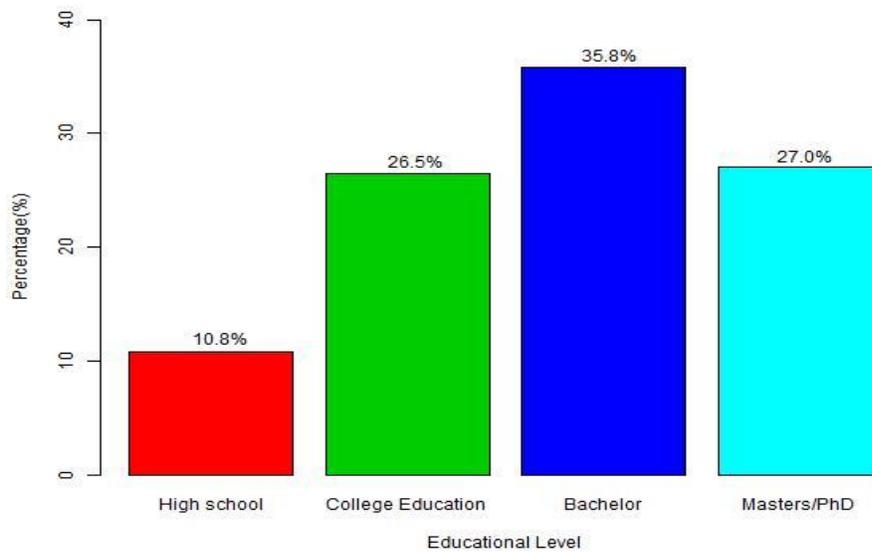


Figure 6: Educational Level of Participants.

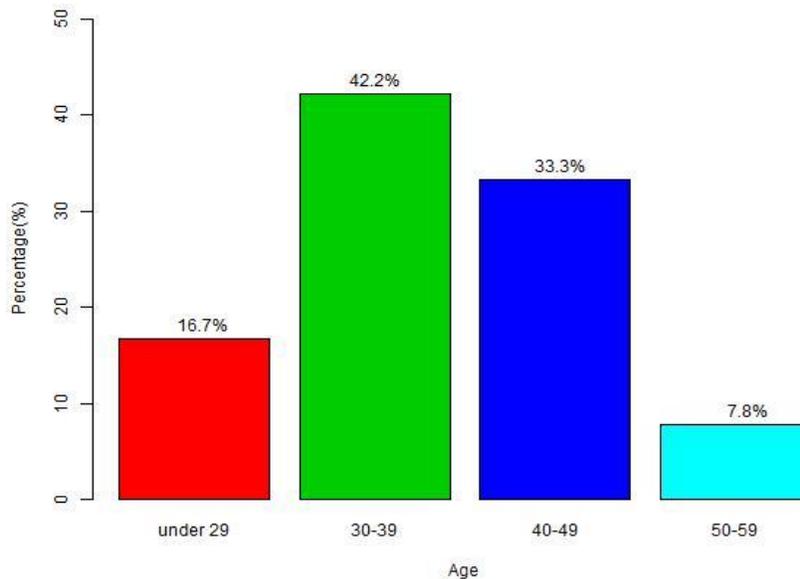


Figure 7: Age of Participants.

3.4 Sample Techniques

The purposive sampling technique was adopted for the study. Purposive sampling also known as a judgmental or expert sample is a type of nonprobability sample. The main objective of the purposive sample is to produce a sample that can be logically assumed to be representative of the population (Lavraka, 2008). To ensure maximum variability, the researcher chooses purposive sampling because of the participants selected, which included parents or caregivers and professionals that have vast experience, knowledge, and who have directly served children with disabilities.

3.5 Research Questions

To be more precise in this study, the following are used as research questions.

- i. To what extent do child-focused and family-based approaches serve as effective tools in intervening for children with disabilities?
- ii. To what extent has the professional team been effective in early intervention practice for children with disabilities?

- iii. To what extent does legislation or policy influence early intervention practice for children with disabilities?
- iv. What programmes and services are best for the practice of early intervention?

3.6 Research hypotheses

H1 Child-Family centred approach has a great impact on the intervention of children with disabilities.

- H1o: There is no significance of child-Family approach influence on the intervention of children with disabilities.
- H1i: There is a significant influence of Child-Family approach on the intervention of children with disabilities.

H2 Professionals team involvement has great influence on the intervention of children with disabilities.

- H2o: There is no significant influence of professional team practice on the intervention of children with disabilities.
- H2i: There is a significant influence of professional team practice on the intervention of children with disabilities.

H3 Legislation/policy implementation for early intervention practices has greatly affected the intervention of children with disabilities.

- H3o: Legislation/policy of early intervention does not significantly influence the intervention of children with disabilities.
- H3i: Legislation/policy significantly influences the intervention of children with disabilities.

H4 Programmes and services of early intervention practice has an effect on the intervention of children with disabilities.

- H4o: The programmes and services of early intervention do not significantly influence the intervention of children with disabilities.

- H4i: The programmes and services of early intervention significantly influence the intervention of children with disabilities.

3.7 Research Methods

The study adopted an explorative mixed method of both qualitative and quantitative research method to provide the best understanding of the investigation and determine the guidelines or factors that have made the practice of early intervention effective for children with disabilities. Qualitative research method produces extensive descriptions of real life experiences and its interpretative nature gives little by way of identifying substantial areas of equality early intervention practice. Thus, help to describe the situation and events of early intervention in the many countries. Qualitative method tends to be open-ended without predetermined responses while quantitative data usually includes closed-ended responses such as found on questionnaires or psychological instruments (Creswell, 2014). Also, quantitative research approach is one in which the investigator primarily uses positivist claims for developing knowledge and employs strategies of inquiry such as experiments and surveys and collects data on pre-determined instruments that yield statistical data (Creswell, 2003). For this study, literature research method, semi-structured interview and questionnaire survey are used as the method for data collection.

3.7.1 Literature Method

Literature method is a foundation for almost all research works and is one of the most common means of collecting information for research purposes. It is a way of collecting and analysing written and readily available materials which include scholarly papers, published and unpublished books, magazines, e-books etc. This method was used for gathering related information about the topic under investigation. And it helps the researcher to become more acquainted, informed, and knowledgeable on the relevant research on the practice of early intervention for children with disabilities. The literature sources used are from academic journals, conferences proceedings, online sources and direct communication with authors in some cases.

3.7.2 Semi-structured Interview Method

According to Boyce & Neale (2006), in-depth interview can be defined as a qualitative research technique which involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme or situation. The semi-structured interview contains components of both structured and unstructured interviews. The researcher prepared a set of similar questions to be answered by some of the participants, but additional questions arose during the interview process in order to establish clarity and detailed explanation on specific issues related to the topic. The semi-structured interview was carried out to get a clear grasp on emerging themes related to the topic under investigation.

3.7.3 Questionnaire Survey

The questionnaire method's focus is on deciding how the sample is to be surveyed (e.g., by mail, by phone, in person) and developing the specific questions that will be used. This is a particularly important step that involves determining the content and structure (e.g., open-ended, closed-ended, Likert scales) of the questions, as well as the general format of the survey instrument i.e., scripted introduction, order of the questions, etc. (Marczyk, Dematteo, & Festinger (2005). Most importantly, the final survey could be subjected to a protocol analysis in which it is administered to numerous individuals to determine whether (a) it is clear and understandable and (b) the questions get at the type of information that they were designed to collect (Marczyk, Dematteo, & Festinger (2005). Although, by collecting relevant literature and synthesizing the related research outcomes, the questionnaire was designed according to the hypotheses of the research. The questionnaire aimed at those involved in the practice of early intervention for children with disabilities and parents or caregivers of children with disabilities in the south-south and south-west regions of Nigeria.

3.8 Research Instruments for data collection

The major instruments used to source for data in this study are questionnaire and semi-structured interview.

3.8.1 Questionnaires

A questionnaire was used for this study because it helps to collect a large amount of data within the shortest time possible. The questionnaire was designed in such a way that it would provide information and allow for investigation on child-family centred approach intervention, professional team involvement, legislation/policy effectiveness, and programmes and services affecting children with disabilities in early intervention practice. The questionnaire has three sections/parts. The first section/part is an introductory statement that declares the significance and purpose of the research as well as assuring participants confidentiality. The second section/part is the demographic information that consists of the participant's gender, age, experience and educational level. And the third or last section/part focused on a 5-point Likert scale of 23 items related to the topic and hypotheses under study. With scoring scale of Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD) respectively. The participants provided a response along with this continuum of responses.

3.8.2 Semi-structured Interview

The semi-structured interview was applied to get a well clarified emerging themes about the topic and according to the purpose of the study. The semi-structured interview was directed at directors of special education in the states (these are key persons with the responsibilities of special education and early intervention), principals of special education centres (centres that provides educational needs for children with disabilities), and the purposively selected parents or caregivers to children with disabilities. The interview was utilized to ensure direct and intensive investigation from all selected participants working directly with children with disabilities. The interviews were carried out in person, via skype and phone calls respectively.

3.9 Validity and Reliability of Instrument

Validity of Instrument

The draft of the research instrument was subjected to face and content validation by the researcher's supervisor. The face validation means that the questions showed appropriateness of

certain measures in terms of its general appearance; and content validation means items on the questionnaire are related to sample of the universe of content i.e. how much a measure covers the range of the meaning included within a concept (Isangedighi, 2004; Babbie, 2010; Igoni & Potmesil, 2014). The necessary corrections and modification were made by researcher's supervisor before the final approval of the instrument. Hence, the validation was essential so that items would ensure it measured what it was supposed to measure.

Reliability of Instrument

To ensure the reliability of the instrument for the study, the Cronbach's alpha method of determining reliability was adopted. This was done by first administering the instrument once to a group of persons that are not part of the sample but possess similar characteristics. After the administration, the collected questionnaire was coded, and the data generated was analysed via Statistical Package for Social Science (SPSS). The analysis yielded a coefficient of 0.91. This indicates a high reliability of the study.

3.10 Procedure for Data Collection

3.10.1 Data Collection for Questionnaire

Firstly, the researcher obtained an introductory letter from the researcher's supervisor and was presented to directors or coordinators in charge of special education and intervention centres in the states. And they in turn gave their consent and contacted the centres via telephone, email and a brief letter reexplaining the purpose of the study and the importance of the exercise, to allow the researcher to administer the questionnaire. Thereafter, participants (parents or caregivers of children with disabilities) were invited on a given day to the centres/offices for participation. Instructions on the anonymous and how to fill the questionnaire was disseminated. And the questionnaire was administered to all the participants through the research assistants and via online survey links emailed to some of the participants who required more time to fill the questionnaire. All the filled questionnaire was collected, after the exercise and others submitted via online. The data collection period lasted for 2 months due to distance within states.

3.10.2 Data Collection for Semi-structured Interview

All interviews began with a description of the study and ethical rules in social science research, i.e. issues pertaining to confidentiality and consent are explained. The interview was carried out one on one and conducted for about an hour to get in-depth answers needed for this study. The data was collected through the completion of semi-structured interviews within a 2-month period. Each interview question consisted of open-ended questions. The interview questions were structured in a way that enabled participants to narrate their experiences and at the same time allowed them to ask pertinent questions. During the interview, the researcher took notes as well as tape-recording the conversation. The researcher used an interview guide with the same questions for each participant. The researcher asked questions for clarification when the need arose. The interview was directed purposively to selected service providers, early childhood practitioners, pre-school special needs assistants, and parents of children with disabilities, directors, coordinators and Unit heads in the special education schools and intervention centres. All participants were contacted, and time and locations were decided prior to the interview.

3.11 Data Analysis Strategies

3.11.1 Data Analysis for Questionnaire

The questionnaires that are properly filled were coded, and data collated from the Likert scale were entered into Statistical Package for Social Science (SPSS) version 20 in the computer. Immediately, missing data was checked to make sure all responses were considered. Data were analysed within the SPSS and the results presented in tables. One Sample T-test in the SPSS was used to investigate or analyse the influence of child-family approach, professional team involvement, legislation/policy effectiveness, and programmes and services on the intervention of children with disabilities.

3.11.2 Data Analysis for Interview

The recorded audiotapes during the interview were transcribed and descriptively analysed word-to-word. No coding was used, but the knowledge of the research and interpretation of the researcher guided by the literature review and the participants elicit views and opinions was used to explain the responses of the items on the questionnaire. Thus, responses were presented in graphs.

Chapter Four Data Analysis, Interpretation, and Discussion of Results

This chapter presents and discusses the analysed results for the findings on influence of child-family based approach, professional team involvement, legislation/policy effectiveness, and impact of programmes and services on the intervention of children with disabilities. The results are presented in graphs and tables.

4.1 Data Analysis and Interpretation

Hypothesis One

The child-family centred approach of early intervention has a great impact on the intervention of children with disabilities.

- **H1o:** There is no significant influence of child-family centred approach on the intervention of children with disabilities.
- **H1i:** There is a significant influence of child-family centred approach on the intervention of children with disabilities.

One sample t-test statistic was used, to test the hypothesis at 0.05 level of significance and the result of the analysis is presented in Table 1.

Table 1: One Sample T-test analysis of child-family approach on the intervention of children with disabilities

	N	Mean	Std. Deviation	Std. Error Mean		
TCHILDUFU	204	27.85	1.721	0.121		
	Test Value = 15					
				Mean Difference	95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)		Lower	Upper
TCHILDUFU	106.639	203	0.000	12.853	12.62	13.09

Significant at .05 level, df = 203

The result of the statistical analysis presented in Table 1 indicates that the Mean for child-family centred intervention ($M = 27.85$, $SD = 1.72$) was higher than the test value of 15, a statistically significant mean difference of 12.85, 95% CI {12.62 to 13.09}, $t(203) = 106.639$, $p < .001$. Since $p < .001$, the null hypothesis that states that there is no significant influence of child-family centred approach on the intervention of children with disabilities was rejected while the alternate hypothesis was accepted. This means there is a significant influence of child-family centred approach on the intervention of children with disabilities. That is the child-family centred for early intervention has effectively influenced the intervention of children with disabilities.

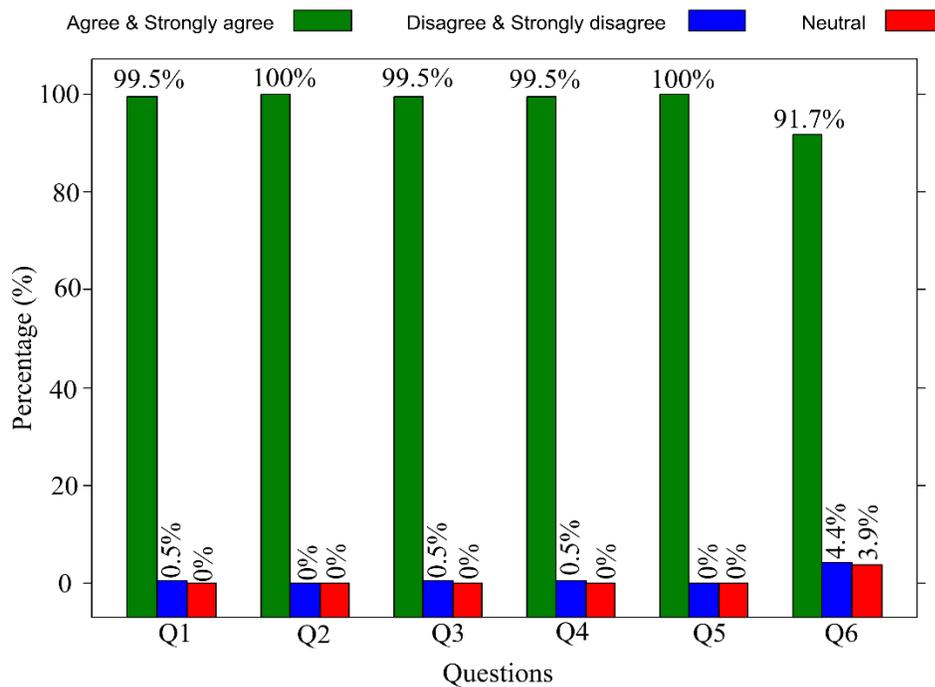


Figure 8: Descriptive chart of Child-Family Centred Approach.

Based on the descriptive data shown in figure 8 for questions on child-family centred approach on the intervention of children with disability, the responses revealed that most of the participants' (99.5%, 100%, 99.5%, 99.5%, 100% & 91.7% respectively) responses were on agree and strongly agree. Few of the participants (0.5%, 0.5%, 0.5%, & 4.4% respectively) responses were on disagree and strongly disagree while 3.9% responses of the participants in question 6 were on neutral. Therefore, this indicates that the child-family centred/based approach has greatly affected the intervention of children with disabilities.

Hypothesis Two

Professional team involvement in early intervention has great influence on the intervention of children with disabilities.

- **H2o:** There is no significant influence of professional team practice on the intervention of children with disabilities.
- **H2i:** There is a significant influence of professional team practice on the intervention of children with disabilities.

One sample t-test statistic was used, to test the above hypothesis at 0.05 level of significance and the result of the analysis is presented in Table 2.

Table 2: One Sample T-test Analysis of Professional team involvement on children with disabilities

	N	Mean	Std. Deviation	Std. Error Mean		
TPROF	204	27.35	2.837	0.199		
Test Value = 15						
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
TPROF	62.158	203	0.000	12.348	11.96	12.74

Significant at .05 level, df = 203

The result of the statistical analysis as presented in Table 2 shows that the Mean for professional team involvement ($M = 27.35$, $SD = 2.84$) was higher than the test value of 15, a statistically significant mean difference of 12.35, 95% CI {11.96 to 2.74}, $t(203) = 62.158$, $p < .001$. With the $p < .001$, the result is significant, and the null hypothesis was rejected. This means that there is a significant influence of professional team involvement on the intervention of children with disabilities.

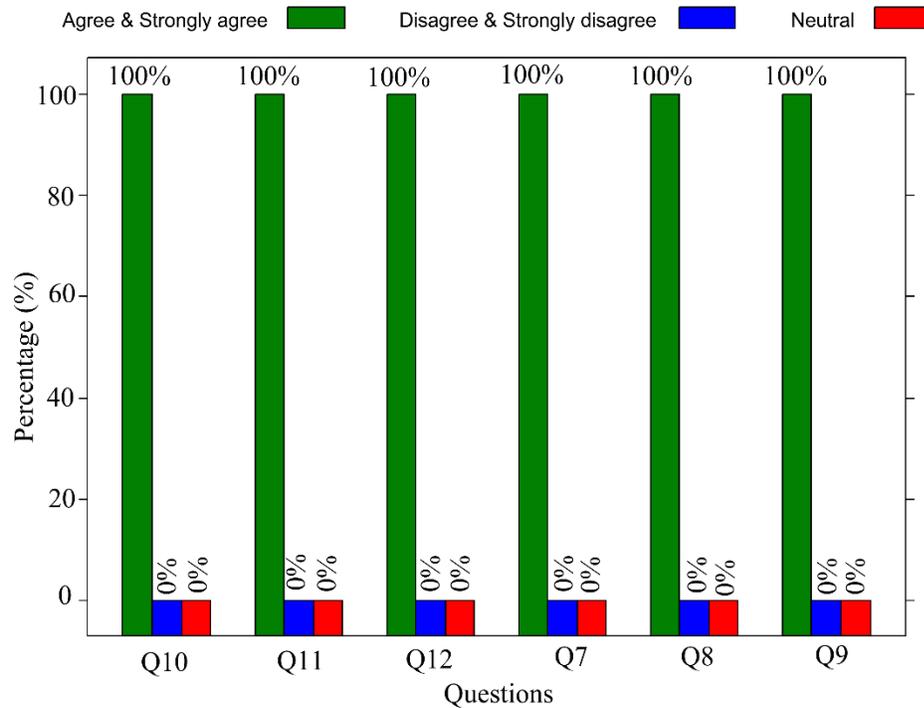


Figure 9: Descriptive chart of Professional team involvement.

According to the descriptive data in figure 9, for questions on the professional team involvement effectiveness on intervention for children with disabilities, it is evident that participants (100%) responses were on agree and strongly agree. This indicates that the involvement of professionals has a positive effect on the intervention of children with disabilities.

Hypothesis Three

Legislation/policy implementation for early intervention practices has greatly affected the intervention of children with disabilities.

- **H3o:** Legislation/policy of early intervention does not significantly influence the intervention of children with disabilities.
- **H3i:** Legislation/policy significantly influences the intervention of children with disabilities.

One sample t-test statistic was also used, to test hypothesis three at 0.05 level of significance and the result of the analysis is presented in Table 3.

Table 3: One Sample T-test Analysis of Legislation/policy effectiveness on children with disabilities

	N	Mean	Std. Deviation	Std. Error Mean		
TLEGIS	204	26.18	0.925	0.065		
	Test Value = 15					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
TLEGIS	172.597	203	0.000	11.176	11.05	11.30

Significant at .05 level, df = 203

As shown in Table 3, the legislation/policy effect has a mean score ($M = 26.18$, $SD = 0.925$) that is higher than the test value of 15 and a statistically significant mean difference of 11.176, 95% CI {11.05 to 11.30}, $t(203) = 172.6$, $p < 0.001$. Hence, the null hypothesis that states legislation/policy of early intervention does not significantly influence the intervention of children with disabilities was rejected. The alternate hypothesis which states that legislation/policy significantly influence the intervention of children with disabilities was retained. This result indicates that the implemented legislation/policy IDEA and the likes have a great impact on the practice of early intervention for children with disabilities.

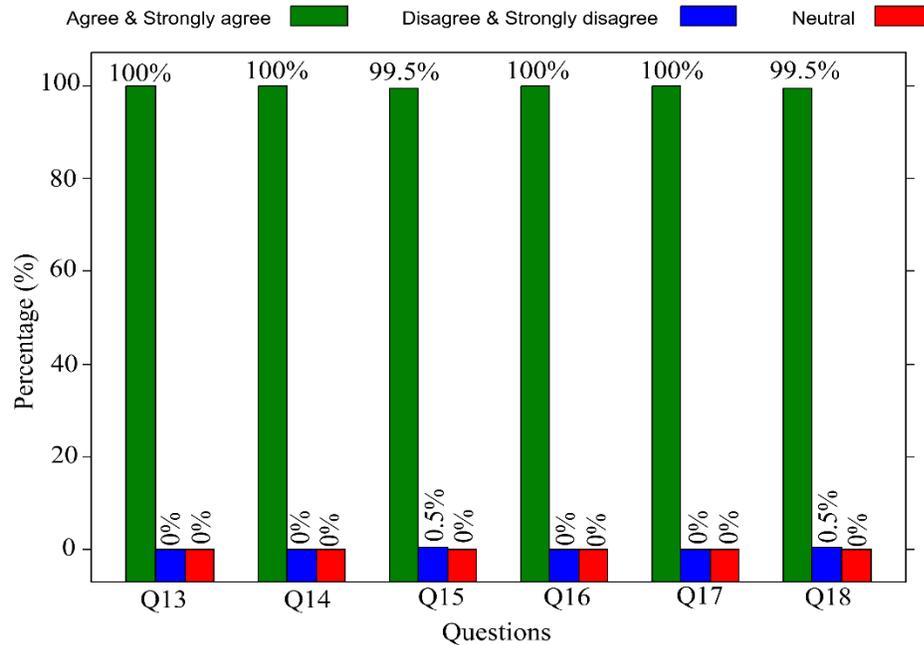


Figure 10: Descriptive chart of Legislation/Policy.

From figure 10, the descriptive chart shows questions for legislation/policy impact on the intervention of children with disabilities. It is noticeable that almost all the participants (100%, 100%, 99.5%, 100%, 100% & 99.5% respectively) responses were on agree and strongly agree while very few participants (0.5%, & 0,5%) responses were on disagree and strongly disagree. Indicating that the legislation/policy for early intervention practice has impacted the intervention of children with disabilities. Furthermore, this agrees with the quantitative analysis.

Hypothesis Four

Programmes and services of early intervention practice have an effect on the intervention of children with disabilities.

- **H4o:** The programmes and services of early intervention do not significantly influence the intervention of children with disabilities.
- **H4i:** The programmes and services of early intervention significantly influence the intervention of children with disabilities.

One sample t-test statistics was as well used, to test hypothesis four, at 0.05 level of significance and the result of the analysis is presented in Table 4.

Table 4: One Sample T-test of Programmes and services effectiveness on children with disabilities

	N	Mean	Std. Deviation	Std. Error Mean		
TPROGSER	204	22.79	1.475	0.103		
	Test Value = 12.5					
				Mean Difference	95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)		Lower	Upper
TPROGSER	99.715	203	0.000	10.294	10.09	10.50

Significant at .05 level, df = 203

The result of the analysis in Table 4 revealed that the Mean for programmes and services in early intervention ($M = 22.79$, $SD = 1.48$) was higher than the test value of 12.5, a statistically significant mean difference of 10.29, 95% CI {10.09 to 10.50}, $t(203) = 99.72$, $p < 0.001$. Thus, the Mean was significantly different at $p < 0.001$ and this led to rejecting the null hypothesis that states the programmes and services of early intervention do not significantly influence the intervention of children with disabilities. The alternate hypothesis which states the programmes and services of early intervention significantly influence the intervention of children with disabilities was accepted.

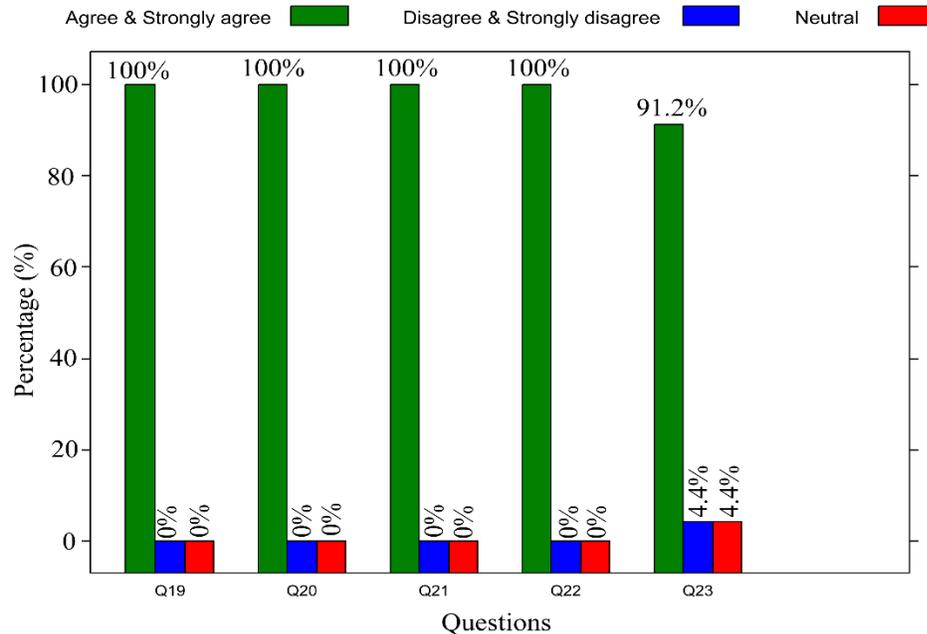


Figure 11: Descriptive chart of Programmes and Services.

The descriptive data analysis shown in figure 11 on questions for programmes and services effectiveness on the intervention of children with disabilities was much apparent that almost all participants (100%, 100%, 100%, 100%, & 91.2% respectively) responses centred on agree and strongly agree while few participants (4.4% & 4.4%) responses centred on neutral, disagree and strongly disagree in question 23. This indicates programmes and services have positively affected the intervention of children with disabilities, as well as agrees with the quantitative analysis result.

4.2 Discussion of Findings

Based on the analyses, of the result on each of the hypotheses, the findings of this research are discussed as follows:

The result of the first hypothesis indicates that there is a significant influence of the child-family centred approach of early intervention on the intervention of children with disabilities. The finding of this hypothesis agrees with the study carried out by Doostzade, Alamdarloo, & Shojaee (2017) on effectiveness of family-centred early intervention, the result indicated that the design and implementation of programmes with family-centred approach reduce anxiety, depression, and other psychological disorders in mothers of children with disability and helps them a lot in raising

their children. Family-centred early intervention has a positive effect on the parents of children with disability. Hence, helps them accept the conditions and limitations of their children so that they can manage the problems of the children while at the same time maintaining their own mental health (Doostzade, Alamdarloo, & Shojaee (2017). Fang (2017) also affirmed that the family-centred practice for Part C early intervention services shown direct and indirect effects on child and family outcomes. More so, a study conducted by Kazdin (2001) cited in Malekpour et al., (2014) demonstrated that family-based and child-centred interventions had a good impact on decreasing ADHD symptoms. Turnbull, Turbiville & Turnbull, (2000) confirmed that a family-centred approach allows families to find sharing information and decision making that helps them maintain equal footing in the involvement of their children's intervention. CWIG (2013) cited in Fang (2017) also indicated that the family-centred early intervention services not only could help children safely remain in their homes but also help them have stabilized placements. Thus, families play a critical role in early intervention for young children with disabilities. Regarding child-centred/focused early intervention approach, Guralnik reported that child-centred direct early intervention has short-term improvements for children with cognitive impairments and long-lasting effects depending on the intensity and specificity of the early intervention programmes (Guralnik, 1998 cited in Hickman, et al., 2011). Neofotistou et al., (2014) observed that child-centred approach of early intervention results in significant benefits for children and specifically, supports the communication, play and behaviour of children. Other researchers acknowledged that the impact evaluation of implemented child-focused programmes confirmed their contribution to the social-cognitive development in children, development of their social competence, improved school achievements, reduced dropout and repetition rates, reduced need for special education, continued education, reduced behavioural problems in adolescence and lower abuse of psychoactive substance (Golubović, Marković, & Perović, 2015).

From the responses and interview, the participants indicated that the child-family centred approach of early intervention has a great impact on the intervention of children with disabilities. Since “family's needs, concerns, and priorities constitute their child's intervention, the services are carried out in the child's environment, and professionals listen carefully to families concerns about their children and likewise respond by providing strategies, then families are supported in caring for their children”. On the other hand, it was observed that only a few responses showed that “their

family's priorities and views are not fully accepted by the professionals rather they adopt those practices that support their personal values".

The result of the second hypothesis reveals that there is a significant influence of professional team involvement on the intervention of children with disabilities. Consistently, researchers alluded that providing multi-disciplinary, comprehensive intervention across linked areas such as behaviour, social, communication, regulation, etc. early in development can have a significant positive impact on later cognitive and academic functioning of children with disabilities (Shonkoff & Phillips, 2000; cited in Stahmer, et al., 2011). Research evidence revealed that professionals' teamwork results in more effective and efficient services than those provided individually (Cook, 1996 cited in Artken, Bakker & Branscombe, 2009; Enderby, 2002; Wanjiru, 2016). Chen, (1999), McWilliam et al., (1995), Horn, (2012), cited in Neofotistou et al. (2014) asserted that a true team approach is created where parents and early intervention professionals develop interventions to promote the child's development. Given that families know their child the best, they have the information needed to guide the early intervention professionals in the development of an effective and individualized family service programmes. Similarly, Flottman, McKernan & Tayler (2011) contended that no two early intervention professionals have the same skills, knowledge and experience. Hence, involving more than one professional has a significant effect on the intervention of children with disabilities. Research evidence stresses the value of professionals working in a team (partnership) to share expertise in early childhood settings (Trepanier-Street, 2010 in Flottman et al., 2011), and the importance of these professionals' ability to build collaborative relationships (Green et al., 2006 in Flottman et al., 2011). Kelley (1996) in Flottman, et al., (2011), found that partnership approaches can result in faster and more personalized responses to child and family needs, including establishing eligibility for special education programmes, or meeting emergency family needs for shelter, money and medical treatment. Harjusola-Webb, Gatmaitan, & Lyons, (2013) in line with the findings affirmed that early intervention professionals or practitioners play a critical role in the process of family empowerment and helping families to advocate for their child. As such, teaming between early intervention professionals is important for all children, including children with disability, developmental delay or other additional needs, who may require the support of professionals across several settings and disciplines (Wesley et al., 2004; King, et al., 2009; Trepanier-Street, 2010; in Flottman et al., 2011). Dunst, (2007); Harjusola-Webb, Gatmaitan, & Lyons, (2013)

found that the contemporary model of early childhood intervention is family-centred, and these adult-to-adult interactions between caregivers and professionals significantly influence the family's well-being, parenting skills, and positive parental perceptions of their child's behaviour.

From the responses and interview, all the participants indicated that professional team involvement effectively affects the intervention of children with disabilities primarily because "they bring different knowledge, professional backgrounds and ideas to ensure the best and more comprehensive services for children and their respective families. Also, because they work together to solve their children's problem, the families learn from the different professionals involved in their children's intervention, during sessions they provide and share strategies for interaction with their children, and the developmental issues of children and their families are treated confidentially by professionals".

The result of the third hypothesis implies that legislation or policy for early intervention practice significantly influences the intervention of children with disabilities. For the confirmation of this finding, Hebbeler, Greer & Hutton (2011) and US Department of Education, Office of Special Education Programmes, Data Analysis Systems (2009) cited in Adams, Tapia and CCD (2013), reported that states are charged to carry out intervention services under Part C in IDEA. As such, this has shown huge success on several levels. By 1992, 143,000 children and their families were receiving services via Part C. In 2009, that number had risen to 349,000, or 2.67% of the US population 3 years or younger. With IDEA Part C policy, there is increasing importance on quality measures of outcome, provision of services in the child's natural environment, and identification efforts for eligible infants. Keilty (2010) and Hanson (2003) posited that major national legislative initiatives (states, local communities and private programmes) have ensured that services are more universally provided and available for families whose children are eligible for early intervention. In view of this, Hanson, (2003) attributed that this legislation/law has provided the regulatory infrastructure for establishing a system of early intervention services and programmes. Similarly, Harbin, McWilliam & Gallagher, (2000) asserted that the legislation provides procedural safeguards for the child with disabilities and his or her family. The procedural safeguards section of the law instructs that parents will be informed of their rights. Belcher, Hairston-Fuller & McFadden, (2011) also attested that the legislation/policy outline the child and parent rights and invite parents to be team members and work in partnership with the professionals. Consistently,

Harbin, McWilliam & Gallagher, (2000); IDEA (2004); Twardzik, Cotto-Negron & MacDonald, (2017) reported as well that this federal law 108-446 made it possible for early intervention programme to conduct comprehensive and coordinated child find activities to identify infants and toddlers who are at risk for developmental delay or disabilities as early as possible. Harbin, McWilliam & Gallagher, (2000) contended that early intervention legislation/law established not only the child but the child's family as legitimate recipients and calls for the development of an individualized family service plan (IFSP) for each recipient of services. The authors further attested that the legislation for early intervention practice required children and families to be assessed and served in settings in which children without disabilities are cared for and taught. More so, Harbin, McWilliam & Gallagher, (2000) ascertained that the law requires that individual professionals from different disciplines work to integrate all services and therapies. McClelland et al., (2006); Weikart, (1998); Campbell et al., (2002); Jenkins et al., (2006); cited in Twardzik, Cotto-Negron & MacDonald, (2017) found that due to the enactment of the law, receiving early intervention services has shown to improve independence, academic achievement and economic outcomes for the society.

The responses and interview revealed that legislation or policy for the practice of early intervention greatly affects the intervention of children with disabilities. The participants indicated that “the available legislation or policy has made early intervention more accessible. Their rights are clearly stated, and they are active members of the intervention team of their children. The services received improved their independence, and professionals deliver the appropriate therapies and services to their children in accordance with the law”.

The result of the last or fourth hypothesis states that programmes and services of early intervention significantly influence the intervention of children with disabilities. This finding is consistent with the previous study conducted by Shonkoff & Hauser-Cram (1987) in 1986 which examined the effects of early intervention programmes and services on a broad range of children with disabilities younger than 3 years of age, and their families. The results indicated that early intervention is effective in promoting developmental progress in infants and toddlers with biologically based disabilities. Also, programmes oriented towards less severely affected children, which enrolled children before 6 months of age and encouraged high levels of parent involvement, achieved the best outcomes (Stoneman & Rugg 2012; Centre for Community Child Health, Royal Children's

Hospital Melbourne 2002 as cited in TRACPPCHD, 2013). A systematic review done by Flippin, & Crais, (2011); Matson, Mahan, & LoVullo, (2009) cited in Acar, & Akamoglu (2014), revealed that early intervention programmes, by the application of supporting meaningful and functional parent participation seem most promising to influence child's development. Similarly, Guralnick and Albertini, (2006) as cited in Blackburn, (2016) reported that it is a realistic expectation that early intervention programmes can prevent risk factors from exerting negative influences on children's development. Even for children with intellectual disabilities, early intervention can not only minimise intellectual delay but other secondary complications as well. This finding also coincided with Blackman (2002) cited in Anderson et al., (2003) who argued that early childhood intervention programmes seek to prevent or minimise the physical, cognitive, and emotional limitations of children with disabilities. Ackah & Appiah, (2009; 2011) also reported that early intervention programmes are preventive, compensatory, and remedial. However, Ackah & Appiah, (2009; 2011) maintained that early intervention programmes vary according to the place, age of the child, and the special support that the child and the family needs. And most programmes are provided in the child's home, in a centre or in a combination of both settings.

Responses and interview from participants indicated that programmes and services of early intervention have a positive impact on the intervention of children with disabilities because "the services received are satisfactory and met the needs of the child and family. Programmes and services are delivered in the child's natural environment, during sessions resources for implementation were available, and the outcome on the children are positive (effective)".

4.3 Summary of Findings

Summarily, this chapter presented the analyses and interpretation of data, as well as the discussion of the findings. The findings of this study are as follows:

- There is a significant influence of child-centred and family-centred approaches of early intervention on the intervention of children with disabilities.
- There is a significant influence of professional team involvement on the intervention of children with disabilities.

- Legislation or policy for early intervention practices significantly influences the intervention of children with disabilities.
- Programmes and services of early intervention significantly influence the intervention of children with disabilities.

Chapter Five Conclusions, Summary and Recommendation

This chapter presents the summary of the research, conclusions and recommendations based on the findings. It also presents the suggestions for further studies and limitations of the study.

5.1 Summary

In sum, this study specifically aimed at early intervention for children with disabilities: the parameters necessary for effective implementation. The purpose of the study was to investigate:

- i. The extent to which child-focused and family-centred approaches serve as effective tools in intervening for children with disabilities.
- ii. The extent to which the professionals' team effort has been effective in early intervention practice for children with disabilities.
- iii. The extent to which legislation or policy influences early intervention practice for children with disabilities.
- iv. The extent of which programmes and services influence the practice of early intervention for children with disabilities.

Based on the purpose of the study, research questions and hypotheses were formulated to serve as guidelines for this study. Related literature was reviewed, and the sample survey design and the purposive sampling technique were adopted. Questionnaire and semi-structured interview were the main instruments in the study. The collated data was tested using one sample t-test via Statistical Package for Social Science (SPSS). The data were analysed, results were presented accordingly and discussed with the aid of empirical studies.

5.2 Conclusion

This study's findings conclude that families are a key component in early childhood intervention systems and, as such, must be accommodated as a service delivery variable that contributes to the overall effectiveness of services (Dunst, 2007; Dunst, Trivette, & Hamby, 2006; Lynch & Hanson, 2004; Shonkoff & Phillips, 2000 cited in Bruder, 2010). These effects are the direct result of both the characteristics of the family (such as family culture, background, composition, and living

conditions), and the interactions, experiences, and beliefs of the family (Guralnick, 2005b cited in Bruder, 2010). When services are child-family centred, they respond to family priorities, concerns, beliefs and practices. Furthermore, they ensure the active involvement of family members in the mobilization of resources and the support necessary for them to care and bring up their children in ways that have optimal child, parent, and family benefits (Dunst, Trivette, & Hamby, 2008 as cited in Bruder, 2010). With the Nigerian families, the child-family centred approach is suitable because of its response to family concerns, belief, tradition and religion, which ensures the involvement of each family member as well as benefits the children with disability.

Additionally, early intervention involves many professionals from different fields of study and disciplines. Their basic task is to support the family's competence and confidence in promoting a child's development toward the desired outcomes of the family. As such, professional team involvement cannot be underrated. The implemented early intervention legislation/law across the globe has made it possible for children and families to be assessed and served in settings where children without disabilities are catered for and taught. Finally, early intervention programmes and services are preventive, compensatory and remedial (Ackah & Appiah, 2009; 2011). The programmes and services prevent or minimise the physical, cognitive, and emotional limitations (Blackman 2002 cited in Anderson et al., 2003) and are also effective in promoting developmental progress in infants and toddlers with disabilities.

5.3 Recommendations

The following are the proffered recommendations.

- There should be provision for in-service training abroad for professionals, to enable them to gain evidence-based practice of early intervention.
- Government and professionals should increase public awareness of the benefits of early intervention for all children with disabilities or who are at risks for developmental disabilities.
- Professionals should endeavour to collaborate with parents to the latter no matter how difficult their views and opinions are. They are the key component of early childhood

intervention. Their cultural views should be identified and put into consideration and respected throughout their intervention processes.

- Public policy for funding should be made available for adequate accessibility of early intervention programmes for parents and families with low income.
- Special schools and centres for rehabilitation should attempt to include early intervention into their existing programmes.
- The government should ensure and increase capacity in funding for the procurement of equipment in the available centres.
- Parents and families should endeavour to adhere to their children's intervention to the latter.

5.4 Limitation

In carrying out this research, there have been some constraints and deficiencies such as:

- The problem of fragmented responses on the questionnaire by the participants of the study.
- The study was to be carried out in three geographical regions of Nigeria namely; the South-South (6 states), South-East (5 states) and South-West (6 states). Due to financial constraint, the researcher was unable to cover all the named geographical regions. Also, insecurity and the ongoing crisis of Boko Haram, a radical organisation which is against western education in Northern Nigeria, made it practically impossible to conduct research there.
- The uncooperative attitude and unwillingness of professionals in some centres to respond to the questionnaire.
- The study didn't include all families or parents of children with disabilities that are not receiving early intervention.
- Due to the small number of the participants, the research findings could not be generalized to cover all regions in the country.

5.5 Suggestions for further research

Further research should be carried out on:

- The impact of each discipline on children with disability's growth, learning and development.
- How each programme and services affect children's development.
- Effect of cultural differences on the intervention of children with disabilities.
- Effect of families' characteristics in carrying out intervention for children with disabilities
- The role of fathers in the involvement of early intervention of children with disabilities.
- The role of services coordinators in the implementation of Individual Family Service Plan.

Appendix A

Interview Questions

The interview questions are as follows:

1. Describe the structure of early intervention available in the country?
2. Can you tell me about child-focused and family-based intervention? What are the plans for families with children with disabilities? Are there IFSP's for an individual family? If yes, how do you go about it?
3. Would you explain early intervention programmes and services rendered to children with disabilities and their respective families? How effective are the programmes and services?
4. Is there law/legislation that back up the practice of early intervention? If yes, could you elaborate its effect on the practice?
5. Would you elaborate on the professional team carrying out the practice of early intervention services?

These questions form the foundation for further conversations and are used to obtain an insightful description and deeper understanding about the parameters needed for effective implementation of early intervention.

Appendix B

Questionnaires

Palacky University of Olomouc
Olomouc, Czech Republic
Sadespecial@yahoo.com

Dear participants,

I am conducting a survey to investigate early intervention practice for children with disability: parameters necessary for effective implementation. My main objects of investigation are professionals involved in the practice of early intervention and parents or caregivers of children with disability.

The information you provide will be helpful to understand the guidelines for the effective practice of early intervention and will be beneficial for planning and implementing effective practice of early intervention for children with disability in Nigeria.

Please, help by completing and returning the questionnaire. Tick, mark or write down your answer where appropriate.

Please note that the questionnaire is confidential and anonymous.

Thank you for your understanding and cooperation.

Yours faithfully,

Okoye, J.S.

Part 1 Demographic Information

Gender

Male Female

Year (s) of Experience (s)

1-6 Months 7 months-1 year 2-4 years 5-10 years 11 years & above

Educational Level

High School College Education Bachelor Master or PhD

Age

Under 29 30-39 40-49 50-59 60+

Part 2 Questionnaire on Early Intervention Practices

This part consists of twenty-three (23) items. Each item is accompanied with five (5) points Likert scale viz: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD).

Instruction: Please check the scale provided and indicate the level of your agreement by putting a tick (/) against the option.

S/NO	ITEMS	SA	A	N	D	SD
1	Parents are willing to share information about their children with the professionals/interdisciplinary team.					
2	Parents are actively involved in their children intervention process.					
3	The needs of my child and that of my family were listened to and respected throughout all phases of intervention.					
4	The Individualized Family Service Plan is based on family-centred practices.					
5	My Family's needs, concerns and priorities constitute my child's intervention.					
6	The child's natural environments are the best for any intervention process.					
7	The professionals inform me of its relevant policies and support available for early intervention.					
8	I am satisfied with the way in which the professional handle my child's intervention process.					
9	Professionals cooperate with my child and family members.					
10	The team attached importance to their services carried out.					
11	With the help of the team, I can provide necessary support and services for my child.					
12	Information about early intervention and developmental situations of my child is treated confidentially.					

13	The policy/law has made the practice of early intervention more effective and accessible.					
14	I am satisfied with the legal support for early intervention practice.					
15	My rights are clearly stated in the policy/law					
16	Apart from the Federal law, my state has a law for early intervention practice for children with disability.					
17	I know the local law and policy relating to early intervention.					
18	Without the law/policy for early intervention practices in place, children with disabilities and their respective families cannot be attend to.					
19	The early intervention services received are satisfactory and meet the needs of the child and family.					
20	Programmes and services are delivered in my child's natural environments.					
21	Adequate resources for effective implementation of the programmes were available during each session of intervention.					
22	The goals of the programmes and services are properly explained before implementation.					
23	Early intervention programmes and services are very effective for children with disabilities.					

Appendix C

Statistical Package for Social Science (SPSS) Version 20 Analysis

T-Test for Hypothesis One

T-TEST

/TESTVAL=15

/MISSING=ANALYSIS

/VARIABLES=TCHILDFU

/CRITERIA=CI(.95).

[DataSet2] C:\Users\Thomas\AppData\Local\Temp\\$WinArchiver\$\Parents PhD Data.sav

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
TCHILDFU	204	27.85	1.721	.121

One-Sample Test

	Test Value = 15					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TCHILDFU	106.639	203	.000	12.853	12.62	13.09

T-Test for Hypothesis Two

T-TEST

/TESTVAL=15

/MISSING=ANALYSIS

/VARIABLES=TPROF

/CRITERIA=CI(.95).

[DataSet2] C:\Users\Thomas\AppData\Local\Temp\\$WinArchiver\$\Parents PhD Data.sav

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
TPROF	204	27.35	2.837	.199

One-Sample Test

	Test Value = 15					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TPROF	62.158	203	.000	12.348	11.96	12.74

T-Test for Hypothesis Three

T-TEST

/TESTVAL=15

/MISSING=ANALYSIS

/VARIABLES=TLEGIS

/CRITERIA=CI(.95).

[DataSet2] C:\Users\Thomas\AppData\Local\Temp\\$WinArchiver\$\Parents PhD Data.sav

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
TLEGIS	204	26.18	.925	.065

One-Sample Test

	Test Value = 15					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TLEGIS	172.597	203	.000	11.176	11.05	11.30

T-Test for Hypothesis Four

T-TEST

/TESTVAL=12.5

/MISSING=ANALYSIS

/VARIABLES=TPROGSER

/CRITERIA=CI(.95).

[DataSet2] C:\Users\Thomas\AppData\Local\Temp\\$\WinArchiver\$\Parents PhD Data.sav

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
TPROGSER	204	22.79	1.475	.103

One-Sample Test

	Test Value = 12.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TPROGSER	99.715	203	.000	10.294	10.09	10.50

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