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**Evaluation of Five Developmental Factors among
Palestine Early Childhood Using Portage
Developmental Screening Tool**

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Dedication

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my loving parents Saady & Ghuofran Darwazeh, whose words of encouragement and push for tenacity ring in my ears. My my husband Hamdi Sader, my lovely daughters Ghuofran, Tala, Sara, Yara, left my side and are very special.

I also dedicate this dissertation to my many friends and church family who have supported me throughout the process. I will always appreciate all they have done my brothers Fayeq, Saad, Amjad Darwazeh, Omar Marmash, my sisters Lina, Luobna, Haneen and my mother in law Basema karuof who did not hesitate to stand by me, knowing that I will not do justice to what they have done for me.

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الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل العنوان:

Evaluation of Five Developmental Factors among Palestine Early Childhood Using Portage Developmental Screening Tool

أقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه
حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو
باحتلومي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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List of Abbreviations

ACCD	Arab Council for Childhood and Development
ADI-R/ ADOS	Tests for Autism Spectrum Disorders
AGFUND	Arab Gulf Program for the Support of UN Development Organizations
DSM	Diagnostic and statistical manual of mental disorders
EC	Early Childhood
ECD	Early childhood development
ECOS	Early Childhood Outreach Screening
KG	Kindergartens
NGOs	Non-governmental organizations
PCI	Palestinian Child Institute
REACH	Rehabilitation, Education, Achievement and Caring for Hope
UN	United Nations

Evaluation of Five Developmental Factors among Palestine Early Childhood Using Portage Developmental Screening Tool

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Abstract

The current study explored the range of acquisition of developmental milestones in 1622 kindergarten age children in Palestine age using an internationally standardized and locally validated scale (Portage Developmental Screening Tool) and how social factors (parents education, salary, place of residence, etc.) affected overall functioning. The sample consisted of 1608 child, were excluded 166 child screening tool, so that the sample consisted of 1456 child, 43.4% female and 56.6% male children between the ages of 3 and 8 years of age all attending a kindergarten or first grade class in the included schools.

According to the findings, at least 12% of the children indicated a clinical developmental delay indicated by a two-year delay in any one scale or over a two-year delay in two or over scales. In the areas of cognitive functioning, independent life skills, and physical skills, 70% to 78% of children scored below their normative biological age. In the areas of communication and social skills 57% of children scored below their normative developmental age. In addition, all children evaluated were in fact, attending early education programs addressing developmental goals

and academic preparation (which the majority of Palestinian children are not).

Physical education (which included coordination, balance, and other basic life skills) was the area of highest delay with approximately 78% of children (scoring below age norms. Examining demographic mitigating factors, the finding demonstrated a protective effect of maternal education. Consequently, neither father's education level nor poverty level had any effect.

Income level and consanguinity (relatedness of biological parents) as well as loss of oxygen during the birth process were noted as risk factors for normal development.

This research clearly defines the critical need for immediate action, if children are unable to fulfill their social and developmental potential; it harms not only their individual future, but also the societies in which they live. In recognition of that reality, it is the collective responsibility of governments, families, and all health partners in development to ensure that every individual who begins life in every corner of the world has access to family care, education, health services and nutrition including in Palestine.

Keywords: Early childhood development, Portage Program Assessment (Portage Developmental Screening Tool).

Chapter One

Introduction

Over 200 million children internationally including countless in Palestine under the age of five will face inequalities and fail to grow to their full developmental potential due to their exposure to a wide range of risk factors that include in Palestine poverty, malnutrition, water deprivation, high levels of family and environmental instability and stress, exposure to violence, abuse, neglect ,exploitation, inadequate care and learning opportunities in general as well as the varied, specific and multi-level effects of occupation that touch the lives of children on a daily basis (Walker, Wachs, Gardner, Lozoff & Wasserman, 2007).

Early Childhood Development EDC is a period of time that includes both of profound vulnerability and that of great opportunity to effect change that will reap benefit far and beyond the period of intervention. Any efforts expended at these earliest stages of learning in human life will positively affect the entire population as long as the target generation is actively participating in society and having even a unique impact on future generations (which are parented by those recipients of EDC enrichment). Investments in programs directed at early childhood yield one of the highest rates of return to families, communities, and countries both calculating the benefits of intervention as well as the cost of inaction (Britto, Engle & Super, 2013).

Data consistently demonstrates that early childhood development EDC interventions mitigate the impact of adverse early experiences that might otherwise disrupt the child's development across multiple areas of functioning. Undetected and untreated early childhood negative experiences can lead to poor health, low educational attainment, economic dependency, increased violence and mental health consequences, all of which place a burden on the individual, family and society as a whole (UNICEF, 2009).

1.1 Background and Significance

In order to promote growth and development during the critical period of early childhood development, there are four foundational areas that the (UNICEF, 2009) is report:

Safety and Protection: Protecting children from exposure to community violence and interpersonal abuse as a vulnerable population enhances the child's ability to attain health, mental health and educational goals.

Health and Nutrition: Adequate nutrition during pregnancy and the first two years of life is most critical in brain development and lays the foundation for cognitive, motor and social emotional abilities throughout the individual's lifetime. Risks in this area can result in neuropsychological challenges, reduced academic achievement, reduced potential for vocational success, and intergenerational deficits.

Stimulation and Care: Early stimulation and positive social interaction with primary caretakers are critical in promoting general well-being, secure attachment, future socialization, and the ability to form positive family and social relationships in adulthood affecting individuals, families, and society as a whole.

Early Childhood Education: Inclusive opportunities for learning in early childhood not only prepares the individual child for future education, but supports school systems in reducing grade repetition, school dropout rates, and improves academic outcomes throughout the lifespan.

Andon the National Strategy for Early Childhood Development State of Palestine, 2017, The estimated number of children in Palestine eight and under is 800,000 (approximately 17% of the general population). It is widely acknowledged that hereditary, environment factors, and the interaction between them, have profound and extended effects on all aspects of child development. Palestinian children in particular, face numerous problems in the areas of health, education and social protection and are hampered by the fact that the available cares to alleviate the challenges are deficient and incomplete. As such, it becomes necessary to implement real work plans and effective care programs addressing all children and their families, particularly in the most affected and most marginalized areas.

The UNICEF Global Database (based on 2005-2012 data) identifies significant findings of risk for early childhood development in Palestine including the following:

- 60% of children aged 36-59 months had an adult caretaker and engaged in less than four learning activities in a period of three days.
- Less than 20% of Palestinian children 59 months or under have at least three children's books in the home.
- In addition, a staggering over 90% of children 2-4 years of age had experienced physical discipline and psychological aggression from a caretaker in the previous month.
- Addressing the protective factors of attendance at early childhood education-based programming the following were reported:
- Less than 20% of children in Palestine attend kindergarten programs on a regular basis
- Only approximately 20% of Palestinian children were found to be developmentally "on-track" in the area of pre-literacy skills.

While Palestine has reached an enrollment rate of over 83% in the area of elementary education (with attendance rates consistently over 90%), academic achievement is still problematic. By the fourth grade only 67% of students are passing nationalized examinations in the area of Arabic and

47% in mathematics (UNICEF, 2009). Poor educational preparation in early childhood is one explanation of this unfortunate phenomenon.

In 2017, the State of Palestine published An National Strategy for Early Childhood Development and Intervention delineating a detailed five-year plan to address the critical condition of early childhood development in Palestine. The plan included governmental ministries, institutions of higher education, health partners, and varied NGOs. The stated goal of the strategy is “to ensure equal access of all children, families, and communities to quality, comprehensive, and sustainable care adapted to the cultural context and specific characteristics of Palestinian society particularly focusing on children with developmental delays and disabilities.

The report states that “the aim of early detection of children with developmental delays and disabilities will be met through conducting continual monitoring of growth and development in all domains including sensorial, physical, emotional, social, and cognitive”, with the goal of providing “holistic, inter-sartorial, and comprehensive interventions that include health, nutrition, education and protection, all areas instrumental in healthy brain development and functioning”.

The plan outlines six themes and strategic objectives including:

1. Access and equity for all children in the area of ECD services and interventions.

2. Quality of EDC programs insured through governmental/professional monitoring.
3. Sustainability (economic and educational) through governmental commitment and multi-level partnership.
4. Supporting capacity building in service providers in the area of ECD.
5. Legislative policies and regulations supporting the introduction and obligations related to ECD services.
6. Monitoring and evaluation of ECD and intervention services across sectors.

The report expands the definition of “Early Childhood” to include children from 0-8 years of age in the following categories: Stage One (0-4 years of age), Stage Two (4-6 years of age), and Stage Three (6-8 years of age) with graduated and specific goals, needed supports, and familiar/societal/governmental responsibility for each developmental stage of early childhood. In addressing the evidence-based foundations of the strategic plan “early detection of delays and disabilities and recommended evidence-based practice model interventions” are cited as a way to “help to prevent further deterioration and advance individual development to the full potential of the child with the goal of societal inclusion”.

The justification for such a wide range national strategic plan related to ECD it based on the confirmation that an environment able to sustain positive development is a basic human right recognized by the United

Nations UN in a variety of conventions and treaties of which the Palestinian State is a signatory. Further, it is acknowledged that ECD services affect change not only in the life of the individual child but have lasting effects on the functioning of the family and society at large by “reinforcing human capital, increasing the productive capacity, and reducing public expenditure on education, health, welfare, and crime prevention”, reinforcing the understanding of the full impact of social investment in ECD. In addition, ECD, is an evidence-based pedagogy with clear long-term positive effects known to provide the basis of establishing cognitive /learning potential, skills, values, and attitudes for all children and especially impacting those with developmental delays and disabilities.

A lack of adequate, appropriate and accurate data in all areas related to EDC are noted as a “major challenge” in the national strategic plan of Palestine including the fact that EDC services are not in the scope of the Ministry of Education in Palestine currently, but instead managed by a privatized sector and not monitored in the population as a whole.

Even for children enrolled and regularly attending kindergarten programs there are chronic inadequacies including lack of teacher training, poor communication/ coordination between service partners, lack of comprehensive standardized evidenced based curriculums, physical environments that are poorly equipped to meet the developmental needs of the students, no screening or specialized accommodations for children exhibiting special needs, and most importantly no governmental obligation

to provide free, public kindergarten including standardization in criteria, monitoring, or funding.

In addition, within the community there is a general lack of understanding about the critical role of kindergarten education paired with prohibitive costs, which contribute to the low rate of sustained attendance (National Strategy for Early Childhood Development State of Palestine, 2017). The Palestinian Child Institute PCI was established in 2010 (opening for service in 2014) with support from Al Nour and Al Fadi Trusts through the Palestinian Welfare Association, quickly being recognized as the premiere center providing comprehensive services to children with neuro developmental disabilities in Palestine. The PCI is dedicated to the promotion of evidence-based assessment and practice utilizing internationally standardized tools that have been validated for use in Arabic and within a Palestinian context with the goal of educational and social inclusion for all children.

The PCI provides clinical services of diagnostic assessment, specialty therapies (speech, occupation, and psychological) as well as special education services. The PCI sponsors the REACH (Rehabilitation, Education, Achievement and Caring for Hope) which is a day program for children affected by Autism Spectrum Disorder. In addition the PCI established an inclusive Montessori Kindergarten program that serves 50 children. Further the PCI has a dedicated training and research unit created to insure sustainable and programmatic outcomes and quality assurance as

well as the validation of evidence based assessment and intervention tools for Palestine, and the general increase in knowledge of the prevalence of various childhood disorders in Palestine including the creation and implementation of training programs for mental health and educational practitioners across the West Bank. The PCI in partnership with An Najah National University of Palestine as well created a degreed Master in Clinical Psychology in order to increase the numbers of qualified professional psychologists in Palestine. The current Early Childhood Outreach Screening Program ECOS, undertaken by the Palestinian Child Institute, funded by the Welfare Society, is a three tiered community intervention designed to address in an immediate and sustainable manner the prevalence of developmental challenges for kindergarten and first grade children in four Palestinian West Bank Governments (Nablus, Jenin, Qualqulya and Tulkarm).

1.2 Aim of study

The aim of the current study was to evaluate the developmental achievement of a sample of preschool children in Palestine related to an internationally standardized measurement of learning, communication, socialization, motor skills, and daily living skills (the Portage Developmental Scale) as rated by chronological age.

The investigation included demographic factors (gender age, place of residence, etc.) and social status (salary, parent's education, etc.) in order to uncover trends for prevention and enhancement. The sample-included

children served by private preschools as well as those in governmental and NGO sponsored programs.

1.3 Problem statements

This study is being completed to produce data to explore the range of acquisition of developmental milestones in cohort of close to 1608 kindergarten age children in Palestine as evidenced by scores on the Portage Developmental Scale during the spring of 2016.

1.4 Hypothesis

- Children of Palestine attending preschool programs will demonstrate some overall and specific delays when compared with international peers especially in the areas of learning and communication. Less differentiation is expected in the areas of physical development/ motor skills, daily living/self-help skills, and socialization skills. This will be verified by difference scores of skill development per chronological age on the Portage Scale.
- Children in preschools in Palestine will demonstrate differential developmental achievement with children in families with higher salaries, higher parental education, fewer siblings, and in urban areas (as opposed to rural or internally displaced camps) scoring higher on all measures of the Portage Scale.
- Children in preschools in Palestine will demonstrate differential development achievement with children in private schools scoring

higher than children in governmentally or NGO funded programs in all areas, as evidenced by the Portage Scale.

- Children's deficit areas will be categorized primarily in the areas of Education/Learning, Communication, Socialization, and Behavior.

1.5 Significance of the study

This study has increased data that will serve to create prevalence data for developmental concerns in Palestine and assist in predicting the needs for specialized services going forward.

Chapter Two

Theoretical background and Literature Review

2.1 Early Childhood

For state of Palestine Early Childhood (EC) is defined as the period from the first six full years or 72 months in the life of a child. TEC is the period that goes from gestation up to the child's sixth year. The first six years of life represents a period of significant transformations and achievements that will serve as the foundation for the rest of individual's life. Early childhood includes very early childhood, the period that gestation up to three years age. Supporting healthy early childhood development requires a multi-sectoral approach including education, health, nutrition, child protection, social welfare and social protection of children.

Early childhood comprises a number of life stages, marked by developmental milestones. The expanded definition of early childhood can be included as the period from birth to age eight (although recognize the importance of quality prenatal care in early childhood outcomes is also recognized). This expanded definition was shared by many leading national and international organizations. Age eight is a logical milestone as it corresponds to third grade, a critical year for mastery of the reading skills upon which further learning will build and a reliable predictor for future education success(Walker et al, 2011).

There is a debate about the relationship between child linear growth and development. On one hand, some researchers argue that linear growth determines cognitive development in children. Since Porter's study of 33,500 students in 1983, which, for the first time showed that "taller students performed better academically than did shorter students of the same age" other studies drew similar conclusions (Pearce, Deary, Young, & Parker, 2005). Although the data were cross-sectional, all researchers interpreted the relationship as causal and concluded that a child's body growth influences cognitive function, environment, may influence both outcomes (Smith, Hayward, Gale, Eikeseth, & Klintwall, 2021).

Early childhood development ECD including cognitive, motor, and social-emotional domains is an important indicator that is positively associated with optimal adult health and productivity (Grantham et al, 2007). Almost 43% of children under 5 years of age in countries classified as low- or middle-income in the World Bank Country Classification, such as for instance, India and Nepal, are at risk of failing to reach their developmental potential (Lu, Black & Richter, 2016). This figure was estimated based on the prevalence of children stunted and/or living in extreme poverty as a proxy indicator. ECD is increasingly recognized as an important World Developmental Indicator, including the Sustainable Development Goals. The fourth goal of the sustainable development goals 2019 (Unaided Nation, 2019).

Child development starts at conception and the development of the young child's brain is dependent on good nutrition and on certain types of experiences at critical times. Most families would like to provide these experiences for their young children, but many cannot because of external and internal stresses and conditions that interfere with their ability to parent. The influence of some of these factors starts during the preconception period. Families must be supported to provide nurturing care; they need material and financial resources, knowledge, time, and skilled assistance when required. Families can be supported through the adoption of national policies, affordable quality childcare, and provision of population-based services (Daelmans et al, 2017).

Children's development is affected by psychosocial biological and genetic factors (Walker et al, 2007) Poverty and its attendant problems are major risk factors (Glascoe, &Leew,2010).

The first few years of life are particularly important because vital development occurs in all domains (National Research Council, 2000). the brain develops rapidly through neurogenesis, axonal and dendrite growth, synaptogenesis, cell death, synaptic pruning, myelination, and glycogenesis, These ontogenetic events happen at different times (Young & Richardson, 2007) and build on each other, such that small perturbations in these processes can have long-term effects on the brain's structural and functional capacity(Grantham et al, 2007).

2. 2 Development

2.2.1 Developmental Milestones

Skills such as taking a first step, smiling for the first time, and waving “bye-bye” are called developmental milestones. Developmental milestones are things most children can do by a certain age. Children reach milestones in how they play, learn, speak, behave, and move (like crawling, walking, or jumping (Moreira, Magalhães, Siqueira, & Alves, 2019).

2.2.2 Full development

For the state of Palestine, full development is defined as the process of human differentiation that includes the process of acquiring abilities that slowly takes the individual from a condition of extreme dependency towards autonomy.

Full-development includes the development of communication, self-help skills, physical, socio-emotional and cognitive properties. To be successful in development, the child needs an environment that is comforting, harmonious, and rich in experiences starting in the pre-natal period, through care from the mother and father, the family, and interaction with their surroundings (National Strategy for Early Childhood Development State of Palestine, 2017).

2.2.3 Family within the context of child development

In Palestine family is the context within child development is understood. Children's growth and differentiation begins in the pre-natal period, which also takes place within the context of the family. Supporting families that are expecting or with children up to three years old means placing the focus on strengths rather than the occasional weaknesses, of family systems, developing the family's capacity to – withstand struggle, and helping families recognize which people and organizations around them they can depend on. Any type of family can promote development in early childhood – including nuclear families, created families (friends and paid caretakers) or extended family members (including grandparents, aunts or uncles, or cousins) (National Strategy for Early Childhood Development State of Palestine, 2017).

2. 2.4 Parenting

For the state of Palestine the concept of parenting has been used to describe the set of activities carried out by a child's primary caregiver in assuring the child's survival and movement towards full development, Parenting has as its goal encouraging the social integration of the child and slowly moving them to a more autonomous existence . It is considered the main duty of one generation (parents/ caretakers) to prepare the second generation (children) to manage the physical, economic and social situations and challenges they will encounter throughout their

development(National Strategy for Early Childhood Development State of Palestine, 2017).

2.2.5 Safe and supportive environments

For the state of Palestine safe and supportive environments should change over time depending on the needs of the particular child. At birth all children are completely dependent beings needing food, shelter and protection. They can offer nothing to maintain themselves, when they are first born, infant center a new and strange universe, experiencing different and sometimes unpleasant sensations compared to the mother's womb. The relationship with caretakers is what allows these most vulnerable creatures to tolerate and understand the conditions in the new world in which their bodies and personality will develop. The presence of adults who recognize and attend to their needs and the organization of a routine centered around the different stages of their development helps babies familiarize themselves with the world and have more confidence to discover and comprehend it. Affection is essential for even the smallest humans to feel safe and encouraged to explore the environment, learn and eventually gain autonomy (National Strategy for Early Childhood Development State of Palestine, 2017).

2.2.6 Kindergartens

In Palestine Kindergartens is defined as an educational institution that care for children in the age group of 4-6 years (before entering primary or elementary the educational settings), Kindergartens programs provide pre-

school children with pre-education skills and care in a systematic and structured way based on a variety of early childhood philosophies curricula and principles. In Palestine, there are two main providers of kindergarten services according to affiliation. Classes offering a one-year program are applied in the government system (KG grade) and private kindergartens offer two-year education prior to entering to grade (National Strategy for Early Childhood Development State of Palestine, 2017).

2. 2.7 Children in Need of Special Education Accommodations

Children all over the world are similar in their way of experiencing the world, but each learn and develop at their own pace and according to their own preferences. All children develop differently and at different rates, but there is an underlying developmental trajectory of typical growth and acquisition of developmental skills.

Children who due to biogenetic, physiological, psychological or environmental conditions may exhibit identified and diagnosed disorders that affect development and require additional support in order to fully participate in an educational program or society as a whole are often classified by early childhood systems of care as children in need of special educational accommodations.

Children with diverse presentations or disabilities may need greater help and attention from their parents, siblings, teachers and the community in which they live. They may need physical support, medical attention or diverse learning strategies to attain their developmental goals.

However, it is well documented that all children benefit greatly from spending their lives with other children, and that a stimulating and protective environment help them develop their potential, diminishing their frailties (National Strategy for Early Childhood Development State of Palestine, 2017).

What does it mean to be “at-risk”?

Many programs focus on “at-risk” children. An “at-risk” child is one who, given a number of factors related to his family situation and environment, is more likely than the average child to experience abnormal brain development, have difficulties succeeding in school and in life, and in some instances is also more likely to engage in behaviors (such as smoking or taking drugs) that are detrimental to health (Sameroff, & Seifer, 2021).

The following factors, especially in combination, can statistically increase a child’s risk level as it mentioned in (Peverill et al, 2021):

- Living in poverty
- Having a mother who never completed high school
- Having a parent who is emotionally unstable
- Exposure to violence either at home or in the community

While being “at-risk” does not necessarily imply poor outcomes for a child, fewer risk factors are generally associated with better outcomes (Lester, 2021).

2.3 Portage Program

2.3.1 Portage Program description

In the early 70's, the Portage Project offered home-based services that supported parents as their children's first, most valuable and influential teacher. Over the years and by way of documented experiences of best practices with children, parents, new legislation, and continued research, the Portage Project model has consistently evolved resulting in an increase of quality programming and enhanced services within the field of early childhood education and more specifically, early intervention programs (Cameron, 2021).

The Portage Project began in Portage, Wisconsin, in 1969 by David E. Shearer. The Portage Project was initially developed to provide services to young children identified with disabilities within a rural community (Shearer & Shearer, 1972). Portage was designed to be a home-based intervention program for families with children from 0 to 6 years of age with special educational needs (Bluma, Shearer, Frohman & Hilliard, 1976; Cameron, 1997).

The aim of the Portage Program is to stimulate the development of children with a developmental age between 0 and 6, change the behavior of the child, and provide support for the parents (Bluma et al, 1976).

Portage is an internationally used early intervention program which includes a guide with an assessment scale and a method of working in a team (Shearer & Shearer 1972; Bluma et al. 1976; Blunden 1982; Cameron, 1982).

2.3.2 Portage Program Assessment (Portage Developmental Screening Tool).

The Portage System is one of the most successful models of assessment and intervention for young children. Originally developed in rural areas of the USA, it is now used and adapted in many developed and developing countries. The essence of the Portage program lies in its involvement of the family both in assessment, decision making and day to day teaching of the child in the home setting (Bluma et al., 1976).

One form of assessment for the Portage program is the Developmental Profile (Alpern& Shearer, 1980). which is used for the sharing of information with parents, to pass on information to the child's next educator, group assessments and for curriculum planning.

The Portage assessment scale provides a detailed description of developmental achievements. The Portage assessment scale is not a standardized test. However, the scale can be used to provide a measure of developmental level, which can be a single measure of a person's development (Bluma et al., 1976).

The Portage Developmental Profile (Alpern & Shearer, 1980) was used to assess the development of children prior to their entrance into the program and twice yearly thereafter in the following areas: motor; self help; social; cognitive; and language. The Developmental Profile's items correspond to and sample the developmentally sequenced activities found in the five areas emphasized in the Portage Program. Thus, the developmental profile can be considered a criterion-references measure to the Portage Program. In addition, inasmuch as the profile also provides age equivalents for the items, the measure also may be used informally as a norm-referenced measure.

The Portage Developmental Checklist Screening Tool was created in 1969 as part of a specialized program sponsored by the United States government with the goal of assisting rural families to enhance academic and social achievement of their pre-school age children by identifying specific behavioral and developmental tasks related to their individual performance on the screening tool. Currently the tool has been adapted for use internationally and can be used in isolation or as part of an ongoing developmental enrichment program for early education (Barakat, Drylie & Nash, 2004).

The Portage Project was designed as an early intervention program model to service children with developmental challenges between the ages of birth to six, as well as their families. The Portage model is appropriate for use in

an array of settings including preschools, kindergartens, infant programs, and Head Start programs, etc (Mazzucchelli, Wilker & Sanders, 2019).

In addition to providing direct home-based services to children and families, the Portage Project offers training and technical support to other programs serving young children and distributes materials to support quality early childhood programs (Shin, Duc, Accardo & Dill, 2018).

The Portage Project is a comprehensive quality early intervention model designed to provide services to young children with disabilities from birth to six years of age in rural communities (Collective, 2009). It was an innovative program, which was implemented in the US before being, introduced to the Arab world in 1984 in the Gaza strip, Palestine by "Gaza Society for the Care of Handicapped" The Portage materials were translated and around 400 home visitors were trained, 4500 children (with identified developmental challenges and those at risk) were evaluated; treatment plans created and received services weekly (Abd El Qadir, Berte, Barakat, &Mahamid, 2020).

In 1992,the Portage Evaluation and Prevention Program was adopted by the Arab Council for Childhood and Development-ACCD and with financing from the Arab Gulf Program for the Support of UN Development Organizations (AGFUND); it started implementing the Portage system program in Egypt, Yemen, Saudi Arabia, Lebanon, Palestine, and Jordan (Peters,2009).

After evaluation of skills and developmental progress, a specific intervention plan was created. Weekly home visits by home teachers train parents how to work successfully with their child to attain developmental milestones. In addition to providing direct home-based services to children and families, the Portage System also offers training and technical support to other programs serving young children and distributes materials to support quality early childhood programs (Cossins, 2009).

The Portage Checklist was used to identify the child's unique behavioral repertoire in the areas of Cognition/Learning, Communication, Self-Help Skills, Physical Abilities/Motor Skills, and Socialization Skills. The instrument includes a guided interview for parents as well as interactive demonstrations for children. The instrument was designed for children under the age of six but can be used for older children if exhibiting developmental delays (Sarouphim & Kassem, 2020).

The instrument produces a measure of the developmental level of the child related to the five areas of interest compared to a representative normed age. The developmental age is then compared to the biological age to produce a difference or delay score (Wessels, Paap, & Van der Putten, 2021).

In the current study any score two years or more delayed was an indicator for further evaluation. In addition, the presence of two or more delay scores of a year or over as well identified the child as needing follow-up (Cossins, 2009).

2.4 Summary and research questions

The current study was undertaken to evaluate the developmental achievement of a sample of preschool children in Palestine related to an internationally standardized measurement of learning, communication, socialization, motor skills, and daily living skills (the Portage Developmental Scale) as rated by chronological age.

The investigation included factors of demographics (gender age, place of residence, etc.) and social relevance (salary, parent's education, etc.) in order to uncover trends for prevention and enhancement.

The sample included children served by private preschools as well as those in governmental and NGO sponsored programs.

To have more information about Children of Palestine attending preschool programs will demonstrate some overall and specific delays when compared with international peers especially in the areas of learning and communication. Less differentiation is expected in the areas of physical development/ motor skills, daily living/self-help skills, and socialization skills. This will be verified by difference scores of skill development per chronological age on the Portage Scale.

In addition to understand farther about Children in preschools in Palestine will demonstrate differential developmental achievement with children in families with higher salaries, higher parental education, fewer siblings, and

in urban areas (as opposed to rural or internally displaced camps) scoring higher on all measures of the Portage Scale.

In addition, to know Children in preschools in Palestine will demonstrate differential development achievement with children in private schools scoring higher than children in governmentally or NGO funded programs in all areas, as evidenced by the Portage Scale.

Finally, we need to know Children's deficit areas will be categorizable primarily in the areas of Education/Learning, Communication, Socialization, and Behavior.

2.5 Review of the literature

Today there is need for to evaluate the developmental achievement of a sample of preschool children in Palestine in order to uncover trends for prevention and enhancement, and that related to an internationally standardized measurement of learning, communication, socialization, motor skills, and daily living skills (the Portage Developmental Scale) as rated by chronological age. The investigation included factors of demographics (gender age, place of residence, etc.) and social relevance (salary, parent's education, etc).

For farther need to compared Children of Palestine attending preschool programs with international peers especially in the areas of learning, communication, socialization, motor skills, and daily living skills as rated by chronological age.

Children in preschools in Palestine need to know the effect of differential developmental achievement and if the factor of being in families with higher salaries, higher parental education, fewer siblings, and in urban areas (as opposed to rural or internally displaced camps) scoring higher on all measures of the Portage Scale.

Developmental stages occur with somewhat different timing for different individuals, as a function of both differing physiological factors and differing experiences. Transition from one stage to another may be troublesome, particularly when biological changes are dramatic or when they are out of step with social abilities or others' expectations. Different societies place different meaning and importance on developmental stages and on the transitions from one to the next. For example, childhood is defined legally and socially as well as biologically, and its duration and meaning vary in different cultures and historical periods. In the United States, the onset of puberty—the maturation of the body in preparation for reproduction—occurs several years before an age generally considered physically and psychologically appropriate for parenthood and other adult functions (National Academies of Sciences, 2019).

Quality early education provides children with basic cognitive and language skills and fosters emotional development. In the majority of the 58 countries with available data for the period 2009-2015, more than half of children between the ages of 3 and 4 were developmentally on track in at least three of the following domains: literacy, numeracy, physical

development, social-emotional development and learning. Goal 4 of the 2016 Sustainable Development Goals (Leicht, Combes, Byun & Agbedahin, 2018).

In this regard, the Portage Program has also been translated and validated across several countries or cultures (Brue and Oakland, 2001; Cameron, 1997; Sturmey et al, 1996).

The Portage Program seemingly has had universal appeal. It has been translated into approximately 30 languages and used in more than 60 countries (Bijou, 1991).

Chapter Three

Methods

3.1 Study population

The objectives of this study were to evaluate data exploring the prevalence of developmental milestones in a cohort of close to 1622 children who were evaluated using the Portage Developmental Checklist for kindergarten children during the spring of 2016.

The data will serve to create prevalence data for developmental concerns in Palestine and assist in predicting the needs for specialized services going

No personal information was used that could identify children or their family.

The current study classified as a Cross-sectional study

3.2 Participants (Sampling)

I choose the Sample from the localities of the four main northern population centers in the West Bank of Palestine (Jenin, Nablus, Qualqulya, and Tulkarm) were solicited for participation in the project with the goal of establishing a wide reaching representational sample and programmatic infra-structure with partner schools across the area.

3.2.1 Schools

Schools in the localities of the four main northern population centers in the West Bank of Palestine (Jenin, Nablus, Qualqulya, and Tulkarm). Schools serving rural villages, internally displaced refugee camps and larger population hubs were sought to insure a well-balanced population base for study as well as laying the foundations of an effective accessible network of trained screeners meeting the demands of a wide range of geographic expanse and community specificity given the challenge of the restriction of movement and lack of mobility in the area.

Directors of the schools were directly contacted and asked to agree to an informational meeting for themselves and relevant staff (generally school counselors and some targeted teachers were included). Schools were provided with an overview of the program including specific benefits (training and screening materials, screening services at no cost to families to selected grades including expanded evaluation at the Palestinian Child Institute for children testing positively on the screening instrument) and responsibilities for agreeing to participate as an institutional partner (completing training, providing initial screening for selected students, maintaining written documentation of all instruments completed). The decision to participate for each school was made at the level of school director. Of those solicited 39 schools agreed and were selected to participate (Table 1).

They included 7 Governmental Kindergarten Programs, 12 Privately Sponsored Kindergartens, and 20 Elementary Schools (15 Governmental and 5 Private). 23 schools were located in rural villages, 3 in camps for internally displaced refugees, and 13 in population hubs (cities). The geographic representation of schools was Nablus (18), Tulkarm (8), Quaqulya (7) and Jenin (6).

3.2.2 Teachers

Teachers in each school were selected related to their placement as instructors in first grade or kindergarten classes. In some instances, the school counselor was included in training to ensure the continuity of screening services in case of staff relocation. A total of 61 (34 First Grade and 27 Kindergarten) teachers completed the training portion of the project (see Table 2). 34 of the trained teachers served in rural village schools, 6 in schools of camps for internally displaced refugees, and 21 in schools in population hubs (cities). The geographic areas from which teachers were trained was Nablus (28), Tulkarm (15), Quaqulya (10) and Jenin (8).

3.2.3 Students

Student recruitment was managed by school directors who offered informational sessions to parents of the selected classrooms before data gathering occurred. Parents received an explanation of the purpose of the investigation, the nature of the screening tool, and were thoroughly informed as to what the participation of themselves and the child would include.

The procedure for Data collection it was voluntary nature of participation was stressed. Consenting families were identified and given individual, private appointments to meet with the trained teacher for the administration of the screening tool (Portage Developmental Screening Tool) Sessions lasted on average one hour.

The age of participants

The age of participants ranged from 4 years of age to 8 years of age with the mean age of participants calculated at $5.9 \pm$ (SD 0.87).

Sample

Of inserted portages 1458 and we excluded of portages 166 so the Total is 1622. The sample consisted of 43.4% (632) female and 56.6% male (824) children between the ages of 3 and 8 years of age all attending a kindergarten or first grade class in the included schools.

Table (1): Demographic Information by gander, location of residence, the sample of the study distributed.

gander	Frequency	Percent	Valid Percent	Cumulative Percent
female	632	43.3%	43.4%	43.4%
male	824	56.5%	56.6%	99.95%
Total	1458	100.0%		
Cities	Frequency	Percent	Valid Percent	Cumulative Percent
Nablus	713	48.9%	52.4%	52.4%
Jenin	148	10.2%	10.9%	63.3%
Tulkarm	167	11.5%	12.3% %	75.6%
Qalqilia	332	22.7%	24.3%	100%
Sub-total	1360	93.3%	100%	
Missing System	98	6.7%		
Total	1458	100%		
Residential area	Frequency	Percent	Valid Percent	Cumulative Percent
City	744	51.0%	54.7%	54.7%
village	481	33.0%	35.4%	90.1%
camp	135	9.3%	9.9%	100%
Sub-total	1360	93.3%	100%	
Missing System	98	6.7%		
Total	1458	100.0		

3.3 Instruments

Research participants underwent a guided interview using the Portage Developmental Screening Tool, on the tool children are assessed on five developmental scales: motor, language, self-help, socialization and cognition. In the assessment, stage items on each checklist are completed through observation or through eliciting the behavior. For example, the first item on the cognitive scale is "cloth on face". A cloth is put on the child's face and if he or she removes it by any means, the item is passed.

The instrument produces a measure of the developmental level of the child related to the five areas of interest compared to a representative normed age. The developmental age is then compared to the biological age to produce a difference or delay score.

In the current study any score two years or more delayed was an indicator for further evaluation. In addition, the presence of two or more delay scores of a year or over as well identified the child as needing follow-up.

3.4 Procedure

3.4.1 Screener Training

School staff (teachers and counselors) was selected for participation in the screening training by their respective school directors. No teacher declined to participate. Teachers received 2 days of training (5 hours per day) including lunch. They were trained in groups of 20 participants at a time in mixed groups by age of student. Each participant was given written

materials to support the training as well as a kit containing all materials needed to perform the screening evaluation.

The curriculum for day one of training consisted of information about development, what defines normal development and a timeline of expected milestones of development in children from 3-6 years of age.

The training included an introduction video as well as guided practice in the Portage Developmental Screening Tool (Sturmey, 1996).

The curriculum for day two of training focused on the philosophy and methodology of the practice of inclusion for all children including the theoretical foundation of inclusion as a Basic Human Right insured by the Convention of Rights of Children (of which Palestine is a signatory) as well as a review of the most Neuro-developmental Disorders of Childhood with strategies for best evidence based practice for academic and social inclusion.

Evaluations of the training were performed and certificates of course completion were distributed at the end of training day two. 100 % of participants completed the ten-hour training and received certificates of Completion.

3.4.2 Portage Developmental Screening Tool

Portage home based model of early education intervention for parents of developmentally delayed children, Arabic version, is appropriate for children from birth to 9 years old (Alpern & Boll, 1972). The baseline

credit is obtained from the blocks or the box whose items have been completed and passed which is considered higher value than any other box. The additional credit is consisting of the total number of months which are separated of the items that the child passed it successfully and between the blocks of failure and success. The child age in each domain is the sum of the baseline credit and the additional credit.

The Portage Developmental Checklist Screening Tool was created in 1969 as part of a specialized program sponsored by the United States government with the goal of assisting rural families to enhance academic and social achievement of their pre-school age children by identifying specific behavioral and developmental tasks related to their individual performance on the screening tool. Currently the tool has been adapted for use internationally and can be used in isolation or as part of an ongoing developmental enrichment program for early education (Barakat et al, 2004).

In 1992, the Portage Evaluation and Prevention Program was adopted by the Arab Council for Childhood and Development, - ACCD and with financing from the Arab Gulf Program for the Support of UN Development Organizations (AGFUND); it started implementing the Portage system program in Egypt, Yemen, Saudi Arabia, Lebanon, Palestine, and Jordan (Peters, 2009).

The Portage Checklist is used to identify the child's unique behavioral repertoire in the areas of Cognition/ Learning, Communication, Self-Help

Skills, Physical Abilities/ Motor Skills, and Socialization Skills. The instrument includes a guided interview for parents as well as interactive demonstrations for children. The instrument was designed for children under the age of six but can be used for older children if exhibiting developmental delays. The instrument produces a measure of the developmental level of the child related to the five areas of interest represented as a normed age. The developmental age is then compared to the biological age to produce a difference or delay score. In the current study any score two years or more delayed was an indicator for further evaluation. In addition, the presence of two or more delay scores of a year or over as well identified the child as needing follow-up.

3.5 Student Evaluations

Within the nine -month period of the study 1,978 Portage Developmental Checklist Screening Tools was performed on children in kindergarten and first grade in the selected schools. Teachers were given a monetary incentive for each report they completed and submitted to the PCI.

The Portage Checklists were reviewed by trained specialist at the PCI and 195 instruments were identified as demonstrating a need for follow-up under the above delineated criteria (a 9.8% positive rate). In addition, 189 checklists were eliminated from the sample after expert review due to abnormalities in administration or scoring. (9.5% of the total sample).

3.6 Follow-Up

Children identified as demonstrating a potential risk (related to a two year or more delay in one scale or a year or more delay in two scales) were determined to be eligible for a second evaluation with a trained professional specialist at the PCI. Families were contacted by the project coordinator and were provided with a second developmental screen, consultation with a licensed clinical psychologist, and was given any additional academic and/or psychological testing deemed necessary including WISC IQ Test, ADI-R/ ADOS Tests for Autism Spectrum Disorders, etc., as well as evaluations for specific therapies in Speech, Occupational Therapy of Special Education.

3.7 Ethical Considerations

In order to consider the data gathered in a research format the project was subjected to a review of Helsinki protocol by the A Najah Internal Review Board to assess for the issues of human rights of vulnerable populations. The project received IRB approval for research in October of 2017.

3.8 Statistical Analysis

The Portage Checklist is used to identify the child's unique behavioral repertoire in the areas of Cognition/Learning, Communication, Self-Help Skills, Physical Abilities/ Motor Skills, and Socialization Skills.

The instrument includes a guided interview for parents as well as interactive demonstrations for children. The instrument was designed for

children under the age of six but can be used for older children if exhibiting developmental delays.

The instrument produces a measure of the developmental level of the child related to the five areas of interest represented as a normed age. The developmental age is then compared to the biological age to produce a difference or delay score.

In the current study any score two years or more delayed was an indicator for further evaluation. In addition, the presence of two or more delay scores of a year or over as well identified the child as needing follow-up. The results based on the analysis of variance (ANOVA).

Lastly, an examination of demographic variables investigated to determine that the test predicts equally as well dependent on age, gender, etc as shown in tables (2 and 3).

Table (2): Partner schools by geography, location type, grade and sponsor.

MUNICIPALITY	NUMBER OF SCHOOLS
Jenin	6
Nablus	18
Qulqkyla	7
Tulkarm	8
TOTAL	39
LOCATION TYPE	NUMBER OF SCHOOLS
Rural Area	23
Displaced Persons Refugee Camp	3
Population Hub / City	13
TOTAL	39
GRADE AND SPONSORSHIP	NUMBER OF SCHOOLS
KG Governmental	7
KG Private	12
Elementary School Governmental	15
Elementary School Private	5
TOTAL	39

Table (3): Teachers by geography, location type, grade and sponsorship.

MUNICIPALITY	NUMBER OF TEACHERS TRAINED
Jenin	8
Nablus	28
Qulqkyla	10
Tulkarm	15
TOTAL	61
LOCATION TYPE	NUMBER OF TEACHERS TRAINED
Rural Area	34
Displaced Persons Refugee Camp	6
Population Hub / City	21
TOTAL	61
GRADE AND SPONSORSHIP	NUMBER OF TEACHERS TRAINED
KG Governmental	18
KG Private	9
Elementary School Governmental	26
Elementary School Private	8
TOTAL	61

Chapter Four

Results and Discuss the Results

4.1 Results

The general sample population was measured by the five subscales of the Portage Developmental Screening Tool (including Cognitive Age, Independent Living Skills, Physical Ability, Communication, and Socialization Skills). The children receive a developmental age score which is then subtracted from their chronological or biological age score. A positive score indicates that the child is functioning at or above their age level. A negative score (<0 denotes a developmental difference below expected age level). The following results were reported per scale.

Subjects were defined as having a clinical developmental delay if they scored over two years delayed in any one subscale OR they scored over a year delay in more than two subscales. 12.9 % of the population (199 children) were identified as having clinically significant delays in developmental attainment.

Result of participants on Potage`s sub-scales

Table (4): Scale of Cognitive Functioning.

	Frequency	Percent	Valid Percent	Cumulative Percent
<0	1028	70.5	70.5	70.5
≥ 0	430	29.5	29.5	100.0
Total	1458	100.0	100.0	

Over 70% of the children evaluated were functioning BELOW their biological age normal development.

Table (5): Scale of Communication Skills.

	Frequency	Percent	Valid Percent	Cumulative Percent
< 0	828	56.8	56.8	56.8
≥ 0	630	43.2	43.2	100.0
Total	1458	100.0	100.0	

While, approximately 57% of the children evaluated scored BELOW their biological age norm in the area of communication.

Table (6): Scale of Physical Ability.

	Frequency	Percent	Valid Percent	Cumulative Percent
< 0	1136	77.9	77.9	77.9
≥ 0	322	22.1	22.1	100.0
Total	1458	100.0	100.0	

In addition, approximately 78% of the children evaluated scored BELOW their biological age norm in the area of physical ability.

Table (7): Scale of Independent Living Skills

	Frequency	Percent	Valid Percent	Cumulative Percent
< 0	1114	76.4	76.4	76.4
≥ 0	344	23.6	23.6	100.0
Total	1458	100.0	100.0	

In addition, approximately 76% of children evaluated scored BELOW their biological age norm in the area of independent living skills.

Table (8): Scale of Social Skills.

	Frequency	Percent	Valid Percent	Cumulative Percent
< 0	849	58.2	58.2	58.2
> 0	609	41.8	41.8	100.0
Total	1458	100.0	100.0	

Finally, approximately 58% of children scored BELOW their biological age norms in the area of social skills. For the children who had identifiable developmental delays at the clinical level there was a significant difference dependent on gender with males being more likely to exhibit delay as shown in next table.

Table (9): Gender as a Predicting Developmental Attainment

	Female	Male	P-value*
(negative) normal range in developmental attainment	569 (44.9%)	697 (55%)	(004)
(positive) Poor developmental attainment	60 (43%)	127 (67.9%)	

The results of the study showed demonstrated No significant relationship between father education level and developmental attainment ($p > .05$).

While, significant correlations were found between mother education and development attainment.

income predicting fewer cases of clinical level developmental delay as shown in next table.

Table (10): The Income table.

	<1000	1000-2000	2000-3000	3000-4000	>4000	p-value*
Normal range Developmental Attainment	3 6.7%	78 29.1%	341 27.7%	324 18.9%	221 6.7%	.025*
Clinical Level Developmental Delay	0 13.4%	20 34.2%	51 22.8%	34 16.8%	25 12.8%	

Lack of oxygen during childbirth:

A significant relationship was found between medical lack of oxygen during childbirth and developmental attainment ($p < .05$) with medical issues related to oxygen deprivation at birth leading to more frequent cases of clinical developmental delays shown in next table.

Table (11): Lack of oxygen during childbirth

	Lack of oxygen during childbirth		P-value*
	yes	no	
Normal range Developmental Attainment	48 4.0%	1140 96.0%	.014
Clinical Level Developmental Delay	9 5.7%	147 93.6%	

Relationship between parents:

A significant relationship was found between familial relationships between parents (consanguinity) and cases of clinical developmental delay with more frequent cases in families with consanguine marriage as shown in next table.

Table (12): Relationship between parents.

	Relationship between parents		P-value*
	yes	no	
normal range Developmental Attainment	244 20.6%	938 79.0%	.005
Clinical Level Developmental Delay	44 28.0%	112 71.3%	

Taking medications during pregnancy:

No significant relationship was found between using medications during pregnancy and frequency of cases with clinical developmental delays shown next table.

Table (13): Taking medications during pregnancy

Taking medications during pregnancy			P-value*
	yes	no	
Normal range Developmental Attainment	(188) 16.1%	(977) 83.8%	.429
Clinical Level Developmental Delay	(19) 12.3%	(136) 87.7%	

Complete pregnancy period:

No significant relationship was found between completing pregnancy period and developmental attainment as shown in next table.

Table (14): Complete pregnancy period.

	complete pregnancy period		P-value*
	yes	no	
Normal range Developmental Attainment	1108 94.2%	68 5.8%	.781
Clinical Level Developmental Delay	145 94.8%	8 5.2%	

Relationships between specific delays and generalized clinical delays
Different between social Age and real age:

A significant relationship was found between delays in social skills per age and cases of clinically delayed developmental attainment as shown in next table.

Table (15): Different between social Age and real age

	Different between social Age and real age		P-value*
	<0	>0	
Normal range Developmental Attainment	998 78.8%	269 21.2%	0.001
Clinical Level Developmental Delay	30 16.0%	157 84.0%	

Different between cognitive Age and real age:

A significant relationship was found between cognitive functioning and cases of clinical delay in developmental attainment as shown as shown in next table.

Table (16): Different btw cognitive Age and real age

	Different btw cognitive Age and real age		p-value*
	>0	<0	
Normal range Developmental Attainment	835 65.9%	432 34.1%	.001
Clinical Level Developmental Delay	14 7.5%	173 92.5%	

Difference between real age & communication age:

A significant relationship was found between communication skills and cases of clinical delay in developmental attainment as shown in next table.

Table (17): Difference btw communication age & real age

	Difference btw communication age&real age		P-value*
	<0	>0	
Normal range Developmental Attainment	794 62.7%	473 37.3%	0.001
Clinical Level Developmental Delay	7 3.7%	180 96.3%	

Income:

No significant relationship was found between income and cases of clinical developmental delay with the parameters of poverty levels as shown in next table.

Table (18): Income

	Income		p-value*
	<2000	>2000	
Normal range Developmental Attainment	341 26.9%	928 73.1%	.974
Clinical Level Developmental Delay	51 27.0%	138 73.0%	

**sig. $\alpha \leq 0.01$ *sig. $\alpha \leq 0.05$

4.2 Discussion

The present study examined several research hypotheses related to Early Childhood Education and development in Palestine. Firstly, the study focused on examining whether children in Palestine attending preschool programs will demonstrate any overall or specific delays when compared with international peers especially in the areas of learning and communication.

It was demonstrated that developmental skills were less for the Palestinian cohort in the areas of physical development/ motor skills, daily living/self-help skills, and socialization skills.

This was verified by difference scores of skill development per chronological age on the Portage Scale. Second, this study examined predictive factors for development for children in preschools in Palestine including salary level, parental education, number of siblings, and geographic environment (urban areas, rural areas or internally displaced camps).

Lastly it was examined whether the children in preschools in Palestine will demonstrate differential development achievement dependent on the type of preschool setting (private schools, governmentally managed or NGO funded programs).

The findings of this representative sample study of early child development across the northern urban centers of the west bank of Palestine are both

comprehensive and far reaching in their potential strategic and programmatic impact.

First the question of prevalence is addressed determining that at least 12% of the children in the sample reached a clinical level of developmental delay indicated by a negative two-year difference in any one scale or over a two-year delay in two or more scales.

While this number is higher than western standards, it is not alarming. However, when subscales are assessed individually by percentage population, trends become more disconcerting. In the areas of cognitive functioning, independent life skills, and physical skills, 70% to 78% of children in Palestine were scoring below their normative biological age. This is a gap that cannot be ignored.

In the areas of communication and social skills 57% of children were scoring below their normative developmental age. In addition, all children evaluated were in fact, attending early education programs addressing developmental goals and academic preparation (which the majority of Palestinian children are not), indicating that true population numbers should demonstrate even higher levels of delay than the study sample.

Interestingly the data showed no difference in development between children who attend private school from children who are attending governmental or NGO funded schools.

These numbers demonstrate the great need for strengthening developmental opportunities for young children in Palestine in families, school, and communities. Despite the fact that early intervention programs exist, in many cases they are focused on teaching memorization, reading and writing skills that are not developmentally appropriate for the age range. Academic readiness skills are frequently not addressed and when children are unsuccessful blame and pressure is placed on the children and families with no subsequent support or instruction on how to address the delays.

Further little emphasis is placed on true skills of problem solving, experiential learning, or questioning discourses which lead to cognitive ability. Physical education (which included coordination, balance, and other basic life skills) is the most neglected (per the study results) with approximately 78% of children (involved in academic programs) scoring below age norms. Serious remediation in this area should include parent education and programs focused on physical activities, recreational programs in schools and designated play places in communities that are safe for small children and welcoming to mothers.

In addition, in the children who had identifiable developmental delays at the clinical level there was a significant difference dependent on gender with males being more likely to exhibit delay.

Examining demographic mitigating factors in development, the finding that is most promising is the positive protective effect of mother's level of education on clinical levels of developmental delay. Consequently neither

father's education level nor poverty level had any effect on this factor. This phenomenon, which is concordant to international data, and demonstrates clearly the profit of investing in educational programs and offering ongoing educational opportunities for young women in order to increase the positive development of the entire community.

In addition, community education must emphasize the link between mother's educational attainment and childhood development for children in order to increase family and spousal support for the continuing education of women in the child-bearing years and before.

Income level of the family demonstrated a negative effect not at poverty level (2000 NIS a month or less) but instead across small variations suggesting that even small incremental increases of income can make a difference in the developmental level of the child.

Consanguinity (relatedness of biological parents) of martial relationship was found to be a risk factor predicting clinical levels of developmental delay as was loss of oxygen during the birth process.

Genetic testing and community awareness surrounding the issue of intra-familiar marriage is an area of prevention that has not been a priority in the Palestinian community but is clearly related to specific genetic disorders and in the case of this study found to effect general levels of development.

In addition, in the question of participant place or venue of residence the results were similar, which is in contrast to the belief that children in urban

areas have the most access to education and are there for the better developed.

The current project results provide a wide base from which to continue and deepen the discussion regarding early childhood development in Palestine. Widening the geographic span of the sample, including children not attending preschool programs and increasing the number of children residing in internally displaced refugee camp would expand the generalize ability of the findings.

However, as a large-scale developmental prevalence study the findings point to a variety of areas in the field of education, community, and family functioning that will serve to better understand and address optimal developmental achievement related to early childhood functioning in Palestine.

Chapter Five

Conclusion and Recommendations

5.1 Conclusion

Governments may choose different pathways for achieving early childhood development goals and targets, from introducing transformative government wide initiatives to progressively enhancing existing services. Services and interventions to support early childhood development are essential to ensuring that everyone reaches their potential over the life course and into the next generation—the vision that is core to the Sustainable Development Goals.

Young children need nurturing care from the start of their existence. Development begins at conception as does the differential outcome. Scientific evidence indicates that early childhood is not only a period of special sensitivity to risk factors, but also a critical time when the benefits of early interventions are amplified and the negative effects of risk can be reduced. The most formative experiences of young children come from nurturing care received from parents, other family members, caregivers, and community-based services.

Nurturing care is characterized by a stable environment that promotes children's health and nutrition, protects children from threats, and gives them opportunities for early learning, through affectionate interactions and relationships. Benefits of such care are life-long, and include improved health, wellbeing, and ability to learn and earn. Families need support to

provide nurturing care for young children, including material and financial resources, national policies such as paid parental leave, and provision of population-based services in a range of sectors, including health, nutrition, education, and child and social protection (The Lancet's Series 2016).

5.2 Recommendations

Overall, the message of this research is that child health and childhood development services should be integrated to see what can be achieved on existing child health and survival platforms with community-based health workers and others in the first 1000 days of a child's life. With the multitude of actors and initiatives in early childhood development today in Palestine, governance is both a challenge and an opportunity (Daelmans et al, 2017).

Perhaps the most important insight of the research is the cost of inaction. If children are unable to fulfill their social and developmental potential, it harms not only their individual future, but also the societies in which they live.

In recognition of that reality, it is the collective responsibility of governments, families, and all health partners in development to ensure that every individual who begins life in every corner of the world has access to family care, education, health services and nutrition. To do this in Palestine we first need to educate women and raise educational awareness of women as the primary caretakers of young children. The current study demonstrates clearly the profit of investing in educational programs and

offering ongoing educational opportunities for young women in order to increase the positive development of the entire community.

In addition, community education must emphasize the link between mother's educational attainment and childhood development for children in order to increase family and spousal support for the continuing education of women in the child-bearing years and before.

Second, early education programs that address development goals and academic preparation should focus on academic readiness skills and emphasis on true skills of problem solving, experiential learning, or questioning discourses, which lead to cognitive ability instead of the goal of early literacy and bilingualism, which have no scientific basis for better development.

Third, physical education (which included coordination, balance, and other basic life skills) must be a priority for all sectors. Serious remediation in this area should include programs focused on physical activities, recreational programs in schools and designated play places in communities that are safe for small children and welcoming to mothers.

Fourthly, genetic testing and community awareness surrounding the issue of intra-familial marriage is an area of prevention and as such, it must be a priority in the Palestinian community.

The current study results provide a wide base from which to continue and deepen the discussion regarding early childhood development in Palestine.

Widening the geographic span of the sample, including children not attending preschool programs and increasing the number of children residing in internally displaced refugee camp would expand the generalize ability of the findings.

However, as a large-scale developmental prevalence study the findings point to a variety of areas in the field of education, community, and family functioning that will serve to better understand and address optimal developmental achievement related to early childhood functioning in Palestine

To advance understanding of early childhood development in the Palestinian context, future research is needed to shed light on early childhood development and on what distinguish Palestinian culture. Thus, the sample may include children how arenot attending preschool programs. In addition, future research could take into account more and various territories in Palestine.

To advance understanding of early childhood development in the Palestinian context, longitudinal study work on this study is needed to shed light on early childhood development and on what distinguish Palestinian culture.

The current study results provide a wide base from which to continue and deepen the discussion regarding early childhood development in Palestine. Widening the geographic span of the sample, including children not attending preschool programs and increasing the number of children

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تقييم الخمسة عوامل التنمية بين الطفولة المبكرة في فلسطين باستخدام أداة الفحص النمائي بورتج

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قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في برنامج علم النفس
الإكلينيكي، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس - فلسطين.

2021

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الملخص

هدفت هذه الدراسة لفحص التطور النمائية ومدى اكتساب المعالم التنموية لفئة مكونة من 1622 طفل في المرحلة العمرية الخاصة برياض الأطفال في فلسطين باستخدام مقياس يتمتع بمعايير الصدق والثبات حيث يعتبر من الأدوات المسحية التي تفحص التطور النمائي لدى الأطفال (Portage) وهدفت الدراسة أيضاً إلى فحص تأثير العوامل الاجتماعية مثل (تعليم الوالدين، الراتب، مكان الإقامة، الخ) على الأداء العام للأطفال.

إن العينة مكونة من 1622 طفل حيث تم استبعاد 166 استمارة لتكون العينة مكونة من 1456 طفلاً، 43.4% (632) إناث و 56.6% ذكور (824) طفل تتراوح أعمارهم 3-8 سنوات جميعهم في روضة أطفال أو صف أول في المدارس المشمولة.

أظهرت نتائج الدراسة إلى أنما لا يقل عن 12% من الأطفال أفراد الدراسة لديهم تأخر في النمو النمائي ويشير مقياس بورتج إلى وجود تأخر نمائي بمقدار عامين بالعمر التطوري عن العمر الزمني في أي مجال واحد من المقياس أو تأخير لمدة عامين في مجالين أو أكثر في مجالات التالية حيث في الأداء المعرفي والمهارات الحياتية المستقلة والمهارات البدنية تبين أن أفراد الدراسة اظهروا نتائج 70% إلى 78% أقل من العمر البيولوجي المعياري. كما أظهرت الدراسة أن 57% من أفراد الدراسة في مجالات الاتصال والمهارات الاجتماعية هم دون سنهم المعياري النمائي. بالإضافة إلى ذلك، كان جميع الأطفال الذين تم تقييمهم في الواقع، هم أطفال داخل إطار برامج التعليم المبكر التي تتناول الأهداف التنموية والإعداد الأكاديمي (وحسب الإحصائيات أن الأطفال

الذين لا يدخلون الإطار التعليمي وما لا يفعله غالبية الأطفال الفلسطينيين)، مما يشير إلى أن أعداد السكان الحقيقية يجب أن تظهر مستويات أعلى من التأخير مقارنة بعينة الدراسة.

كما أظهرت نتائج الدراسة أن في مجال التطور الجسدي البدني (التي تضمنت التنسيق والتوازن ومهارات الحياة الأساسية الأخرى) هي من المجالات الأكثر تأخراً مع ما يقرب من 78% من الأطفال (سجلوا اقل من المعيار العمرية).

وأيضاً بدراسة العوامل الديموغرافية، أظهرت النتائج الدراسة وجود تأثير للمستوى التعليمي للأُم على التطور النمائي للطفل. وبالتالي، لم يكن لمستوى الأب التعليمي ولا مستوى الفقر أي تأثير على نتائج الدراسة.

كما وأظهرت النتائج أن مستوى الدخل والأقارب (ارتباط الوالدين البيولوجيين) وكذلك فقدان الأكسجين أثناء عملية الولادة كعوامل خطر للتطور الطبيعي.

تحدد هذه الدراسة بوضوح الحاجة الماسة لاتخاذ إجراءات، خاصة إذا كان الأطفال غير قادرين على تحقيق إمكاناتهم الاجتماعية والتنموية، فإن ذلك لا يضر بمستقبلهم الفردي فحسب، بل يضر أيضاً بالمجتمع الفلسطيني الذي يعيشون فيها. واعترافاً بهذا الواقع، فإن المسؤولية الجماعية للحكومات والأسر وجميع الشركاء الصحيين في التنمية هي ضمان لإعطاء الفرصة التي يحتاجها كل طفل أو فرد يبدأ الحياة في كل ركن من أركان العالم إمكانية الوصول إلى الرعاية الأسرية والتعليم والخدمات الصحية والتغذية في ظل الصعوبات التي نعاني منها في فلسطين.

الكلمات المفتاحية: التطور في الطفولة المبكرة، برنامج بورتج التقييمي.