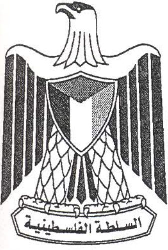

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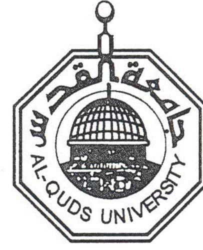

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Prevalence of Mental Health Problems among Cerebral Palsy Children from Age 6-12 Years in Gaza Strip

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Master Thesis

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Prevalence of Mental Health Problems among Cerebral Palsy Children from Age 6-12 Years in Gaza Strip

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Prevalence of Mental Health Problems among Cerebral Palsy Children from Age 6-12 Years in Gaza Strip

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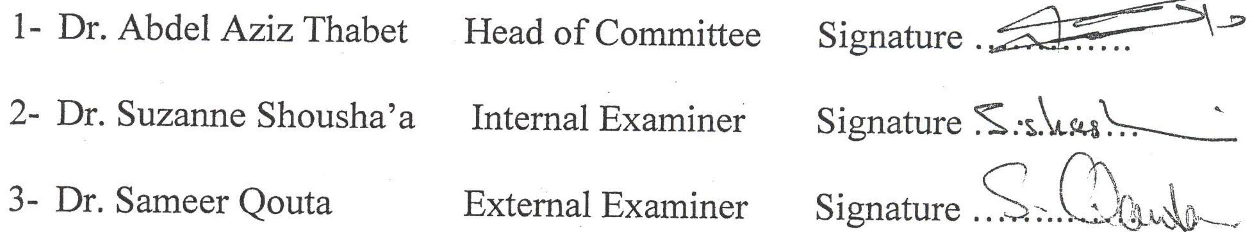

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Al-Quds University

2005

Declaration

I certify that this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledge and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed

Salah Saleh

Date: 18 / 1/ 2005

Dedication

I would like to dedicate this work to my family, mother, father.

To my wife, sons and daughter.

Sisters and brothers.

Yours sincerely

Salah

Acknowledgement

I would to acknowledge all people whose assistance was essential throughout my study and without their cooperation, the study wouldn't be possible,

Particular thanks and deep gratitude to my supervisor Dr. Abdel Aziz Thabet for their inspiration, unlimited support, encouragement and deep supervision.

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Abstract

This study aimed to estimate the prevalence of mental health problems among cerebral palsy children aged 6-12 years old.

A cross sectional method was chosen registered children aged 6-12 years-old at the physiotherapy clinics in the Gaza Strip. A systematic random sample of 219 children suffering from cerebral palsy were selected and their parents were interviewed using the Achenbach child behavior checklist (CBCL), also teacher report form (TRF) was used for physiotherapist.

The results indicated that, the prevalence of mental health problems rated by parents was (37%). While, the prevalence of mental health problems rated by therapist was (44.7%). Boys had higher mean than girls regarding aggressive behavior rated by parents, whereas, interaction was observed between boys and girls regarding total problems, withdrawn problems, attention problems and aggressive behavior by therapist. Boys had more mental health problems as rated by both parents and therapist checklists. A correlation was observed between boys and girls regarding aggressive behavior rated by parents. Whereas, a correlation was observed between boys and girls regarding total problems, withdrawn problems, attention problems and aggressive behavior by therapist. Also , the results revealed a statistical significant differences between children mental health problems rated by parents. namely anxious depressed, attention problems, delinquent problems and aggressive behavior and gender in favor to boys. Additionally, total problems, withdrawn problems, delinquent

attention problems, delinquent problems and aggressive behavior and gender in favor to boys. Additionally, total problems, withdrawn problems, delinquent problems, aggressive behavior and externalizing problems rated by therapist were statistically significant with age. Furthermore, the results indicated a significant statistical differences between place of residency and total problems, internalizing problems and externalizing problems rated by therapist, that's in favor to the children who reside in village. While, a significant statistical differences was observed between place of residency and total problems and internalizing problems rated by parents, that's in favor to the children who reside in village. However, interaction was observed between household monthly income and total problems and internalizing problems rated by therapist, in favor monthly income less than 300$ per month. Total problems, internalizing and externalizing problems were significantly associated with types of cerebral palsy when rated by therapist. Whereas, internalizing and externalizing problems were significantly associated with types of cerebral palsy when rated by parents.

Despite certain limitations, although few sociodemographic differences in CBCL and TRF were found, a longitudinal prospective studies on child behavior is recommended.

الخلاصة

تهدف هذه الدراسة إلى تقدير معدل انتشار مشاكل الصحة النفسية عند أطفال الشلل الدماغي من الفئة العمرية 6-12 سنة في قطاع غزة.

وهي دراسة مقطعية لمعرفة معدل انتشار المشاكل النفسية عند أطفال الشلل الدماغي من عمر 6-12 سنة، ولقد تم اختيار عينة الدراسة من الأطفال المصابين بالشلل الدماغي المترددين على عيادات العلاج الطبيعي بقطاع غزة.

وقد تم اختيار العينة من كل عيادة بطريقة الاختيار العشوائي المنتظم، وتم توزيع العينة بين المراكز الصحية حسب عدد الحالات المسكنة المسجلة في كل عيادة من العيادات المختارة.

حيث بلغ حجم العينة 219 حالة، وقد تم جمع المعلومات من أخصائيي العلاج الطبيعي ومن أهل المرضى في العيادات أثناء زياراتهم الروتينية للمراكز الصحية.

تشير النتائج إلى أن معدل حدوث مشاكل الصحة النفسية عند أطفال الشلل الدماغي هي 37% بواسطة الوالدين و44.7% بواسطة المعالجين.

وقد لوحظ أن هناك علاقة ذات دلالة إحصائية في السلوك العدواني بين الذكور والإناث بواسطة الوالدين لصالح الذكور، وكذلك هناك فروق يبن الذكور والإناث في المشاكل الكلية، الانسحاب، الانتباه، والسلوك العدواني بواسطة المعالجين لصالح الذكور.

وذلك بالإضافة إلى أن هناك اختلاف ذو دلالة إحصائية في الجنس، المشاكل الكلية، الانسحاب، السلوك العدواني والمشاكل الخارجية وفقاً لرأي المعالجين.

زيادة على ذلك تشير النتائج إلي أن هناك اختلاف ذو دلالة إحصائية بين المشاكل الكلية، المشاكل الخارجية، والمشاكل الداخلية مع مكان السكن على حسب رأي المعالجين لصالح الساكنين في القرى.

كما هناك اختلاف ذو دلالة إحصائية بين مكان السكن والمشاكل الكلية والمشاكل الداخلية على حسب رأي الوالدين لصالح الساكنين في القرى.

على أي حال أشارت النتائج أن هناك علاقة واضحة بين مستوى الدخل الشهري والمشاكل الكلية والمشاكل الداخلية بواسطة المعالجين ، لصالح ذوي الدخل أقل من 300 دولار شهرياً.

وكانت المشاكل الكلية، المشاكل الداخلية والخارجية مصاحبة بدلائل إحصائية مع أنواع الشلل الدماغي بواسطة المعالجين. بينما المشاكل الداخلية والخارجية مصاحبة بوضوح مع أنواع الشلل الدماغي على حسب رأي الوالدين .

ويستنتج الباحث من ذلك أنه على الرغم من أن الدراسة أثبتت أن هناك علاقة بين المتغيرات الديموغرافية ومشاكل الصحة النفسية بين الأطفال ، فإنه يوصي بضرورة إجراء دراسة تتبعية لبحث المساكل النفسية لدى أطفال الشلل الدماغي والعوامل التي تؤثر عليها.

Chapter 1

Introduction

1.1 Background

In the 1960, an English surgeon named William Littlie wrote the first medical Descriptions puzzling disorder that struck children in the first years of life, causing stiff, spastic muscles in their legs and, to a lesser degree, their arms. These children had difficulty grasping objects, crawling, and walking. They did not get better as they grew up nor did they become worse.Their condition, which was called littles disease for many years, is now called spastic diplegia.It is just one of several disorders that affect control of movement and are grouped together under the term cerebral palsy (Lauke, 1994).

During pregnancy, the fetal brain needs adequate supplies of oxygen and glucose, among other things, to develop normally. Oxygen and glucose originate in the maternal blood, where they are are transported to the placenta, then through the umbilical cord, to the fetal circulatory system, and, finally, to the fetal brain. After delivery, the newborn lung replaces the placenta as the primary organ responsible for oxygenating the blood circulating within the newborn infant (Joseph, 1994) Certain maternal, fetal, or neonatal conditions can interfere with normal blood flow to the fetal or newborn brain ("ischemia"), or reduce the oxygen content of the blood perfusing the brain tissue ("hypoxemia"). This can happen before the onset of labor (the antepartum period), during labor and delivery (the intrapartum period), or after birth (the immediate neonatal period). Unfortunately, neonatal intensive care units across the United States continue to admit and treat infants with hypoxic or ischemic

complications that eventually lead to permanent neurological injury or other handicapping conditions, such as cerebral palsy (Greenwald, 1994).

Sometimes, the clinical condition of the newborn immediately after birth will alert the physicians and parents to the fact that the baby suffered a brain injury. In many cases, the primary diagnosis is ("prenatal asphyxia"), or ("birth asphyxia"), or ("hypoxic ischemic encephalopathy"), In other cases, the parents may not realize that their child suffered a brain injury until the child fails to achieve developmental milestones during the first year of life (Greenwald, 1994).

Regardless of when the parents find out about their child's condition, when they ask physicians for an explanation as to why their child suffered an irreversible brain injury, they are routinely told by their physicians that the outcome was unavoidable. Yet, a review of the clinical records may disclose a history of one or more maternal, fetal, or newborn complications that would have been capable of initiating a sequence of events leading to the brain damage: some of these complications or risk factors are preterm labor, premature rupture of the membranes, hypertension, diabetes, oligohydramnios, trauma, maternal infection, neonatal sepsis, abnormal blood gas studies, nonreassuring fetal heart rate patterns, breech presentation, intrauterine growth retardation, or placental insufficiency due to postdated pregnancy (Lauke, 1994)

Thus, parents may suspect that all of the facts and circumstances that led to the brain damage are not being fully disclosed. They may decide to consult the an attorney, whom they may retain to conduct an independent evaluation of the medical records, with the help of qualified experts, to determine the cause and timing of their child's brain injury, and whether the adverse outcome could have been prevented with proper obstetric or neonatal care or earlier delivery (Joseph, 1994)

Research on the effects of cerebral palsy has historically focused the association of cerebral palsy with increased risk of aggression and delinquency, as exemplified in the research of Sears (McCord, 1991).

MOH 2003 stated that the studies confirm that the physical disabilities and cerebral palsy have clear effect in personal behaviors and society of physical handicapped people reported that , form about 8.883 physical disabled persons in Gaza , about 65.5% male and 34.5 female , the main causes of physical disability are CP 24% (MOH, 2003) .

The aim of the study is to estimate the prevalence of mental health problem among children age 6-12 years in Gaza Strip in order To improve health status of cerebral palsy children.

1.2 Objectives

- To estimate the prevalence of mental health problems among cerebral palsy children's' between 6-12 years of age in the Gaza Strip.
- To describe the characteristics of cerebral palsy children's' with mental health problems.
- To examine the mental health problems associated with each type of cerebral palsy.
- To investigate sex differences in mental health problems rated by parents and therapist.
- To examine place of residency differences in mental health problems rated by parents and therapist.
- To explain family income difference in mental health problems rated by parents and therapist.

1.3 Research Questions

1- What is the prevalence of mental health problems among cerebral palsy children's' in the Gaza Strip?

2- What are the characteristics of CP children's' with mental health problems?

3- Are there differences in mental health problems associated with each type of cerebral pals?

4- Is there sex differences in mental health problems in cerebral palsy children?
5- Is there differences in place of residency and mental health problems in cerebral palsy children?
6- Is there differences in mental health problems and family income?

1.4 Justification of the study

Cerebral palsy is one of the major causes of mental health problems in gaza; there is high incidence rate of cerebral palsy disorder in Gaza.

Because cerebral palsy has clear effect in personal behaviors and society of physical handicapped people reported that, form about 8.883 physical disabled persons in Gaza, about 65.5% male and 34.5 female, the main causes of physical disability are cerebral 24% (MOH, 2003).

In professional level as I am working as a physiotherapist, to observed that cerebral palsy children suffered from a lot of mental health problems, that's make me interested in studying this problems

1.5 Demography of the Gaza Strip

Gaza Strip a narrow piece of land lying on the cost of the Mediterranean Sea. Its position lies on the crossroad from Africa to Asia which made it a target for occupiers and conpuers over the centuries. Gaza strip a very crowded place with area 365sq/Km. The population is mainly contain tow third of the population. The mid year population size of the Palestine in 2001 is estimated

at 3,298,951.Out of which 1,666,805 are males and 1,632,146 are females (MOH, 2003).

1.5.1 Population

In Gaza strip, the population size is estimated at 1,261,909 of total population in Palestine. Out of which 50.6% were males and 49.4% were females. As of mid 2004 (PCBS,2004).

Age distribution of population has importer implication on the health status of the population, due to the different health needs, the different patterns of health care utilization and the different health status among the various age group. The Population is a young population, with males 24.9% and with females 24% under 15 years as of mid 2004 (PCBS,2004). This pattern is more pronounced in the Gaza strip, where (48.9%) are under 15 years. The age group under five years old still constitutes the largest proportion with a percentage of 18.3% of population (19.6% in GS).

The ages 60 years and over constitutes (4.6%) of population, (4% in GS). Up to the age 40-44 years, there is gender predominance towards males, in age group of 45-49 years there is no gender predominance. Then after, gender is more predominant towards females the crude birth rate population in Gaza strip was 33.1 per 1,000 population, (MOH, 2003).

1.5.2 Population density

Population density in Gaza strip is very high compared with the density in West bank and neighboring countries. Density rate is about 3,854 inhabitants per one square kilometer in Gaza strip, and about 428 inhabitants on the West bank as mid of 2004(PCBS,2004). Actually, it must be taken into consideration that a sizable area of the Gaza strip and the West bank is still occupied by Israeli settle. Therefore, the actual density rates are higher than the estimated figures (MOH, 2003).

Dependency ratio is calculated as the number of persons below fifteen and above sixty-five per 100 persons aged of 15-64 years. In the dependency ratio for Palestine is 99.7%

(111.5 for Gaza strip Vs 100% for West bank). This does not reflect the actual economic dependency in Palestine because not all people enrolled in the workforce age of 15-64 years is actually earning as student, housewives and unemployed persons (MOH, 2003).

The estimated population growth rate in Palestine has been declined from (5.2%) in 1995 to (3.1%) in 1997 and 1998. It is (3%) in 2000.

As in most countries, the life expectancy at birth 2000 for women is higher than for men (73.43 Vs 70.27 years).

1.6 Health services in Gaza Strip

Over the past year, the Palestinian health care system has been developing side by side with the development of Palestinian society in general. There are four health providers in Palestine, ministry of health (MOH), the united nation relief and work agency for Palestine refugees (UNRWA)., Non government organizations (NGOs) and private sector. MOH is the health authority responsible supervisor, licensure, and control for whole health services, it bears the heaviest burden in Gaza strip, it has 44 primary health care centers in 2001, 22 hospitals (MOH Services, PRCs, NGOs, private and UNRWA are operating hospital and the governmental community mental health clinics provide mental health services. UNRWA public health clinics, and some non-govermental organization and private clinics participate in the deliver of mental health services in Gaza strip.

The health services in Gaza strip are provided mainly through tow main health providers: Ministry of health (MOH) of Palestinian national authority (PNA) and united nations relief and work agency for Palestine refugees in the near east (UNRWA). Non governmental organization (NGOs) and private sectors have a role mainly in curative services (MOH, 2003).

UNRWA provides primary health care (PHC) services free of charge for all registered refugees through 13 health centers covering about 70% of the total population of the strip. Hospitalization services offered through reimbursement system according to agency procedures.

MOH provides mother and child health (MCH) services free of charge through 35 health center. Other components of PHC health services at MOH centers are available to clients who posses valid health insurance (MOH, 2003).

1.7 Cerebral palsy children programs in Gaza strip

1.7.1 Palestine Avenir Childhood Foundation

Special Education Programs

Special curriculum is adapted to acquaint children with environment of the local community. The Foundation takes care of children who have physical disabilities and slow learners between 5-13 years old. In the special education program after the evaluation of specialists that consists of physiotherapist, social worker, special education specialist, so they could evaluate their mental and physical abilities.

Children receive educational services in which it improves their physical and educational abilities, so they could be integrated easily with normal children and in regular schools.

Work Plan:

-Receive all the reffered children from specialists.

-Evaluate children's abilities

-Divide them into groups depending on their abilities.

-Manage the time, goals, place and equipments of certain Individual Program Planning.

-Coordination with the responsible child families and other accompanies.

- Follow up with goals through recording any improvements.

Physiotherapy program

Basically, the program designed to prevent complications and to develop motor abilities. The specialists evaluate children's abilities and divide them according to their complications into groups in which there are different therapy sessions for each child.

Work Plan:

-Education of children when they first arrived to the centers.

-Home visits to evaluate their physical abilities and their daily life at home.

-Education of child's ability after he has been accepted to the center.

-Division of the children depends on their complications.

-Follow up with children.

Psychotherapy and social therapy program

The Psychotherapist and the social worker evaluate the children's situations, and then they prepare a certain plan to treat it. With meeting with these children families, we are able to minimise their complications. The foundation also educates the families on ways to prevent birth defects by giving out brochures and symposiums.

Prevention and early detection

The foundation believes that “Prevention of dicase is better than treating it”. So the foundation has established a special program which concerns with early detection of physically or mentally disabled in order to educate the community

Integration program

It is considered one of the most important objective in our program so that we are planning to develop ”Methods” to enhance our intention of integrating the existing centers with the local agencies for the sake of the people of special needs. This will not only reflect positive attitudes towards the disabled people but also assist them to face their own difficulties and foster their potentials towards a better quality of life.

Outreach program

Due to the high number of the children with special needs and the repetitive requests from the children’s families to attend the center and because of the limited place inside the center, we decided to establish the “Out Reach Program”. Our belief is that the best place to provide the services is the community, accordingly, we can reach most of the children in the community, which consequently can satisfy our goals, and presenting services to the utmost number we can

Vocational training program

Vocational Training Program (VTP) aims to train and educate the physically disabled adults (PHA) on a certain profession or crafts that suit their motor and mental abilities.

The main concern of this program PHA who has had academic education and can’nt continue due to their mental ability limitation.

Choice of appropriate profession for PHA will be designed to suit their motor, mental and sensorial abilities. Further more, it should appropriate and practical choice according to available opportunities in Gaza Governerate.

The target group of the Vocational Training Program is physically disabled adults whose age is between 14-18 years old (male or female).

Speech therapy program

Periodical evaluation and therapy plans based on individual basis are set for disabled children to improve their communication through speech therapy sessions conducted at children’s home and or at the foundation. Improvement in the children’s communicative skills was noticed.

1.7.2 El-wafa hospital Program

-Physical therapy (PT), which helps the child develop stronger muscles such as those in the legs and trunk. Through PT, the child works on skills such as walking, sitting, and keeping his or her balance.

-Occupational therapy (OT), which helps the child develop fine motor skills such as dressing, feeding, writing, and other daily living tasks.

-Speech-language pathology (S/L), which helps the child develop his or her communication skills. The child may work in particular on speaking, which may be difficult due to problems with muscle tone of the tongue and throat.

Parents instructions

-Learn about CP. The more you know, the more you can help yourself and your child. See the list of resources and organizations at the end of this publication.

-Love and play with your child. Treat your son or daughter as you would a child without disabilities. Take your child places, read together, have fun.

-Learn from professionals and other parents how to meet your child's special needs, but try not to turn your lives into one round of therapy after another.

-Be patient, keep up your hope for improvement. Your child, like every child, has a whole lifetime to learn and grow.

-Work with professionals in early intervention or in your school to develop an IFSP or an IEP that reflects your child's needs and abilities. Be sure to include related services such as speech-language pathology, physical therapy, and occupational therapy if your child needs these. Don't forget about assistive technology either!

1.7.3 El-Ahly arab hospital program

-Receive all cerebral palsy or disabled children's ,they Evaluate children’s abilities and what models of treatment needs, divide them into groups depending on their disabilities, and they Do a various organized physiotherapy and rehabilitation sessions for the children.

1.7.4 UNRWA Program

UNARWA have a generalized physiotherapy clinic i.e. not specific for cerebral palsy child But they receive any referred child then evaluate him , do at least 8 physiotherapy sessions and learns his family how to do exercise and some rehabilitation for him (field interview).

Chapter 2

Literature reviews

There is a crisis affecting maternity care in many countries. Both caesarean section rates and medical defense premiums are increasing. New options for the care of pregnant women (e.g., birthing units) may fail because midwives, general practitioners and smaller hospitals may be unable to afford adequate insurance to continue their services (MacLennan,1993).

The crisis is fuelled by widespread beliefs that cerebral palsy is often caused by injuries sustained during labor and birth and that cerebral palsy may therefore be the result of inappropriate obstetric care. There is now considerable evidence to suggest that these beliefs are unfounded. A conference of Australian and New Zealand specialists in this area was convened to review the relevant literature and offer a consensus statement to help parents, counselors, lawyers and health professionals understand what is known and what is not known about the origins of cerebral palsy (Naeye, 1989).

In 13-16 % of all young children psychosocial adaptation is hampered by mild or severe neurodevelopment disorders, that range from hyperactivity, learning disabilities, language delays and motor abnormalities to autistic spectrum disorders and cerebral palsy , Possible harmful effects on the brain during delivery explain only a proportion of these disorders in children's behavior and development (Day et al,1998).

MacLennan,1993 demonstrate that, improving obstetric care during the last decades has not been able to reduce the rate of these neurodevelopment disorders, as a result, there is now an increasing recognition of the role played by prenatal factors in the development of subsequent neuropsychiatry impairment, particularly in term born infants Interest in prenatal risk factors

can be found in various fields of research.

Day et al,1998 said that the first, prenatal influences may affect the general development of the fetus. Food deprivation, alcohol-intake, and drugs during pregnancy may result in adverse birth outcome, such as preterm birth and low birth weight. Internal factors, like elevated prenatal stress, are likewise associated with premature delivery, and low birth weight.

Second, effects of prenatal influences on physical development have been found, which may result in specific illnesses. For instance, food deprivation during pregnancy has been found to have an effect on health status at adult age (Barker,1990).

Naeye, 1989 hypothesied that children with low birth weight, possibly as a result of prenatal food deprivation of the pregnant woman and secondary of the fetus, have an increased risk for diabetes, obesity, high blood pressure and cardiovascular disease at adult age. After alcohol-intake in pregnancy disturbances of physical development occur, resulting in heart defects, distortions of the joints and minor physical abnormalities, Prenatal smoking is associated with increased susceptibility to the use of pharmacological agents during pregnancy may result for instance in deformed limbs (thalidomide) or in an increased risk for abnormalities in the structure of the reproductive organs and for the development of cancers in the vagina or cervix.

Third, variations in the fetal physiological environment, caused by the mentioned external factors, appear to have effects on brain development, which may lead to neonatal brain disease or psychopathology later in life. In the field of child neurology, etiological factors for cerebral palsy are sought in the prenatal period, because prenatal complications seemed to explain only part of the occurrence of this brain dysfunction in at term born infants, the harmful effects of prenatal exposure to tobacco, alcohol, medication or drugs on human brain development are well established, In short, gestational alcohol exposure may result in microcephaly and central nervous system 11 From postnatal to prenatal determinants of development malformations, disturb neuronal migration, and reduce neuronal numbers (Day et al,1998).

According to these studies, alcohol exerts its effects on a variety of genes and can modify the composition of the postsynaptic membrane, Likewise, fetal nicotine exposure results in alterations of cholinergic, noradrenergic and dopaminergic projections in postnatal life and appears to elicit a premature switch from proliferation to differentiation. In addition, fetal cell damage and cell loss is found, besides the direct effect of alcohol, nicotine and Cocaine on fetal brain development, the prenatal exposure to these substances may further interfere with normal brain processes. This may result in later cognitive dysfunction (Naeye, 1989).

The effects of these external prenatal factors generally result in explicit physical pathology, growth retardation or psychopathology. Internal prenatal factors such as maternal stress may lead to a more subtle disruption in normal

development besides the obvious effects on general fetal development that resulted in preterm birth and lower birth weight. In humans, prenatal stress has been associated with a smaller head circumference of the neonates, Severe maternal stress in pregnancy has been linked with an increased risk for schizophrenia at adult age for the infants born of these mothers , In nonhuman primates, it was found that prenatal stress had long-term effects on behavioral regulation in the offspring that persist into adolescence ,Offspring of prenatal stressed rats had stronger and prolonged responses of the Hypothalamic-Pituitary- Adrenal, axis in stressful situation (Schneider, 2001).

2.1 Defention of cerebral palsy

Cerebral palsy is characterized by abnormal control of movement or posture of a patient, appearing early in life (secondary to a central nervous system lesion, damage or dysfunction), and not the result of a recognized progressive or degenerative brain disease. In addition to motor deficits, the patient may suffer from other manifestations of cerebral dysfunction, including mental retardation, epilepsy, sensory deficits (hearing or visual loss), learning disabilities and emotional problems, but these problems are not implied by a diagnosis of cerebral palsy. Cerebral palsy often has been referred to as a "wastebasket" term. The entity cerebral palsy is delimited chiefly for purposes of treatment: individuals with conditions designated by this term often have similar needs for rehabilitation, education, medical and social service (Borzyskowski, 1989).

2.2 Manifestations

The diagnosis is established by a history that the patient is not losing motor skills (i.e., the patient does not have a progressive disease). Physical examination, supplemented by laboratory tests when needed, localizes the problem to the central nervous system and not to the motor unit (anterior horn cell, peripheral nerve, nerve-muscle junction, or muscle). Efforts to establish an etiology should be made (Brun, 1979).

A definitive diagnosis of cerebral palsy may be delayed during early infancy, particularly in preterm infants, and serial examinations are required. Evidence of spasticity may not be noted until 6 to 9 months, and dyskinetic patterns are generally not obvious until about 18 months. Ataxia, as opposed to the in coordination and motor delay of mental retardation, may not be apparent until even later (Burke et al, 1980).

Burke,1988 said that, understanding the etiology, together with the specific type of cerebral palsy (spastic, dyskinetic, etc.) can lead to a prognosis and rational treatment program .

Decter et al., 1987 demonstrate that neurobehavioral signs that should raise suspicion are excessive docility or irritability. A frequent history is one in which the baby is a poor feeder during the neonatal period. This may be followed by a baby who is irritable, sleeps poorly, vomits frequently, is difficult to handle and cuddle, and has poor visual attention. Deviant or motor patterns include tongue retraction and thrust, tonic bite, oral hypersensitivity,

and grimacing. Early motor signs include poor head control with normal or increased tone in the limbs. Persistent or asymmetric fisting is abnormal. Gross and fine motor development is not only delayed, but is usually also qualitatively abnormal.

2.3 Physiologic (motor) grouping

Spasticity is defined as a velocity-dependent increased muscle tone, determined by passively flexing and extending muscle groups across a joint. A satisfactory, reproducible system of grading muscle tone has never been developed. Most physicians describe the tone as being normal, increased or decreased. Associated with spasticity are enhanced deep tendon reflexes, usually associated with clonus and extensor plantar responses. However, the latter are sometimes difficult to elicit in the infant and even in the older child with spastic cerebral palsy. Patients with spastic cerebral palsy exhibit signs of the upper motoneuron syndrome which is composed of positive and negative signs. Positive signs include spastic hypertonia, hyperreflexia, extensor plantar responses, and clonus. Negative signs include slow effortful voluntary movements, impaired fine motor function, difficulty in isolating individual movements, and fatigability (Burke, 1988).

The hyperkinetic or choreo-athetoid children show purposeless, often massive involuntary movements with motor overflow (that is, the initiation of a movement of one extremity leads to movement of other muscle groups). The

dystonic group manifest abnormal shifts of general muscle tone induced by movement. Typically, these children assume and retain abnormal and distorted postures in a stereotyped pattern. Both types of dyskinesia may occur in the same patient (Freeman and Nelson, 1988).

Grether et al., 1992 explain that children with ataxias have a disturbance of the coordination of voluntary movements due to muscle dyssynergia. These patients may be hypotonic during the first two or three years of life. They commonly walk with a wide-based gait and have a mild intention tremor (dysmetria). The fourth category that is commonly used in the physiologic and motor classification is the mixed group. Patients in this category commonly have mild spasticity, dystonia, and/or athetoid movements. Ataxia may also be a component of the motoric dysfunction in patients placed in this group .

2.4 Types of Cerebral Palsy

Children with CP have damage to the area of their brain that controls muscle tone. Depending on where their brain injury is and how big it is, their muscle tone may be too tight, too loose, or a combination of too tight and loose. *Muscle tone* is what lets us keep our bodies in a certain position, like sitting with our heads up to look at the teacher in class. *Changes in muscle tone* let us move (Baker, 1995).

2.4.1 Spastic Cerebral Palsy

If muscle tone is too high or too tight, the term *spastic* is used to describe the type of cerebral palsy. Children with spastic CP have stiff and jerky movements because their muscles are too tight. They often have a hard time moving from one position to another or letting go of something in their hand. This is the most common type of CP. About half of all people with CP have spastic CP (Kathleen et al., 1995).

2.4.2 Ataxic Cerebral Palsy

Kathleen et al., 1995 demonstrates that Low muscle tone and poor coordination of movements is described as *ataxic* CP. Kids with ataxic CP look very unsteady and shaky. They have a lot of shakiness, like a tremor you might have seen in a very old person, especially when they are trying to do something like write or turn a page or cut with scissors. They also often have very poor balance and may be very unsteady when they walk. Because of the shaky movements and problems coordinating their muscles, kids with ataxic CP may take longer to finish writing or art projects

2.4.3 Athetoid Cerebral Palsy

Kathleen et al.,1995 said that the term *athetoid* is used to describe the type of cerebral palsy when muscle tone is mixed - sometimes too high and sometimes too low. Children with athetoid CP have trouble holding themselves in an upright, steady position for sitting or walking, and often show lots of

movements of their face, arms and upper body that they don't mean to make (random, involuntary movements). These movements are usually big. For some kids with athetoid CP, it takes a lot of work and concentration to get their hand to a certain spot (like to scratch their nose or reach for a cup). Because of their mixed tone and trouble keeping a position, they may not be able to hold onto things (like a toothbrush or fork or pencil). About one-fourth of all people with CP have athetoid CP .

2.4.4 Mixed Cerebral Palsy

Kathleen et al., 1995 demonstrate that when muscle tone is too low in some muscles and too high in other muscles, the type of cerebral palsy is called mixed. About one-fourth of all people with CP have mixed CP.

2.5 Common health problems with cerebral palsy

2.5.1 Nutrition

In general, growth is stunted. Many fail to thrive, especially those with dyskinesia and spastic quadriplegia. This is related to inadequate intake, recurrent vomiting with aspiration secondary to gastro esophageal reflux, and pseudo bulbar palsy. Poorly understood central nervous system factors play a role (Landau, 1988).

2.5.2 Genito-urinary tract

Enuresis, frequency, urgency, and stress incontinence occurs in many children. These are related to poor cognition, communication skills, and mobility, neurogenic dysfunction; and the expectations of caregivers (Reese, 1991). Urodynamic assessment has demonstrated bladder hyperreflexia, detrusor sphincter dyssynergia, hypertonic bladders with incomplete leakage, and periodic relaxation of the distal sphincter during filling (Naeye,1989).

2.6 Prognosis

Deterioration or change in neurologic signs may occur in older children. In some this is due to acquired cervical spine impairment secondary to exaggerated neck flexion or extension Reese et al., 1991). Patients with cerebral palsy may also later develop disabling dystonia (Burke, 1980). This is probably due to continuing aberrant development of the nervous system, although an inborn error of metabolism or neurodegenerative disorder should be considered (Nelson et al., 1985).

2.7 Etiology of cerebral palsy

Decter et al.,1987 define the cause for most cases of cerebral palsy is unknown, and when a cause can be identified, it is usually of prenatal origin (Nelson et all., 1985). Intrapartum events only play a limited role and may have been influenced by a preexisting abnormality.

Risk Factors correlated with prenatal events: In most patients with cerebral

palsy, only "risk factors" can be identified. A univariate analysis of risks associated with the future development of cerebral palsy identified separate maternal, pregnancy, labor and delivery characteristics (Nelson et al., 1988).
Nelson et al., 1991 explain that maternal factors, as level of maternal education, marital status, parity, paternal age, pregnancy spacing, smoking history and intercourse frequency were not associated with an increased risk of the child developing cerebral palsy. Unexpectedly, a history of maternal diabetes, and the length of time to become pregnant also were not predictive of future cerebral palsy. On the other hand, in this particular analysis, maternal mental retardation, epilepsy and hyperthyroidism prior to the pregnancy were significantly associated with the development of cerebral palsy in the child.
Pregnancy problems which were identified as relative risk factors associated with future cerebral palsy included severe toxemia and incompetent cervix, when associated with premature birth. Third trimester bleeding, but not first or second trimester bleeding was also a significant factor. Kidney and bladder infections, radiation exposure and hyperemesis gravidarum were not associated with increased risk. In a more recent study of risk factors and pregnancy (Grether et al., 1992).

Reese et al.,1991 emphasized a very high prevalence of cerebral palsy in twins compared to singletons.

Risk factors identified during the labor and delivery periods included vaginal bleeding at the time of admission, and placental complications such as

abruption placenta, premature rupture of the membranes, chorionitis, and breech presentation. However, many of these risk factors were significant only if a baby weighed less than 2,500 grams at birth. In addition, some of the risk factors, such as oxytocin augmentation, cord prolapse, or breech delivery, were relevant only if they were associated with low Apgar score (Rosenbloom, 1994).

Prenatal or "Birth" Asphyxia: Freeman and Nelson summarize the data as to whether birth asphyxia was the cause of the cerebral palsy by suggesting that 4 questions must be answered in the affirmative (Decter et al., 1987)

2.8 Risk factors associated with type of cerebral palsy

The Swedish studies also correlated the anatomical and physiological abnormalities with prenatal and prenatal risk factors and looked as well as being born pre-term or at term. Children with spastic diplegia were almost universally appropriate for gestational age; 55% were born preterm. Furthermore, there was a lower proportion of prenatal risk factors among this group of infants. The diplegic children born at term had a much more complex situation, having both prenatal and prenatal risk factors in a much higher frequency. These included toxemia, placental infarction, and evidence of intrauterine asphyxia, including meconium staining (Rosenbloom, 1994).

The dyskinetic syndromes are most likely to occur with prenatal risk factors, such as asphyxia and hyperbilirubinemia. Of these patients, 37%, in addition to having prenatal risk factors, also had prenatal risk factors present such as

fetal deprivation (small for gestational age) (Kyllerman, 1982).

Rosenbloom has suggested that a pattern of prenatal events in term babies may lead to dyskinetic cerebral palsy, a pattern that differs from that leading to spastic quadriplegia (Reese et al., 1991).

Reese et al, 1991based on an analysis of 17 patients with dyskinetic cerebral palsy, 10 experienced severe fetal distress occurring late in labor; the birth asphyxia was severe but short-lived and the hypoxic-ischemic encephalopathy was only mild or moderate.

The proportion of cerebral palsy associated with intrapartum asphyxia has been estimated to be around 10% (Nelson, 1988).

Naeye et al., 1989 includes an excess of minor congenital anomalies, a short umbilical cord, or neuroimaging that demonstrates cerebral dysgenesis or a cerebrovascular accident.

Neuroimaging and neuropathological studies have also demonstrated that antepartum adverse events may contribute to neonatal neurologic morbidity. About 10% to 18% of cerebral palsy, usually of the spastic type, is acquired after the neonatal period. Causes include central nervous system infection, trauma, cerebrovascular accidents, and severe hypoxic events such as near-drowning (Rosenbloom , 1994).

Saint Hilaire et al.,1991 stated that certain known conditions do contribute to the cause of cerebral palsy in 10% to 15% of cases. Severe prolonged peripartum asphyxia is associated with later death or cerebral palsy and the

risks of developing cerebral palsy increase with decreasing gestational age. About 10% to 15% of cerebral palsy cases occur in preterm infants, and the risk increases 20-fold in those less than 1500g. But even in the preterm population, a contributing causative role may have been played by prenatal factors . The principle lesions that are associated with the later development of cerebral palsy in the preterm baby are periventricular leukomalacia, intracranial hemorrhage, post hemorrhagic hydrocephalus, and pontosubicular necrosis. Post hemorrhagic hydrocephalus is a serious complication of intraventricular hemorrhage and frequently leads to cerebral palsy. Poor outcome is related predominantly to severity of hemorrhage and gestational age at birth. bronchopulmonary dysplasia affects many preterm infants who require mechanical ventilation, and many of these infants are subjected to prolonged periods of hypoxemia. also he stated that in those who suffer from severe disease, 15% to 25% develop cerebral palsy, and 17% to 35% develop severe neurodevelopment impairment. Some babies with bronchopulmonary dysplasia develop a dyskinetic disorder characterized by choreiform and akathitic movements in the limbs, most prominent distally and extensor posturing of the neck with an oro-bucco-lingual dyskinesia. A similar disorder is seen following cardiopulmonary bypass and profound hypothermia in young infants who undergo correction of complex congenital heart defects .

2.9 Prevalence of cerebral palsy

Cerebral palsy is defined here as the use of physical force with the intention of causing physical pain, but not injury, for purposes of correction and control Examples of CP include slapping, spanking, pinching, or ear twisting. Parent-to-child CP as defined above is currently legal in all 50 of the United States. Other forms of CP (e.g., teacher-student, stranger-child) have increasingly been made illegal in recent years. For example, about half the states now prohibit CP by school personnel, and many states prohibit CP by foster parents (Straus, 2001).

Straus et al, 1999 demonstrate that cerebral palsy is the most common physical disability in childhood, occurring in about 2-2.5 per 1000 children born. The frequency of cerebral palsy has not changed over the last 40 years, despite a fourfold drop in both prenatal and maternal mortality. In some countries there is an increase in the occurrence of cerebral palsy, attributable mostly to the increased survival of very low birth weight infants.

Williams et al, 1996 found a cerebral palsy frequency of 3.2% among live births at less than 29 weeks' gestation, 2.8% at 29 to 32 weeks, and a remarkable decrease to 0.3% at 33 to 36 weeks' gestation and 0.07% at 37 or more weeks.

Giles-Sims, 1995 found that the prevalence of cerebral palsy, as defined vary 0.6 to 5.9 per thousand live births.

A recent study in Sweden based on children's 4-10 years of age reported that 1.9 per thousand had cerebral palsy (Straus et al., 2001). Proportion of physical disabilities in Palestine is about 29.7 % of total disabilities, with rate 8.9 per 1000 population. the studies confirm that the physical disabilities and cerebral have clear effect in personal behaviors and society of physical handicapped people reported that , form about 8.883 physical disabled persons in Gaza , about 65.5% male and 34.5 female , the main causes of physical disability are CP 24% (MOH, 2003) .

Cerebral palsy leading causes of death in Palestinian people with proportion 4.6%. west bank 2.2% and Gaza strip 6.9% (MOH, 2004). fifty four children's were died in Gaza strip last years as a results of cerebral palsy disorder (MOH, 2004). The division for cerebral palsy centers in Israel provides service to over 6.000 persons with cerebral palsy problems in close to 60 residential care centers around the country (The Gertner Institute, 2002).

Cerebral palsy is the most common developmental disability in the United States; roughly half a million Americans have some degree of the disorder. In a surveillance program initiated by the Centers for Disease Control and Prevention (CDC), the average annual prevalence rate was 2.8 per 1,000 children (ages 3 to 10, 1991-1994). Annually, at least 8,000 cases are

diagnosed in infants, while almost 1,500 are identified in children of preschool age (National health,1997).

The prevalence and chronicity of CP vary widely by children's age and gender. National surveys reveal that the current prevalence of spanking toddlers (age 2-4) is over 90% (Straus et al., 1999). For some in this 90%, CP is a rare event, for others it occurs several times a day. The prevalence of CP remains high at ages 5 and 6, and then declines steadily from ages 7 through 17. Despite the decline in CP after age 6, almost half (43%) of the parents of 13 year-old children and more than a quarter of parents of 16 year-old children reported having hit them in the previous 12 months (Straus et al., 2001).

Giles et al., 1995 demonstrate that the information on chronicity differs from study to study, probably because of differences in the method of obtaining the data. In interview studies, for example, the longer the time period about which the parent is questioned, the lower the frequency of CP. The National Family Violence Surveys, for example, asked how many times CP was used in the previous year, which resulted in a mean of 8.9 times by parents of children aged 3 to 17. However, the National Longitudinal Survey of Youth asked the mothers how many times they had spanked in the past week. Among the 71 percent of mothers of 1-4 year olds who had spanked, the mean number of times that week was 3.6. This suggests an annual chronicity in the hundreds of times. In addition, 6.8 percent of the mothers hit the focal child during the course of the interview; this suggests an even higher chronicity. Even a

college-educated sample of mothers reported using CP an average of 2.5 times in the past week.

Anderson et al., 1976 said that the research consistently shows that boys are somewhat more likely than girls to be spanked, especially once they reach school age. The most common explanation for the higher CP prevalence among young children (particularly boys) is that they "act out" more often than older.

Day et Day et al, 1998 said that the children higher spanking rate among boys might also reflect cultural expectations of the need for "toughness" in preparation for traditional roles of male adults. The prevalence of cerebral palsy also varies by race and ethnicity. African-American parents are more likely to use CP than Euro-American and Hispanic-American parents.

Some researchers have suggested that the higher CP prevalence among African-Americans is due to cultural differences in beliefs regarding the appropriateness of CP as a form of discipline (Rohner et al.,1996).

Others note that racial differences in CP behavior are not as significant when socioeconomic status is taken into account (Cazenave et al., 1990).

Parents of low socio economic status are also more likely to spank than are their higher socio economic status counterparts (Day t al, 1998). One recent study shows that the mother's level of education is strongly related to CP use (Arias et al, 1999).

Day et al, 1998 said that parents with lower educational attainment are less likely to practice "cognitive" means of discipline than are the less educated.

Other associated problems include cognitive impairment, vision and hearing impairments, problems with communication, emotional deficits, behavioral

problems and feeding problems .and they also said Spastic hemiplegics and paraplegics are the most likely to be of normal intelligence .

Hemiplegics have the lowest incidence of mental retardation with about 40% of them In CP patients it appears that the higher the degree of spasticity the greater the other problems will be. Sixty-six percent of the CP patients are mentally retarded patients, 50% are severely retarded, 35% are moderately retarded and the remaining 15% are mildly retarded (Giles et al., 1995).

Day etal,1998 demonstrate that most of the remaining CP patients with "normal intelligence" have perceptual problems and must be placed in learning disability classes . .

Cerebral palsy is defined here as the use of physical force with the intention of causing physical pain, but not injury, for purposes of correction and control. Examples of CP include slapping, spanking, pinching, or ear twisting. Parent-to-child CP as defined above is currently legal in all 50 of the United States. Other forms of CP (e.g., teacher-student, stranger-child) have increasingly been made illegal in recent years. For example, about half the states now prohibit CP by school personnel, and many states prohibit CP by foster parents, the states are listed in the web site of the Center For Effective Discipline, (Straus, 2001).

Straus et al., 1999 demonstrate that the prevalence and chronicity of CP vary widely by children's age and gender. National surveys reveal that the current prevalence of spanking toddlers

(age 2-4) is over 90%.

Straus et al., 2001 said that 90%, CP is a rare event, for others it occurs several times a day. The prevalence of CP remains high at ages 5 and 6, and then declines steadily from ages 7 through 17. Despite the decline in CP after age 6, almost half (43%) of the parents of 13 year-old children and more than a quarter of parents of 16 year-old children reported having hit them in the previous 12 months.

Early studies showed that the incidence from 1959 through 1968 was 1.88 per 1,000 live births. The number then fell from 1967 through 1970 to 1.44 per 1,000 births, from 1975 through 1977, the incidence rose to 1.63 per 1,000 (Office of epidemiology , 1987).

Cerebral palsy, a medical condition caused by a brain injury before, during or shortly after birth, affects an estimated 764,000 children and adults in the United States. About 8,000 babies and infants are diagnosed with the condition each year, while 1,200 to 1,500 preschool-age children are diagnosed each year, according to United Cerebral Palsy, a nonprofit research and advocacy organization,19th April 1999.

The Metropolitan Atlanta Developmental Disabilities Study was a population-based study (1985 through 1987) to determine the prevalence of five developmental disabilities among 10-year-old children. The disabilities included cerebral palsy, mental retardation, visual impairment, hearing impairment, and epilepsy. The prevalence of cerebral palsy (CP) and a description of the children with CP are reported here. Using a record review approach, they identified 204 10-year-old children with CP (resulting in a

prevalence of 2.3 per 1000). The rate of CP was significantly higher among boys (prevalence odds ratio = 1.5; 95% confidence interval = 1.1, 2.0), and the rate was also higher among black children than white children (prevalence odds ratio = 1.3; 95% confidence interval = 1.0, 1.7). Thirty-three of the children (16%) acquired CP postnatally; these children were more likely to be black or male. The gender and racial differences found for acquired CP were greater than those for congenital CP. Approximately 75% of the children had one of the other four disabilities studied; 65% of the children were mentally retarded, 46% had epilepsy, and 15% had a sensory impairment. They multiple-source method they used for identifying children with CP gave them a population-based sample from which to determine the prevalence of the condition to study factor that are associated with cerebral palsy (Office of epidemiology, 1987).

2.10 Cost of cerebral palsy

Birth defects are the leading cause of infant mortality in the United States and the fifth leading cause of years of potential life lost (Borzyskowski, 1989).

Free man,1988 said that, the substantial allocation of medical and non medical resources to the care and support of persons with birth defects, the economic costs of such defects have not been estimated accurately. Because estimates of the cost per new case of a birth defect represent the savings from preventing a case, an incidence-based approach enables assessment of the value of prevention strategies. This approach was used to estimate the cost of illness for cerebral palsy and for 17 of the most clinically important structural birth

defects in the United States. This report uses data from California (adjusted to provide national estimates) and national data to estimate the costs of these 18 conditions occurring in the United States during 1992.

Using a human capital approach, estimates were made of the direct costs of medical, developmental, and special education services and the indirect costs of lost work and household productivity attributable to premature morbidity and mortality of the cohort of persons born in California during 1988 with any of the 18 conditions (Freeman , 1988).

Kyllerman , 1982 adjusted an estimation to reflect national costs in dollars and to avoid duplication when a child had more than one condition. Estimated costs of medical and other services used by children without these conditions were subtracted to yield the cost of each condition. The costs of associated conditions (e.g., cardiac anomalies with Down syndrome) were included because prevention of defects was presumed to prevent such conditions.

The number of new cases of the conditions was estimated using data from the California Birth Defects Monitoring Program (CBDMP). Prevalence estimates were derived from CBDMP and from a combined sample of CDC's National Health Interview Surveys for 1985-1989.

For each condition, estimates of excess mortality through the first year of life were based on a CBDMP study linking birth and death records. Estimates of age-specific direct costs of the conditions were based on reported charges and expenditures for children with the conditions. For several conditions, limitations in the data restricted the incorporation of certain costs and the

period of time during which costs could be assessed. For example, the long-term excess costs of education for persons with certain conditions were not available. In 1992, the combined estimated cost of the 18 conditions in the United States was $8 billion Costs ranged from $75,000 to $503,000 per new case. Conditions with the highest costs per case were characterized by relatively high levels of long-term activity limitations (e.g., cerebral palsy ($503,000), Down syndrome ($451,000), and spina bifida ($294,000). In addition, these conditions had among the highest total lifetime costs ($2.4 billion, $1.8 billion, and $489 million, respectively), reflecting their relatively high incidences. The high cost per new case of major heart defects reflects the high medical costs associated with early surgical interventions for these defects and high costs of lost productivity attributable to deaths during the first year of life (Weitzman, 1994).

The findings in above report indicate that cerebral palsy and 17 of the most clinically important birth defects in the United States cause substantial economic burden. If all of the approximately 120,000 infants (3% of all live births) born each year in the United States with serious birth defects had been included in this analysis, the economic costs would have been higher. These cost estimates provide a basis for assessing prevention strategies using cost-benefit and cost-effectiveness analyses.

Because the medical and nonmedical services provided to persons with the 18 conditions often continue into adulthood, the cost estimates for these conditions were particularly sensitive to the choice of discount rate (Decter et al., 1987).

In this analysis, a discount rate of 5% was used to compute the present value of money to be spent or received in the future.

The findings in Kyllerma report are subject to at least four limitations. First, California data used to estimate incidence rates and treatment costs may not be representative of the United States; therefore, total costs per case may vary by state. Second, the contribution of time by family members to the provision of care was not estimated and may be substantial for some conditions. Third, the psychosocial costs of illness -- which may exceed traditional human capital costs -- also were not included, For these and other reasons, the use of the human capital approach underestimates what the public is willing to pay to prevent these conditions. He conclouded that, excess medical and education costs probably were underestimated for some conditions because they could not be ascertained completely (Kyllerma, 1982)

Naeye, et al stated that prevention of birth defects can substantially reduce their economic burden. In 1992, the Public Health Service recommended that all women capable of becoming pregnant consume 0.4 mg of folic acid (a B vitamin) to reduce their risk for a pregnancy affected by spina bifida or anencephaly. Based on the estimates in this report, h conclouded that if this recommendation were fully implemented, a substantial proportion of the $489 million in total costs associated with spina bifida could be averted. The high personal and societal costs of birth defects underscore the need to develop and implement effective primary-prevention programs (Naeye, et al., 1989).

2.11 Mental health and cerebral palsy

The positive dimension of mental health is stressed in the world health organization (WHO) definition of the health as contained in its constitution:

health is state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. Mental health and well-being Have nearly always had a lower priority than physical disease, despite their significant impact on mortality and morbidity.

According to the WHO, globally the percentage of the population suffering from severe mental disorders at any time is 1% while 10%-15% suffer from minor psychiatric disorders (Moffit et al., 1996).

2.12 Prevalence of mental health problems a among children

Since 1948, the Palestinian people have been subjected to displacement and military occupation, causing significant violent social and psychological pressures (Baker, 1990).

B'tselem, 1989 give a relatively recent example, during the violent period known as the Intifada from 1987 to 1990, children suffered an extremely high incidence of physical trauma both in Gaza and in the West Bank.

Tanya et.al., 2000 demonstrate a high prevalence (42.3%) of psychological morbidity among children in the southern Bethlehem district of West Bank during the summer of 2000. The overall prevalence of psychological morbidity in this region, determined using the Rutter A2 scale, is more than 2 times

higher than the reported rate of caseness in Gaza in 2000 (Thabet & Vostanis, 2000).

Tanya et al,2000 observed a high prevalence of emotional (36.3%) and behavioral (34.9%) problems, while the prevalence of moderate-to-severe PTSD was 39.5%. A longitudinal study of children in Gaza supported their results (Thabet et al., 2000).

Notably, when violence in this area lessened, the rates of emotional and behavioral problems in these children decreased significantly (from 27% to 21%, according to the Rutter A2 Scale). Similarly, a study of Gazan children during and after the Intifada observed analogous changes, as indicated by the Traumatic Events Checklist (Qouta et al., 1994).

On study done by Thabeet, 2000 about mental health problems in Gaza Strip, the study includes (322) child, (169) girls, and (153) boys, he found (75%) from Children's suffered emotional problems, (63%) neurotic problems, (56.5%) worries, (24,6%) less concentrations and (21,1%) restless.

Other study conducted by Thabet & Vostanis, from1999-2000 they found the prevalence of mental health problems among children's from age 6-11 Years are 26,8%.

The Dunedin and Christchurch longitudinal health and development studies have each tracked the age-specific prevalence of mental health disorder in samples of nearly 1000 children born in the 1970s. While both studies contain a smaller proportion of Maori, Pacific and Asian children than the New Zealand population as a whole, they remain the most reliable sources of New Zealand

specific

McGee et al., 1996 explain the information on the prevalence of mental health problems in young people.

The studies show that children can experience a significant mental health problem at any age, but that the chances of this occurring increase as young people approach and enter adolescence. In1975, when assessed at three years of age, 11 percent of the children in the Dunedin Multidisciplinar Health and Development Study were identified as having a behavioural or emotional problem.

Fergusson et al., 1997 explain in ight years later, at 11 years of age, 17 percent were assessed as having a mental health disorder of some kind. at age 12 the proportion rose to 22 percent.

Overall, the Dunedin study concluded that up to one in four children may have experienced at least one significant mental health problem in the period from age three to preadolescence (McGee et al., 1996).

When assessed in 1992 at 12 years of age, 24 percent of the children in the Christchurch Health and Development Study were considered to have some kind of psychiatric disorder, Some of these disorders would have been very mild and of short duration. Others would have been quite disabling and persistent(Fergusson et al.,1997). .

McGee et al., 1996 demonstrate that hyperactive behaviour, management problems and shy or inhibited behaviour were the three most common psychological problems identified in the three-year-olds assessed by the

Dunedin Multidisciplinary Health and Development Study in 1975/76. Altogether, 11 percent were found to have at least one of these problems.

In 1992 the study estimated that about 22 percent of Dunedin preschoolers had some kind of behavior problem, ranging from mild to quite serious disorders (Pavuluri et al., 1995).

In the Dunedin Multidisciplinary Health and Development Study, 2 percent of three-year-olds were assessed as having a hyperactive behaviour disorder. Another three percent were described by their mothers as being difficult to manage. These children, most of whom were boys, all had associated low levels of cognitive and academic performance, including poorer comprehension and language skills. In most cases, these difficulties continued into adolescence (McGee et al 1996).

The same study found that five-year-old boys with hyperactivity, low IQ scores and delayed motor development were more likely than five-year-old boys without these features to go on to engage in antisocial behaviors, including crime, later in childhood and adolescence (Moffitt and Harrington.,1996).

At assessments completed between the ages of five and nine years, 23 percent of boys and 12 percent of girls in the Dunedin Multidisciplinary Health and Development Study were identified as having some kind of mental health disorder (McGee et al., 1996). And they demonstrate at ages 11 and 12 years, boys continued to be twice as likely as girls to have a disorder. Inattention-hyperactivity disorders, conduct disorders and anxiety disorders were the most common problems at 11 years of age childhood depression was comparatively

rare.

Childhood schizophrenia is found in about one in 1000 children aged five and over, while obsessive-compulsive disorder is found in about one in 500 children assessed in clinical settings (Fergusson et al., 1997).

represent the integrity of the behavioral and social science approaches to normality. The four perspectives of normality are Normality as health, normality as average, and normality as process (McGee et al., 1996).

McGee et al, 1996 stated that Dunedin Multidisciplinary Health and Development Study, 39 percent of children assessed as having a mental health disorder at some stage between the ages of five and nine were subsequently found to have the same or a different kind of mental health disorder later in their childhood or adolescence. they also said this, the absence of mental health disorder in childhood does not necessarily mean that the adolescent years will be problem-free. Four out of five of the teenagers in the Dunedin study assessed as having a mental health disorder at age 12 did not have any kind of mental health disorder when assessed earlier at 11 years of age.

Subsequent work by the Dunedin study shows that about 74 percent of 21-year-olds with a mental health disorder have also experienced mental health problems in childhood or adolescence (Newman et al., 1999).

National institute of mental health in USA reported that (10%) of general school age suffered from behavioral disturbances and there is at least 1\4 millions of children's suffered from mental health problems (Hassen abed elmati., 2001).

In britch study had done in (391) children's between age 7-13 years old, they found that (31.4%) suffered from mental health disturbances and (4%) of them suffered from severe mental problems (Hassan Abed Elmati, 2001).

In Newsland study had done by asking the teachers about the mental heath problems, they found between (2263) from age (5-14) years, there is (7.6%) suffered from mental heath problems (Mostafa,1976).

In north India the prevalence of mental heath problems on children’s from (8-12)Years old are (9.4%), and the prevalence of that problems in Hong Kong 18% (MacMillan et al., 1999).

The prevalence of anxiety is highest at times of transition: moving from preschool to primary school and from primary to secondary school. Children who refuse to attend school are usually capable but self-critical students, and mostly have separation anxiety, being frightened to leave home(Adler et al., 1994)

Depression occurs in children and becomes progressively more common after puberty. Up to 24% of adolescents will have had a major depression by the age of 18 , depressive thoughts and crying Depression can also occur in combination with another disorder such as anxiety, conduct disorder or ADHD,

which require assessment and consideration in planning treatment(National Health,1997)

The prevalence of attention deficit hyperactivity disorder, which is now being more frequently diagnosed in Australia. Using international diagnostic criteria, the prevalence is probably about 1%, being three times more common in boys than girls (Pataki et al., 1990)

Pataki et.al, 1990 explain that conduct disturbance may begin early in childhood, anifesting as oppositional, aggressive and defiant behavior becoming established during the primary school.

Overseas studies indicate that pure autism occurs in about five in every 10,000 children under 14 years old. Childhood schizophrenia is found in about one in 1000 children aged five and over, while obsessive-compulsive disorder is found in about one in 500 children assessed in clinical settings (Fergusson et al., 1997).

Differences in threats of mental health disorder among Mori, Pacific, Asian and European to date, no statistically reliable community studies have conclusively Fergusson et al., 1997 identified 0–14 years old. However, when assessed at 18 years of age in 1995, Mori in the Christchurch Health and Development Study were 1.5 times more likely than non-Maori to be identified as having a mental health disorder.

2.13 Prevalence of mental health problems in cerebral palsy children

Using the definition “a disability which restricts a child’s ability to perform tasks associated with daily living(Australian Institute of Health and Welfare, 2002).Reported that in 2002 almost 300 000 Australian children (7.5%) had a disabling chronic illness. The disability was Primarily physical in 54% of children and intellectual/developmental/behavioural in 46% .15%–20% of survivors have a major disability (cerebral palsy).

Swanston, 2000 demonstrate that all children with disabilities, limitations to schooling, mobility and communication constitute the most significant restrictions of daily activity.

Psychosocial impact of chronic conditions. Chronic conditions put increased stress on the child and the child's parents and siblings. Children with any chronic condition have twice the risk of developing mental health disorders of healthy children, and three times the risk if they have an accompanying disability.

The clinical “severity” of the condition is not necessarily the major psychosocial prognostic factor. For example, the stress on a family of caring for a child with moderate or severe cerebral palsy exceeds the stress. Conditions that disrupt sleep for the child and the parents are possibly the most stressful (Su et al.,1997).

Worldwide, the prevalence of clinically significant psychiatric disorder in children is at least 7%. This rate rises in socially disadvantaged and densely populated urban areas. It also increases by 3%-4% after puberty. Childhood psychopathology presents as: disturbed or antisocial behavior (externalizing disorders) -- prevalence 3-5% troubled emotions and feelings (internalizing disorders) -- prevalence 2-5% a mixture of psychological problems and physical illness (somatoform disorders) -- prevalence 1-3% more rarely as childhood psychosis or pervasive developmental (autism spectrum) disorders -- prevalence about 0.1% (Anderson et al., 1987).

Doyle, 2001 stated that a child's view of his or her quality of life may differ from the views of parents and others children born with chronic conditions may be more accepting of handicap, even while recognizing their difference from other children and they often adjust better to visible handicaps than to hidden ones .

Swanston, 2000 emphasis what disabled children can do, rather than what they cannot do. One positive approach to chronic illness is to consider the factors that enable most children and families with chronic illness to cope as well as they do. It has been advocated that we should focus on interventions to improve this Resilience, although there is a dearth of supportive research.

Einfeld and Tonge, 1996 demonstrate that boys are two or three times more likely than girls to be affected by disturbed and antisocial behavior. The ratio is more equal for emotional disturbances. There are more girls than boys affected by depression and anorexia nervosa. Children with intellectual disability and those with chronic physical illness that involves the brain have a significantly increased risk of developing a range of emotional and behavioral problems.

The prevalence of anxiety disorders was found to be 7.9% while that of hyperkinetic disorder is 2.2%. Nocturnal enuresis was represented in 1.9% of children in Egyptian surveys. Bed-wetting was found to be tolerated in a child up to the age of five - six years. The age at which parents decide to do something about it depends on their tolerance and their degree of sophistication; usually it is between seven and ten years of age. The highest number of stammerers (0.98%) was found in two age groups, six to seven and 11 to 12 years. (Behavior disorders in children represented 5% and 8.2% of all cases attending the outpatient psychiatric facilities in Ain Shams University hospitals in 1967 and 1990, respectively (Okasha et al., 1983).

Okasha et al., 1994 explain that behavioral and autonomic changes are frequently the clinical presentation of an underlying depression. In a study carried out on 157 children diagnosed with depression, the following were the presenting symptoms: Abdominal pain (71%), nausea (22%), vomiting (24%), headache (39%), inability to fall asleep (61%), anxiety (74%), lack of

confidence (61%), excessive clinging to mother (39%), and social withdrawal (68%). Mental disorders among children can be multiple. A study carried out in a unit for mentally retarded children and they showed that children can suffer the full-blown picture of an additional mental disorder on top of their mental retardation, no matter how severe it.

In recent studies on the European sample, the prevalence of mental heath problems among children with cerebral palsy (Cromack et al., 2000 (50%), Dekker et al, 2002 (50%) (Koskentausta & Almqvist, 2004 (34%), and Linna et al ,1999 (32%) (Einfeld & Tong ,1996).

Mental heath problems have frequently been reported to be more common in cerebral palsy males than females (Giles et al., 1995).

Chapter 3

Methodology

3.1 Study design

This is a dscriptive cross-sectional study selected because it is useful for purposes and it measures the prevalence of mental health problems among cerebral palsy children's. Cross-sectional studies are generally carried out on population at a point of time. Cross-sectional studies are usually quick (snap-shot) and cheap. Exposure and outcome are determined at the same point in time (Coggon et al.,1993).

3.2 Study population

The study population was included 600 cerebral palsy children between 6-12 years age were enrolled as attended physiotherapy clinics at the period of data collection. Thus, the sampling frame was the population of CP childrens' who were registered at the time of the study in the physiotherapy clinics as shown in settings of the study.

3.3 Setting of the study

The study was conducted at the physiotherapy centers in governmental and UNRWA centers at the five areas of the Gaza Strip (North, Gaza, Middle area, Khan Yonis, and Rafah). These centers provided physiotherapy and rehabilitation care for the majority of the Gaza Strip population. They serve the community living in camps, rural, urban, and semi-urban areas.

3.4 Period of the study

The study was conducted in the period between May 2004 and December 2004.

3.5 Sample size

The sample of this study consisted of 219 cerebral palsy children of the study population.

3.6 Sampling method

the researcher used asystemic random sample of 219 children suffering from cerebral palsy cases. Therefore, the sample represent all cerebral palsy children attending physiotherapy services at these centers.

3.7 Research instruments:

Two research instruments were used for the study which included the CBCL for parent and TRF for therapist The first section address the sociodemographic characteristics of the study sample such as (sex , age , types of cerebral palsy , etc). The second section included Children Behavior Checklist for parent (CBCL) and children behavior teacher report form (TRF).

Achenbach checklists (Achenbach , 1991) are widely used instrument for the assessment of adaptive behavior and emotional problems of children. The use of these questionnaires was justified by numerous advantages. The wid spectrum of psychopathology they explore the possibility to compare rating from multiple informant (parent , Therapist, and youths) in different settings

(home and school).

The (CBCL) and (TRF) were the better predictor and therefore has screening advantage over the other versions is related to information bias (Achenbach, 1995). Where the questionnaire was developed with close ended and likert scale questions, the participants were asked to indicate the extent to which they agree or disagree with each of a series of statements on a three point scale arranged as (0= disagree, 1= sometimes, 2= agree). (Annexes1 and 2)

3.8 Pilot study

A pilot study was conducted on 19 children before starting data collection as a pretest to point out weaknesses in wording, predict response rate, determine the real time needed to fill the questionnaire and identify areas of ambiguity. Refining the questionnaire was done according to the result of the pilot study, worth noting no major changes in the wording of the questionnaire. However, pilot subjects were excluded from the study. There were no difficulties, no confusion and ambiguity, not taken along time and every things were well.

3.8.1 Reliability of the Child Behaviour Checklist- Parents form (Arversion)

The split half reliability of the scale was high (r = 0.89) The internal consistency of the subscales, calculated by the Chronbach's alpha, was also high (α = 0.89)

A test-retest was conducted for the scale with the parents of 19 children, who were random selected from the total sample. The scale was distributed and the same

procedure was repeated after 2 weeks**.** The correlation coefficient of test-retest results was (r = 0.91).

3.8.2 Reliability of the Child Behaviour Checklist- Therapist form (Arabized version)

The split half reliability of the scale was high (r =. 87). The internal consistency of the subscales, calculated by the Chronbach's alpha, was also high (α = .88).

A test-retest was conducted for the scale with the parents of 19 children, who were randomly selected from the total sample. The scale was distributed and the same procedure was repeated after 2 weeks**.** The correlation coefficient of test-retest results was (r = 0.93).

3.9 Ethical consideration and procedures

An official letter of request to conduct the study was obtained from Ministry of health Director, Health director of UNRWA, Committee Helsinki approval was obtained. Parents and therapist were provided with an explanatory letter about the study attached to each questionnaire emphasizing the purpose of the study, confidentiality of information, some instructions and statement about subject's right to participate or to refuse participation in this study voluntarily. The researcher used anonymity method when the therapist applied the scales, where the researcher not know any private information about interviewed children, and confidentiality were maintained at all phases of the study.

3.10 Data collection

The data collection was started on May 2004. The data were collected by the researcher himself through face to face interviews with parent , however , data were collected from the therapist by CBCL and TRF questionnaires.

A structured questionnaire was designed and used for data collection by therapist (Annex 1). The researcher explained to the parent the purposes of the study and about their right to participate or to refuse participation in this study. After obtaining informed consent (Annex 2), parents were interviewed and privacy was maintained. At the end of every interview, the researcher looked over the filled questionnaire to check adequate completion of all questionnaire. Data collection took two and half months from May till July 2004.

3.11 Eligibility criteria

3.11.1 Inclusion criteria

Cerebral palsy children between 6-12 years years of age who reside in the Gaza Strip and attending the MHO and UNRWA physiotherapy centers at the time of the study were eligible for the study.

3.11.2 Exclusion criteria

Cerebral palsy children under 6 years of age and more than 12 years of age.also severe cerebral palsy children were excluded.

3.12 Data entry and analysis

The data was entered and analyzed by using the Statistical Package for Social Sciences "SPSS" version 10. Descriptive statistical techniques frequency distribution, and t-test as well as one way ANOVA were the statistical tests used.

3.13 The analysis of data was conducted as followed:

Over viewing the filled questionnaires

Coding of questionnaires

Designing data entry model

Defining and coding variables

Data entry and data cleaning

Frequency table for the study variables

Descriptive and advance inferential statistical analysis

3.14 Response rates:

Response rate for CBCL was 89% while the response rate for TRF was 93%.

Chapter 4

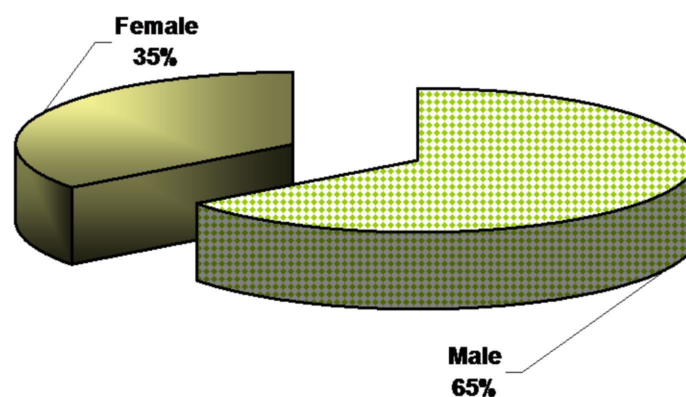
Results

This chapter presents the descriptive analysis of the variables such as frequency and percentage distribution, of the sociodemographic variables, Child Behavior Checklist for Parent and Teachers checklist T test was used to differentiate between means of different child mental health problems rated by parents and therapists. Additionally, we present the other relevant statistical tests such as the one way ANOVA, to differentiate between means of mental health problems and other categorical variables (three groups and more).

4.1 Characteristics of study population

There were 141 boys represented (64.7%), and 77 were girls which represented (35.3%) (Figure 1).

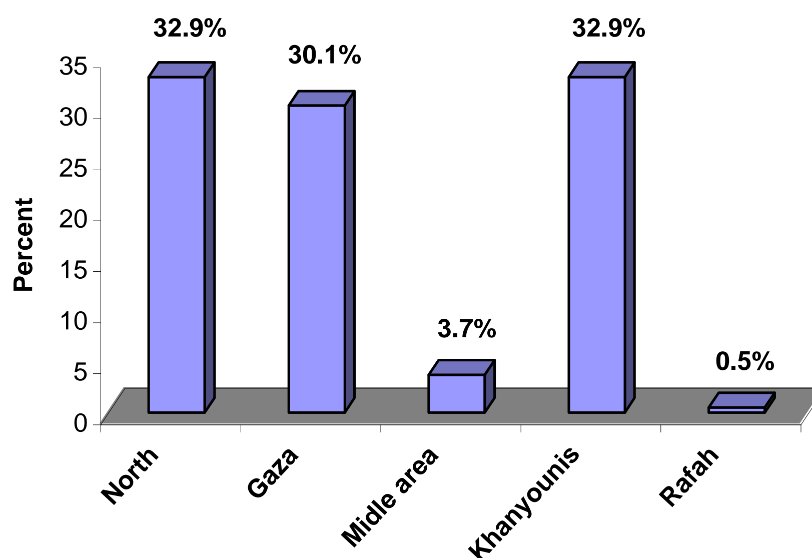
Figure 1: Distribution of study population by gender



The study population by district indicated that the great majority of the study sample were from North Gaza 72 (32.9%), while 66 (30.1%) from Gaza city, 8 (3.7%) from Middle area, 72 (32.9%) from Khan Younis and one (0.5%) from Rafah area. (Figure 2)

Middle area take less percentage because it has less physiotherapy clinic so the children go to Gaza clinic . while the less percentage in rafah because of political situation and recurrent closure of the city by Israeli army (Figure 2)

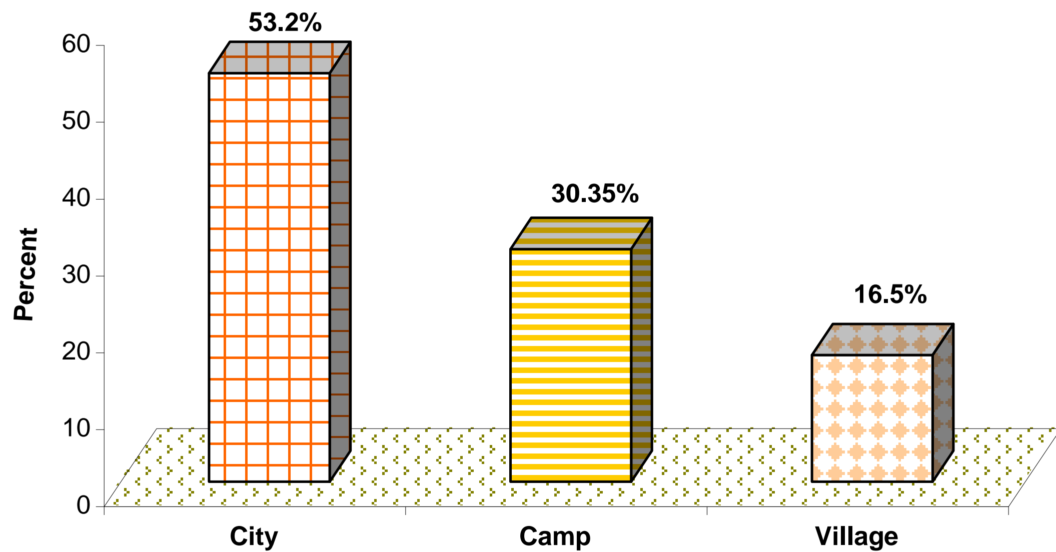
Figure 2: Distribution of study population by district



Population by residency that 116 of the children live in cities (53.2%), 66 of the children live in camps (30.3%) and 36 of the children live in villages (16.5%).

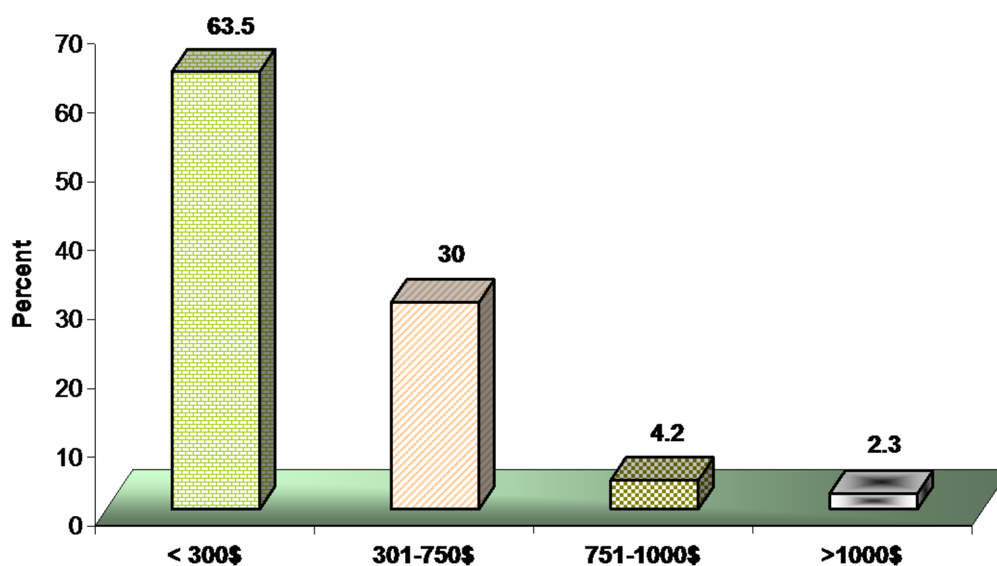
The results can be explained by utilization of health services form city appear to utilize health services more camp and village. (Figure 3)

Figure 3: Distribution of study population by residency

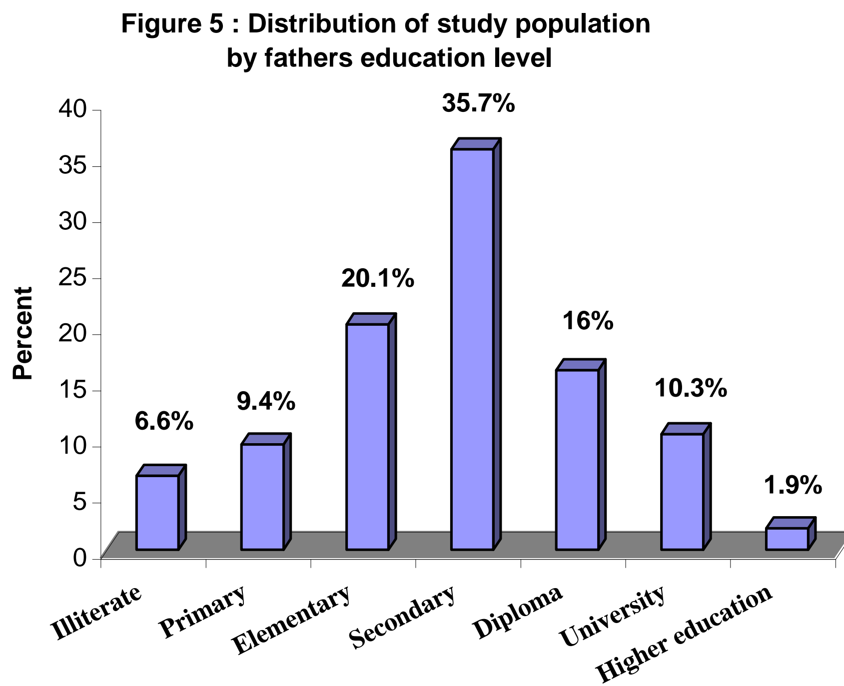


Distribution of study population by household average monthly income. showed that, nearly about two thirds 135 (63.5%) of the study population average monthly income was less than 300 US$ (low income), 64 of children (30.%) family monthly income was 301-750 US$ (middle income). 9 family income was high (751-1000 US$) (4.2%) and 5 family income was above 1000 US $(2.3%). (Figure 4)

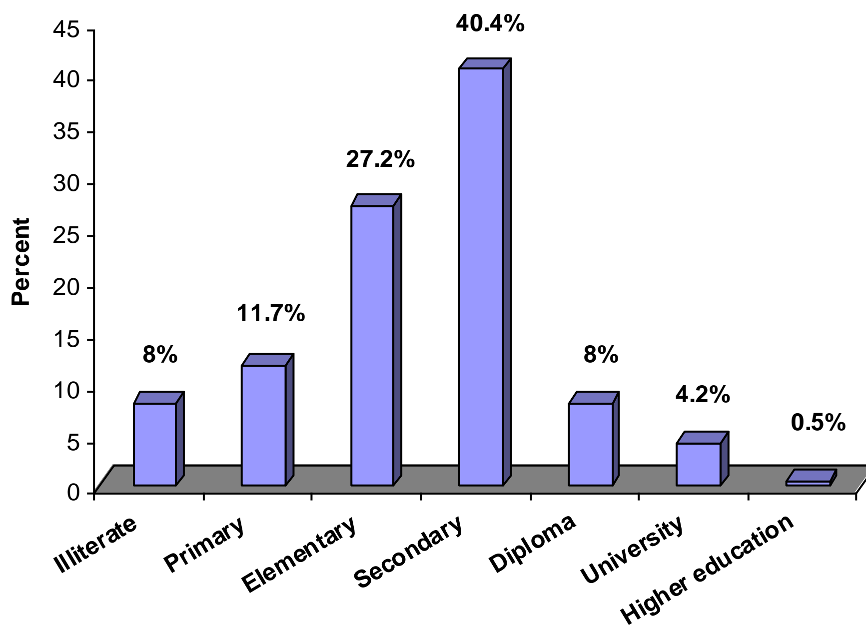
The results reflect the cerebral palsy disorder was spread in poor people More than riches people. (Figure 4)



The educational level of fathers' were distributed as follows; fourteen of fathers (6.6%) were illiterate, 20 finished primary education (9.4%). One third 76 finished secondary school (35.7%), 43 finished elementary school (20.1%). 35 finished diploma level (16.0%), 22 finished university education (10.3%) and 4 finished higher educational level (1.9%). (Figure 5)

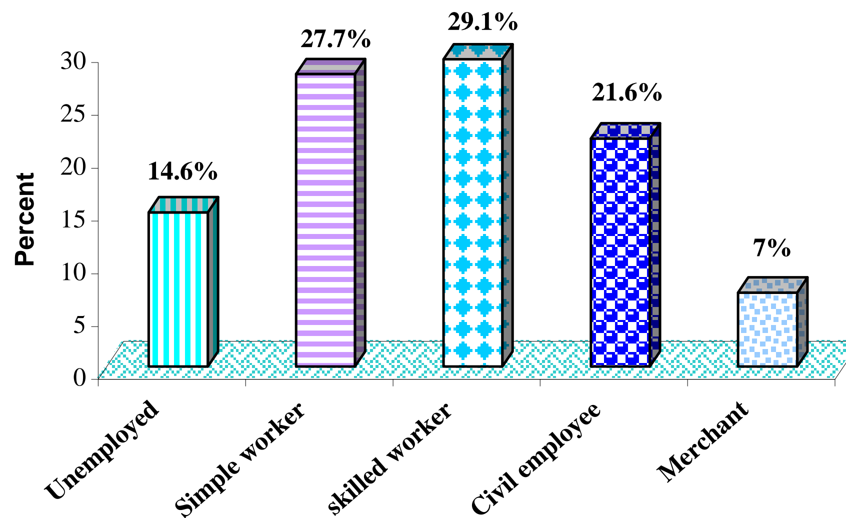


shows the distribution of study population by mothers' educational level. Seventeen of mothers were illiterate (8%). 25 hold primary school certificate (11.7%) and 58 finished elementary school (27.2%). 86 hold secondary school certificate (40.4%), 17 and 9 hold diploma degree (8.0%) and university degree (4.2%) respectively. (Figure 6)

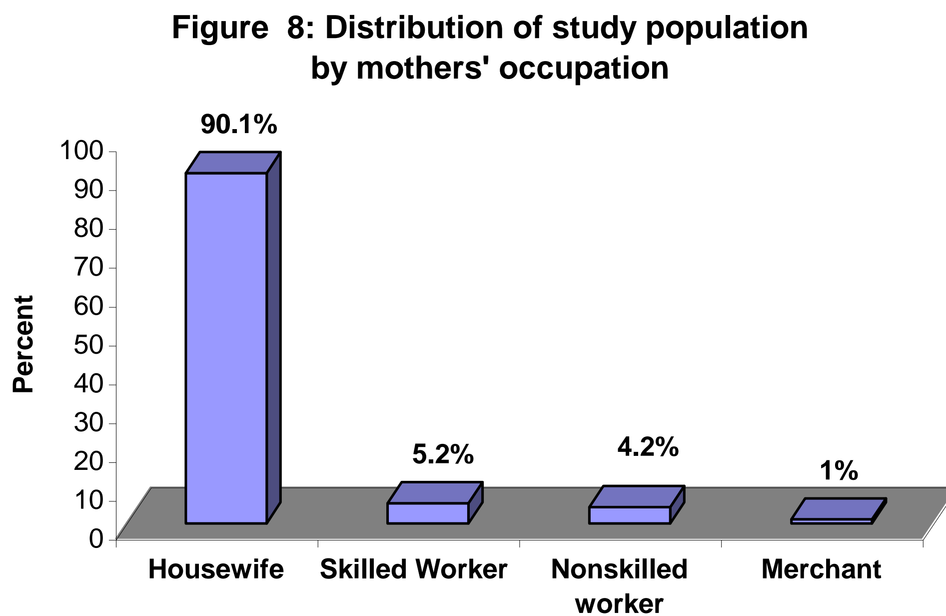


The distribution of study population by father’s occupation. were indicated that, about 31of fathers father’s were unemployed (14.6%), 59 were simple worker (27.7%), 62 skilled worker (29.1%), 46 were civil employees (21.6%) and 15 were merchant (7.0%) (Figure 7).

Figure 7: Distribution of study population according to fathers' occupation



Population by mothers occupation distributed as 192 were housewife's (90.1%), 11 were skilled workers (5.2%) , 9 were simple worker (4.2%) and one mother only was merchant (1%).(Figure 8)



Te majority of study population were diagnosed as spastic cerebral palsy 121(58.5%), 47 of children diagnosed as flaccid cerebral palsy which represents (22.7%) and 39 of children diagnosed as mixed cerebral palsy which represents (18.8%). (Table 1)

Table 1: Distribution of study population by type of cerebral palsy

Types of cerebral palsy	**No**	**%**
Spastic cerebral palsy	121	58.5
Flaccid cerebral palsy	47	22.7
Mixed cerebral palsy	39	18.8

Te majority of study population 130 (61.0%) the cause of cerebral palsy was inborn problems and 83 were acquired problems which represents (39.0%). (able 2)

Table 2: Distribution of study population by etiology of cerebral palsy

Etiology of cerebral palsy	**No**	**%**
Inborn problems	130	61.0
Aquired problems	83	39.0

Population by duration of cerebral palsy distributed as 166 were diagnosed since birth (77.6%), 22 diagnosed when the age was below one year (10.3%), 21 were diagnosed when the age was between one to 5 years (9.8%) and 4 cases were diagnosed when the age was between 5 to 12 years (1.9%).(Table 3)

Table 3: Distribution of study population by duration of cerebral palsy

Duration of cerebral palsy	**No**	**%**
Since birth	166	77.6
< 1 year	22	10.3
1-5 years	21	9.8
5-12 years	4	1.9

Population by other combination disorders distributed as 33 (15.5%) of the study sample had other associated disorders rather than cerebral palsy and 180 (84.5%) had no other disorders. (Table 4)

Table 4: Distribution of study population by other combination disorders

Other associated diseases	No	%
Combination with other disorders	33	15.5
No other combined disorders	180	84.5

Study population by family history of cerebral palsy distributed as about 22 which represent (10.3%) have had a family history of CP and 191 which represent (89.7%) had no family history of cerebral palsy . (Table 5)

Table 5: Distribution of study population by family history of cerebral palsy

Family history of CP	No	%
Positive family history of cerebral palsy	22	10.3
No family history of cerebral palsy	191	89.7

The prevalence of psychiatric problems among cerebral palsy children by parents. The results indicated that, children with psychiatric problems were 81 (37%). While, those children with no psychiatric problem represented 138 (63%). (Table 6)

Table 6: Prevalence of psychiatric problems among Cerebral Palsy Children by parent

Variable	No	percent
Non psychiatric cases	138	63.0
Psychiatric cases	81	37.0

The prevalence of psychiatric problems among cerebral palsy children by teacher. The results indicated that, children with psychiatric problem represented 98 (44.7%) while children with no psychiatric problems represented 121 (55.3%). (Table 7)

Table 7: Prevalence of psychiatric Problems among Cerebral Palsy Children by teacher

Variable	No	Percent
Non psychiatric cases	121	55.3
Psychiatric cases	98	44.7

4.2 Mental health problems of cerebral palsy:

4.2.1 Mental health problem of cerebral palsy children reported by parents

4.2.1.1 Total mental health problems

As shown in table 6 the mean total mental health problems reported by parents for boys was 55.8 (SD=41.7), while mean for girls was 56.2 (SD=45.2). To differentiate between gender and prevalence of mental health problems an independent t-test was used; sex of the children was the dependent variable and children mental health problem rated by parents using CBCL as independent variables. There were no statistical significance differences between boys and girls in total mental health problems, boys had more total problems than girls (t=1.50, p=0.133). (Table 8)

4.2.1.2 Withdrawn problems

The mean withdrawn problems rated by parent for boys was 5.94 (SD=3.49), while the mean for girls was 5.58 (SD=3.91).

There were no statistical significance differences between boys and girls regarding withdrawal problems (t= .25, p=0.80). (Table 8)

4.2.1.3 Somatic complains

The mean somatic problems rated by parent for boys was 3.27 (SD= 4.14), and the mean for girls was 3.59 (SD=4.00). There was no statistical differences between boys and girls in somatic problems (t= .42, p=.67). (Table 8)

4.2.1.4 Anxious depression

The mean anxious depression by parents for boys was 7.94 (SD=6.33) and the mean for girls was 7.94 (SD=6.33). There were no significant differences between boys and girls (t= . 32, p=.74). (Table 8)

4.2.1.5 Social peoblems

The mean social problems by parent for boys was 5.97(SD=2.99) and the while mean for girls was 5.98 (SD=3.12). There were no significant statistical difference between boys and girls in social problems (t -.019, p=.98). (Table 8)

4.2.1.6 Attention problems

The mean attention problem by parent for boys was 8.26 (SD=4.30) and the mean for girls was 8.12 (SD=4.80). There were no significant statistical difference between boys and girls (t= 1.79, p=0.076). (Table 8)

4.2.1.7 Thought problems

The mean thought problem by parent for boys was 3.03 (SD=3.23) and the mean for girls was 8.12 (SD=3.34).There were no significant differences between boys and girls (t= 0.610, p=0.54). (Table 8)

4.2.1.8 Delinquent behaviour

The mean delinquent behavior by parent for boys was 4.16 (SD=5.12) and the mean for girls was 4.64 (SD=5.12). There were no significant differences between boys and girls (t= 1.31, p=0.048). (Table 8)

4.2.1.9 Aggressive behaviour

The mean aggressive behaviour by parent for boys was 10,67 (SD=8.83) and mean for girls was 10.45 (SD=9.22). There were a significant statistical differences between boys and girls (t= 1.31, p=0.048). (Table 8)

4.2.1.10 Other problems

The mean other problems rated by parent for boys was 15.47 (SD=11.95), while the mean for girls was 16.32 (SD=12.72). There were no statistical significance differences between both boys and girls (t=-387, p=0.699). (Table 8)

4.2.2 Mental health problems of cerebral palsy children according to therapist:

4.2.2.1Total problems:

As illustrated in table 6, the mean total mental health problems by therapist for boys was 67.63 (SD=40.90) and the mean for girls was 63.60 (SD=40.55). To differentiate between gender and prevalence of mental health problems an independent t test was used; sex of the children was the dependent variable and children mental health problem rated by therapist using TRP as independent variables. The results revealed a significant differences between both boys and girls (t= 2.126, p= 0.035). (Table 8)

4.2.2.2 Withdrawn problems

The mean withdrawn by therapist for boys was 5.94 (SD=3.49) and the mean for girls was 5.58 (SD=3.91). The results revealed a significant differences between both boys and girls (t= 2.126, p= 0.010). (Table 8)

4.2.2.3 Somatic problems

The mean somatic problem by therapist for boys was 3.27(SD=4.14) and the mean for girls was 3.59(SD=4.00). There were no statistical differences between boys and girls (t= 1.09, p=.275). (Table 8)

4.2.2.4 Anxious depression

The mean anxious depression by therapist for boys was 7.94 (SD=6.33) and the mean for girls was 7.94 (SD=6.33). There were no significant differences between boys and girls (t= 1.512, p=.132). (Table 8)

4.2.2.5 Social problems

The mean social problems by therapist for boys was 5.97 (SD=2.99) and the meanfor girls was 5.98 (SD=3.12). There were no significant statistical difference between boys and girls (t= 1.056, p=.0.292). (Table 8)

4.2.2.6 Attention problems

The mean attention problem by therapist for boys was 8.26 (SD=4.30)and the mean for girls was 8.12 (SD=4.80). The results revealed a significant differences between both boys and girls (t= 2.23, p= 0.027). (Table 8)

4.2.2.7 Thought problems

The mean thought problem by therapist for boys was 3.03(SD=3.23) and the mean for girls was 8.12(SD=3.34). There were no significant differences between boys and girls (t= 0.591, p=0543).(Table 8)

4.2.2.8 Delinquent behavior

The mean in delinquent behavior by therapist for boys was 4.16 (SD=5.12) and the mean for girls was 4.64 (SD=5.12). There were no significant differences between boys and girls (t= 1.93, p=0.189). (Table 8)

4.2.2.9 Aggressive behaviour

The mean aggressive behaviour by therapist for boys was 10.67 (SD=8.83) and the mean for girls was 10.45 (SD=9.22). There were a significant statistical differences between boys and girls (t= 2.86, p= 0.005). (Table 8)

Table 8: Comparison between parent child behavior checklist and teacher report forms by gender:

Dependent variables	Parents CBCL						Teachers TRF					
	Boys		Girls		T test	P value	Boys		Girls		t test	P Value
	Mean	SD	Mean	SD			Mean	SD	Mean	SD		
Total problem	55.8	41.7	56.0	45.2	1.50	0.133	67.63	40.9	63.60	40.55	2.126	0.035
Withdrawn	5.94	3.49	5.58	3.91	0.252	0.802	5.60	3.60	4.79	3.47	2.613	0.010
Somatic complains	3.27	4.14	3.59	4.00	0.424	0.679	2.68	3.54	2.92	3.89	1.09	0.275
Anxious depression	7.94	6.33	7.97	6.37	0.32	0.748	8.27	5.84	8.31	5.78	1.512	0.132
Social problems	5.97	2.99	5.98	3.12	.019	0.985	5.48	3.14	5.01	3.01	1.056	0.292
Thought problem	3.03	3.23	2.74	3.34	0.610	0.543	3.18	2.98	2.9 3	3.07	.591	0.555
Attention problem	8.62	4.30	8.12	4.80	1.79	0.076	9.20	4.68	8.27	4.43	2.23	0.027
Delinquent	4.16	5.12	4.64	5.11	1.31	0.189	5.70	4.74	5.83	5.69	1.93	0.055
Aggressive behaviour	10.67	8.83	10.45	9.22	1.99	.048	12.34	8.62	11.45	8.02	2.86	0.005
Other problems	15.47	11.95	16.32	12.72	.387	0.699	19.40	11.9	17.41	10.33	2.86	0.005
Internalizing symptoms	17.51	12.45	16.92	13.32	.304	0.761	16.64	11.5	16.34	11.58	.176	0.860
Externalizing symptoms	14.76	13.00	15.31	13.68	.275	0.784	18.13	12.9	17.50	12.56	.328	0.743

4.3 Comparison between child mental health problems and age:

4.3.1 Comparison between child mental health problems rated by therapist and age:

children age was categorized into two age group (6-9 years) and (10- 12 years), to compare between age and mental health problems an independent t test was used, the age of the children was the dependent variable and children mental health problem rated by therapist using TRF as independent variables. (Table 9)

4.3.1.1 Total mental health problems

As shown in table 8, the mean mental health problem for 6-9 years age group was 70.8 (SD=43.3) and the mean mental health problem for the age group 10-12 years was 58.4 (SD=35.5). The result showed a significant statistical differences between the age group in total mental health problems, children aged 6-9 years-old had more mental health problems than the age group 10-12 years-old (t= 2.061, p=0.04). (Table 9)

4.3.1.2 Internalizing problems

The mean internalizing problems in children aged 6-9 years was 17.6 (SD=12), and the mean for those in the age group between 10-12 years-old was 14.6 (SD=9.5). The result showed that there was no statistical significant

differences between the age groups in internalizing problem (t= 1.67, P=.09). (Table 9)

4.3.1.3 Withdrawn problems

The mean withdrawn problems in children age 6-9 years-old 5.8 (SD=4.3), and the mean for those in the age group between 10-12 years-old was 4.5 (SD=3.5). There were a significant statistical differences between the age groups in withdrawn problems, children aged 6-9 years-old had more withdrawn problems than the age group 10-12 years-old (t= 2.32, p=0.02). (Table 9)

4.3.1.4 Somatic complains problems

The mean somatic problems in children age 6-9 years-old was 2.9 (SD=3.8), and the mean for those in the age group between 10-12 years-old was 2.4 (SD=3.3). There were no significant statistical differences between the age groups in somatic problems (t=.628, p=0.53). (Table 9)

4.3.1.5 Anxious depression problems

The mean anxious depression problems in children aged 6-9 years-old was 8.8 (SD=6.5) and the mean anxious depression problems in children aged 10-12 years old was 7.5 (SD=4.4). There were no significant statistical differences between the age groups in anxious depressed problems (t=1.681, p=0.09). (Table9)

4.3.1.6 Attention problems

The mean attention problems in children aged 6-9 years-old was 9.5 (SD=4.6) and the mean attention problems in children aged 10-12 years-old was 7.9 (SD=4.6). The result showed significant statistical differences between the age groups in attention problems. The age group 6-9 years old had more attention problems than the age group from 10-12 years old (t= 2.102, p=0.03) .(Table 9)

4.3.1.7 Delinquent problems

The mean delinquent problems in children aged 6-9 years-old was 6.3 (SD= 5.5) and the mean delinquent problems in children aged 10-12 years-old was 4.8(SD=4.1). There were a significant statistical differences between the age groups in delinquent problems, the age group 6-9 had more delinquent problems than the age group 10-12 years-old (t= 2.0, p=0.04). (Table 9)

4.3.1.8 Aggressive behaviour problems

The age mean aggressive behavior in children aged 6-9 years-old was 13.2 (SD= 8.8) and the mean aggressive behavior in children aged 10-12 years-old was 9.8 (SD=7.4). There were a significant statistical differences between the the age groups in aggressive behavior, the age group 6-9 had more aggressive behaviour problems than the age group 10-12 years-old (t= 2.73, p=0.007). (Table 9)

4.3.1.9 Externalizing problems

The mean externalizing problems in children aged 6-9 years-old was 19.6 (SD=13.4) and the mean externalizing problems in children aged 10-12 years-old was 14.8 (SD=11.0).

The result revealed a significant statistical differences between both age groups in externalizing symptoms, the age group 6-9 had more externalizing problems than the age group from 10-12 years old (t= 1.596, p=0.01). (Table 9)

4.3.2 Comparison between mental health problems rated by parent and age:

4.3.2.1Total problems

The mean total problems in children aged 6-9 years-old was 59.5 (SD=44.3) and the mean of total problems in children aged 10-12 Years-old was 50.5 (SD=40.5). There were no significant statistical difference between both age groups in total problems, the age group 6-9 had more total mental health problems than the age group from 10-12 years-old (t= 1.35, p=.17). (Table 9)

4.3.2.2 Internalizing problems

The mean internalizing problems in children aged 6-9 years-old was 17.3 (SD=12.3) and the mean internalizing problems in children aged 10-12 years-old was 17.6 (SD=12.8). There were no significant statistical differences between age groups in internalizing problems rated by parent (t= .098, p=0.92) (Table 9).

4.3.2.3 Withdrawn problems

The mean withdrawn problems in children aged 6-9 years-old was 5.9 (SD=3.6) and the mean withdrawn problems in children aged 10-12 years-old was 5.7 (SD=3.9). There were no significant statistical differences between both age groups in withdrawn problems (t= .327, p=.74). (Table 9)

4.3.2.4 Somatic complains problems

The mean somatic problems in children aged 6-9 years-old was 3.5 (SD=4.1) and the mean somatic problems in children aged 10-12 years-old was 3.2 (SD=3.9). There were no significant statistical differences between age groups an somatic problems, the age group 6-9 years-old had more somatic problems than the age group 10-12 years-old (t= -.286, p=0.70) . (Table 9)

4.3.2.5 Anxious depressed problems

The mean anxious depression problems in children aged 6-9 years-old was 7.9 (SD=6.4) and the mean anxious depression problems in children aged 10-12 years-old was 8.2 (SD= 6.3). There were no significant statistical differences between age groups an somatic problems (t= 2.102, p=.77) (Table 9).

4.3.2.6 Attention problems

The mean attention problems in children aged 6-9 years-old was 8.9 (SD=4.4) and the mean attention problems in children aged 10-12 years-old was 7.7 (SD=4.6). The result showed a significant statistical differences between age

groups in attention problems rated by parent, the age group 6-9 had more attention problems than the age group 10-12 years-old, (t= 2.0, p=0.04).(Table9)

4.3.2.7 Delinquent problems

The mean delinquent problems in children aged 6-9 years-old was 4.7 (SD=5.4) and the mean delinquent problems in children aged 10-12 years was 3.7 (SD=4.5). There were a significant statistical differences between both age groups in delinquent problems rated by parent, age group 6-9 had more delinquent problems than the age group from 10-12 years-old (t=2.73, p=0.007) .this results similar to finding by (Roussos et al, 1999) (Table 9)

4.3.2.8 Aggressive behavior problems

The mean aggressive behavior in children aged 6-9 years-old was11.5 (SD=9.1) and the mean aggressive behavior in children aged 10-12 years-old was 8.9 (SD=8.3). The result indicates a significant statistical differences between age groups in aggressive behavior, the age group 6-9 years-old had more aggressive behaviour problems than the age group 10-12 years-old (t=1.0, p=0.007).this results in agreement with (Larsson,1999) (Table 9)

4.3.2.9 Externalizing problems

The mean externalizing problems in children aged 6-9 years-old was 16.3 (SD= 13.8) and the mean externalizing problems in children aged 10-12 years-old

was 12.6 (SD=13.1). There were no significant statistical differences between externalizing scores by parent and age groups (t=1.92, p=0.92). (Table 9)

Table 9: Independent t-test comparing between mental health problems and age.

Dependent variables	Age groups	No	Mean	SD	t-test	df	P-value
Total problems by teachers	6-9 years 10-12 years	146 73	70.8 58.4	43.3 35.5	2.061	200	0.04
Internalizing scores by teacher	6-9 years 10-12 years	134 66	17.6 14.6	12.5 9.5	1.672	181	0.09
Withdrawn problem by teachers	6-9 years 10-12 years	140 72	5.8 4.5	3.7 3.2	2.320	193	0.02
Somatic problem by teachers	6-9 years 10-12 years	138 68	2.9 2.4	3.8 3.3	.628	187	0.53
Anxious depressed by teachers	6-9 years 10-12 years	137 72	8.8 7.5	6.5 4.4	1.681	190	0.09
Attention problems by teachers	6-9 years 10-12 years	138 72	9.5 7.9	4.6 4.6	2.102	191	0.03
Delinquent by teachers	6-9 years 10-12 years	138 68	6.3 4.8	5.5 4.1	2.001	187	0.04
Aggressive behavior by teachers	6-9 years 10-12 years	134 71	13.2 9.8	8.8 7.4	2.732	187	0.007
Externalizing symptoms of teachers	6-9 years 10-12 years	132 68	19.6 14.8	13.4 11.0	2.596	182	0.01
Total problems of parent	6-9 years 10-12 years	146 73	59.5 50.5	44.3 40.5	1.352	200	0.17
Internalizing scores of parent	6-9 years 10-12 years	133 63	17.3 17.6	12.8 12.8	0.098	178	0.92
Withdrawn by parent	6-9 years 10-12 years	137 68	5.9 5.7	3.6 3.9	0.327	187	0.74
Somatic complains by parent	6-9 years 10-12 years	136 67	3.5 3.2	4.1 3.9	0.286	185	0.77
Anxious depressed by parent	6-9 years 10-12 years	138 66	7.9 8.2	6.4 6.3	2.102	191	0.03
Attention problems by parent	6-9 years 10-12 years	137 68	8.9 7.7	4.4 4.6	2.001	187	0.04
Delinquent by parent	6-9 years 10-12 years	135 68	4.7 3.7	5.4 4.5	2.732	187	0.007
Aggressive behavior by parent	6-9 years 10-12 years	135 67	11.5 8.9	9.1 8.3	2.001	187	0.05
Externalizing symptoms of parent	6-9 years 10-12 years	132 66	16.3 12.6	13.8 13.1	1.929	180	0.92

4.4 Children mental health problems and place of residency:

One way ANOVA was used to estimate the differences between children mental health problems and place of residency. There were a significance statistical diference between total problems by teachers and child place of residency (p=0.001), total problems by parent and residency (p=0.001). Bonferroni statistical test indicates that, those children who were reside in villages had higher mental health problems mean than did the other children living in city and camp 26.06 and 25.54 respectively. Consistently, the results revealed a significant statistical differences between internalizing problems rated by teachers (p=0.001), internalizing problems rated by parents (p=0.009), externalizing problems rated by teachers (p=0.048) and residency. Children living in village had significantly higher mental health problems. mean than those children who reside in City and camp (Mean 8.91, 7.60 and 4.09 respectively). In contrast, there was no significant differences between externalizing problems rated by parents and place of residency (p=07). (Table 10)

Table 10: Children mental health problems and place of residency

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Total problems teachers CBCL	Between groups	23842.249	2	11921.125	7.447	0.001
	Within groups	344159.62	215	1600.742		
	Total	368001.87	217			
Total problems of parents for CBCL	Between groups	17965.384	2	8982.692	5.002	0.008
	Within groups	386081.41	215	1795.727		
	Total	404046.79	217			
Internalizing scors of teachers	Between groups	2025.912	2	1012.956	7.957	0.001
	Within groups	24950.972	196	127.301		
	Total	26976.884	198			
Internalizing scors of parents	Between groups	1519.180	2	759.590	4.828	0.009
	Within groups	30205.558	192	157/321		
	Total	31724.738	194			
Externalizing symptoms of parents	Between groups	944.991	2	472.496	2.733	0.068
	Within groups	33536.552	194	172.869		
	Total	34481.543	196			
Externalizing of teachers	Between groups	992.689	2	496.345	3.092	0.048
	Within groups	31461.683	196	160.519		
	Total	32454.372	198			

4.5 Children mental health problems and household monthly income:

One way ANOVA statistical test was used to estimate the differences between children mental health problems and household monthly income. The results revealed a significant statistical difference between children total problems rated by teachers and average household monthly income (p=0.031) Bonferroni test indicates that those children coming from families with average monthly income less than 300$ were more disturbed mentally than the other groups. Families with children with average monthly income less than 300$ had higher internalizing problems rated by teachers than the other groups (P = 0.001). However, there were no statistical significant differences between all other subscales of CBCL and monthly income. Results of the study reviewed support the premise that children who are poor are at greater risk for the development of mental health problems than are children from higher SES backgrounds. Although there is variability in reported scores rated by therapists and parents, the results suggested that the interaction of child, parent, and socioeconomic characteristics may produce and sustain certain mental health problems in children from low-income backgrounds, but no studies have examined these interactions directly. (Table 11)

Table 11: Children mental health problems and household monthly income

Dependent variables	Independent variables	Sum of squares	df	Mean square	F	P value
Total problems teachers CBCL	Between groups	`5067.72	3	5022.58	3.009	.031
	Within groups	348857.40	209	1669.17		
	Total	369325.16	212			
Total problems of parents for CBCL	Between groups	8611.81	3	2870.60	1.525	.209
	Within groups	393417.09	209	1882.37		
	Total	402028.91	212			
Internalizing scors of teachers	Between groups	1535.50	3	511083	3.851	.001
	Within groups	25254.52	190	132.91		
	Total	26790.02	193			
Internalizing scors of parent	Between groups	879.45	3	293.15	1.777	.153
	Within groups	30687.52	186	164.98		
	Total	31566.74	189			
Externalizing symptoms of parent	Between groups	436.95	3	145.65	.813	.488
	Within groups	33698.87	188	179.24		
	Total	34135.82	191			
Externalizing of teachers	Between groups	1118.87	3	372.95	2.296	.079
	Within groups	30858.12	190	162.41		
	Total	31976.99	193			

4.6 Children mental health problems and types of cerebral palsy:

One way ANOVA statistical test was used to estimate the differences between children mental health problems and types of cerebral palsy. The results showed a significant statistical differences between all subscales of children mental health problems and types of cerebral palsy; total problem by teachers, total problem by parent, internalizing problems by teachers, internalizing problems by parent, externalizing problems by parent and externalizing problems by teacher (p= 0.003, 0.010, 0.006, 0.017 and 0.003 respectively). (Table 12)

Bonferroni test indicates that, children with mixed cerebral Palsy had higher total problems rated by teachers (mean 19.7) than children with spastic CP (mean 11.1) and flaccid CP (mean 6.13). While, Bonferroni test indicates that children with flaccid CP had higher total problems rated by parent than children with mixed CP and spastic CP (mean 22.5, 15.9 and 6.6 respectively). Additionally, children with flaccid CP had higher internalizing problems rated by teachers than the other types of CP. Nevertheless, children with mixed CP had higher externalizing problems rated by teachers than spastic and falccid CP (mean 17.89, 9.81 and 6.33 respectively). (Table 12)

Table 12: Children mental health problems and types of cerebral palsy

Dependent variables	Independent variables	Sum of squares	df	Mean square	F	P value
Total problems teachers CBCL	Between groups	18928.82	2	9464	5.826	.003
	Within groups	3314220.60	204	1624.61		
	Total	350349.43	206			
Total problems of parents for CBCL	Between groups	17151.47	2	8575.73	4.683	.010
	Within groups	373537.84	204	1831.068		
	Total	390689.31	206			
Internalizing scors of teachers	Between groups	1420.20	2	710.102	5.340	.006
	Within groups	24869.05	187	132.990		
	Total	26289.26	189			
Internalizing scors of parent	Between groups	1662.33	2	831.16	5.254	.006
	Within groups	28792.13	182	158.19		
	Total	30454.46	184			
Externalizing symptoms of parent	Between groups	1450.88	2	725.443	4.181	.017
	Within groups	31992.38	184	173.49		
	Total	33373.27	186			
Externalizing of teachers	Between groups	1920.415	2	960.20	6.169	.003
	Within groups	28796.28	185	155.65		
	Total	30716.70	187			

Chapter 5

Discussion

In this chapter the researcher will try to discuss the results of the study in sights of literature review and theoretical framework. Then followed by a conclusion. And general recommendation according to the results of the study, followed with other recommendations for much of searching in he same field.

This study aimed to estimate the prevalence of mental health problems among cerebral palsy children from age 6-12 years in Gaza strip in the year 2004-2005. The study sample was (219 children, were 141 boys and 77 girls). The results of the study have answered the research questions. This discussion will elaborate on the most important findings which are related to the specific objectives of the study.

The majority of study population were represented as (58.5%) spastic cerebral palsy, (22.7%) flaccid cerebral palsy and (18.8%) diagnosed as mixed cerebral palsy. This result was congruent with other study (Eiben and Croker, 1993). The researcher refers this difference to the nature of the cerebral palsy disorder, where the spastic is the common type. The findings reveal that the (61.0%) of the cerebral palsy were caused inborn problems and (39.0%) were aquired problems. That results was consistent with Hagberg results, who was found that the most common causes of cerebral palsy disorder was inborn problems which may attributed to asphyxia or prolonged labour and eclampsia (Hagberg , 1979). Therefore,

special attention should be taken in vulnerable high risk pregnant women during labour.

The finding of this study investigated that the most of the study sample (89.7%) were had no family history of cerebral palsy, The researcher may depend on this result to insure that the CP didn't hereditary disorder. The results showed that the prevalence of the mental health problems among cerebral palsy children by parent was (37%). This result similar to that of other studies based on CBCL checklist (Dekker et.al, 2002; Cormack, Brown and Hasing., 2000). The actual prevalence of mental health problems among young children is difficult to determine with any certainty because the prevalence rates reported in the literature vary greatly. In addition, most of studies that reported prevalence of behavior problems in children generally defined the children as having behavior problems on the basis of cut-off scores on adult informant checklist-type measures (Dekker, 2002).

Generally, the results of this study regarding mental health problems of cerebral palsy children reported by parents depend on how parents perceives, interpret, and tolerate a child's behavior problems and how they react when they find the behavior unacceptable. Therefore, differences in parents' perceptions and expectations of children's behavior and their tolerance for reporting mental health problems could influence. Thus, more research is needed to investigate possible

differences in gender norms affecting parents scoring of mental health problem among children.

While the prevalence of the mental health problems by therapist was (44.7%). It seems that therapist become more accurate in reporting the level of the child's mental health problems due to increased knowledge of the child psychiatry. These findings contradict our expectations. That is, because therapist's reports do not rely on the information from the same individual across time (i.e. different therapists reported at different grades) we expected that therapists reports would lead to more variation than maternal reports. This study has important implications for investigators using multiple informant data in longitudinal research.

The finding denotes that there were differences between boys and girls in aggressive behaviour rated by parents, where this result was consistent with other study (Cormack et all, 2000). One possible explanation is that, parents more tolerance of psychological dealing in boys different than for girls; parents norms might be more strict for girls than for boys in traditional western culture like Palestinian culture. Also there was difference between boys and girls in aggressive behaviour rated by therapist. And there were differences between boys and girls in total problems, withdrawn, attention problems, and other problems by therapist. Concerning the mental health problems rated by therapists, the results were agreed with other study (Rousses et al, 1999). The results of

the present study show that the effect of gender on TRF item scores are varies. Boys have usually been found to receive higher scores than girls on a number of items, this could due to therapists regarded boys as having more behavioral problems than girls and less adaptive than girls. But there were no statistical differences between boys and girls in somatic complains, Anxious depression, Social problems, Thought problem, Delinquent, Internalizing and Externalizing symptoms by parents and therapist.

The researcher sees that the roles of males and female will impact both of them to cooperate with mental variables according to their roles. The families and society and cultural institutes were push to these attitudes. Which play an important role to be nearly no differences between males and females. The findings of this study in agreement with Fitzpatrick et.al (1999) as far as gender difference are concerned therapist ratings were consistent with parent rating.

Interpret of the results showed that, parents and therapist differed in the way they viewed the children in different age. Significant age effects were found for some CBCL scales, young children had higher scores on anxious depressed, attention problems, delinquent problems and aggressive behavior. The result was in accordance with several studies reported age effects (Fitzpatric et all., 1999; Larsson et al., 1999; 1999

and Mckelvey et all., 1999). However, significant age effects were found for many TRF scales, Younger children had higher scores on all subscales except somatic problems. The results was congruent with other studies on some mental health problems and incongruent with other studies on some mental health problems (Larsson et al., 1999; Mckelvey et al., 1999; and Rousses et al., 1999). The researcher sees that the developmental psychology reported that the mental development will be increase the adaptation of children with psychological problems and stresses. The children from age 10-12 years nearly reach to maturity, that's helps them to be more a awareness and acceptance of their problem more than 6-9 age children.

There were statistical differences between total problems by therapist and parent with place of residency. Where indicates that, those children who were reside in villages had higher mental health problems means than did the other children living in city and camp. Consistently, the results revealed to the statistical differences between internalizing problems rated by therapist, internalizing problems rated by parents, externalizing problems rated by therapist and residency. Children living in village had significantly higher mental health problems mean than those children who reside in city and camp. In contrast, there were no significant differences between externalizing problems rated by parents and place of residency. The result of the current study was contradicted with other

study regarding the effects of place of residence on the results of CBCL and TRF (Rousses, 1998). The results indicated that children living in poor area as village and camp have more mental health problems. The researcher sees that the children live in urban area differ about those live in rural areas, where the children lives in urban area faced stresses more than those children who lives in rural areas.

The results revealed a statistical difference between children total problems rated by teachers and average household monthly income, those children coming from families with average monthly income less than 300$ were more disturbed mentally than the other groups. Families with children with average monthly income less than 300$ had higher internalizing problems rated by teachers than the other groups. However, there were no statistical significant differences between all other subscales of CBCL and monthly income. Results of the study reviewed support the premise that children who are poor are at greater risk for the development of mental health problems than are children from higher SES backgrounds. Although there is variability in reported scores rated by therapists and parents, the results suggested that the interaction of children, parent, and socioeconomic characteristics may produce and sustain certain mental health problems in children from low-income backgrounds, but no studies have examined these interactions directly.

The researcher returned the cause of non significant differences of SES with most of mental health variables to the nature of the SES variable, where the scientific research disable to isolate the effect of other internalized psychological factors as intelligence.

The findings showed a significant statistical differences between all subscales of children mental health problems and types of cerebral palsy; total problem by teachers, total problem by parent, internalizing problems by therapist, internalizing problems by parent, externalizing problems by parent and externalizing problems by therapist. That the children with mixed cerebral Palsy had higher total problems rated by teachers than children with spastic CP, and flaccid CP. While, the children with flaccid CP had higher total problems rated by parent than children with mixed CP and spastic CP. Additionally, children with flaccid CP had higher internalizing problems rated by teachers than the other types of CP. Nevertheless, children with mixed CP had higher externalizing problems rated by teachers than spastic and flaccid CP. The researcher sees hat the spastic cerebral palsy children (58.5% of the study sample) where logically had more difficulties to adapt with their life than flaccid (22.7%) and mixed (18.8%) cerebral palsy children.

Chapter 6

Conclusion & Recommendation

6.1 Conclusion

Mental health problems are the psychosocial problems, which the mental health problems in cerebral palsy children in this study were investigated by therapist and parents were those closely related to CP children.

This study estimated the prevalence of mental health problems by parents were (37%). And by therapist were (44.7%). And this study finds that the spastic cerebral palsy represented more than half of the study sample, where this disorder is the most common type. The researcher denoted that the mental health problems were more prevalence in poor C.P children's families than rich people.

Also the researcher concluded that the stages of development were negatively correlated to the mental health problems. And the mental health problems were correlated to the place residence, where the methods of life in the urban areas helps the children to decrease the level of the mental health problems compromised to rural area's children.

The researcher concluded that the finding of this study can be generalized on cerebral palsy children, where the information collected by the parents and therapist.

Finally the researcher believed where he answered all of the research questions as these discussed previously, and find that the mental health problems were prevalence among cerebral palsy children from 6-12 age years was 37% by parent and 44.7% by therapist.

During this study I find some difficulties, some barriers and some stories from the families of the children, one story attract me that's a child had suffered from a simple cerebral palsy from a long time, his family used to leave him alone nearly all the time, the child grow up in this situation were developed withdrawal mental health problem, which developed by the time to aggressive behaviour toward every thing. If the family of the child had more care and acceptance of him, the child wouldn't developed a mental health problem as aggression.

6.2 Recommendations:

- Giving a significant focus on the role of family in psychological intervention through awareness raising activities such as lectures, meeting and symposiums.
- Offering rehabilitation program with high a adequacy that allow cerebral palsy cases become more integrated in their society.
- Development of community support for cerebral palsy children.

- Enhancing program for families and all people had direct relation to the cerebral palsy children.
- a longitudinal prospective studies on child behavior was recommended.

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