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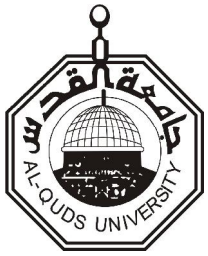

The Relationship Between Consanguinity and Parent's Age with Mental Retardation

Submitted by

Hatem R. Abu Tawela

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The Relationship Between Consanguinity and Parent's Age with Mental Retardation

Prepared By:

Hatem Rezeq Abu Tawela

B. Sc. Al-Quds University Gaza

Supervisor: Dr. Mansour El Yazji

Assistant Professor of Immunology

A thesis submitted in Partial Fulfillment of Requirements for the degree for Master of Public Health

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The Relationship Between Consanguinity and Parent's Age with Mental Retardation

Student Name: Hatem Rezeq Abu Tawela
Registration No.: 20512022

Supervisor :Dr. Mansour EL Yazji
Assistant Professor of Immunology

Master Thesis submitted and accepted, Date: Aug. 29 -2009

The names and signatures of the examining committee members are as follows:

1- Dr. Mansour El yazji Head of Committee Signature ----------
2- Dr. Bassam Abu Hamad Internal Examiner Signature ----------
3- Dr. Anwar El-Sheikh Khalil External Examiner Signature ----------

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Dedication

I would like to dedicate this work to the soul of the first teacher my great father, to the merciful mother, to my lovely wife, brothers, and my sister, for their patience and support.

Signed ----------

Hatem R. Abu Tawela

Declaration

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

Signed ----------

Hatem R. Abu Tawela

Date: ----------

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No words are ever enough to describe my deep sincere appreciation to my Great Father, Great Mother and lovely wife.

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Hatem Abu Tawela

Abstract

Mental Retardation (MR) is a serious health problem with dramatic medical and social consequences. It is claimed that the mental retardation is associated with environmental, genetic and cultural factors, including consanguinity marriage and parent's age. The aim of this study is to find out the relationship between consanguinity and parent's age with mental retardation.

The design of this study is a case control one. All the mentally retarded children who were registered in the rehabilitation societies and center during the first six months of the year 2009 from all Gaza governorates were included in the study. The study includes 250 cases and 250 controls. Cases were selected from the mental retardation centers while the controls were selected from the well-baby clinic at the primary health care centers. Self-administered questionnaire which included the concerned study variables was implemented with a response rate of 89%. Ethical principles were maintained including consent form and confidentially.

The study has extracted many factors that constituted a frame for parent conceptualizations of MR , were the highest percentage of reported cases was in Gaza Governorate (41.4%), while the least was in Rafah (5.9%). Findings revealed that, the percentage of the affected males is higher than females. There were variations in parents' opinions about the causes of MR where consanguinity, socioeconomic status and extended family were regarded as contributing factors for the development of MR. MR is statistically significantly more found among parents aged less than 18 years, with consanguinity marriage of first degree, socio-economically disadvantaged, living in extended family and low level of parents' education. In contrary, medication use, mothers' job and mothers' smoking were not found to be contributing factors for the development of MR.

From the study results, the researcher recommends carrying out further studies to explore the reasons which are responsible for increasing the percentage of MR among males than females. Health education for increasing the community awareness about the MR is needed particularly in relation to promoting education, avoiding early and consanguinity marriage.

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List of Abbreviation

CDC:	Center Disease Control and Prevention
CMV:	Cytomegalovirus
DS:	Down Syndrome
FAS:	Fetal Alcohol Syndrome
GG:	Gaza Governorates
IQ:	Intelligent Quotient
MOH:	Ministry of Health
MR:	Mental Retardation
NGOs:	Non – Governmental Organizations
NIS:	New Israeli SHEQAL
PHC:	Primary Health Care
PKU:	Phenylketonuria
SPSS:	Statistical Package for Social Sciences
UAE:	United Arab Emirates
UK:	United Kingdome
UNICEF:	United Nations International Children's Emergency Fund
UNRWA:	United Nations Relief and Works Agency
USA:	United States of America
WB:	West Bank
WHO:	World Health Organization

CHAPTER ONE

INTRODUCTION

CHAPTER ONE

INTRODUCTION

1.1 Background

The birth of baby is usually anticipated with great excitement and expectation of future filled with happiness and success. This exuberance may become muted with the birth of a disabled infant. It does not matter if the handicap is blindness, retardation, Down syndrome, a physical abnormality (A R Radwan, 2005).

These children may be products of consanguinity or other related factors, The consanguinity is the marriage between couples related as first or second cousins The specific types of consanguineous marriage that can vary quite widely between and even within different countries, with religious, ethnic, and local or tribal tradition. Among the major populations so far studied, the highest rates of consanguineous marriage have been associated with low socioeconomic status, illiteracy, rural residence. Interactions between consanguinity and social variables can potentially complicate assessment of the genetic effects of human inbreeding, because of expression of deleterious gene acting during early embryonic or fetal development that result in per conceptual losses (Ober et al; 1999).

Conversely it could be argued that the greater genetic compatibility between the mother and developing fetus in consanguineous pregnancy would lead to reduce the rates of involuntary perinatal losses, mental retardation and Down syndrome (Bittles et al; 2001).

Mental retardation is one of the most difficult health problems which is facing newly delivered baby, this baby is delivered in all societies and different social classes.

Having a child with mental retardation born into family and grown into adulthood is one of the most stressful experiences family can endure parental reaction that their child is mentally retarded usually includes shock, depression, guilt, anger, sadness, anxiety and social stigma (Gunderson, 1999).

The importance of the problem also returns to recurrent hospitalization of these babies, which leads to disturbance of family system and a change of the role inside the family needs more economic resources, and may be to determine more complex problem, like separation which lead to divorce (Cuskelly. et al; 2000).

The global ratio of consanguinity in middle eastern countries, for example, in Jordan was 51.3%, in Qatar 54%, in the United Arab Emirates 50.5% and in Yemen 40%, and in Saudi Arabia 51.3% (El Hazmi et al; report May – June 2008).

The global ratio of mental retardation in American population occurs in 2.5 – 3% of the general population. About 6 – 7 million mentally retarded individuals live in united states alone (The Diagnostic and Statistical Manual Of Mental Retardation 4th ed. 2001).

Global ratio of Down syndrome is 1:800 delivered cases, while in Gaza governorates the ratio is 1:600 delivered cases, approximately 3-5 cases are monthly registered in the only one center in Gaza governorates named The Right to Live Society (The Right To live Society, Gaza 2009).

This problem has high burden on family, The Ministry of Health MOH and Non Governmental Organizations (NGOs) because of the over costs through the need of special one, worry and being associated with other diseases they have of medical problems that are associated with this condition. They are at increased risk, including a 50% risk of congenital heart defects, (atrioventricular canal, tetralogy of fallout) and 12% risk of gastrointernal problems (fistula, duodenal atria, pyloric stenosis). They are also at increase for hypothyroidism, eye abnormalities (cataracts, nystagmus, glaucoma & refractive errors). Hearing loss and deafness, mental retardation, poor growth, (Cuskelly, Jobling, 2000).

In Gaza governorates the birth rate of Down Syndrome is 2 per 1000 compared to the international rate of 1 per 1000. It is estimated that there are some 3000 individual with Down Syndrome in Gaza governorate, the 601 children with Down Syndrome are receiving rehabilitation service in the society and the primary follow up for the child and mother (The Right To live Society, 2009).

The importance of this study comes from being the first epidemiology study that apply on mentally retarded children in Gaza governorates because it helps us to understand the relationship between consanguinity and parent's age with mental retardation.

1.2 Geography

Palestine is comprised of two geographically separated areas, Gaza Governorates (GG) and the West Bank (WB) including East Jerusalem. The WB is an area of approximately 5.634 square kilometers. It is located between the costal plain in the west and the Jordan valley in

the east. Gaza is an elongated zone located on the south of Palestine, stretching along the Mediterranean sea between Israel and Egypt. Gaza strip is an area of 362 square kilometers. Gaza strip is divided into five Governorates: Northe, Gaza City, Mid-zone, (South) Khanyunis and Rafah. Within these provinces there are four towns, eight refugee camps and fourteen villages.

1.3 Demography

1.3.1. Population:

The Palestinian central Bureau of statistics (PCBS), estimated the population of Gaza governorates and West Bank to 3.8 million, of whom 1.428.891 are registered as refugees. They estimated the population of the Gaza governorates to be 1.4 million of whom 73.6% were refugees. They also estimated the population of the West Bank to be 2.001.903, and 354.417 in Jerusalem Governorate of whom 26.5% are registered refugees (PCBS, 2007).

1.3.1.1. Population density:

According to the Ministry of Planning and International Cooperation (2005), population density is high, with an average of 453 people per square kilometer, and is expected to rise more further. They indicated that Palestinian population growth rates are elevated in comparison both with the rest of the world and within the Arab region. According to expectations, the population will reach 7.4 million by the first half of the year 2025.

1.3.2. Life expectancy:

According to the ministry of health's annual report (2005) life expectancy was estimated to be 70.8 years (68.9 for males and 72.3 for females) whereas life expectancy was 71.4 years in 1997 (69.8 for males and 73 for females). Moreover, life expectancy in the year 2008 was 70.27 years for males and 73.43 years for females.

1.3.3. Marital status:

Early marriage is prevailing in the Palestinian Territories it is more among females rather than males. The married females aged (15 – 19) constitute 18.4% of the Palestinian population compared with 0.7% for males. The percentage of married females aged (20-24)was 58.6% compared with 21.1% for males. The percentage of divorce cases among individuals aged (14-17) in the Palestinian Territories reached 14% for females of the total cases and 0.8%among males during the year 2007, while it was among females aged (18-24) years 44%and 26.8% among males for the same year (PCBS, 2007).

1.3.4. Education:

According to the PCBS (2007) the highest rates of school enrollment are of the age group(10 – 14)years and the lowest rates of the age group (23 – 24) years. They indicated that the rates of school enrolment in Gaza governorates are higher than those of the West Bank. On the other hand, females do not have equal opportunities of education and training in comparison with males of the age (10 – 24) and the educational attendance in the West Bank is better than that in Gaza governorates. The highest illiteracy rate is among the

youth aged (20 – 24) years compared with other youth age groups, and illiteracy rate of males and females in the Gaza governorates is higher than that in the West Bank. The PCBS (2007) also points out that there are no discrepancies between males and females in attainment of youth.

1.4 Research Problem

The main problem addressed in this study was the relationship between consanguinity and parent's age with mental retardation. The nature of this study comes from my experience when I was dealing with children during my work in the primary health care of Palestinian MOH and I concerned with mental retardation and Down syndrome children and their families, to know how this condition affects on family activity.

The nature of the topic; comes from dealing with mentally retarded case that is considered a necessary issue to decrease the incidence of consanguinity, to decrease social stigma, psychological effects on family and over cost through the need of special care and also to decrease the worry about other diseases that may be associated with this condition.

The nature of studied risk factors and disability, which is represented in Down Syndrome children since the birth rate in Down Syndrome in Gaza governorates is 2 per 1000 compared to the international rate of 1 per 1000; and it is estimated that there are 3000 Down Syndrome individual in Gaza governorates (The Right To live Society, 2009).

The nature of the target sample are mothers of mentally retarded children, since they carry the major roles and responsibilities of taking care for their mentally retarded children.

1.5 Justification

Such study will introduce new visions and suggestions about the use of health education in institutions about dealing with such cases in order to reach to high level of orientation and to prevent this phenomena if they consider the consanguinity risk factors and its association with mental retardation and disabilities. This research will help in establishing the scientific link between consanguinity marriage and parent's age with mental retardation. This is highly important if we considered that research studies in the developed world have not dealt in this specific field due to different cultural and traditional values.

The author of this study believes that this research will be one of the favorites in a comprehensive network of research studies that will address the relationship between consanguinity and parent's age with mental retardation and mainly the effect of the health problem on both mothers and affect individuals of mental retardation. Based upon the above information, this research will fill a gap in the present literature.

This study will attract the attention of decision makers in governmental and non governmental organizations (such as MOH, education, social affairs) to the importance of giving special courses in this field for females in the secondary, tertiary and highly education about early and consanguinity marriage and its impacts on the community.

Such study open the doors for researchers to study this phenomena from another perspective.

1.6 Objectives

1.6.1. General Objective:

This study is to determine the relationship between consanguinity and parent's age with mental retardation in Gaza governorates.

1.6.2. Specific Objective:

- To determine consanguineous marriage and its relationship on mental retardation**.**
- To examine the association between the parent's age and baby affected with mental retardation.
- To examine the relationship between socioeconomic status and baby affected with mental retardation.
- To investigate the relationship between mother health status during pregnancy and baby affected with mental retardation.
- To explore the relationship between early marriage and its effect on mental retardation

1.7 Research Questions

The main question addressed in this study is. What is the association between consanguinity and parent's age with mental retardation?. This question is divided into the following sub questions:

- Is there a relationship between consanguinity and parent's age with mental retardation?
- Is there a relationship between mothers age and having a baby with mental retardation?
- Is there a relationship between consanguineous marriage and mental retardation?

- Is there a relationship between early marriage and mental retardation?
- Is there a relationship between family socioeconomic status and mental retardation?
- Is there a relationship between drugs intake during pregnancy and mental retardation?
- Is there a relationship between environmental factors and mental retardation?
- What is the prevalence of consanguinity and mental retardation?

1.8 Study Hypotheses

- There is a significant relationship between MR & the consanguinity items, consanguinity between wife & husband, the reason of the consanguinity & MR in family.
- There is a significant relationship between MR& family socioeconomic status.
- There is a significant relationship between MR & health factors.
- No significant relationship between MR & gender of MR child & the number of MR in the family.
- No significant relationship between consanguinity & MR with the mother's age classifications.
- There is no significant relationship between MR& the early marriage, age of mothers & fathers.
- No significant relationship between MR& inter family problems & mother's job.
- No significant relationship between MR with drugs & smoking intake during pregnancy.
- No significant relationship between MR & X – ray during pregnancy, hormones defectiveness, enzyme defectiveness & visited doctors.
- No significant relationship between MR & parent's age & children gender.

1.9 Limitations

The study is limited by the following:

This study seeks in the relationship between consanguinity and parent's age with mental retardation, in addition to the variables that specified at the research questions and this study was applied at The Right to Live Society which has two branches, one is located at the east of Gaza City and the second is located at the southern area of Gaza governorate specifically at Rafah City. And in Al Shams society and other centers in the area.

The study applied in The Right to Live Society and other specialist centers at the academic year 2008/2009. on mothers of children with mental retardation who are receiving services at The Right to Live Society, and in other specialist centers were included in the study.

The difficulty in dealing with parents of mental retardation individual, in reaching to cases, resources and budget are considered in the limitation of the study.

1.10 Terms Definition

1.10.1. Marriage:

Marriage is defined by all societies as the legal union of men and women. It carries a network of cross–cutting rights, responsibilities and restrains. In addition, it provides both economic and emotional security to women and their children (Second Report On The World Nutrition Situation, 1992).

1.10.2. Early Marriage:

Early marriage is one which takes place before a child has reached the age of puberty (Second Report on the World Nutrition Situation, 1992).

1.10.3. Consanguinity:

The consanguinity is marriage between couples related as first or second cousins.

1.10.4. Mental Health:

The ability to new situation and to handle personal problems without marked distress and to have enough energy remaining to be a constructive member of society (Morgan and Jonston, 1999).

1.10.5. Summatization:

It means the different condition of the human body, particularly, its effect on the sympathetic nervous system. These effects appeared in some impairments in the function of the organ.

1.10.6. Anxiety:

It means feeling tense and nervousness, in addition to, the other behavioral symptoms which appear as an expression of anxiety states.

1.10.7. Mental retardation:

It is the disability characterized by significant limitations both in intellectual, functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills (American Association of mental retardation Aug. 2006).

1.10.8. Mothers of children with Down Syndrome:

Are those mothers who have or raise a Down Syndrome child and bring them for follow up at The Right to Live Society.

1.10.9. Down Syndrome Children:

They are the children who have extra chromosome 21 which delays their development and as a result they receive a comprehensive rehabilitation services at The Right to Live Society.

1.11 Disabled institutions at Gaza Governorates

Right to live Society is one of approximately 30 institutions at Gaza governorates that provides rehabilitation services for people with disabilities. Also, Right to Live Society is the only institution that provides services to children with Down Syndrome and mental retardation. It was established on 1993 by Mrs. Adala Abu Middain who herself had a personal experience of being a mother of a child with Down syndrome who passed away at the age of one.

The society was started as a kindergarten for seven children with Down syndrome providing special care by three volunteers in 1993 in a rented tiny villa in Gaza city.

Through 1993 to 1998, services have developed to cover 180 individuals with Down syndrome. By year 2000, the new building helped the society to provide comprehensive

rehabilitation services which include the early intervention program, kindergarten, special education school, prevocational program and vocational program. Also their are several services applied at the society such as medical services, social work service, physiotherapy, psychotherapy, hearing and speach services. In 2005, the society open a new branch at Rafah city in order to meet the needs of increasing number of children and to provide quality service. Now, the number of Down syndrome children at Gaza branch is 601 individual and the number of individuals with Down syndrome at Rafah branch is 90.The other centers that deal and provide services for mental retardation as Al Shams Center in Gaza city, Don't Forgot Me For Ever in Beit Hanon city, Al Amal center in Khanyonis city, Al Borij and Al Nosirate mental retardation rehabilitation societies, in middle zone area.

1.12 General review of Study Chapters

In chapter one, the researcher will present the study proposal which includes the, introduction, background, research problem, justification, objectives, questions, in addition to, general presentation of the study chapters.

According to chapter two, the researcher will review the main literature and studies that talked about the relationship between consanguinity and parent's age with mental retardation, incidence and prevalence of mental retardation, Down syndrome and other diseases related to consanguinity.

Through methodology which represents chapter three, the researcher will describe the study design, the study sample, place of application, ethical considerations, study instruments, pilot study, data collection procedures and data analysis procedures.

Chapter four includes description of data analysis procedures and presentation of the main results of the study which involve results of demographic data and study questions, where as in chapter five the researcher will present the main results, discuss them, and put new recommendations for further researches.

CHAPTER TWO

LITERATURE REVIEW

CHAPTER TWO

LITERATURE REVIEW

Conceptual Frame Work

The conceptual frame work of the present study is illustrated in Fig. (2.1)

2.1 Operational Definition of Mental Retardation

It is disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills (American Association on Intellectual and Developmental Disabilities 2009).

Enable people to seek additional support from traditional and religions practitioners if they wish to (Disability Dialogue Issue, August 2000. UK).

As a researcher I can define the MR as poor family relationship, a dare experience, lack of love, guidance and encouragement in childhood, lead too much stress, lack of social support, poverty, unemployment, conflict at home, school or at work.

Conceptual From work

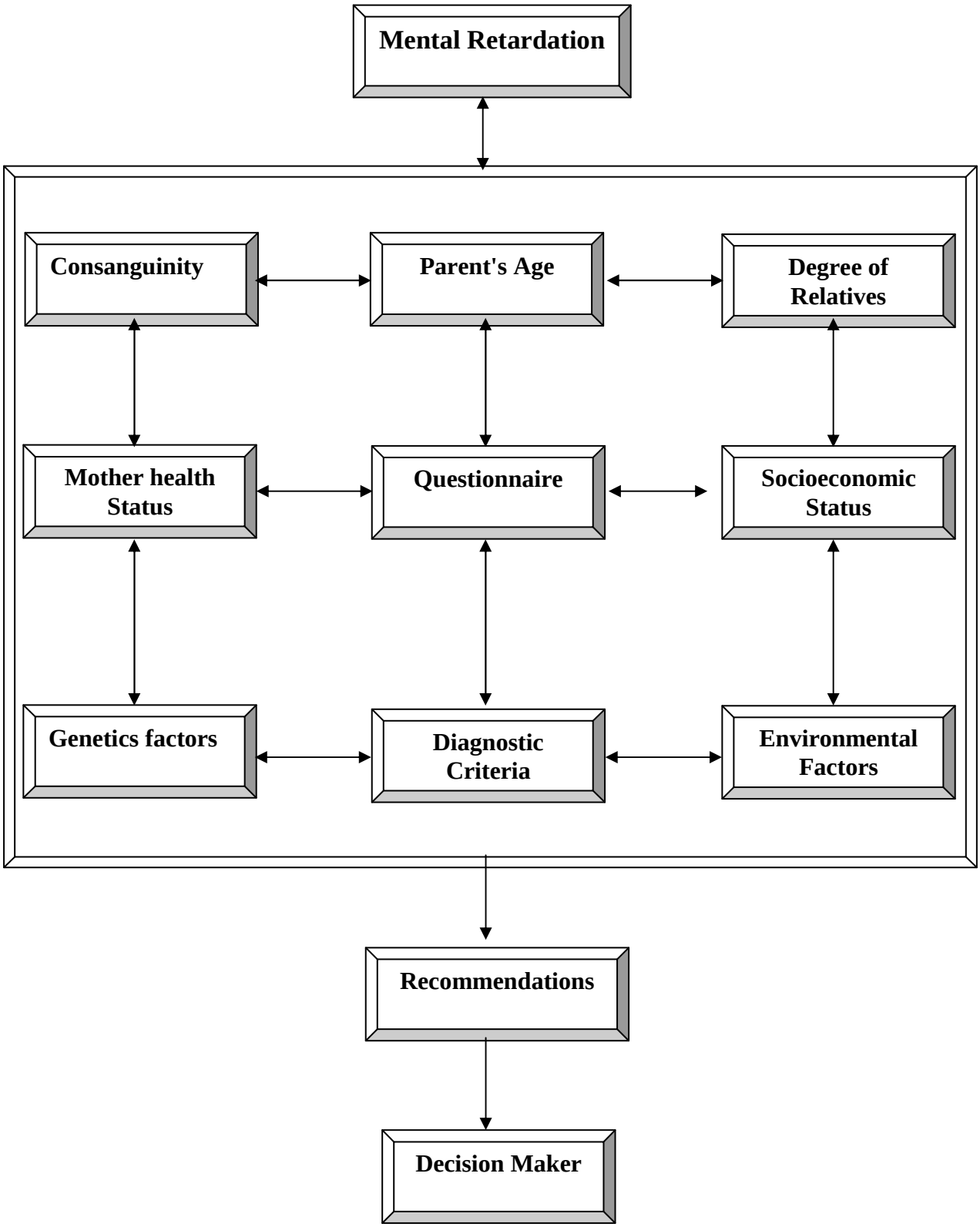

Figure 2.1: The conceptual frame work

2.2 Consanguinity

Consanguinity is defined as the marriage between close relatives from first or second relatives (Amudha, S., et al, Aug. 2005).

Although marriages between close biological kin are preferential in many parts of the world, there still is a great lack of knowledge of this central feature of human kinship structure. The religions and legal backgrounds to consanguinity in different societies show sociodemographic aspects of marriages between close biological kin, and the effects of consanguinity on rates and patterns of morbidity and mortality

2.3 Parents Age

Parent's age of the children of mental retardation plays a very important role. Early marriage of the parents defined as one which takes place before a child has reached the age of puberty (Second Report on the world Nutrition Situation, 1992).

Early marriage prologs a female potential childbearing ability, which itself represents a danger to mothers (Adlakha, Arjun, et al 1991). The health problems related to early marriage not only influence the pregnant mother and the fetus but also continue after delivery. Evidence reveals that infant mortality and morbidity among the children of very young mothers is twice greater than among those older fellows (united Nations, 1999) It is highly observed that morbidity of fetus and infant recorded among adolescent mothers is greater than among older peers. This is basically associated with poor maternal nutrition, not enough physiology fitness and puberty enough (UNICEF,1994).

2.4 Mother Health Status

The early marriage phenomenon leads to the extension of the period therapy the women can have the maximum number of children. consanguinity, the repetition of pregnancy, delivery and abortion which in so many times lead to her immunity weakness and to the exhaustion of her Physical abilities. This will finally lead to probable death in an early age even before bringing up their children (Shokri, Alia, 1998). Me suggested that babies born to those particular teenage mothers received lower APGAR score at 5 minutes after birth, than babies born to other aged mother. The same group (teenage mothers) gave birth to preterm babies more often and with higher rates of congenital abnormalities than did the other aged mothers.

2.5 Degree of Relatives

The degree of relatives varies in societies maybe according to the relationship of the parents. These are classified according to the sex of the couples parents who are sibs as follows (type A, type B, type C, type D):

Type ''A'' cousin marriage

This is marriage between the siblings of two brothers.

Type ''B'' cousin marriage

This is the marriage of two siblings of two sisters. It is the second most popular form of cousin marriage.

Type "C" Cousin Marriage

This is the marriage of two cousins where the male is the sibling of the brother and the female in the sibling of the sister.

Type "D" Cousin Marriage

This is the marriage of two cousins where the male is the sibling of the sister and the female is the sibling of the brother.

2.6 Socioeconomic Status

The socioeconomic status in Gaza governorates is very bad, because the violence of Israelis and restrict a siege on Gaza, the low income and increase the level of poverty in the community in the last years, that will connect to increase the various diseases specially psychoneurosis disease particularly for mothers and children.

The statistics of community mental health department, the number of cases of mental retardation increased by 7 % resulting of this very bad situation (MOH, 2007).

2.7 What is the Mental Retardation?

According to American association of mental retardation (AAMR), currently defines mental retardation as a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills (AAMR, 2006).

Mental retardation is an idea, a condition, a syndrome, and a source of pain and bewilderment to many families. Its history dates back to the beginning of men's time on earth. The idea of mental retardation can be found as for back in history as the therapeutic papyri of Thebes (Luxor), Egypt. Although somewhat vague due to difficulties in translation, these documents early refer to disabilities of the mind and body due to brain damage (Berger, 1989).

Mental retardation is also a condition or syndrome defined by collection of symptoms, traits, and / or characteristics. It has been defined and renamed many times throughout history. For example, feeblemitidedness and mental deficiency were used as labels during the later part of the last century and in the early pot of this century consistent across all definitions are difficulties in learning, social skills, everyday functioning, and age of onset (during childhood). Mental retardation has also been used as defining characteristic or symptom of other disorders such as Down syndrome finally mental retardation is a challenge and potential sources of stress to the family of an individual with this disorder (Fred J. Biasih, 2005).

2.8 Classification of Mental Retardation

2.8.1. Historical perspective of Mental Retardation:

The plight of individuals with developmental disabilities has been dependent on the customs and beliefs of the era and the culture. In ancient Greece and Rome, infanticide was a common practice In Sparta, for example, neonates were examined by astute council of inspectors. If they suspected that the child was defective, the infant was thrown from a cliff

to its death. By these century A.D. individuals with disabilities, in chiding children, who lived in the Roman Empire were frequently sold to be used for entertainment or amusement. The dawning of Christianity led to a decline in these barbaric practices and movement toward care for the less fortunate, in fact, from the early era till our prophet, Mohammed, (Pbuh) advocated human treatment for the mentally retarded, developmentally disabled, or infirmed (Berger, 1989).

Over the next 50 years, two key developments occurred in the united states residential training schools were established in most states by 1892, and the newly developed test of intelligence developed by Binet was translated in 1908 by Henry Goddard.

Goddard published an American version of the test in 1910 In 1935, Edgar Doll developed the Vineland social maturity scale to assess the daily living skills, adaptive behavior of individual-suspected of having mental retardation. During the early part of the 20th century, residential training schools proliferated and undivided with mental retardation were enrolled. This was influenced by the availability up tests (primarily IQ) to diagnose mental retardation (AAMR, 1992).

Mental retardation is a construct with many interpretations. In some periods of history, mental retardation has been referred to as a disease. In other periods it has been thought of as a disability. Often mental retardation has been represented as social deviance. Most modern professionals in the United States adopt the definition published in 1992 by the (AAMR). This definition describes mental retardation as neither a disease nor a disability but a functional state with limitations in both intelligence and adaptive skills.

People classified as mentally retarded obtain an Intelligence Quotient (IQ) below seventy when tested with an appropriate standardized instrument. They demonstrate difficulties with adaptive skills, and their problems develop before the age of eighteen. The prevalence of mental retardation has been estimated to be under 3% of the general population. The majority of individuals with mental retardation need minimal supports and their disability may go undetected in tolerant environments. Some people require more extensive support, including assistance from family members and professionals (AAMR, 2002).

The historical record reveals the various meanings associated with mental retardation and its analogous conditions, including idiocy, foolishness, feeblemindedness, and mental deficiency. A review of this history depicts the many ways that mental retardation has been and continues to be defined (Dykens, et al; 2000).

Introduced the concept of the mean which would serve as a basis in the future identification of people with mental retardation. The Galenists, writing in Romaine the late second century, adopted the Hippocratic theories of the intellect, systematized them, and elaborated on the humoral interpretation. Galen's understanding of the nature of the intellect was adopted by many scientists and philosophers well into the eighteenth century (Stainton, Tim. 2001).

In the United States schools originally intended for educating children with mental retardation were gradually converted to custodial facilities with the admission of more seriously disabled people and failures in rehabilitation. By the 1920s the eugenics movement had aroused the public's fear of people with mental retardation, who were denounced as morally degenerate. Institutional settings grew in power and size in order to

accommodate the growing numbers of individuals with mental retardation who were rejected by society. Although most people continued to be cared for by family members at home with minimal public support, the social abandonment of thousands of people in large public institutions into the 1970s signified an era of pervasive dehumanization and hopelessness (AAMR, 2002).

2.9 Causes of Mental Retardation

The causes of mental retardation are about evenly divided between organic and nonorganic problems. Organic causes are attributed to prenatal difficulties such as metabolic and genetic disorders, prenatal distress including prematurity and birth injury, and childhood diseases and traumas. Nonorganic causes are associated with environmental deprivation. In many cases the etiology is unknown (AAMR, 2002).

The three most common causes of mental retardation, accounting for about 30% of cases, are Down syndrome, fragile X syndrome and fetal alcohol syndrome are found in about 40% of cases. The causes of mental retardation can be divided into broad classifications, including emetic factors, prenatal illnesses and exposures, childhood illnesses and injuries, and environmental factors (Julian, John N. 2000).

In many cases, the cause of mental retardation is not found. About 5% of all cases can be linked to heredity. In these instances the cause is a genetics defect, such as an inherited abnormal gene, mutation, or chromosomal defect. In very simple terms, genes are carried on thread like structures called chromosomes, and determine our individual characteristic such as how we look Just one missing or faulty gene or chromosome, can cause a birth

defect. Two of the most common inherited causes of mental retardation are fragile X syndrome. caused by a defect in the chromosome that determines sex, and Down syndrome, caused by an extra chromosome, Gene defects such as phenylketonuria (PKU) causes mental retardation if not found and treated early as can hypothyroidism. Mental retardation can also occur as a result of the mothers behaviors or illnesses during pregnancy. Behaviors that can affect the fetus developing, brain include poor nutrition, excessive alcohol consumption, drug abuse, and cigarette smoking during pregnancy (Penn State M.H, 2006).

Mental retardation due to alcohol abuse is called fetal alcohol syndrome. Pregnant women who have in factors or illnesses such as rubella (German measles), cytomegalovirus, toxoplasmosis, glandular disorders, high blood pressure, or blood poisoning, or who are exposed to radiation during pregnancy, may have a mentally retarded child. Some birth defects that affect the head, brain and central nervous system have mental retarded as symptom. For example, neural tube defects, where the neural tube that forms the spinal cord does not close completely, can cause cerebrospinal fluid to a accumulate on the brain the pressure causes hydrocephalus a cause of mental retardation.

Difficulties in the birth process can also result in mental retardation these include premature birth, head injury during birth, or lack of oxygen. Children can be born with normal intelligence but develop mental retardation because of child head illnesses or injuries. Illnesses that cause mental retardation if not properly treated include chickenpox, measles, whooping cough, hypothyroidism, or bacterial infection called Hib disease. Meningitis and encephalitis can cause swelling in the brain that cause brain damage and

mental retardation. Children who suffer a traumatic brain injury either accidentally of the head may suffer brain damage and mental retardation (Hershey Medical Center, 2006).

2.9.1. Genetic Factors:

About 30% of cases of mental retardation are caused by hereditary factors. Mental retardation may be caused by an inherited genetic abnormality such as fragile X syndrome, a defect in the chromosome that determines sex which is the most common inherited cause of mental retardation. Single gene defects such as phenylketonuria (PKU) and other inborn errors of metabolism may also cause mental retardation if they are not discovered and treated early. An or mutation in genetic development may also cause retardation. Examples of such accidents are development of an extra chromosome 18 (trisomy18) and Down accident syndrome, Down syndrome, also called mongolism or trisomy 21, is caused by an abnormality in the development of chromosome 21, It is the most common genetic cause of mental retardation.

2.9.1.1. Definition of Down syndrome:

For centuries, people with Down syndrome have been alluded to in art, literature and science. The syndrome was first described in 1886 by Langdon Down, a London physician, who called it (mongolism) because of the facial similarity to Asian of Mongolian extraction. Through the before century, advances in medicine and science enabled researchers to investigate the characteristics of people with down syndrome (The National Down Syndrome Society, 2000).

Joins with a normal egg or sperm cell, the resulting embryo has 47 chromosomes instead of 46. Down syndrome also is called trisomy 21 because affected individuals have three number 21 chromosomes, instead of two. This type of error in cell division causes about 95%of the cases of Down syndrome. In type two that it is called translocation Down syndrome. Occasionally before fertilization, a part of chromosome 21 breaks off during cell division and becomes attached to another chromosome in the egg or sperm cell. Affected individuals have two normal copies of error in cell division causes about 3- 4% of the cases of Down syndrome.

In type three of Down syndrome that its called mosaicism, About 1-2 percent of individuals affected in this type, In this form the error in cell division occurs after fertilization. Affected individuals have some cells with an extra chromosome 21 and others with the normal number (AAPCG, 2001).

Down syndrome is more common in pregnancies of mothers over age 35 years old and it is common in boys number, one in family and occurs in pregnancies mothers under age of 35 years old by ratio 80%of cases (Gulf kids association Saudi Arabia, 2005). However the observation that 75% of the mothers of the patients were under 36 years. The prevalence is varied from 14.84 per 1000 to 26.30 per 1000 births (Al Gazali et al, 2006).

2.9.1.2. Fragile X Syndrome:

Fragile X syndrome is a single gene disorder located on the X chromosome and is the leading inherited cause of mental retardation.

A defect in the chromosome that determines sex is the most common inherited cause of mental retardation (www.therac.org, 2009).

2.9.1.3. Phenylketonuria (PKU):

It is a single gene disorder, due to a missing or defective enzyme, children with PKU cannot process a part of a protein called phenylalanine. Without treatment, phenylalanine builds up in the blood and causes mental retardation (www.cdc.org/ncbddd, 2005).

2.10 Prenatal Illnesses And Exposures

Fetal alcohol syndrome (FAS) affects one in 3000 children in western countries. Fetal alcohol syndrome is resulted from the mothers heavy drinking during the first 12 weeks trimester of pregnancy. Some studies have shown that even moderate alcohol use during pregnancy may cause learning disabilities in children. Drug abuse and cigarette smoking during pregnancy have also been linked to mental retardation. It is generally accepted that pregnant women should avoid all alcohol, tobacco and recreational drugs (APAMRD 2000).

Maternal infections and such illnesses as glandular disorders, rubella, toxoplasmosis, and cytomegalovirus (CMV) infection may cause mental retardation. When the mother has high blood pressure hypertension or blood poisoning "toxemia", the flow of oxygen to the fetus may be reduced, causing brain damage and mental retardation (Jaffe, Jerome.H., M.D, 2000).

Birth defects that cause physical deformities of the head, brain, and central nervous system frequently cause mental retardation. Neural tube defect, for example, is a birth defect in which the heard tube that forms the spinal cord does completely. This defect may cause

children to develop an accumulation of cerebrospinal fluid inside the skull hydrocephalus. Hydrocephalus can cause learning impairment by putting pressure on the brain (NIC Children and Youth and Disabilities, 2001).

Childhood illness and Injuries, Hypothyroidism, whooping cough, chickenpox, measles and Hib disease "a bacteria infection" may cause mental retardation if they are not treated adequately. An infection of the membrane covering the brain "meningitis" or an inflammation of the brain itself "encephalitis" can cause swelling that in turn may cause brain damage and mental retardation, traumatic brain injury caused by a blow the head or by violent shaking of the upper body may also cause brain damage and mental retardation in children (www.nichcy.org 2009).

There are some available data on the relationship between a women's age at delivery and her child's level of cognitive functioning. Among children who have reached school age, research findings have consistently shown a positive linear correlation between a mother's age at delivery and the child's measured mental ability (Laurina O. et al; A.J. Epidemiology, 1999).

2.11 Environmental Factors

Environmental factors that affect mental development include emotional and physical neglect. Daily stimulation is essential to a child's mental development. Infants who are neglected, as well as those who do not receive adequate nutrition, may suffer irreversible mental setbacks. small children who live in older apartment buildings and homes painted with lead based paint are at risk for developing lead poising if they put flakes of this paint into there mouths, lead exposure can also cause mental retardation (Hershey Medical Center,2004).

Ignored or neglected infants who are not provided with the mental and physical stimulation required for normal development may suffer irreversible learning impairment, unhealthy living conditions abuse, and improper or inadequate medical care are at higher risk. Exposure to lead or mercury can also cause mental retardation. Many children have developed found in older buildings (www. answer.com MR 2001).

Children growing up in poverty are at risk for malnutrition, childhood diseases, exposure to environmental health hazards and often receive inadequate health care.
Researchers suggest that such under stimulation can result in irreversible damage and can serve as a cause of mental retardation (www.therc.org, 2001).

2.12 Types of Mental Retardation

Mental retardation varies in severity the diagnostic standard for mental health care professionals classifies four different degrees of mental retardation (mild, moderate, severe, and profound). These categories are based on the functioning level of the individual.

2.12.1. Mild Mental Retardation:

Approximately 85% of the mental retardation population is in the midle range. The IQ score range from 50 – 75 and they can often acquire academic skills up to the 6^{th} grade level. They can become fairly self sufficient and in some cases live independently, with community and social support.

This type of mental retardation, the most common degree of retardation appears to be related not to pregnancy on birth events, but rather to social and environmental conditions. Associated factors include maternal life styles such as poor nutrition, cigarette smoking, and alcohol during abuse Laurina (O. et al; A.J. Epidemiology, 1999).

2.12.2. Moderate Mental Retardation:

About 10% of the mental retardation population is considered moderately retarded individuals have IQ score ranging from 35 – 55 they can carry out work and self care tasks with moderate supervision. They acquire communication skills in childhood and able to live community such as group home.

2.12.3. Severe Mental Retardation:

About 3 – 4 % of the mental retardation population is severely retarded, and they have IQ score of 20 – 40, they may master very basic self care skills and some communication skills, many severely retarded individuals are able to live in group home.

The causes of sever mental retardation are primarily genetic, biochemical, viral, and developmental and not related to birth events (Laurina O. et al; A.J. Epidemiology, 1999).

2.12.4. Profound Mental Retardation:

Only 1 – 2 % of the mental retardation is classified as profoundly retarded and they have IQ score under 20 – 25. They may be able to develop basic self care and communication

skills with appropriate support and training. Their retardation is often caused by an accompanying neurological disorder. The profoundly retarded need a high level of structure and supervision (DSMIV, 2000).

2.13 The Symptoms Of Mental Retardation

The severity of symptoms of mental retardation and when they appear depend upon the cause. Symptoms appear during infancy if the condition is caused by genetic disorders. Or an event during the pregnancy or birth process. A childhood illness or injury that causes a brain injury may suddenly make once easy tasks difficult for the child, and cause learning difficulties. In general children who are mentally retarded fall behind when it comes to reaching developmental milestones, they may also show signs of aggression and self injury.

As they get older their scores on standardized intelligent quotient (IQ) tests are low and they have difficulties with daily life skills, called adaptive skills. Adaptive skills include basic communication, self care, social, safety, and work skills, IQ levels are generally used to classify degrees of mental retardation. Children with mild retardation score in the range of 50-75, these children may not be diagnosed until they enter school because they develop social and communication skills during their first five years. However, learning difficulties become evident in a formal school setting (Penn State M.H, 2006).

These children can learn up to the 6^{th} grade level and can live independently with the support of family, community, and social services. Most children who are mentally retarded are in the mild category. About 10% of those with mentally retarded are

considered moderately retarded, with IQ scores in the range of 35 - 55. During early childhood, their children are able to learn to talk and communicate, but have poor social skills and awareness. Academically, they have difficulty of working past the 2nd grade level. With supervision they can learn some skills and take care the personal needs. As these children reach adulthood, they can work well in a supervised setting, such as a group home children classified as severely retarded when their IQ scores fall in the range of 20-40. This group accounts for only 3-4% of the mentally retarded population, the severely retarded have poor muscle coordination and limited communication and self care skills during early childhood.

By school age, they can learn some basic self care and communication skills. These children benefit from living in a group home as they reach adulthood and can perform some self care under complete supervision (Penn State M.H, 2006).

Profound retardation accounts for 1-2% of all mentally retarded people. With IQ scores of 20-25, these children have little muscle coordination during early childhood and do not reach developmental milestones, such as walking and talking. As they grow older, they may-be able to perform some of the most basic self care skills and may develop some of the most basic self care skills and may develop some speech skills. However, the profoundly retarded studies have shown that these with severe to profound mental retardation have a shortened life expectancy due to diseases that are often associated with these degrees of retardation (AAMR,2006).

The American Association on Mental Retardation classifies degrees of mental retardation by the level of support the individual needs. These are intermittent support, limited support, extensive support, and pervasive (constant) support (Penn State M.H,2006).

2.14 The diagnosis of the Mental Retardation

Early diagnosis of mental retardation is important and for developing an individualized plan for learning and skills. If the doctor suspects mental retardation, he or she will take a complete medical history and perform physical examination to determine symptoms and there possible cause. You may also need to see a child neurologist or neuropsychologist, who specializes in disorders of the nervous system. If your child is old enough, the specialist may be given a standardized test of intelligence (IQ test). Commonly used test include the Stanford Binet intelligence scale, the Wechsler intelligence scale, the Wechsler preschool and primary scale of intelligence, and the Kaufmann Assessment Battery for children physician generally use the Bayley scales of infant development to assess development skills in younger children.

The Woodcock Johnson scales of Independent Behavior and the Vineland Adaptive Behavior Scale (VABS) may also be used. Your doctor will make a diagnosis of mental retardation if your child has below average intellectual skills (an IQ below 70-75) and is limited in two or more adaptive skill (life skills) areas. During the 16^{th} to 20^{th} weeks of pregnancy, a small amount of amniotic fluid carries a number of genetic defects. This test is called amniocentesis. A low level of alpha fetoprotein in the amniotic fluid or in the mothers' blood during pregnancy can indicate Down syndrome in the fetus (Hershey Medical Center, 2004).

2.15 History of Intelligence

The concept of intelligence is relatively new, unknown a century ago, though it comes from older Latin roots Francis Galton revived the term in the late 19^{th} century arguing for its innateness. Some objected to the innateness bias, and suggested that the term should be

replaced with general scholastic ability or general educational ability. However this did not catch on most theorists today posit a construct of intelligence that is independent of education (Elaine Sponging, 2002).

2.16 Defining intelligence

- Binet (1916) defined it as the capacity to judge well to reason well, and to comprehend well.
- Pintner (1921) defined it as the ability of an individual to adapt well to new situations in life.
- Spearman (1923) defined it as a general ability involving mainly the ability to see relations and correlates.
- Paget (1972) define it as referring to the superior forms of organization or equilibrium of cognitive structuring used for adaptation to the physical and social environment during the 300 – 1350 A.D.

Emphasis was on other world little concern for any thing but religion and one's own soul. All forms of deviance were seen in supernatural or superstitious terms, mental retardation and mental illness seen as some condition (Elaine Sponging, 2002).

In lasted approximately 100 years, concept of equality and the concept of humanism arose, the time when mass education become emphasis instead of education of the few grow out of 1700, is concern for enlightenment and individual worth. During the movement for training industrialization shifted man's work to machines, education became very important. Research of that time indicated that mental retardation and other behavior disorders were prime factors in crime and degradation in country (Elaine Sponging, 2002).

2.17 The history of IQ testing

First IQ tests were developed by Alfred Bitnet and Theoden Simon. These were developed to identify children wondered special education. Binet believed that IQ could be increased by education. Early IQ tests, gave estimate of children's mental age by comparing their performance of children at various ages and it is calculated as:

$$IQ = \frac{\text{Mental Age}}{\text{Chronological age}} \times 100$$

2.17.1. Examples to measurements of IQ for children:

The first test done for children at age 2 – 6 years as how to distinguish between usable things or to know names it as (cub, knife, sassier, chair, chose, to name the pictures, complete the lost part of the picture, the differences between the pictures, how to numerate the four numbers as 2, 3, 4, 5).

The second test for the children at age of 8 - 12 years done as how to distinguish between bad things, draw from memory, read and remember ten ideas during 40 seconds with two faults, test for the complete the sentences.

The third test done for children at age of 14 – 18 righting the vocabulary and it's opposite, the similar mining, give the rationalization.

To apply the IQ test for any children group we should follow the examples, if the child knows how to solve the examples of IQ test for an older group as if the child's age (12/10*100) =120, So the mental age equal 12, and chronological age equal 10. An other example (6 / 15 * 100) = 40, so this child has low IQ sore.

Nowadays norm referenced, that is the average performance of a group is calculated, then individual comparison. Our thesis is that the chief determiner of human conduct is a unitary mental process which we call intelligence. This process is conditioned by a nervous mechanism which is in born that the degree of efficiency to be attained by that nervous mechanism and the consequent grade of intelligence or mental level for each undivided is determined by the kind of chromosomes that comes together with the union of the germ cells, that its but little affected by any later influence except such series accidents as may destroy part of the mechanism (Henry Herbert, 1999).

In the USA, strong supporters of IQ testing were scientists who believed that IQ is mainly genetic, and that society should breed a superior group of people. In Europe there is still no good evidence to suggest that IQ differences are the result of genetic differences. Psychologists should stop saying that IQ tests measure, intelligence. They should say that IQ tests measure abstract problem solving ability (APSA), a term that accurately conveys our ignorance, we know that people solve problems on IQ tests, we suspect that these problems are so detached or so abstracted from reality, that the ability to solve them over time from the real world problem solving ability called intelligence thus far we now little else (Henry Herbert, 1999). What IQ tests really measure,

2.18 Treatment of Mental Retardation

Treatment usually requires a multidisciplinary approach to provide a variety of supports that people with mental retardation need in order to function adequately in their homes, schools, places of work, and communities.

Many nongovernmental organizations are doing excellent work in the field, partly because of the advantages they have over governments in micro level planning and implementation with a great amount of operational flexibility.

They are especially active with respect to the care of the mentally handicapped and management of substance of. Mental health professionals must collaborate with them to further propagate national programmes.

Early comprehensive prenatal care and preventive measures prior to and during pregnancy increase a women's chances of preventing mental retardation.

2.18.1. Collaboration with religious leaders in the promotion of mental health.

Religion often provides a broad framework for choice of lifestyle, interpersonal relationships, family life and values. Good progress has already been made in some countries for collaboration with religious leaders and institutions in activities related to mental health programmers, such as using religious leaders to campaign against drug abuse use of centers of religious healing for extension of mental health services. There is a need to further development and extends such activities (WHO, 2002).

2.19 Incidence Of Mental Retardation in Gaza governorates

The Gaza governorates is considered the biggest crowded area in the world and its population is more than one and half of million individuals living in a vary small area which is 365 Km^2 (PCSD, 2005). The percentage of disabilities in Gaza 0.207% the number of mental retardation about 1700 cases, according to the population screen that was done by (MPDL, 2003).

In deferent Gaza governorates. The highest percentage of disability in Gaza governorates is present in the north of Gaza. However the risk of bearing a child with mental retardation increases dramatically with consanguinity marriage. The average of cases was 505 cases in Gaza city, 306 cases in the middle area, in the north area 797 cases, 92 cases are present in north area of the population screened possesses mental retardation, The age distribution of mental retardation according to gender is almost identical, 58% of cases are found in males and 42% cases in females. The highest percentage of cases found is between the ages of 5-29 years (MPDL,2003).

The percentage starts dropping when individuals get older. Mental retardation in the family is considered to be taboo and families end up neglecting the disabled person's needs leading to further suffering, particularly in the case of females. The result found during the previous screening in the North and middle areas of the Gaza governorates show similar figures, as the case for Gaza City, children and youth are the most affected group (MPDL, 2003).

Nowadays the numbers of cases increased more than before in different governorates according to statistics of community mental health department for mental retardation in the last three years until now, this number of cases increased by 7% because of the increase in psychoneurosis diseases in the Gaza community. This increase results from very bad conditions as socioeconomic status, and so on resulting from violence of Israelis and restrict siege on Gaza, the rates of M.R. was in Beit Hanon 0.153%, in Beit Lahya 0.247%, in Jabaliya City 0.280%, Jabalya Camp 0.261%, Al Nuseirat camp 0.227%, Al Bureij Camp 0.228%, Al Maghazi & Mussadar 0.198%, Al Zawaida 0.147%, Deir Al Balah Camp 0.137%, Deir Al Balah City 0.160%, Khan yuones 0.355%, Rafah 0.288%.

There is no connection between mental retardation and gender or race, approximately 2.5 to 3% of the total population are mentally retarded (Penn State M.H, 2006).

The American Association On Mental Retardation (AAMR) arguably the leading professional organization in the field of mental retardation, offered the following definition of mental retardation in 2002 in its 10^{th} editor of the AAMR reference manual on definition and terminology (Lukas son, et al; 2001). Mental retardation is a disability characterized by significant limitations, both in intellection functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills this disability originates before age 18. This definition has been widely adopted. It forms the basis for the definition included in (IDEA,1990).

2.20 Mental Retardation Nowadays

Recently mental retardation (MR) is an umbrella term that covers of similar cognitive disorders that occur during childhood or young adulthood. It is important to remember that mental retardation is literally a slowing down of a persons cognition, these individuals learn and think much like everyone else, only more slowly. There are two major differences in their learning compared to the rest of the population.

The first is a tendency to focus on concrete concepts, for example, how to use a computer, and a consequent difficulty with abstract concept. The second difference, is difficulty generalizing information or skills from one setting to another, for example, applying classroom math skills, individuals with mental retardation can think, feel, do, and learn most of the same things as any one else, but it may take them longer to do it. Their development as a person will go through the same basic stages as everyone else, but it may

take them longer to reach the same milestones. In employment situations, once trained, individuals with mental retardation can be very effective workers (Curators of University of Missouri, 2001).

Clinically, an individual is considered to have MR if their intelligence functioning is below average, usually interpreted as an IQ below (70-75), and they have deficits in usually two or more of the following adaptive skill areas as communication, leisure, health and safety care, home living, self direction, functional academics, community use, and work. And the characteristic above started before age 18.

A person with low IQ who does not have limits in adaptive skills would not have mental retardation. There is great diversity among individuals with MR.. In personality, learning, intelligence, interests, dislikes, talents, humor, attitudes, and aptitudes. Although there are always some intellectual challenges, this varies greatly from person to person. Specific skills and assets must be individually assessed (Curators of University of Missouri, 2001).

There are two major ways to classify individual with MR, the first classification system includes three levels.

- Sever mental retardation

Unable to care for basic needs consist of 2% of all mental retardation

- Moderate mental retardation

Trainable for basic skills in selected vocational areas and it consists of 13% of all mental retardation individuals.

- Mild Mental retardation

With training can live independently and work and consist of 85%of mental retardation individuals. The severe category is sometimes broken down to include "profound" MR the level of IQ is below 50. In vocational rehabilitation the term borderline has been used for individuals with IQs between 70 and 80 (Curators University of Mission, 2001).

Some older literature used a classification system that assigned a "mental age" rating to a person based on their IQ score, but that classification system is no their IQ scare, but that classification system is no longer considered useful.

Other literature of that period also classified individuals as educable or non educable, another classification system that professionals no longer use (Curators University of Missouri, 2001).

As we know in our society and other different societies that is to have a baby we should marry, this marriage is known from the beginning of the life since Adam and cross our prophet Mohammad peace upon them. The Islamic religion enhances us to marry, but this marriage under some conditions especially consanguinity marriage may be a risk factors to have a baby with mental retardation or metabolic disease, until now this marriage is defined as.

2.21 What is the Marriage?

Marriage is defined by all societies as the legal union of men and women. It carries a network of cross-cutting rights, responsibilities and restrains. In addition, it provides both

economic and emotional security to women and their children (Second Report on the World Nutrition Situation, 1992).

A society often determines a female's status and entitlements by her role in relation to her father, spouse or sons and in some cases, her brother. Girls are habituated to believe that their only significant role in life is as future wife and most significantly, a mother of sons. For profession working with communities to prevent early marriage, the complications of this habituation cannot be over-accentuated (Eid Nahed, R., 2004).

2.21.1. Early Marriage:

Early marriage is one which takes place before a child has reached the age of puberty (Second Report on the World Nutrition Situation, 1992).Some countries recognize majority at a younger age than18. The early marriage is defined as any marriage involving a female under 18.years. According to the Second Report on the World Nutrition Situation (1992).

2.22 Consanguinity

2.22.1. Definition of Consanguinity:

Consanguinity is defined as a marriage between relatives and has various degrees. As pointed out by Stern closely related individuals have a higher chance of carrying the same alleles than those less closely related and therefore children from consanguineous marriages are more frequently homozygous for various alleles than those from non-consanguineous unions.

2.22.2. Consanguinity Throughout History:

Consanguinity has been afforded various degrees of legitimacy by different societies and at different times in history. This would therefore explain brother/sister marriage as practiced between the members of the reigning dynasty of ancient Egypt and the Incas who considered 'royal blood' only worthy of mixing with each other. It is interesting to note that despite consanguinity with sisters among the Pharaohs, no ocular defect was recorded until the 18th generation. In Biblical heritage, Abraham's first wife, Sarah, was his step sister. We know that such marriages are permissible under the Shariah, because the prophet Mohammad (Pbuh) himself married his cousin Zainab Bint Jahsh, and Ali Iben Abu Talib is married Fatima Bent Mohammad (Pbuh) (Tirosh, 2005).

2.23 Consanguinity And Genetics

Consanguinity and genetic non-relatedness cannot be sharply distinguished from one another. There are many people descended from common ancestors who are unaware of the fact that they are related. In most geographical areas, man does not reproduce within pedigrees which are completely isolated from one another but, rather in a network of relationships which joins all, or most strains together in a single reproductive unit. This is the case even where branches of a society seem to be separated. Over generations, prohibitions and barriers to intermarriage break down, particularly as both legitimate and illegitimate unions lead equally to an interchange of genes. That being the case, tracing of pedigrees of any group of apparently unrelated individuals of similar territorial origin will reveal that many of them possess a common ancestor. Therefore, if two such people, who are apparently unrelated, marry, they do contract a distant consanguineous marriage (Tirosh, 2005).

2.24 Social and Geographical Isolation

In addition to this form of consanguinity, is that where groups of people live in small isolated pockets which results in social isolation. Under these circumstances, the group from which a mate must be selected is small, therefore the proportion of first cousins in it is higher than in larger populations and random mating will more often result in consanguinity. This has been demonstrated in varying degrees of consanguinity for such isolated groups e.g. in an alpine community in Switzerland (11.5%), a district in Northern Sweden (6.8%) and a Brazilian group (20%).

Another example of genetic isolates are the population of Newfoundland and Labrador where inbreeding is common, and also in islands such as Cyprus where the whole island has become practically one large family despite the fact the first cousin marriages are forbidden by the Greek Orthodox Church.

In the former, it was suggested that the continuing high prevalence of genetic blindness in this province could be attributed to the genetic structure of the population, which derives from natural increase by settlers who arrived from highly circumscribed areas of Southwest England and Southern Ireland before 1835 and there is very little migration into these communities. Thus, frequencies of specific recessive disorders may be increased owing to inbreeding from mating between distant relatives and the frequency of a recessive disorder is reasonably attributed to ‘founder effect, a finding similar to Fraser’s group of sex-linked myopia in South Australia.

2.25 Prevalence Of Consanguinity

Consanguineous marriage remains common in many parts of the world and has been reported in various communities such as the Mormons. It is especially common in most of the Middle-Eastern countries where the custom is considered socially acceptable. The same applies to other Muslim countries and regions such as India, Pakistan and Uzbekistan, and communities in the West such as the Pakistani community in the UK.

The consanguinity rates among the general population in West Bank and Gaza governorates in refugee camps in Gaza governorates, the range of consanguinity between 53% to 69%, and the consanguinity in three ethnic group, in north Palestine in Droze 85%, in Christian 77%, and in Muslims 72%. This study done in north Palestine by (Pederson and Saunderson 2003). The consanguinity marriages are common in many middle eastern countries, with first cousin type. The prevalence of consanguinity in Jordan was 51% and in Yemen 40 %, in Qatar 54%, in the United Arab Emirates 50.5%, in Saudi Arabia 51.3% (El Hazmi et al report May – June 2008).

The incidence of mental retardation in American population occurs in 2.5 -3% of the general population. About 6-7 million mentally retarded individuals live in the united states alone (AAMR, 2002).

2.26 Consanguinity and Society

2.26.1. Social Acceptance Of Consanguinity:

The practice of consanguinity is usually cultural rather than religious and this was demonstrated by (Tirosh,2005) who studied the practice in his survey of infants with visual deficits in Northern Palestine. He found consanguinity in three of the ethnic groups studied. The rates recorded were Drose (85%), Christian (77%) and Muslim (72%) thus demonstrating that religious observances in some countries were outweighed by cultural observances in others.

Zlotogora found that first cousin marriage has decreased from 75% to 44%, when analyzed by 20 years periods in a Muslim Village in Palestine, demonstrates the frequency of consanguinity in various parts of the world. In the rest of the ME, consanguinity has been reported with the highest frequency in Saudi Arabia where it reaches 80% of marriages in certain parts of the Kingdom (Zlotogora, 1997).

The available information for other countries in the Middle East and the rest of the world is shown in ranges between 59% among the Iraqis, 40% among the Palestinians, 44% among the Yemenis in Sana'a 49-58% among the Jordanian 50 % and 40-54% in the UAE. In Kuwait, high rates of consanguineous marriages within the various Arab communities, with low frequency of intermarriage between them, and also the presence of genetic isolates and semi-isolates in some extended families and Bedouin tribes have been described. Consanguinity is less common in North African Arab countries where it was reported to be 29% in Egypt, however, in another study on the population in southern Egypt the ranged between 41.5 - 45.5% (Zolotogora, 1997).

The highest rates of such marriages have been reported in rural areas, among individuals with low educational level, and among the poorest. In Morocco, however, with its contact with the outside world, a marked decrease in consanguineous union is reported and consanguinity is disappearing and does not present a preoccupying problem for public health. However, this cannot be used as a generalization as the trend has increased in younger generation in other Arab countries such as the UAE where the rate of consanguinity has risen form 39% in the parent generations to 50.5% in the current generation (Zolotogora, 1997).

2.26.2. Subtypes Of First Cousin Marriage:

The first cousin marriage can be subdivided into four types according to the relationship of the parents. These are classified according to the sex of the couple's parents who are sibs as follows: Type A, Type B, Type C, Type D.

2.26.3. Subtypes of consanguineous marriages:

Adopted from Stern C. Consanguinity. In: Principles of Human Genetics.

- Type A Cousin Marriage

This is the marriage between the siblings of two brothers.

- Type B Cousin Marriage

This is the marriage of two siblings of two sisters. It is the second most popular form of cousin marriages.

- Type C Cousin Marriage

This is the marriage of two cousins where the male is the sibling of the brother and the female is the sibling of the sister.

- Type D Cousin Marriage

This is the marriage of two cousins where the male is the sibling of the sister and the female is the sibling of the brother (Tirosh, 2005).

2.27 Cultural Difference And Consanguinity

In some communities particular emphasis is placed upon certain forms of relationship such a type A of cousin marriage which is the commonest type of cousin marriage, the highest being in Yemen. It is considered as the duty for the male to marry his cousin and an obligation for the female to accept. In Palestine, 20% of marriages were between first cousins. The same pattern was reported in Pakistan where 60% of marriages are between first and second cousins (Khlat And Khoury,2003).

Type B is the second commonest and it is believed that such marriages do not constitute a close family marriage as the sisters are from different family from that of the male cousin. In the Jewish society marriage between maternal uncle and niece was also practiced. This practice has parallels with a Chinese regulation whereby marriage between the children of a brother and sister or of two sisters is acceptable as a consequence of the social custom which assigned a woman to the family of her husband and thus regarded children as ‘not belonging’ to the biological family of the mother.

However, the children of two brothers were considered to be of the same family and were therefore prohibited from marrying, despite that their genetic endowment is the same. Similar cultural practices and myth regarding the marriage between the children of a brother and sister or of two sisters exist in the Middle Eastern communities, but marriages between the children of two brothers are favored as mentioned above (Khlat And Khoury,2003).

2.28 Changing Trends and Non-Acceptance

Many societies now prohibit marriage between close relatives, perhaps as a result of the observations on the progeny of consanguineous marriages. These prohibitions vary in degree and in some countries include marriages between second cousins. In addition to national laws governing marriage between relatives, there are also religious laws that decrease the levels of consanguinity allowed. In addition to marriage between relatives, it is also custom, or law, for marriages between unrelated persons to be prohibited. These have included marriage between a person and his/her step-parent or between a person and his/her deceased uncle's /aunt's spouse.

These prohibitions are based either on biological misconceptions or on non-biological grounds. Inbreeding is becoming less common world wide except among genetic isolates and regions where consanguinity is practiced. In Europe the change started from the beginning of the last century. In Norway this became evident from the 1920s onward. Even in social isolates, the fear of unhealthy offspring may also limit consanguineous marriages as found in the Swiss group above which had a lower frequency of cousin marriage (0.7%) as opposed to the Swedish group (6.8%) although the size of the two groups were similar (Khlat and Khoury,2003)

This would seem to demonstrate that certain communities show a particular aversion to such marriages even within their isolated communities. In Japan, the trend of consanguineous marriage has been declining and was found to be times lower in younger groups than the oldest groups.

The overall rate of first cousin marriage in 1975 was reported at 2.23% in rural districts and in urban areas. No consanguineous marriage was recorded in 32% of the administrative units surveyed (There was also interregional variation with the Kyushu district showing the highest figures of inbreeding). Similarly, low consanguinity rates are found in the European countries among the indigenous communities. In the Arab world, a display of the presence of consanguinity amongst the various categories of visual loss have been demonstrated in a recent retrospective study in Saudi Arabia (Khalat and Khoury, 2003).

2.29 Prevalence of Consanguinity in Gaza Governorates

The available figures on consanguinity rates among the general population in Gaza Strip are those of Pederson and Saunders. The latter studies showed the rate of consanguinity among Palestinians in all the refugee camps in the Gaza Strip. Saunders analyzed data according to the status of the household and professional status.

The frequency of consanguinity ranged between 53% to 69% and is not related to the professional status of the person as figures were very similar in the various categories ranging from 58% to 63%. This shows its prevalence in this society. Status First Cousin, Not First Cousin. The marriage traditions regarding consanguinity differ between urban

and rural areas than in urban areas. From our preliminary data on consanguineous marriages, more than 40% of the marriages in the Gaza strip are first and second degree (Sirdah, M., et al; 2006).

2.30 Why Consanguinity?

Several factors contribute to consanguinity. These are economic and cultural factors, encounter, social and cultural isolation. The reasons given by Bedouin for favoring cousin marriages were clan solidarity, interpersonal compatibility, preservation of family property, parental authority, and social protection for women. Bener found in Al-Ain, UAE that the only significant variable were the husband's education and parent's consanguinity. The frequency of consanguinity in this region was found to increase significantly with the improvement of the husband's educational level; however, this does not seem the case in other regions such as Jordan.

2.31 Deleterious Effects Of Consanguinity

The deleterious effects of consanguineous mating are high and predispose the offspring to the effects of recessively inherited disease. This is principally due to the frequency with which recessive genes exist over dominant genes within the population. The frequency of malformations was found to parallel the degree of consanguinity. Higher proportions of first cousin marriage than the proportion in the general population have been reported in schizophrenia, several congenital heart defects such as septal defects (atrial, ventricular and atrio-ventricular). Also reported that there are pulmonary stenosis and atresia, cystic fibrosis, cystinosis, nephronophthisis, spinal muscular atrophy, albinism, achromatopsia, hearing disorders, and central nervous system anomalies, congenital anomalies, physical

handicap, mental retardation and alignancies. In Kuwait, higher incidence of Meckel syndromes, phenylketonuria, and familial Mediterranean fever have been documented.

There is also an added risk of infant and child mortality. Khlat and Khoury found that inbreeding generally increases pre-reproductive mortality; crude mortality increases with inbreeding in proportion to the mortality rate. Morbidity increases significantly with inbreeding. Tuncbilek & Koc reported that infant and under 5 mortality is higher in first cousin marriage in Turkey. Consanguinity can also influence the age of menopause (Tuncbilek and Koc, 2000).

2.32 Genetic Counseling

The option of premarital carrier matching has been found to be acceptable with the Bedouin Muslim community in Israel. This is a form of genetic counseling where two individuals are told, if both are carriers, that they have a 25% risk of each pregnancy of having a child affected by the disease for which they are tested. If one individual is a carrier this information is not disclosed. This method also is supposed to reduce stigmatization, especially of women (Pederson and Sanderson, 2003).

Genetic counseling should be considered if the child may inherit a genetic or chromosomal disordered because of a specific condition in the family. Also will do when a previous birth to either parent resulted in a child with a genetic disorder, unexplained MR or birth defect. The mother is 35 years of age or over should be doing genetic counseling. (CDC, 2009). Unfortunately this counseling did not found in Gaza governorates, Just thalassimia test is doing.

CHAPTER THREE

METHODOLOGY

CHAPTER THREE

METHODOLOGY

3.1 Study Design

The present work was designed as a case control study to determine the relationship between consanguinity and parent's age with mental retardation in Gaza governorates.

This method would be useful for the study variables. Also, it enables the researcher to meet the study objectives and to determine the relationship between variables.

3.2 Case Control Design

Case control studies are type of epidemiological study design. They are used to determine the relationship between the consanguinity and parent's age with mental retardation, that may contribute to certain condition by comparing a group of cases who have that condition with a group of controls who do not. Case – control studies are most common in medical-based research and for rare disease, and are relatively in expensive and frequently used in epidemiological studies that can be carried out by small teams or individual researchers (schlesselman, 1999).

3.3 Target Population

The target population of this study were all the children with mental retardation for parents with consanguinity and were registered in rehabilitation society in Gaza governorates

while, the controls of the present study were included form the parents whom consanguinity marriage in the community from the clinic and centers of primary health care of MOH from Gaza governorates.

3.4 Setting

This study was carried out in the five governorates of the Gaza strip: North, Gaza, Mid zone, Khanyounis and Rafah, with sample size relatively compatible as much as possible, with the population size of each governorate to determine the relationship between variables of the study conducted at the specialist rehabilitation societies and in PHC clinics in Gaza governorates between May 2009 to August 2009.

3.5 Ethical Considerations

Several ethical Considerations have been taken into account:

1. An agreement for Collecting data for control groups from (PHC) of Ministry of Heath. (annex 1).
2. Consent form has signed by all persons included in the study (annex 2) which include the following:

    a. Participants have the right to be voluntarily participants.
    b. Participants are previously informed about the study's objectives and data collected from them will be confidential and only for the purpose of the study.
    c. Participants have the right to withdraw from the study when ever they decide.
    d. Society's values, norms and cultures are respected during the whole study.

3.6 Research tools

In order to achieve the objectives of the present word, the researcher relied on questionnaire together with case & control group. As the main tools of the study. These tools included close ended questionnaire.

3.7 Questionnaire

A questionnaire is a series of inquires or questions that could be asked to the study subjects to obtain statistically useful information about a given topic, when properly constructed and responsibly administered, questionnaires are considered as a vital instrument by which statements can be made about specific groups or people or entire populations. Good questionnaire construction is critical to the success of the study. Inappropriate questions in correct ordering of question, incorrect scaling, or bad questionnaire format could negatively affect the validness of the study making it valueless.

The two major types of questionnaire are close ended and open ended questionnaires. A closed ended question is a form of questions which normally can be answered with a simple "Yes / no ", scaled questions or a selection from multiple choices. while an open ended question is a form of question opposite to the closed - ended one, where the respondent answers the relevant questions or items with this own words (Reja et al; 2003).

Important part of data was collected by using close – ended questionnaire which was constructed and conducted in Arabic Language. Details about the components of the questionnaire are included in (Annex 3). The questionnaire was designed to include, Three major components with 43 items:

1. Personal data of the subject.

2. Health characteristics of the subjects.
3. Socio-demographic and general characteristics of the Subjects.

The items and components of the questionnaire were arbitrated and validated at three levels. The first was criterion related validity that depended on the construction of questionnaire items after reviewing the related literature. The second was content validity, the questionnaire was checked by university scientists and experts (annex 4) the objectives on the study were attached with the questionnaire form. Some of the items were added, some modified and some were excluded. The third level is through piloting procedure, where the 15 copies were distributed as case group and 15 copies were distributed as control group and the questionnaire content was also modified for confusion, redundancy and time factors.

The questionnaire was distributed to the subjects at the rehabilitation society and centers where, they are resident, the researcher explained the purpose and objectives of the end he declared and committed to the participant about the confidentiality of the study. After the free acceptance, the subjects were asked to fill the proper questionnaire. The average time for filling the questionnaire was about 10-12 minutes.

3.8 Eligibility Criteria

Because of the case-control design of the present works both inclusion and exclusion criteria should be identified for both case subjects and control subjects.

3.8.1. Eligibility criteria for the cases:

3.8.1.1. Inclusion criteria:

The mothers of the mentally retarded children whom registered in rehabilitation societies and centers.

3.8.2. Eligibility criteria for the controls:

3.8.2.1. Inclusion criteria:

The mothers who have consanguinity and have regular visits on the (PHC) centers of (MOH).

Excision criteria: The mothers who have not consanguinity and do not have regular visits on the (PHC) of (MOH).

3.9 Data Collection

The researcher distributed the questionnaire to the mothers who have consanguinity and have mentally retarded children through meeting interview, and he kindly and freely asked the mothers of children to fill and answer the items of the questionnaire and signed the consent form at the end of the questionnaire which also demonstrated the acceptance or rejection for the purpose and objectives and methodology of the study as well as his name and occupation to all subjects included in the present study. He also declared and committed to the participant about the confidentiality of the study. All ethical considerations were maintained, including respect of people, truth and confidentiality.

3.10 Data Treatment and Statistical Analysis

The data from the questionnaire were tabulated encoded and statistically analyzed, using the statistical package for the social Sciences (SPSS) version 13. The following measurements and tests were performed aiming at the description, identification of significant relationship, correlations and differences of the present study items that include variables (Daniel, 1991).

3.10.1. Runs test:

The runs test is considered to determine the randomness of a distribution of the sampled data. The runs test of randomness is used to assess whether of data are truly random or have some sort of pattern. The age of parent, for mental retarded children and the consanguinity were used as determinant variables for the randomness of the sampled data.

In the runs test the null hypothesis H_0 is that the pattern of occurrence of observation is determined by a random process, while the pattern of occurrence is not random. There fore, a finding of significance means the rejection of H_0 that the series of data does not differ significantly from random. The assumption of randomness would be upheld by a finding of no significance, $p > 0.05$ (SPSS, 2004).

3.10.2. Frequency tables:

The cross tabs procedure was followed to present the frequencies of the different items of the questionnaire. Moreover all P- values mentioned no each table were appropriate.

3.10.3. Chi Square test:

The chi square test was used to deform whether the difference in frequency (Percentage) among the same groups is significant or not, which means significance between row percentages in a single column of a table.

3.10.4. Z – test:

For significance determination of the difference between two population proportion (differences), between column percent ages in a single row of a table), the Z - test was used and calculated according to the following equation:

$$Z = \frac{(p_1 - p_2) - (p_1 - p_2)}{\sqrt{p \cdot (1-p) \cdot \left[\frac{1}{n_1} + \frac{1}{n_2}\right]}} \qquad \text{where } p = \frac{X_1 + X_2}{n_1 + n_2}$$

X1 and X2 are the numbers in` the first (n1) and second (n2) population samples respectively, while p. value = 1- Z (Daniel, 1991).

3.10.5. The independent samples t – test:

For parametric variables the independent samples t-test procedure which followed was to compare means for two groups of cases. Ideally for this test, the subjects should be randomly assigned to two groups, so that any difference in mean of variable is due to the nature of the group of interest either case group or control group.

3.10.6. One – way analysis of variance (ANOVA):

One-way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. Analysis of variance was used to test hypothesis the several means are equal. It is considered as an extension of the independent- samples t-test. For all parametric quantitative variables the one way ANOVA test was used to compare the means of more than two groups of cases.

3.10.7. Correlation Coefficients:

For parametric variables, the person's correlation coefficient is used and measures how variables or observations are reacted. Person's correlation coefficient " r " is a measure of linear association. However, for non parametric data the correlation between two variables was determined using the spearman rank correlation coefficient " r_s " (also known as Spearman's) which yields a statement of the degree of inter dependence or correlation of the scores of the two rank-ordered scales (Daniel, 1991).

CHAPTER FOUR

RESULTS AND DISCUSSION

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The study was conducted in the five governorates of Gaza strip, and aimed at the investigation of any relationship between consanguinity and parent's age with mental retardation. Control group was done to explore the relationship between the consanguinity of parents and mentally retarded children. It is also to determine the association between the parent's age and children affected with mental retardation, and to investigate the relationship between mothers health status during pregnancy and children affected with mental retardation. Moreover it is to explore the relationship between early marriage and its effect on mental retardation. Finally it is to examine the relationship between socioeconomic status and children with mental retardation.

4.2 Data Collection and statistical Analysis

4.2.1. Tools of the study:

The objectives of the present study were achieved by close ended questionnaire as the main tool of the study.

The second group consists of all Residents in Gaza Strip (Control Population) who are not mentally retarded, the following (Table 4.1.), (Fig. 4.1, 4.2) describes the two populations:

Table 4.1 : Descriptive statistics for the study populations.

Region	Total Population		Mental Retardation Population	
	Number	Percent	Number	Percent
North Gaza	265,932	19.13%	505	26.2%
Gaza	487,904	35.11%	797	41.4%
Mid zone	201,112	14.47%	306	15.9%
Khanyounes	269,601	19.40%	205	10.6%
Rafah	165,240	11.89%	114	5.9%
Total	**1389,789**	**100.00%**	**1927**	**100.00%**

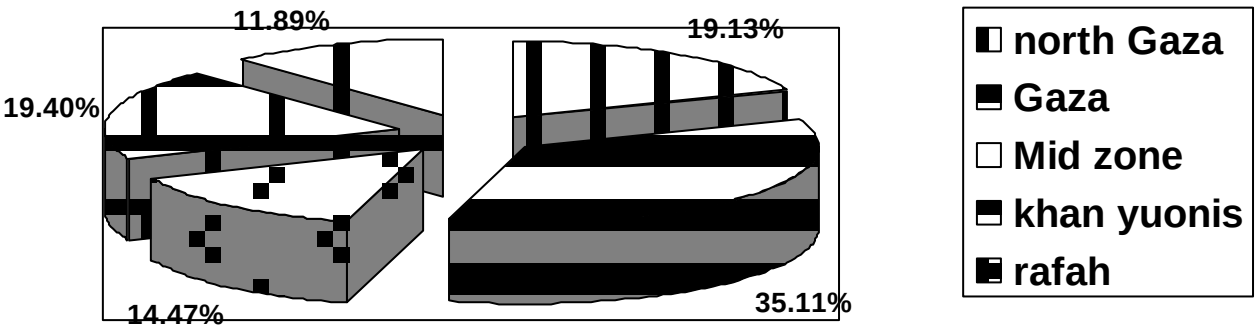

Figure 4.1 : Descriptive statistics for the control Population.

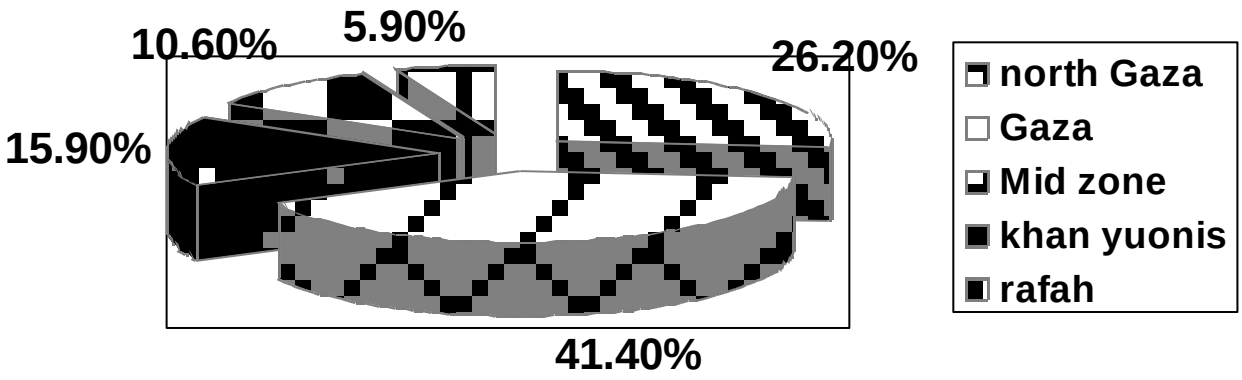

Figure 4.2 : Descriptive statistics for the Mental Retardation Population.

Table (4.1) shows the relation percentages of the population distributions for each control and mentally retarded group with highest percentage in Gaza governorate (35.11%) in control and (41.4%) in mental retardation and the lowest percentages were recorded in Rafah, control (11.89%) and (5.9%) in mental retardation (Table 4.1), (Fig 4.1& Fig 4.2).

4.3 Study Sample

4.3.1. Piloting Sample:

The researcher collected piloting samples from the study population. The purpose of the piloting samples is to ensure consistency, validity, and reliability of the study tool.

The piloting sample consists of 30 persons, Distributed as follows: 15 from the mental retardation population, and 15 from the residents population. The piloting sample is excluded from the population when the main sample is selected.

4.3.2. Main samples:

It is a stratified random sample by the rate of (12 %) from the study population. The response rate was (90.4%) in the control sample, and (87.6%) for the mental retardation population (Table 4.2). The following table describes the response rate in the study samples:

Table 4.2 : Samples Response Rates.

Region	Control Sample			Mental Retardation Sample		
	Valid No.	**Invalid No.**	**Response rate**	**Valid No.**	**Invalid No.**	**Response rate**
North Gaza	44	6	88.00%	58	9	86.57%
Gaza	79	10	88.76%	89	13	87.25%
Mid zone	33	5	86.84%	35	4	89.74%
Khanyounes	43	2	95.56%	23	3	88.46%
Rafah	27	1	96.43%	14	2	87.50%
Total	**226**	**24**	**90.40%**	**219**	**31**	**87.60%**

4.3.3. The percentage of the study population:

The rate of mental retardation sample was (11.4%) from the study population, The following table describes the numbers and the percentages of the study samples:

Table 4.3 : Descriptive statistics for the study samples.

Region	Control Sample		Mental Retardation Sample	
	No.	**Percent**	**N0.**	**Percent**
North Gaza	44	19.47%	58	26.48%
Gaza	79	34.96%	89	40.64%
Mid zone	33	14.60%	35	15.98%
Khanyounes	43	19.03%	23	10.50%
Rafah	27	11.95%	14	6.39%
Total	**226**	**100%**	**219**	**100%**

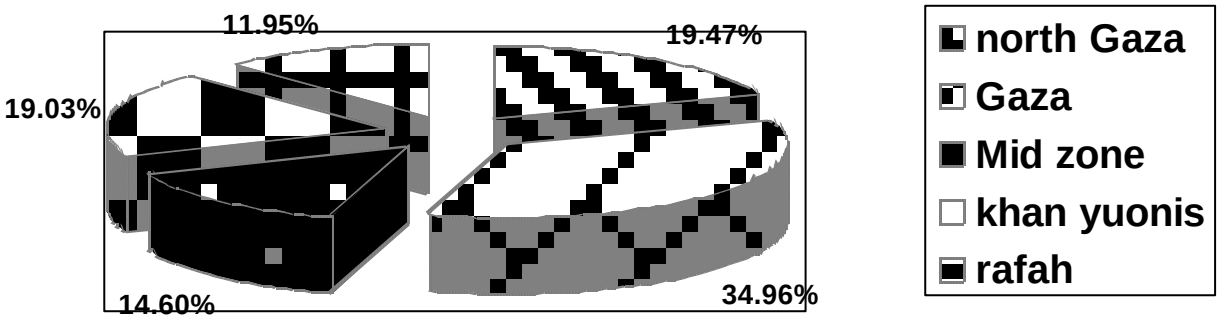

Figure 4.3 : Descriptive statistics for the control Sample.

Table (4.3), Fig.(4.3) Shows the percentages of the study sample for control and mental retardation with highest percentage in Gaza governorate (40.64%), for mental retardation and (34.96%) for control samples, the lowest percentage was in Rafah (6.39%) for mental retardation and (11.95%) for control sample. The lowest percentage was recorded in Rafah because the number of sample obtained was low so that there is a decrease of rehabilitation centers in the area and centers are too fare to reach. This causes, a decrease in registry of mentally retarded children.

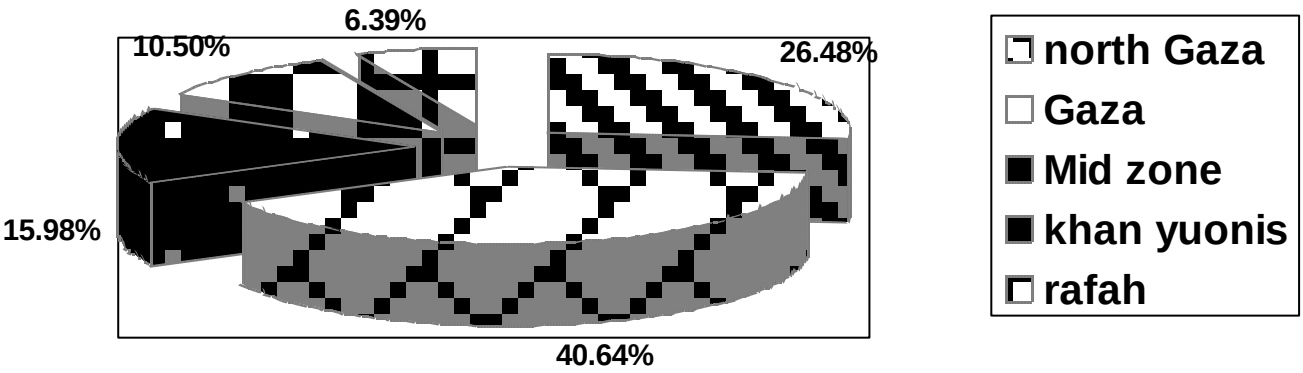

Figure 4.4 : Descriptive statistics for the mental retardations sample.

4.4 Study Tool

4.4.1. Questionnaire Validity:

4.4.1.1. Trustees Validity:

The researcher introduced the questionnaire to a group of trustees, to explore their opinions, observations and suggestions on the questionnaire. They suggested some comments and modifications that improve it significantly

4.4.1.2. Internal Consistency Validity:

Table 4.4 : Internal Consistency of the mental retardation Questionnaire (A), N=15.

Item	Correlation	Item	Correlation	Item	Correlation
2	0.646**	17	0.649**	31	0.740**
3	0.695**	18	0.617*	32	0.778**
5	0.726**	19	0.796**	33	0.711**
6	0.584*	20	0.746**	34	0.569*
7	0.554*	21	0.738**	35	0.640*
8	0.756**	22	0.617*	36	0.580*
9	0.521*	23	0.630*	37	0.568*
10	0.606*	24	0.820**	38	0.839**
11	0.515*	25	0.670**	39	0.759**
12	0.788**	26	0.801**	40	0.815**
13	0.536*	27	0.811**	41	0.670**
14	0.720**	28	0.843**	42	0.632*
15	0.698**	29	0.514*	43	0.543*
16	0.624*	30	0.625*	44	0.811**

(*) The correlation coefficient is significant at 0.05.

(**) The correlation coefficient is significant at 0.01.

Table 4.5 : Internal Consistency of the control group Questionnaire (B), N=15.

Item	Correlation	Item	Correlation	Item	Correlation
2	0.659**	15	0.551*	28	0.539*
3	0.761**	16	0.553*	29	0.526*
4	0.692**	17	0.704**	30	0.803**
5	0.712**	18	0.730**	31	0.611*
6	0.787**	19	0.778**	32	0.707**
7	0.660**	20	0.673**	33	0.798**
8	0.829**	21	0.635*	34	0.518*
9	0.772**	22	0.700**	35	0.658**
10	0.839**	23	0.694**	36	0.649**
11	0.738**	24	0.582*	37	0.796**
12	0.548*	25	0.704**	38	0.558*
13	0.849**	26	0.598*	39	0.554*
14	0.655**	27	0.741**		

(*) The correlation coefficient is significant at 0.05.

(**) The correlation coefficient is significant at 0.01.

The above tables show that all correlation coefficients are significant at (0.05) and (0.01) levels, which means that the mental retardation and the control group questionnaires are valid and have a high degree of internal consistency.

It is the homogeneity in the performance of the individual form item to another. The internal consistency computed by creating Pearson correlation coefficient between the items and the total score of the questionnaire. The following tables describe the internal consistency.

Table 4.6 : Internal Consistency of the study tool, N=30.

Domain	Socioeconomic status Items	Pearson's Correlation with total domain	Sig.
Socioeconomic status	Is your husband family extended?	0.376	0.05
	Family income	0.456	0.05
	Inter-family problems	0.487	0.01
	Reasons of Inter-family problems	0.563	0.01
	Mother education	0.398	0.05
	Father education	0.764	0.01
	Mother job	0.879	0.01
	Father job	0.583	0.01
Parents age	Child gender	0.467	0.01
	First menstruation	0.48	0.01
	Mother age during pregnant	0.399	0.05
Consanguineous	Consanguineous with husband	0.408	0.05
	Consanguineous reasons	0.435	0.05
	Mental retardation in family	0.557	0.01
	Gender of mental retardation	0.43	0.05
	Number of mental retardation persons	0.381	0.05
Early marriage	Age of mother when married	0.486	0.01
	Age of father when married	0.569	0.01

The table above shows that all correlation coefficients are significant at (0.05) and (0.01) levels, which means that the questionnaire is valid and have a high degree of internal consistency.

4.5 Presentation of the results

4.5.1. The relationship between consanguinity and mental retardation:

When the researcher asks the parents of mentally retarded child about the relationship between consanguineous marriage and mental retardation, the result clarify, as present in the table (4.8).

To answer this question, the researcher used chi-square test to determine the relationship significant between consanguineous marriage and mental retardation, and the following table describes the results of chi-square test:

Table 4.7: Chi-square test for the relation between consanguinity and mental retardation

Consanguineous Items			Mental Retardation	Control	Total	Chi-square	Sig.
Consanguineous with husband	1st degree	No.	165	135	300	15.101**	0.01
		%	%76.0	%59.7	%67.7		
	2nd degree	No.	40	78	118		
		%	%18.4	%34.5	%26.6		
	relative	No.	12	13	25		
		%	%5.5	%5.8	%5.6		
	Total	No.	217	226	443		
		%	%100.0	%100.0	%100.0		
Consanguineous reasons	Obligatory	No.	22	11	33	14.668**	0.01
		%	%12.2	%5.0	%8.2		
	poverty	No.	18	8	26		
		%	%9.9	%3.6	%6.5		
	Other reason	No.	141	203	344		
		%	%77.9	%91.4	%85.4		
	Total	No.	181	222	403		
		%	%100.0	%100.0	%100.0		
Mental retardation in family	Yes	No.	106	31	137	61.925**	0.01
		%	%48.4	%13.8	%30.9		
	No	No.	113	193	306		
		%	%51.6	%86.2	%69.1		
	Total	No.	219	224	443		
		%	%100.0	%100.0	%100.0		

Consanguineous Items			Mental Retardation	Control	Total	Chi-square	Sig.
Gender of mental retardation	Male	No.	71	15	86	2.116	Not Sig.
		%	%61.2	%46.9	%58.1		
	Female	No.	45	17	62		
		%	%38.8	%53.1	%41.9		
	Total	No.	116	32	148		
		%	%100.0	%100.0	%100.0		
Number of mental retardation persons	One	No.	84	26	110	3.030	Not Sig.
		%	%63.6	%78.8	%66.7		
	Two	No.	28	5	33		
		%	%21.2	%15.2	%20.0		
	More 3	No.	20	2	22		
		%	%15.2	%6.1	%13.3		
	total	No.	132	33	165		
		%	%100.0	%100.0	%100.0		

(**) Means chi-square value is significant at (0.01) level.

Table (4.7) shows the relationship between consanguinity and mental retardation variables with percentages of first degree (76%), second degree (40%), and a relative(5.5%) with mental retardation. But in control population, the percentage was as in first degree(59%), second degree(34.5%) and a relative(5.8%). Also in consanguinity reasons variables the percentages as in mental retardation population, obligatory, poverty, other reason (12.2%, 9.9%, 77.9%). But in control population the percentages was (8.2%, 6.5%, 85.4%).

There is significant relationship at ($\alpha = 0.01$) level, between mental retardation and the following consanguineous items. The table also shows the variables of consanguineous between wife and husband, the reasons of consanguineous marriage and mental retardation in family.

No significant relationship at ($\alpha = 0.05$) level, between mental retardation and the following consanguineous items, gender of mental retardation person and number of mental retardation persons in the family.

There are some studies which have proved our study. There studies were done in Saudi Arabia on some families there whom they had consanguinity. During the 2-year study period (2004-2005), 874 (97%) of the mothers answered the questions on consanguinity, and 554 (56%) were consanguineous. First-degree cousins were the commonest relationship, accounting for 3882/6470 (60%). The diagnosis of genetic disorders was usually reached by specialists and was known to the families, most of whom had medical reports. In only a few cases, the diagnosis was made by the field team physicians by means of history and physical examination. The pattern of genetic diseases for all consanguineous and non consanguineous couples in the study sample is shown as (El Mouazan, et al; 2008).

The highest proportion is represented by congenital malformations, accounting for 119 genetic disorders (77 in consanguineous and 42 in non consanguineous families), an autosomal recessive condition, and G6PD deficiency, an X-linked recessive disorder, were the commonest examples of single-gene defects. Finally, the commonest chromosomal anomaly found in this survey was mental retardation and Down syndrome, occurring in 30 families.

The pattern of congenital malformations and parental consanguinity cases. Lead to the risk of genetic disorders relative to first-cousin consanguinity

In our study ,the age of parent's children of mental retardation can cause mental retardation. Chi-square test is used to determine the significant relationship between consanguinity and mother's age with mental retardation. The following table describes the results of chi-square test:

Table 4.8 : Chi-square test for the relation between consanguinity and mother's age with mental retardation.

Consanguinity	Mother's age		Mental Retardation	Control	Total	Chi-square	Sig.
1st degree	<18	No.	78	70	148	0.652	Not Sig.
		%	%47.3	%51.9	%49.3		
	18-25	No.	64	47	111		
		%	%38.8	%34.8	%37.0		
	>25	No.	23	18	41		
		%	%13.9	%13.3	%13.7		
	Total	No.	165	135	300		
		%	%100.0	%100.0	%100.0		
2nd degree	<18	No.	20	37	57	1.083	Not Sig.
		%	%50.0	%47.4	%48.3		
	18-25	No.	11	28	39		
		%	%27.5	%35.9	%33.1		
	>25	No.	9	13	22		
		%	%22.5	%16.7	%18.6		
	Total	No.	40	78	118		
		%	%100.0	%100.0	%100.0		
relative	<18	No.	6	4	10	3.811	Not Sig.
		%	%50.0	%30.8	%40.0		
	18-25	No.	2	7	9		
		%	%16.7	%53.8	%36.0		
	>25	No.	4	2	6		
		%	%33.3	%15.4	%24.0		
	Total	No.	12	13	25		
		%	%100.0	%100.0	%100.0		

(**) Means chi-square value is significant at (0.01) level.

The above table shows no significant relationship at ($\alpha = 0.05$) level, between consanguinity and mental retardation with the following mother's age classifications. Less than 18 years, 18-25 years and more than 25 years.

The last findings return to the percentages of a relationship between consanguinity and mother's age with mental retardation was in mental retardation in family with mother's age lees than 18 years, the percentage (47.3%), in mother's age 18 - 25 (38.8%), in mother's age more than 25 years (13.9%), these were in first degree .

In second degree (50%, 27%, 22.5%), and in the relative, the percentages were (50%, 16.7%, 33.3%) and in control population the percentages were in first degree (51.9%, 34.8%, 13.3%) in second degree (47.4%, 35.9%, 16.7%) and in relative (30.8%, 53.8%, 15.4%).

In our work, there are no significant relationship between consanguinity and mental retardation with the mother's age classification as previous. But in other studies there are relationships.

In our study there were no significant relationships between early marriage and mental retardation. My question, "Is there a relationship between early marriage and mental retardation?"

Table 4.9 : Chi-square test for the relationship between early marriage and mental retardation.

Early marriage Items			Mental Retardation	Control	Total	Chi-square	Sig.
Age of mother when married	<18	No.	105	111	216	0.287	Not Sig.
		%	%47.9	%49.1	%48.5		
	18-25	No.	78	82	160		
		%	%35.6	%36.3	%36.0		
	>25	No.	36	33	69		
		%	%16.4	%14.6	%15.5		
	Total	Count	219	226	445		
		%	%100.0	%100.0	%100.0		
Age of father when married	<25	No.	50	36	86	3.911	Not Sig.
		%	%22.8	%15.9	%19.3		
	20-25	No.	100	115	215		
		%	%45.7	%50.9	%48.3		
	26-35	No.	54	62	116		
		%	%24.7	%27.4	%26.1		
	>35	No.	15	13	28		
		%	%6.8	%5.8	%6.3		
	Total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		

Table (4.9) shows the results of mental retardation population with deferent age of mother when married. The percentages were (47.9%) in age less 18 years, in age 18 – 25 years (36.3%) and in age more than 25 years (14.6%). And in control population, the percentages were (49.1%, 36.3%, 14.6%). There were no significant relationship at ($\alpha = 0.05$) level,

between mental retardation and the early married items. Age of mother when married and age of father when married.

Over the past several decades, childbearing patterns in the United States have changed among older women (aged 35-44 years), birth rates have risen steadily since 1980 without any sign of leveling off, while rates among women aged 20-29 years have fallen. These trends may reflect the decision of many women to delay childbearing in order to pursue educational or career opportunities. The birth rate among young teenagers (aged 15-17 years) increased by 27 percent from 1986 to 1991 and has leveled off since then at rates similar to those prevailing during the last previous high point in the early 1970s.

In 1994, the birth rate among young teenagers was 37.6 per 1,000 as compared with 33.7 per 1,000 among women aged 35-39 years and 6.4 per 1,000 among women aged 40-44 years. Moreover, some data indicate that pregnancies among women aged 30 years or older tend to (Jons Hopkins University ,1999).

Our results shown the mental retardation population with deferent age of mother when married, the percentages were (47.9%) at age less 18 years, at age 18 – 25 years (36.3%) and at age more than 25 years (14.6%). And in control population the percentages were (49.1%, 36.3%, 14.6%).

The results in mental retardation and with father age when married were (22.8%) in age less than 20 years, in age 20 – 25 years (45.7%), in age 26 – 35 years (24.7%) and in age more than 35 years (6.8%). In control population the percentages were (15.9%, 50.9%, 27.4%, 5.8%).

The relationship between family socioeconomic status and mental retardation

To answer this question, the researcher used chi-square test to determine the relationship between family socioeconomic status and mental retardation. The following table describes the results of chi-square test:

Table (4.10-A): Chi-square test for the relation between family socioeconomic status and mental retardation.

Socioeconomic status Items			Mental Retardation	Control	Total	Chi-square	Sig.
Is your husband family extended?	Yes	No.	147	132	279	4.268*	0.05
		%	%68.7	%59.2	%63.8		
	No	No.	67	91	158		
		%	%31.3	%40.8	%36.2		
	Total	No.	214	223	437		
		%	%100.0	%100.0	%100.0		
Family income	Less 1000	No.	142	139	281	9.870*	0.05
		%	%76.3	%62.6	%68.9		
	1000-2000	No.	28	59	87		
		%	%15.1	%26.6	%21.3		
	2000-3000	No.	10	17	27		
		%	%5.4	%7.7	%6.6		
	More 3000	No.	6	7	13		
		%	%3.2	%3.2	%3.2		
	Total	No.	186	222	408		
		%	%100.0	%100.0	%100.0		
Inter-family problems	Yes	No.	117	80	197	13.280**	0.01
		%	%55.2	%37.6	%46.4		
	No	No.	95	133	228		
		%	%44.8	%62.4	%53.6		
	total	No.	212	213	425		
		%	%100.0	%100.0	%100.0		

Table (4.10.-B): Chi-square test for the relation between family socioeconomic status and mental retardation

Socioeconomic status Items			Mental Retardation	Control	Total	Chi-square	Sig.
Reasons of Inter-family problems	Social	No.	87	79	166	0.699	Not Sig.
		%	%70.7	%75.2	%72.8		
	Economic	No.	29	20	49		
		%	%23.6	%19.0	%21.5		
	political	No.	7	6	13		
		%	%5.7	%5.7	%5.7		
	Total	No.	123	105	228		
		%	%100.0	%100.0	%100.0		
Mother education	Elementary	No.	95	61	156	14.050**	0.01
		%	%43.4	%27.0	%35.1		
	Secondary	No.	95	118	213		
		%	%43.4	%52.2	%47.9		
	University	No.	29	47	76		
		%	%13.2	%20.8	%17.1		
	Total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		
Father education	Elementary	No.	109	77	186	16.773**	0.01
		%	%50.0	%34.1	%41.9		
	Secondary	No.	72	77	149		
		%	%33.0	%34.1	%33.6		
	University	No.	37	72	109		
		%	%17.0	%31.9	%24.5		
	Total	No.	218	226	444		
		%	%100.0	%100.0	%100.0		
Mother job	Have a job	No.	17	19	36	0.062	Not Sig.
		%	%7.8	%8.4	%8.1		
	Jobless	No.	202	207	409		
		%	%92.2	%91.6	%91.9		
	total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		
Father job	Have a job	No.	142	193	335	25.260**	0.01
		%	%64.8	%85.4	%75.3		
	Jobless	No.	77	33	110		
		%	%35.2	%14.6	%24.7		
	total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		

(*) Means chi-square value is significant at (0.05) level.

(**) Means chi-square value is significant at (0.01) level.

Table (4.10-A, 4.10-B) There are significant relationships at ($\alpha = 0.01$) level, between mental retardation and the following family socioeconomic status items, inter-family problems, mother's education, father's education and father's Job.

There are significant relationships at ($\alpha = 0.05$) level, between mental retardation and the following family socioeconomic status items. The extended of husband family and family income shows.

No significant relationship at ($\alpha = 0.05$) level, between mental retardation and the following family socioeconomic status items, reasons of inter-family problems and mother's job.

In our study the results were found in above table as shown in mental retardation population with husband extended family, the percentages were (68.7%), in control population (59.2%), in mental retardation with family income the percentages were less in1000 NIS (76.3%), in 1000 – 2000 (15.1%), in 2000 – 3000 (5.4%), in more than 3000 (3.2%), in control population (62.6%, 26.6%, 7.7%, 3.2%).

In mental retardation with interfamily problems the percentage was (55.2%), but in control population with interfamily problem the percentage was (37.6%).

In mental retardation with reasons of interfamily problems variables the results were shown as in social (70.7%), economical (23.6%), political (5.7%), but in control population in social (57.2%), economical(19%), political (5.7%).

The percentages occurs in mental retardation with mother's education as in elementary (43.4%), secondary(43.4%), university (13.2%), but in control population the results were as in elementary (27%), secondary (52.2%), university (20.8%) . In mental retardation with father's education the percentages were (50%, 33%, 17%), but in control population the percentages were (41.9%, 33.6%, 24.5%).

In mental retardation with mother's job the percentages were as those who have jobs (7.8%), jobless (92.2%), but in control population the percentages were as (8.1%, 91.9%),

The percentages shown in mental retardation with father's job, have a job (64.8%), jobless(35%). But in control population the percentages shows as have a job (85.4%), jobless (14.6%).

Previous studies confirmed that socioeconomic status of parents have a relationship for mental retardation.

Although most of the world's children live in developing countries and may be at high risk for disability, very little is known about the prevalence and causes of developmental disabilities in these countries. This paper discusses methodological difficulties contributing to this lack of knowledge, and provides an overview of what is known about the epidemiology of developmental disabilities in low-income countries.

At least some forms of developmental disability appear to be more common in low-income countries than in wealthier countries, despite the probability of higher mortality among children with disabilities in low-income countries. For example, most studies of severe

mental retardation in low-income countries report prevalences greater than 5 per 1000 children, while prevalence estimates from industrialized countries are consistently below this.

Major risk factors for developmental disabilities in some low-income countries include specific genetic diseases, a higher frequency of births to older mothers, consanguinity, and specific micronutrient deficiencies and infections. Trauma and toxic exposures are also important risk factors, but their contributions to the etiology of developmental disabilities in low-income countries are not well documented. Though many of the causes of developmental disabilities are understood and preventable, proven methods of prevention are not being fully implemented in developing countries. Epidemiologic studies are needed to raise awareness of the public health impacts of developmental disabilities in low-income countries and to provide a basis for setting priorities and designing efficient interventions.

In our present work we could not find any women who smoke, so our study did not find if smoking can cause mental retardation or not, but exceptional the husbands, many of them smoke but our study did not confirm if the husband smoking can cause mental retardation for their sons. For these I ask about Is there a relationship between drugs and smoking intake during pregnancy and mental retardation?

To answer this question, the researcher used chi-square test to determine the significant relationship between drugs and smoking intake during pregnancy and mental retardation. The following table describes the results of chi-square test:

Table 4.11 : Chi-square test for the relation between drugs and smoking intake during pregnancy and mental retardation.

drugs Items			Mental Retardation	Control	Total	Chi-square	Sig.
Are you smoking?	Yes	No.	2	2	4	0.001	Not Sig.
		%	%9.	%9.	%9.		
	No	No.	217	223	440		
		%	%99.1	%99.1	%99.1		
	Total	No.	219	225	444		
		%	%100.0	%100.0	%100.0		
Smoking during pregnancy?	Yes	No.	3	2	5	0.273	Not Sig.
		%	%1.4	%9.	%1.1		
	No	No.	208	223	431		
		%	%98.6	%99.1	%98.9		
	Total	No.	211	225	436		
		%	%100.0	%100.0	%100.0		
Your husband smoking?	Yes	No.	115	101	216	2.596	Not Sig.
		%	%52.8	%45.1	%48.9		
	No	No.	103	123	226		
		%	%47.2	%54.9	%51.1		
	Total	No.	218	224	442		
		%	%100.0	%100.0	%100.0		
Treatment during pregnancy	Yes	No.	89	89	178	0.054	Not Sig.
		%	%40.6	%39.6	%40.1		
	No	No.	130	136	266		
		%	%59.4	%60.4	%59.9		
	Total	No.	219	225	444		
		%	%100.0	%100.0	%100.0		
Type of treatment	Antibiotics	No.	28	22	50	4.574	Not Sig.
		%	%30.8	%18.8	%24.0		
	multivitamin	No.	36	60	96		
		%	%39.6	%51.3	%46.2		
	injections	No.	27	35	62		
		%	%29.7	%29.9	%29.8		
	Total	No.	91	117	208		
		%	%100.0	%100.0	%100.0		

The above table shows no significant relationship at ($\alpha = 0.05$) level, between mental retardation with the following drugs and smoking intake during pregnancy items. Are you smoking during pregnancy?. Is your husband smoking, treatment during pregnancy.

In our study there were no significant relationship between mental retardation, and drugs smoking intake during pregnancy, as mentioned previously, but in other studies there are significant relationship about these items.

The percentages show that there are the relationship between drugs and smoking intake during pregnancy and mental retardation for parents of mental retardation children. Are you smoking (9%), in the control group (9%), smoking during pregnancy(1.4%), in the control group (9%). Your husband smoking in mental retardation group the percent was (52.8%), but in control group was (45.1%), table (5.12).

The percentages show in mental retardation group with, treatment during pregnancy (40.6%), but in the control group was (39.6%). And in types of treatment the mental retardation percentage was, antibiotics uses (30.8%), multivitamin (39.6%) and injections uses (29.7%). In our present study there was a relationship between the mother's health status during pregnancy, and mental retardation. I ask them is there a relationship between healthy factors and mental retardation? To answer this question, the researcher used chi-square test to determine the significant relationship between healthy factors and mental retardation. The following table describes the results of chi-square test:

Table 4.12 : Chi-square test for the relation between health factors and mental retardation.

Health factors Items			Mental Retardation	Control	Total	Chi-square	Sig.
Childbirth kind	Normal	No.	163	188	351	8.476**	0.01
		%	%74.8	%85.8	%80.3		
	Surgery	No.	55	31	86		
		%	%25.2	%14.2	%19.7		
	Total	No.	218	219	437		
		%	%100.0	%100.0	%100.0		
X-ray during pregnant	Yes	No.	74	96	170	3.556	Not Sig.
		%	%33.8	%42.5	%38.2		
	No	No.	145	130	275		
		%	%66.2	%57.5	%61.8		
	Total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		
Health problems during pregnant	Yes	No.	84	51	135	14.293**	0.01
		%	%39.8	%23.0	%31.2		
	No	No.	127	171	298		
		%	%60.2	%77.0	%68.8		
	Total	No.	211	222	433		
		%	%100.0	%100.0	%100.0		
Chronic diseases	Yes	No.	59	34	93	9.522**	0.01
		%	%26.9	%15.0	%20.9		
	No	No.	160	192	352		
		%	%73.1	%85.0	%79.1		
	Total	No.	219	226	445		
		%	%100.0	%100.0	%100.0		
Hormones defectiveness	Yes	No.	13	21	34	1.594	Not Sig.
		%	%6.1	%9.3	%7.8		
	No	No.	200	204	404		
		%	%93.9	%90.7	%92.2		
	Total	No.	213	225	438		
		%	%100.0	%100.0	%100.0		
Enzyme defectiveness	Yes	No.	11	8	19	0.682	Not Sig.
		%	%5.2	%3.6	%4.3		
	No	No.	202	217	419		
		%	%94.8	%96.4	%95.7		
	Total	No.	213	225	438		
		%	%100.0	%100.0	%100.0		
Visited a doctor?	Yes	No.	51	57	108	0.449	Not Sig.
		%	%24.4	%27.3	%25.8		
	No	No.	158	152	310		
		%	%75.6	%72.7	%74.2		
	Total	No.	209	209	418		
		%	%100.0	%100.0	%100.0		
Frustration during pregnant	Yes	No.	77	45	122	14.527**	0.01
		%	%36.7	%20.2	%28.2		
	No	No.,	133	178	311		
		%	%63.3	%79.8	%71.8		
	Total	No.	210	223	433		
		%	%100.0	%100.0	%100.0		
Vaginal inflammations	Yes	No.	105	64	169	19.626**	0.01
		%	%48.8	%28.3	%38.3		
	No	No.	110	162	272		
		%	%51.2	%71.7	%61.7		
	Total	No.	215	226	441		
		%	%100.0	%100.0	%100.0		

(**) Means chi-square value is significant at (0.01) level.

The above table shows there is significant relationship at ($\alpha = 0.01$) level, between mental retardation and the following healthy factor items. Childbirth kind, health problems during pregnant, Chronic diseases, frustration during pregnancy and vaginal inflammations, while there were no significant relationships for the following items

healthy factors items. X-ray during pregnant, hormones defectiveness, Enzyme defectiveness, visited a doctor.

According to the present work there are significant relationships of what has been mentioned before in table (4.12) but there are significant and non significant relationship, and these things confirmed by several studies done before in many countries.

The percentages that were shown in the above table have proved that there is a relationship between health factors and mental retardation, according to the health factors items, childbirth kind (74.8%) in normal, (25.2%) in surgery, exposures to X - ray during pregnancy (33.8%), in health problems during pregnancy (39.8%), chronic diseases (26.9%), hormones defectiveness (6.1%), enzyme defectiveness (5.2%), visited doctors (24.4%),frustration during pregnancy (36.7%), vaginal inflammations (48.8%).

The percentages of control group show the relationship between health factors and mental retardation in childbirth kind (85.8%), X – ray during pregnancy (42.5%), health problems during pregnancy (23%), chronic diseases (15%), hormones defectiveness (9.3%), enzyme defectiveness (3.6%), visited a doctor (27.3%), frustration during pregnancy (20.2%), vaginal inflammations (28.3%).

Mental retardation in regional countries is caused by poverty and hunger. Mental disorders are much more common among the poor and they in turn increase poverty. A substantial proportion of homeless and poor people have mental and abuse disorders. People who are refugees or displaced suffer from a broad range of mental disorders. Children who do not receive enough iodine through salt develop mental retardation. People exposed to major economic transitions are at risk for alcohol, substance use and suicide.

The stresses imposed by absolute poverty are powerful determinants of mental disorders such as depression and substance abuse. The psychological impact of relative poverty is the result of both the indirect (increased exposure to behavioral risk factors due to psychosocial stress) and direct (physiological circumstances associated with social position). One of the most consistent predictors of mental disorders in low income countries is lack of education. Linkages between poverty and depression have clearly been shown in most studies of mental retardation among poor farmers in India, of maternal depression in women from impoverished peri-urban settlements in South Africa, and of severe depression among people who are less educated and unemployed in Chile (Hussain, R, and Bitteles, AH. 2008).

Table (4.12) summarized various aspects of mother's age during pregnancy, menstruation, and children gender. Is there a relationship between (child gender, menstruation, and mother's age during pregnancy) with mental retardation?

To answer this question, the researcher used chi-square test to determine the significant relationship between (child gender, menstruation, and mother's age during pregnancy) with mental retardation. The following table describes the results of chi-square test:

Table 4.13 : chi-square test for the relation (child gender, menstruation, and mother's age during pregnancy) with mental retardation.

Parents age Items			Mental Retardation	Control	Total	Chi-square	Sig.
Child gender	Male	No.	116	112	228	0.477	Not Sig.
		%	%54.5	%51.1	%52.8		
	Female	No.	97	107	204		
		%	%45.5	%48.9	%47.2		
	total	No.	213	219	432		
		%	%100.0	%100.0	%100.0		
First menstruation	12>	No.	26	25	51	0.211	Not Sig.
		%	%12.0	%11.1	%11.6		
	12-15	No.	165	176	341		
		%	%76.4	%78.2	%77.3		
	15<	No.	25	24	49		
		%	%11.6	%10.7	%11.1		
	Total	No.	216	225	441		
		%	%100.0	%100.0	%100.0		
Mother age during pregnant	20>	No.	49	62	111	12.520**	0.01
		%	%22.9	%29.2	%26.1		
	20-30	No.	91	108	199		
		%	%42.5	%50.9	%46.7		
	31-40	No.	45	29	74		
		%	%21.0	%13.7	%17.4		
	40<	No.	29	13	42		
		%	%13.6	%6.1	%9.9		
	Total	No.	214	212	426		
		%	%100.0	%100.0	%100.0		

(**) Means chi-square value is significant at (0.01) level.

Table (4.13) shows that there were a relationship between mother's age and mental retardation with percentages 22.9%, 42.5%, 21%, 13.6% for case group ages <20, 20-30, 31-40, >40 respectively P-value 0.01 compared with control group 29.2%, 50.9%, 13.7%, and 61% respectively.

No significant relationship at ($\alpha = 0.05$) level, between mental retardation and the following parent's age and baby items, child gender and First menstruation.

In our study, the percentages were shown in the table (4.14.) for the relationship between child gender, menstruation and mother's age during pregnancy with mental retardation group, the percent of child gender in male (54.5%), in female (45.5%), in first menstruation at age less than 12 years (12%), in age 12 – 15 years (76.4%) at age more than 15 years (11.6%) the percentages of mother's age during pregnancy at age less than 20 years (22.9%),at age 20 – 30 years (42.5%), atage 31 – 40 years (21%),at age more than 40 years (13.6%).

In the control group the percentages were in child gender in male (51.1%), in female (48.9%), in the first menstruation at age less than 12 years (11.1%), at age 12 – 15 years (78.2%), at age more than 15 years (10.7%), in mother's age during pregnancy the age less 20 years (29.2%), at age 20 -30 years (50.9%), at age 31- 40 years (13.7%), at age more than 40 years (6,1%).

Consanguinity and reproductive behavior. In some studies done about these subject I will mention it as the follow:

It has been proposed that fertility may be lower in consanguineous couples due to a failure of initiate pregnancy when the couple share specific HLA haplotypes (Ober et al.1999), or because of the expression of deleterious genes acting during early embryonic or fetal development that result in per conceptual losses (Ober et al. 1999).

Conversely, it could be argued that the greater genetic compatibility between the mother and developing fetus in a consanguineous pregnancy would lead to reduced rates of involuntary sterility and prenatal losses.

Additionally, there is a strong possibility that greater fertility may be observed in consanguineous unions as a compensatory mechanism for infant and childhood losses (Bittles et al. 2001).

In general, higher total fertility rates are reported for consanguineous marriages. A partial explanation for these findings is the generally lower parental age at marriage and the age at the first birth of couples who are close relatives. Although the time elapsed to first pregnancy often is longer in consanguineous unions, possibly due to gynecological immaturity in females who marry at a young age, subsequent birth intervals are shorter, and consanguineous couples may continue their childbearing to comparatively later ages (Bittles et al. 2001)..

Consanguineous couples may also be less likely to use reliable methods of contraception These social variables exert a significant positive influence on the fertility of consanguineous couples, resulting in optimization of the maternal reproductive span and, to a lesser extent, concentration (Hussain and Bittles 2008).

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This present study was designed as a case control study and aimed to find the relationship between consanguinity and parent's age with mental retardation. The main tools of the study have included a close ended questionnaire.

Appreciably, 219 of 250 subjects filled the questionnaire which reflected a response rate of about 87.6%. However, the response rate for control were 90.4% respectively.

In this study there are significant relationship between consanguinity and mental retardation for mother's age less than 18 years old, from 18-25 years old and from more than 25 years old.

The study find that there is a significant relationship between mental retardation, and parents age of affected children, particularly mothers age during pregnancy.

And in this study there are no significant relationship between MR child and father's age and first menstruation of mother.

The study finds that there are significant relationships between MR and the consanguinity marriage, the reasons of consanguinity, consanguineous marriage between wife and husband and MR in family

And there are no significant relationship according to this study between MR and gender of children and the number of MR in the family.

The study finds that there are significant relationships between MR and socioeconomic status for families of the subjects and its relation with interfamily problems, parents education, also between extended parent family and family income.

The study finds there were no significant relationships between MR and the reasons of inter family problems, and mother's job.

And according to this study there were significant relationship between MR and health factors as in childbirth kind, health problems during pregnancy, frustration during pregnancy, vaginal inflammations.

There were no significant relationship between MR and health factors as medications during pregnancy, X- rays during pregnancy, hormones defectiveness and Enzymes defectiveness.

Finally there were no significant relationships between MR and smoking of parents during pregnancy.

5.2 Recommendations

In light of the study findings the researchers recommendation as follows:

1- Improving and reforming the referral and information system concerning of the MR cases, particularly newborns records.
2- The group of pregnant women who are at high risk to having MR child requires special attention during pregnancy and to use the appropriate measures to reduce the risk of getting MR baby.
3- Making restrict laws to reduce the prevalence of MR by made genetic consultant.
4- Implementing a campaign to raise the awareness of the public about early marriage and consanguinity and its implications.
5- Further studies are needed to explore the reasons that are unknown till now.

After the formal approval, a copy of the present study will be distributed to the decision makers and for whom it concerned, aiming at the improvement of the community public health in determents sectors at hospitals, PHC, and in NGOs rehabilitation centers and societies.

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LIST OF ANNEXES

Annex 1: An agreement for Collecting data for control groups from (PHC) of Ministry of Heath.

التاريخ / 13 / 5 /2009

الأخ / مدير عام الرعاية الأولية حفظه الله،،،

د. فؤاد العيسوي

السلام عليكم ورحمة الله وبركاته ،،

الموضوع / الموافقة علي جمع البيانات لإجراء بحث تخرجي

أنا الحكيم / حاتم رزق أبو طويلة أعمل بوزارة الصحة بالرعاية الأولية ، ملتحق ببرنامج الماجستير،جامعة القدس ارغب بعمل بحث التخرج بعنوان / العلاقة بين زواج الأقارب وعمر الوالدين بالتخلف العقلي .

أرجو التكرم بتسهيل مهمتي والموافقة علي جمع البيانات الخاصة بذلك من مراكز الرعاية الأولية .

والمراكز هي :

عيادة رفح المركزية – عيادة بندر خانيونس – مركز شهداء دير البلح – عيادة الرحمة – عيادة شهداء جباليا

وحجم العينة العشوائية هو عبارة عن 250 حالة ضابطة من الأطفال موزعة بالتساوي من جميع المحافظات

مقدمه لسيادتكم

الحكيم / حاتم أبو طويلة

Annex 2: Consent form has signed by all persons included in the study.

الرقم: ----------

التاريخ: / / 2009

عنوان البحث

العلاقة بين زواج الأقارب وعمر الوالدين للمتخلفين عقليا

الأخ الكريم / الأخت الكريمة

والدي الطفل ،لطفا أود أن أخبركم انه وقع عليكم الاختيار لتكونوا جزء من دراستي البحثية بعنوان العلاقة بين زواج الأقارب وعمر الوالدين للمتخلفين عقلياً، كجزء من متطلب برنامج ماجستير الذي تديره جامعة القدس – برنامج الصحة العامة .

حضرتكم من ضمن العينة التي وقع عليها الاختبار كمصدر للمعلومات اللازمة لتعبئة الاستبانه .

وأعلمكم بان جميع البيانات التي سيتم الحصول عليها هي خاصة بالبحث فقط وستكون في سرية كاملة وأن مشاركتكم في هذا البحث مهمة وأي معلومات في هذا البحث مهمة وأي معلومات معطاة منكم لن تلحق بكم الضرر أبدا .

ولكم جزيل الشكر لحسن تعاونكم

الباحث / حاتم رزق أبو طويلة

إقرار بالموافقة

التاريخ: / / 2009

أنا الموقع أدناه / ---------- بصفتي والد / والدة الطفل المحافظة / ---------- قد تفهمت جيدا أهداف هذا البحث وكل المتطلبات لتعبئة الاستبيان .

وإنني اعلم أن معلومات البحث ستكون محل السرية التامة ولن يتم استعمالها إلا بهدف المعرفة العلمية البحثية لغرض التخطيط الصحي والاقتصادي والاجتماعي .

التوقيع

Annex 3 – A: Questionnaire Arabic Version.

استبانه (أ)

الأخت الكريمة : والدة الطفل المحترمة.

السلام عليكم ورحمة الله وبركاته ،،،

يقوم الباحث بإجراء دراسة بعنوان :

العلاقة بين زواج الأقارب وعُمر الوالدين للمتخلفين عقلياً

آمل من سيادتكم قراءة فقرات الاستمارة والإجابة عليها بدقه وموضوعيه وذلك رغبة منا في الحصول علي بعض المعلومات حيث أن ذلك سيعمل علي التقليل من هذه الظاهرة ووضع الحلول لها، وعلي أن يتحسن الوضع النفسي لأمهات الأطفال المصابين بهذه الحالة، والذي سينعكس بشكل ايجابي علي المجتمع، كما أنه سيؤدى إلي تحسين نوعية الخدمات المقدمة للأطفال في المراكز المتخصصة في هذا المجال وفي جوانب عديدة.

شاكرين لكم حسن تعاونكم معنا،،،

استمارة رقم ----------

من فضلك أجيبي علي الأسئلة الآتية (×) قدر ما أمكن:

أسئلة عامة

تاريخ المقابلة ----/----/----- (يوم – شهر – سنة)

1. العنوان: ---------- رقم الهاتف: ----------
2. مكان السكن: (1) محافظة الشمال (2) محافظة غزة (3) محافظة الوسطى (4) محافظة خان يونس (5) محافظة رفح
3. رقم ملف المريض ----------
4. ما هو عمر الأبوين عند الزواج؟ عمر الأم -------- سنة ، عمر الأب ------- سنة
5. ما هو رقم هذا الطفل في العائلة ------
6. ما هو جنس المولود؟ (1) ذكر (2) أنثى
7. ما هو دخل الأسرة؟ --------- شيكل
8. علي أي عمر كان أول حيض ----------

9. علي أي عمر كان انتهاء الحيض----------

10.ما هو عمر الأم أثناء الحمل في هذه الحالة بالسنوات ---------

أسئلة صحية

11.ما هو نوع الولادة؟ (1) طبيعية (2) عملية جراحية

12.هل استخدمت أي علاج أثناء الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 13، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 14

13.أي نوع من العلاجات استخدمت ----------

14.هل تعرضت إلي صور أشعة خلال فترة الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 15، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 16

15.في أي شهر من الحمل تعرضت لهذه الأشعة ----------

16.هل أنت مدخنة؟ (1) نعم (2) لا

17.هل كنتِ تدخني أثناء فترة الحمل؟ (1) نعم (2) لا

18.هل زوجك رجل مدخن؟ (1) نعم (2) لا

19.هل عانيت من مشاكل صحية أثناء فترة الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 20، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 21

20.ما هي المشاكل الصحية: ----------

21.هل عانت الأم أثناء الحمل من بعض الإمراض المزمنة؟ (1) ارتفاع لضغط الدم (2) مرض السكري (3) أمراض القلب (4) أمراض مزمنة أخرى

22.هل عانت الأم أثناء الحمل من مرض الغدة الدرقية؟ (1) نعم (2) لا

23.هل عانت الأم أثناء الحمل من خلل في الهرمونات؟ (1) نعم (2) لا

24.هل عانت الأم أثناء الحمل من اضطراب في إنزيمات الجسم؟ (1) نعم (2) لا

25.هل زرت الطبيب لعلاج هذه المشكلة؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 26، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 27

26.كم عدد الزيارات: ---------

27.في اعتقادك ما هو سبب ظهور حالة ابنك؟----------

28.هل كان أثناء الحمل أي نوع من الالتهابات المهبلية؟ (1) نعم (2) لا

29.هل تعرض هذا الطفل أثناء الطفولة للعدوى والالتهابات مثل التهاب السحايا؟ (1) نعم (2) لا

30.هل تعرض الطفل لارتفاع في درجة الحرارة؟ (1) نعم (2) لا

31.هل يوجد أي فرد في العائلة يعاني من التخلف العقلي؟ (1) نعم (2) لا

32.إذا كان الجواب نعم حددي الجنس (1) ذكر (2) أنثى

33.ما هو عدد الأفراد المصابين بتخلف العقلي في العائلة: --------

34.ما هي علامات التخلف العقلي التي تلاحظيها علي طفلك؟ ----------
---

أسئلة اجتماعية

35.ما هي صلة القرابة بينك وبين زوجك؟ (1) أبناء عم (2) أبناء خال (3) من العائلة (4) ليسو أقرباء

36.ما هو سبب زواج الأقارب؟ (1) إجباري (2) الفقر (3) أسباب أخرى

37.هل عانيت من مشاكل عائلية أثناء الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 38، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 39

38.ما هي الأسباب؟ (1) اجتماعية (2) اقتصادية (3) سياسية

39.هل تعرضت لصدمة نفسية وإحباط شديد خلل الحمل؟ (1) نعم (2) لا

هل عائلة الزوج عائلة كبيرة وممتدة؟ (1) نعم (2) لا

40.ما هو مستوى التعليم بالنسبة للأم؟ (1) أساسي (2) ثانوي (3) جامعي (4) بدون

41.ما هو مستوى التعليم بالنسبة للأب؟ (1) أساسي (2) ثانوي (3) جامعي (4) بدون

42.ما هي طبيعة عمل الأم؟ ----------

43.ما هي طبيعة عمل الأب ؟ ----------

الباحث : حاتم أبو طويلة

Annex 3 – B: Questionnaire Arabic Version.

استبانه (ب)

الأخت الكريمة : والدة الطفل المحترمة.

السلام عليكم ورحمة الله وبركاته ،،،

يقوم الباحث بإجراء دراسة بعنوان :

العلاقة بين زواج الأقارب وعُمر الوالدين للمتخلفين عقلياً

آمل من سيادتكم قراءة فقرات الاستمارة والإجابة عليها بدقه وموضوعيه وذلك رغبة منا في الحصول علي بعض المعلومات حيث أن ذلك سيعمل علي التقليل من هذه الظاهرة ووضع الحلول لها، وعلي أن يتحسن الوضع النفسي لأمهات الأطفال المصابين بهذه الحالة، والذي سينعكس بشكل ايجابي علي المجتمع،كما أنه سيؤدى إلي تحسين نوعية الخدمات المقدمة للأطفال في المراكز المتخصصة في هذا المجال وفي جوانب عديدة.

شاكرين لكم حسن تعاونكم معنا،،،

استمارة رقم ----------

من فضلك أجيبي علي الأسئلة الآتية (×) قدر ما أمكن:

أسئلة عامة

تاريخ المقابلة ----/----/----- (يوم – شهر – سنة)

1. العنوان: ---------- رقم الهاتف: ----------
2. مكان السكن: (1) محافظة الشمال (2) محافظة غزة (3) محافظة الوسطى (4) محافظة خان يونس (5) محافظة رفح
3. ما هو عمر الأبوين عند الزواج؟ عمر الأم -------- سنة، عمر الأب ------ سنة
4. ما هو جنس المولود؟ (1) ذكر (2) أنثى
5. ما هو دخل الأسرة؟ --------- شيكل
6. علي أي عمر كان أول حيض ----------
7. علي أي عمر كان انتهاء الحيض----------
8. ما هو عمر الأم أثناء الحمل في هذه الحالة بالسنوات ---------

أسئلة صحية

9. هل استخدمت أي علاج أثناء الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 10، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 11

10.أي نوع من العلاجات استخدمت: ----------

11.هل تعرضت إلي صور أشعة خلال فترة الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 12، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 13

12.في أي شهر من الحمل تعرضت لهذه الأشعة ----------

13.هل عانيت من مشاكل صحية أثناء فترة الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 14، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 15

14.ما هي المشاكل الصحية: ----------

15.هل كان أثناء الحمل أي نوع من الالتهابات المهبلية؟ (1) نعم (2) لا

ما هو نوع الولادة؟ (1) طبيعية (2) عملية جراحية

16.هل عانت الأم أثناء الحمل من بعض الإمراض المزمنة؟ (1) ارتفاع لضغط الدم (2) مرض السكري (3) أمراض القلب (4) أمراض مزمنة أخرى--------

17.هل عانت الأم أثناء الحمل من مرض الغدة الدرقية؟ (1) نعم (2) لا

18.هل عانت الأم أثناء الحمل من خلل في الهرمونات؟ (1) نعم (2) لا

19.هل عانت الأم أثناء الحمل من اضطراب في إنزيمات الجسم؟ (1) نعم (2) لا

20.هل زرت الطبيب لعلاج هذه المشكلة؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 21، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 22

21.كم عدد الزيارات: ---------

22.هل كان أثناء الحمل أي نوع من الالتهابات المفصلية؟ (1) نعم (2) لا

23.هل يوجد أي فرد في العائلة يعاني من التخلف العقلي؟ (1) نعم (2) لا

24.إذا كان الجواب نعم حددي الجنس (1) ذكر (2) أنثى

25.ما هو عدد الأفراد المصابين بتخلف العقلي في العائلة: --------

26.هل أنت مدخنة؟ (1) نعم (2) لا

27.هل كنتِ تدخني أثناء فترة الحمل؟ (1) نعم (2) لا

28.هل زوجك رجل مدخن؟ (1) نعم (2) لا

أسئلة اجتماعية

29.ما هي صلة القرابة بينك وبين زوجك؟ (1) أبناء عم (2) أبناء خال (3) من العائلة (4) ليسو أقرباء

30.ما هو سبب زواج الأقارب؟ (1) إجباري (2) الفقر (3) أسباب أخرى

31.هل عانيت من مشاكل عائلية أثناء الحمل؟ (1) نعم (2) لا

إذا كان الجواب نعم أجيبي السؤال رقم 32، وإذا كانت الإجابة لا، تخطي إلي السؤال رقم 33

32.ما هي الأسباب؟ (1) اجتماعية (2) اقتصادية (3) سياسية

33.هل تعرضت لصدمة نفسية وإحباط شديد خلال الحمل؟ (1) نعم (2)

34.هل عائلة الزوج عائلة كبيرة وممتدة؟ (1) نعم (2) لا

35.ما هو مستوى التعليم بالنسبة للأم؟ (1) أساسي (2) ثانوي (3) جامعي (4) بدون

36.ما هو مستوى التعليم بالنسبة للأب؟ (1) أساسي (2) ثانوي (3) جامعي (4) بدون

37.ما هي طبيعة عمل الأم؟ ----------

38.ما هي طبيعة عمل الأب ؟ ----------

الباحث : حاتم أبو طويلة

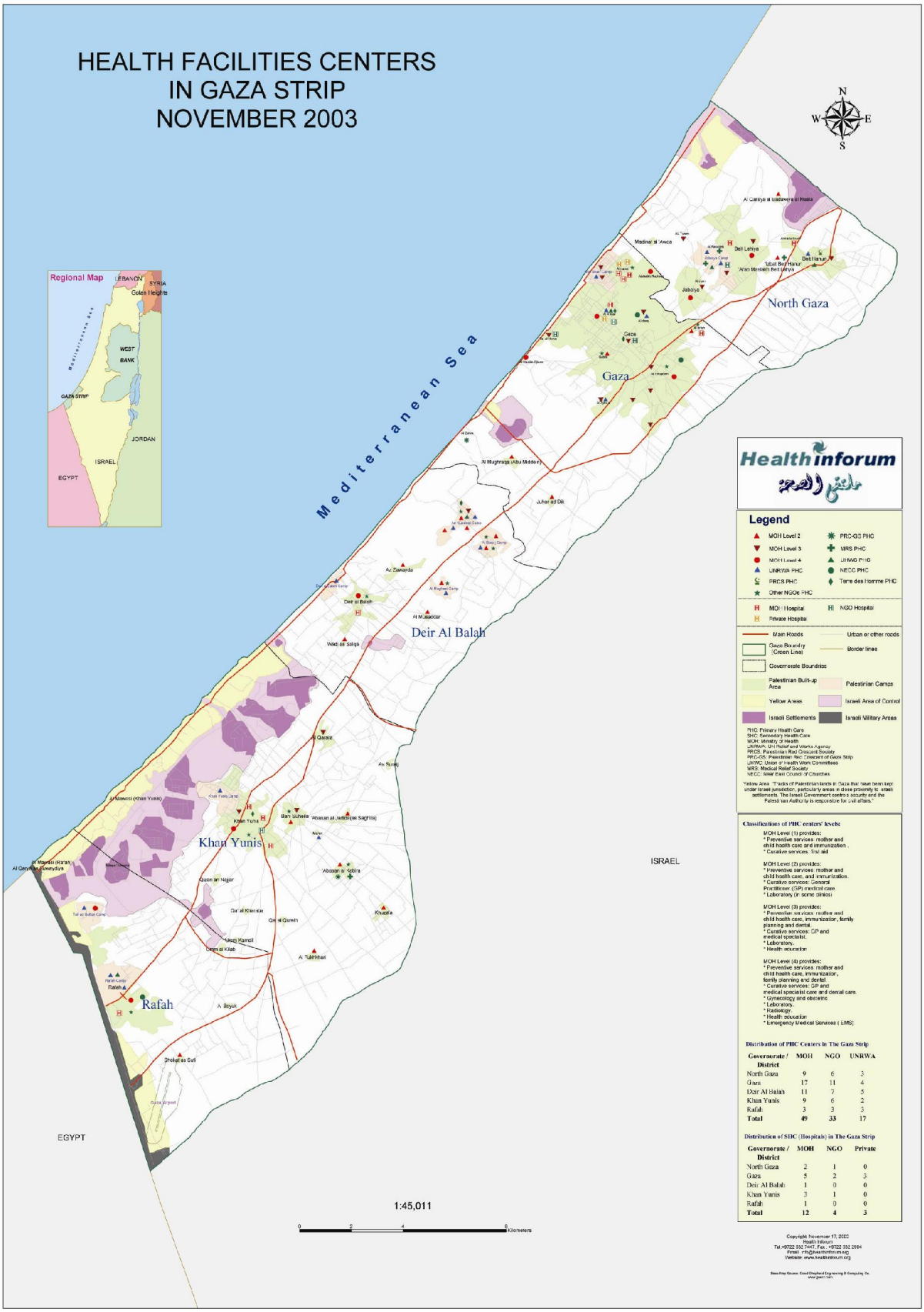
Annex 4: Panel Of Expert.

Panel Of Expert

The questionnaire was examined by group of experts, some items were added, modified or excluded as results of their comments:

1- Dr. Yehia Abed
2- Dr. Basam Abu Hamad
3- Dr. Mahmoud Sirdah
4- Dr. Yousef ELjesh
5- Dr. Mansour ELYzji
6- Miss . Eman Hamoda
7- Dr. Nahd ELyazji
8- Dr. Mohammad Abu Auda

Annex 5: The Gaza Strip Map (Health Facilities Centers in the Gaza Strip).



Annex 6: Al Shams Center For Data Collection,

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2009/5/5

حضرة السيد/ خالد البطراوي المحترم
رئيس مركز الشمس للتربية الخاصة
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب حاتم أبو طويلة

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"*The Relationship Between Consanguinity and Parents Age with Mental Retardation*"

كمتطلب للحصول على درجة الماجستير في الصحة العامة-مسار ,وبائيات و إحصاء حيوي و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات اللازمة من مركزكم الموقر. علماً بأن المعلومات ستكون متوفرة لدى الباحث و الجامعة فقط و سنطلعكم على النتائج في حينه.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-2799234 SPHealth@admin.alquds.edu
Gaza Branch/telefax 08-2884422-2884411
فرع القدس/تلفاكس 02-2799234
فرع غزة/تلفاكس 08-2884422-2884411
ص.ب/51000-القدس

Annex 7: Al Buraij Society For Data Collection.

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2009/5/16

حضرة السيد/ حاتم سليم المحترم
مدير جمعية البريج للتأهيل المجتمعي
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب حاتم أبو طويلة

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"The Relationship Between Consanguinity and Parents Age with Mental Retardation"

كمتطلب للحصول على درجة الماجستير في الصحة العامة -مسار -وبائيات و إحصاء حيوي و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات اللازمة من جمعيتكم الموقرة . علماً بأن المعلومات ستكون متوفرة لدى الباحث و الجامعة فقط و سنطلعكم على النتائج في حينه.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-24799234
Gaza Branch/telefax 08-2884422-2884411
Sphealth@admin.alquds.edu
فرع القدس/تلفاكس 02-2799234
فرع غزة/تلفاكس 08-2884422-2884411
ص.ب 51000 القدس

Annex 8: Not Forgot Me Forever Center For Data Collection.

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2009/5/16

حضرة الأخت/ سوزان النحال المحترمة
مديرة مركز لا تنسوني أبداً
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب حاتم أبو طويلة

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"The Relationship Between Consanguinity and Parents Age with Mental Retardation"

كمتطلب للحصول على درجة الماجستير في الصحة العامة--مسار ,وبائيات و إحصاء حيوي و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات اللازمة من مركزكم الموقر . علماً بأن المعلومات ستكون متوفرة لدى الباحث و الجامعة فقط و سنطلعكم على النتائج في حينه.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة

مؤسسة فلسطينية للإغاثة الشعبية
مركز لا تنسوني أبدا
بيت لاهيا - غزة
هاتف ٢٤٥٧٠٧٥ - ٠٧
١٩/٥/٢٠٠٩

نسخة:
- الملف

Jerusalem Branch/Telefax 02-24799234
Gaza Branch/telefax 08-2884422-2884411
Sphealth@admin.alquds.edu
فرع القدس/تلفاكس 02-2799234
فرع غزة/تلفاكس 08-2884422-2884411
ص.ب 51000-القدس

Annex 9: The Rehabilitation Center in Crescent Society For Data Collection.

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2009/5/10

حضرة الأخت/ لجوى زيدان المحترمة
مسئولة مركز التأهيل بجمعية الهلال الأحمر الفلسطيني
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب حاتم أبو طويلة

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"The Relationship Between Consanguinity and Parents Age with Mental Retardation"

كمتطلب للحصول على درجة الماجستير في الصحة العامة-مسار ,وبائيات و إحصاء حيوي و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات اللازمة من جمعيتكم الموقرة . علماً بأن المعلومات ستكون متوفرة لدى الباحث و الجامعة فقط و سنطلعكم على النتائج في حينه.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو محمد
منسق عام برامج الصحة العامة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-24799234
Gaza Branch/telefax 08-2884422-2884411
Sphealth@admin.alquds.edu
فرع القدس/تلفاكس 02-2799234
فرع غزة/تلفاكس 08-2884422-2884411
ص.ب 51000-القدس

ملخص الدراسة

عنوان الدراسة: العلاقة بين زواج الأقارب وعُمر الوالدين للمتخلفين عقلياً.

الهدف من هذه الدراسة: هدفت هذه الدراسة إلي إيجاد العلاقة بين زواج الأقارب وعُمر الوالدين لإنجاب أطفال متخلفين عقليا في محافظات غزة.

أهداف الدراسة: تحديد العلاقة بين زواج الأقارب وإنجاب أطفال متخلفين عقليا ،لاختبار العلاقة بين عمر الوالدين وتأثيره علي إنجاب أطفال متخلفين عقليا، اختبار العلاقة بين الحالة الاقتصادية الاجتماعية ومدى تأثيرها على إ نجاب أطفال متخلفين عقليا، تحليل العلاقة بين الحالة الصحية للام خلال فترة الحمل ومدى تأثيرها علي إنجاب أطفال متخلفين عقلياً، لاستعراض العلاقة بين الزواج المبكر للوالدين ومدى تأثيره علي إنجاب أطفال متخلفين عقلياً.

منهجية الدراسة: تمت هذه الدراسة في محافظات غزة الخمس وهى عبارة عن دراسة 250 حالة مريض بالتخلف العقلي لدى أطفال لوالدين متزوجين زواج أقارب، وتم أخذ هذه العينة في المراكز المتخصصة للتعامل مع حالات التخلف العقلي في جميع المحافظات، وتم اخذ أيضا 250 حالة طفل ضابطة لوالدين متزوجين زواج أقارب ولم تظهر عندهم الحالة وتم أخذها من مراكز الرعاية الأولية التابعة لوزارة الصحة في جميع محافظات غزة.

قام الباحث بتوزيع استبانه الدراسة على 250 أم لأطفال لديهم تخلف عقلي ومتزوجات أقاربهم، وكذلك 250 أم متزوجات أقاربهم، ولم تظهر لديهم الحالة كمجموعة ضابطة. ومن ثم عولجت هذه البيانات إحصائيا باستخدام برنامج SPSS.

النتائج والتوصيات:

توصلت الدراسة للنتائج التالية: أظهرت هذه الدراسة أن هناك نسبة عالية من التخلف العقلي لدى الأطفال اقل من 18 عام في محافظات غزة (41.4%)وأقل نسبة كانت في محافظة رفح وبلغت (5.9%)، كما أظهرت هذه الدراسة نتائج توزيع الأطفال المتخلفين عقليا حسب الجنس إن الذكور كانت نسبتهم(54.5%) وأما ألإناث كانت نسبتهم (45.5%).

وكما أوضحت هذه الدراسة إن الفئة العمرية اقل من 18 عام للوالدين عند الزواج كان لديهم ولادات أطفال متخلفين عقليا بنسبة (47.9%) هذا بالنسبة لعمر الأم ، أما بالنسبة لعمر الأب فكانت النسبة (22.8%)، كما أن هذه الدراسة توصلت إلي إن نسبة زواج الأقارب من الدرجة الأولي كانت (18.4%)، وكما أثبتت هذه الدراسة أن هناك علاقة بين الحالة الاقتصادية الاجتماعية والتخلف العقلي وكانت النسبة (76.5%)، وبالنسبة لامتداد العائلة والمشاكل الناتجة عنها كانت النسبة(68.7%)، وأما بالنسبة للعلاقة بين مستوى التعليم للوالدين كانت النسب علي النحو التالي، التعليم الأساسي للام (43.4%) الأب (50%) والتعليم الثانوي للام كانت النسبة (43.4%) الأب (33%)، أما بالنسبة لتعليم الأم في المرحلة الجامعية كانت النسبة (13.2%) أما بالنسبة للأب (17%)، وأخيراً وجدت هذه الدراسة أن هناك علاقة بين المشاكل العائلية والأسباب الناتجة عنها بالتخلف لعقلي وكانت النسبة هي (55.2%).

في ضوء نتائج هذه الدراسة فقد أوصى الباحث بما يلي:

1. إجراء أبحاث ودراسات لإيجاد الأسباب لتي أدت إلى ارتفاع نسبة التخلف العقلي عند الذكور عنه عند الإناث.
2. عمل دراسات وبائية لنشر التوعية والثقافة في المجتمع للتقليل من نسبة التخلف العقلي، لما لها من أثار اجتماعية واقتصادية مقلقه.
3. نشر الوعي الثقافي في المجتمع عن الآثار السلبية لزواج الأقارب وما يترتب عنه، والحث علي ارتفاع مستوى التعليم وخاصة للإناث لأنها لم تأخذ نصيبها وفرصتها في المجتمع.