Customary Consanguineous Marriage and its influences on Yatta population – Hebron.

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Declaration

I certify that this thesis was submitted for the degree of master as a result of my own research, and this thesis has not been submitted for a higher degree to any other university or institution.

Signature :…….

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Date:……

Dedication

I would like to dedicate this work to my parents, wife and children for their love, support, and unlimited patience. Also, I would like to dedicate this work to my brothers, Dr. Omar Ghrayeb/ Associate Professor- Chair of Industrial Engineering at Illinois University, USA, And Dr. Ali Ghrayeb/Associate Professor- Concordia University, Canada.

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Abstract

Study title: Customary consanguineous Marriage and its influences on yatta population – Hebron Palestine: 2005 – 2006.

Study Background: Consanguineous marriage increases the risk of having a child with autosomal recessive inherited disorders to approximately 20-50%/1000 births. WHO (1997) and Palestinian MOH (1997) estimated that more than 30% of infant mortality rate is due to prematurity, and congenital abnormalities (MOH 1997). Regarding the global prevalence of autosomal inherited disorders is 1.66/1000. Therefore, standardized and comparable studies are needed to provide data that can be used in developing health policies.

Study aim: This study examined the prevalence of consanguineous marriage in Yatta-Hebron, socio-cultural and economic factors influencing it, the determinants of consanguineous marriages, and its health consequences on mothers and children.

Objectives:

1- To identify the rate of customary consanguineous marriage in Yatta.
2- To determine the major factors which may influence consanguineous marriage in Yatta.
3- To study the association between the socioeconomic and cultural factors and the rate of consanguineous marriage.
4- To study the association between customary consanguineous marriage and its health consequences on mothers and children

Methodology:

Study setting- This study was conducted in Yatta town, which is a rural area, situated in the southern part of Hebron-Palestine.

Sampling frame- The sampling frame from which the sample was drown comprised all households in Yatta, totaling 5000 household. They subdivided to 32 statistical areas, each area includes (135-150) households. Of these 10% were included in the study and selected using systematic sampling method.

Study design: This is a cross- sectional household study.

Tool: A questionnaire that has administered in a face-to-face interview was used to collect data gathered in this study.

Sample size- 500 households.

Major results: Results reveal that nearly 61% of marriages in Yatta – Palestine were contracted between blood relatives.
The results revealed significant association between women's age at marriage, husband's education and consanguineous marriage.
Results revealed a higher percentage in number of pregnancies, health problems such as anemia, toxemia of pregnancy, bleeding, headache and tension among consanguineous

women more than non-consanguineous women. Nevertheless, the result showed no differences between consanguineous and non-consanguineous married women in relation to infants and child health problems, which included congenital malformations and hereditary disorders.
Results registered high fertility rate among consanguineous and non-consanguineous women alike, which is attributed to early age at marriage leading to elongate the reproduction life span.

Conclusions and Recommendations:

Therefore, we argue that understanding factors leading to a delayed age at marriage can be highly rewarding for policy makers in Palestine who have been trying to reduce or to curb the population growth rate through fertility decline. Greater investment in human capital by structural facilitation of female education and labor force participation may be an immediate first step towards fruitful investment.
In addition, we recommend policy makers to adopt a preventive approach by launching public health-education programs. These programs should focus on providing genetic counseling to closely related individuals who plan to marry.

ملخص الدراسة

دراسة حول ظاهرة زواج الأقارب والآثار المترتبة عليها 2005-2006

خلفية الدراسة: إن الدافع لأجراء هذه الدراسة هو أن ظاهرة زواج الأقارب منتشرة بشكل كبير في المجتمعات العربية والإسلامية ، وهناك دراسات كثيرة عالمية ومحليه تفيد بأن زواج الأقارب يؤدي إلى ارتفاع مخاطر إنجاب أطفال لديهم تشوهات خلقية وأمراض وراثية كثيرة بسبب توارث الجينات المتنحية عند الأقارب ، حيث أفادت التقارير بأن هذه النسبة عالية جدا في الدول النامية والدول الإسلامية فوصلت إلى 20 – 50 /1000 ولادة . وهناك تقرير لمنظمة الصحة العالمية في فلسطين أفاد بأن 30% من الوفيات بين الأطفال حديثي الولادة تعود للولادة المبكرة والتشوهات الخلقية الناجمة عن زواج الأقارب والزواج المبكر ، مع العلم بأن نسبة الأمراض الوراثية والتشوهات الخلقية في دول العالم المتقدمة 1000/1.66 ولادة فقط . ولأننا نعيش في دولة تعاني من ضعف الاقتصاد والموارد فارتأيت أن أقوم بهذه الدراسة من أجل لفت نظر صناع القرار وأرباب السياسات والمؤسسات المؤثرة في برنامج الصحة الإنجابية ، وتوفير بيانات قد تساعد في توجيه هذه السياسات .

كان الهدف الرئيسي للدراسة: قياس معدل انتشار ظاهرة زواج الأقارب في بلدة يطا ، والعوامل المشجعة والدافعة الكامنة وراء انتشار هذه الظاهرة .الاجتماعية والثقافية والاقتصادية المؤثرة عليها، والآثار الصحية المترتبة أو الناجمة عنها.

وكانت الأهداف كالأتي:

1-قياس معدل انتشار ظاهرة زواج الأقارب في بلدة يطا.
2- والعوامل المشجعة والدافعة الكامنة وراء انتشار هذه الظاهرة
3- دراسة العلاقة ما بين العوامل الاقتصادية والاجتماعية والثقافية الكامنة و ظاهرة زواج الأقارب
4- - دراسة العلاقة ظاهرة زواج الأقارب والآثار الصحية المترتبة أو الناجمة عنها للام والطفل.

كما بحثت الدراسة تأثير العوامل الاقتصادية والاجتماعية على كل من الزوج ، والزوجة ، ووالدي الزوجة على انتشار هذه الظاهرة ، ومن هذه العوامل عمر الزوجة عند الزواج ، وسنوات الدراسة ، ومهنة الزوجة وعمر الزوج عند الزواج ، سنوات الدراسة ومهنة الزوج ، وكذالك الدخل الشهري ، أما بالنسبة لوالدي الزوجة فبحثت الدراسة سنوات التعليم ، والمهنة لكل من والدي الزوجة ، والدخل الشهري لعائله والدي الزوجة. وكذالك بحثت الدراسة الأمراض المصاحبة للحمل الأخير عند الزوجة مثل فقر الدم ، النزيف ، الإسقاطات ، تسمم الحمل ، والصداع والتوتر المستمر . كما بحثت الدراسة الإمراض الوراثية والتشوهات الخلقية وأمراض الدم عند الأطفال والتي قد تكون ناتجة عن زواج الأقارب ، كما بحثت الدراسة العمر عند الزواج لكل من الزوج والزوجة وكذالك عدد مرات الحمل الإجمالية ، عدد الاجهاضات ، عدد الأطفال الأحياء ، عدد الأطفال الذين ولدوا أموات وعدد الأطفال الذين توفوا بعد الولاة وكذلك الفترة بين الزواج والحمل الأول عند الزوجة .

طريقة البحث: هذه دراسة وصفية حول ظاهرة زواج الأقارب والآثار المترتبة عليها في بلدة بطا الواقعة جنوبي مدينة الخليل في فلسطين .

أسلوب اختيار العينة: لقد ضم مجتمع هذه الدراسة جميع الوحدات البيتية (عائلة) في بلدة يطا والتي يبلغ تعدادها 5000 وحدة مقسمه في اثنتان وثلاثون منطقه إحصائية . ويتراوح عدد العائلات في هذه المناطق الإحصائية من 135 إلى 150 عائلة. اشتملت عينة الدراسة على نسبة 10% من مجموع العائلات في بلدة بطا ، فكان حجم العينة 500 عائله موزعه على جميع المناطق الإحصائية ، وتم سحب هذه العينية بمساعدة مركز الإحصاء الفلسطيني / رام الله ، على اساس ان تكون ممثله لعموم المجتمع في بلدة يطا وفق الطريقة التي سحبت بها . وقد تم اختيار الوحدات السكنية بطريقة العينة المنتظمة (Systematic sample).
تم البدء بالعمل على جمع المعلومات من العائلات التي وقع عليها الاختيار في شهر شباط 2006 ،وانتهى العمل من ذلك في شهر إبريل 2006.

طريقة جمع البيانات:
لجمع هذه المعلومات ، تم استخدام الاستبيان المركب كأداة لجمع المعلومات من الأمهات ، وقام بجمع هذه المعلومات ثلاثة باحثات ميدانيات متدربات ولهن خبرة طويلة في هذا المجال ، بالنسبة لعملية اختيار العينة كانت الطريقة العشوائية المنتظمة ، بحيث يتم اختيار العائلة الأولى في كل منطقة إحصائية ، فإذا استوفت الشروط يتم أخذ العائلة التي تليها ، وبعدها تؤخذ العائلة رقم عشرة ، ثم عشرون وهكذا حتى تم جمع البيانات مع العلم بان حجم العينة تم توزيعه على المناطق الاحصائية بنسب مدروسة كلٌ حسب عدد العائلات فيها ، والمعلومات من 500 عائلة . وقد تم استخدام البرنامج الإحصائي SPSS في تحليل المعلومات .

نتائج الدراسة الرئيسية:
كانت نتائج الدراسة بعضها متوافق مع التوقعات والنظريات في هذه الدراسة ، والجزء الأكبر مخالف لها.
كانت نسبة انتشار، ظاهرة زواج الأقارب 61% ونسبة الزواج المبكر كبيرة ،أما بالنسبة للتعليم عند الزوج، والزوجة ووالدي الزوج كان قليل وإن وجد فأغلبهم للمراحل الابتدائية والإعدادية فقط ، أما بالنسبة للأمراض الوراثية فأظهرت النتائج بأنها قليلة جدا حسب المعلومات المستوفاة من الأمهات اللواتي شاركن في الدراسة .

التوصيات:
من أهم التوصيات هو العمل على أيجاد آلية للحد من الزواج المبكر والذي بدوره يؤدي إلى تقصير الفترة الإنجابية عند المرأة ، والعمل على تأخير الزواج إلى سن متقدم عند الإناث . وكذالك العمل على الانفتاح على الحياة المدنية مما يتيح للناس التعرف على بعضهم والاختلاط قد يؤدي إلى إيجاد فرص زواج بديلة والحد من ظاهرة زواج الأقارب وكذلك العمل على عقد ندوات تثقيفية للأجيال الشابة المقبلة على الزواج حول موضوع الصحة الإنجابية وضرورة تجنب الزواج من الأقارب .

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Definitions

ANC Antenatal Care

MCH Mother and Child Heath Center

MOH Ministry of health.

PMOH Palestinian Ministry of Health.

PHC Primary Health Care

UNRWA United Nation Relief and Working Agency.

PCPS Palestinian Central Bureau of statistics .

SPSS Statistical Package of Social Sciences.

WHO World Health Organization.

Anemia Anaya Women Whose Hemoglobin Concentration is less than 11gm/100ml in last pregnancy is considered anemic in this study.

Consanguineous Marriage: Marriage between blood Relatives.

PKU phenyl – keton - urea

-**First-degree relative's marriage:** the union between first-degree relatives (brothers, sisters, and parent-child) that referred as being incestuous.

-**Second-degree relatives Marriage**: the (uncle-niece, aunt-nephew).

-**Third-degree relatives Marriage:** the union between the third degree relatives (wide family).

-**No relation Marriage:** the union between the Couples Who has not blood relations (No blood relation).

-**Primary education**: Include those who finished 0-7 years of education.

-**Secondary education**: Include those who finished 7-12years of education.

-**High education:** Include those who finished 7-12 years of education.

-**Maternal Morbidity:** described any health problems as a result of pregnancy and stillbirth in last pregnancy.

Chapter I
Introduction

This chapter provides an overview of the research background, research problem, significance of the research, goal of the research, research questions, and overviews the organization of the dissertations.

1.1 Research Background

Consanguineous marriages are widespread and well socially accepted in Arab societies. In some areas, such marriages are considered a normal practice, and even are highly encouraged sometimes. Studies on this subject have shown that the percentage of such marriages varies between 20-50% of all marriages. It has also been shown that first cousin marriages can be as high as one-third of all marriages in several Arab countries rate of first cousin marriages varies from one country to another, and sometimes it varies within the same country. But it is clear that the rate is relatively high in all Arabs countries.

The notion of consanguineous marriages is not new or just limited to Arabs. Actually, inbreeding is a custom that dates back to the beginning of the human life. In fact, it was a rule among hunter Homo sapiens, not an option. But over the years of practicing consanguineous marriages, people had started to realize the devastating consequences of such a practice. For instance, the male children of Pharaoh Akhenaton who were born out of consanguineous marriages never survived. Regarded as a significant step in fighting against consanguineous marriages, especially in a population that had practiced this kind of marriage for a log time, Moses later prohibited the marriages between siblings, such as mother and son or father and daughter (Thornill, 1993).
Despite the measures that had been taken over the years to stop or reduce interfamily marriages, unfortunately, such marriages are still popular among Arabs. There are of course several reasons as to why we still see high rates of such marriages among Arabs. For example, the Bedouins (nomadic people) do not have the option of mixing with other people. They are rather organized in small tribes based on common line of descent. As such, when time comes for marriage, the only choice they have is to inbreed (Teebi, 1994). On the other hand, the popularity of inbreeding in agricultural communities stems from the fact that families would like to ensure that the land remains within the same family and wer not given to other families. This is due to the practice of inheritance of land where if a female is married to someone from a different family, her inherited-portion of land will transfer with her to her new family. This is crucial especially when the land is so limited to start with, especially in countries like Lebanon, Palestine, Jordan, etc. (Klat, et. al, 1984).

The negative consequences of interfamily marriages among Arabs are more pronounced than among other races. This is counterintuitive because Arabs are normally identified as Caucasians where Arabs in countries like Palestine, Jordan, Egypt and Lebanon have a long history of blending with other human races (Der Kalustian et. al, 1980). Arabs, Africans, Europeans, and other Asian people intermarried during wars, mass migrations, trade and religious practices such as pilgrimage. This suggests that Arabs had enjoyed a good stretch of out breeding.

At the face value of it, out breeding may sound a positive thing to have, but on the contrary, it made Arabs more susceptible to genetic disorders part of which came from other populations and others came from the genetic disorders that existed in the Arab populations. To this end, (Thornill, et. al. 1993) showed that the impact of consanguinity in fact increases the inbreeding coefficient. Therefore, the likelihood that an individual will inherit two identical alleles by descent increases. This implies that, while the frequency of heterozygosity decreases, the frequency of homozygosity increases. Because recessive disorders phenotypes are only manifested in the homozygous state, their incidence increases in inbreeding populations. In the following section, I shall discuss the degree of consanguinity and inbreeding coefficient in different Arabic populations will be discussed.

Therefore, this research is guided by a sociodemographic perspective and focuses on Palestinian Population represented by Yatta population, because of its unique demographic trends and traditional customs, Palestine presents an interesting setting for investigating various topics in family demography, such as consanguinity. So, this study will determine the rate of customary consanguineous marriage and its influences on Yatta population- Hebron. The principal study questions, however, pertain to the influences of consanguinity on offspring mortality and couples reproductive behavior as reflected by women age at marriage , first- birth interval, number of children still alive .

1.2 Research Problem

As base, how valid are the generally shared beliefs that consanguinity is deleterious to the survival of the progeny, and, in turn, influential in shaping the fertility of the couples.The increased homozygosity because of consanguineous marriages, along with the expression of rare recessive genes inherited from a common ancestor, is expected to result in an increased genetic load and lack of fitness. Thus, an excessive risk of offspring mortality is potential in consanguineous marriages. Accordingly, we expect a greater tendency of reproductive compensation, and sometimes overcompensation, by consanguineous unions. In addition, interplay among a complex of factors associated with consanguinity (including younger age at marriage, greater biological compatibility between mother and fetus, greater stability of marriage, and longer first birth interval) is believed to render the reproductive performance of consanguineous and non-consanguineous couples dissimilar. We expect our findings to yield valuable theory and policy for the Palestinian population.

This study aims in examining the prevalence of consanguineous marriages in Palestine represented by Yatta , as well as the varying degrees Marriages between close relatives, a striking of the Palestinian Kinship system , are of relatedness between spouses , and expect to find marriages in Palestine/ Yatta to be predominantly consanguineous. The sustained popularity of consanguineous marriages will then lead to examining the concomitant factors that heighten the inclination to consanguinity, as opposed to others that tend to curb this phenomenon.

Consanguineous marriages increase the risk of having a child with autosomal recessive inherited disorders to approximately 20-50 /1000 births. Palestinian MOH in 1997 estimated that more than 30% of the infant mortality rate is due prematurity and abnormalities (PMOH, 1997).

The concern about the negative consequences of consanguinity as found in western societies is not widespread in some Muslims and Arabic societies, which Palestine is one of them.

Consanguinity has not yet attracted the well-deserved attention of researchers and policy makers in Palestine. Because of that, researches and studies are needed to clarify and highlight these health problems in order to let or to force the health policy makers and legislations to pay enough attention to this problem.

1.3 Demography of Yatta

1.3.1. Population.

The population of Yatta in 1997 was estimated at 30,420, According to the Palestinian Bureau of Statistics (PCBS),15518 are male and 14902 ae emale. The prediction size of the Yattans population by the year 2003 to be 39,939, and by the year 2010 to be 54,608 (PCBS, 1997). But, the Municipaty records estimate atotal of 54,000 population size for the town of Yatta during the year 2003. This is almost as much as the PCBS census population projection was for Yatta for the year 2010. This implies that the population growth rate for Yattans exceeded the expectations, and in fact, it was documented in the municipality records that this has reached the value 4.5% during the last five years.

1.3.2.Fertility.

The total fertility rate has been estimated in West Bank and Gaza Strip at 6.01 biths per woman (5.4 in West Bank and 7.4 in Gaza Strip, MOH 1997). While, the total fetility rate in Palestinian terittory is 4.31 (MOH annual report 2000). So, the fertility in Palestine is considered very high comparatively to other communities. Some of the causes are early marriage, political situation, and the desire of having male children, and the sum of norms.

MOH annual report 2000 suggests that the infant mortality rate is 22/1000, and the under five mortality is 27.3/1000, 27.2 in West Bank and 31.2 in Gaza Strip during the period 1995- 1999,(MOH 2000).

1.3.3 Marital Status.

According to PCBS (2001), early marriage is prevaling in the Palestinian terittory among female rather than males. The married females aged (15-19) constitute 18.4% of the Palestinian population compared with 0.7% for male. The percentage of married females age (20-24) was 58.6% compared with 21.1% for male.

Accordind to the prevailing norms, aYattan girl looses her chances of getting married if she is not by the age 18 at the most. That is one reason why around 90% of them were involved in early marriage (under 18) while asimilar percentage of boys wer involved in early marriage, too, (under 20). Because of the high dowry and overall cost of marriage in addition to many other extended family affairs such as power balance, and property matters most of these marriages tend to be consanguineous ones.

1.3.4 Mortality Rate

Crude death rate and infant mortality rate had shown an apparent decline during the 1990s. The crude death rate was 3.5 /1000 in 1997(Palestinian MOH 1997). The infant mortality rate was 20.1 /1000 live births for the year 1997, and 35.2 /1000 live births for the period 1985-1989.And as aresult, the life expectancy at birth was found 69.0 years for males, and 71.0 fo females for the year 1996. Maternal mortality rate dropped to 37.3 / 100,000 in 1997 (PCBS 1998).

1.3.5 Educational Status.

According to the Yattans Municipality records, during the year 2002-2003, atotal of 17,494 were school students registered. The highest rates of school enrollment are of the age group(10-14) years, and the lowest rates are the age (15-18) years.
Beyond the school system in the 1997 census the PCBS investigated what it labeled as "educational attendance" referring to person registered in any formal educational stage irrespective of whether it took the form of continuous attendance or distance learning. Formal education stages includes the elementary stage, preparatory stage, secondary stage, and higher education stage (PCBS 1999).

Table 1
Yattans (age 5 years and above) Educational attendance by sex distribution.

sex	Currently attended	Attended & left	Attended& graduated	Never attended	Not stated	Total
Male	5024	3878	1656	1522	3	12083
Female	4618	3297	1057	3004	7	11983
Total	9642	7175	2713	4526	10	24066

PCBS 1997 census. Population Report-Final: Hebron Governorate, part 2, 1999.

Furthermore, municipality records supplement this claim as they register the total of 1171 school entrants for the school year 1990-1991. Of these, it is registered, only 433 finished school and graduated in the year 2001-2002 indicating a total dropout rate of 37% fo that pouch of students throughout their various years of school education.

On the other hand, the year 2001- 2002 school dropouts for Yatta were obtained from the office of education for the south- Ministry of Education. The report registers a total of 253 dropouts for the specific year: 125 girls and 128 boys. For girls most dropouts occurred in the 7^{th}, 8^{th}, or 9^{th} grade. While for boys most dropouts were among the 8^{th} and 10^{th} grade.

Table 2:
Yattans (10 years and over) by sex and educational attainment.

Educational Attainment	Sex		
	Male	**Female**	**Total**
Illitrate	1049	2573	3622
Reading & writing ability	2409	2320	4729
Elementary	2858	2317	3175
Preparatory	1707	1310	3017
Secondary	729	385	1114
Associate Diploma	201	124	325
Bachelor	236	51	287
Higher Diploma	3	2	5
Master	11	-	11
Doctorate	3	-	3
Unstated	27	110	137

PCBS 1997 census. Population Report Results: Hebron Governorate, Part 1, 1999.

For Palestine in general, according to the PCBS (2001) 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 enrollment in Gaza Strip are higher than those of West Bank. On the other hand, females do not have equal opportunities of education and comparison with males of the age group (10- 24) and the educational attendance in the West Bank is better than that in Gaza Strip.

Table 3: School Enrollment for Palestinian Population aged (10-24) Years by age and sex and region source: (PCBS, 2001).

Age	West Bank			Gaza Strip			Palestinian Territory		
	Male	Female	Both Sexes	Male	Famale	Both sexes	Male	Female	Both Sexes
10-11	98.3	99.3	98.8	99.0	98.	98.8	98.5	99.1	98.8
12-14	94.9	97.0	95.9	95.5	96.7	96.0	95.1	96.9	96.0
15-17	68.1	77.0	72.4	76.6	76.7	76.6	71.2	76.9	74.0
18-22	29.7	29.1	29.4	41.8	26.9	34.3	34.0	28.3	31.1
23-24	10.6	4.3	7.6	15.6	7.3	11.9	12.5	5.2	9.0
Total	**61.2**	**63.0**	**62.1**	**69.3**	**64.6**	**67.0**	**64.2**	**63.6**	**63.9**

Dropout rate raised for youth aged (20-24) years and total dropout rate in the Gaza Strip is lower than that of the West Bank. The highest illitracy rate is among the youth aged (20-24) years compared with other youth age groups, and illitracy rate of males and females in the Gaza Strip is higher than that in the West Bank. The PCBS (2001) also points out that there are no discrepancies between males and females in educational attainment of youth.

1.4 Justification of the study

Determining the true relationship of consanguinity with other socioeconomic and demographic factors using stratified Simple random sample requires a setting with reasonably prevailing levels of consanguineous marriages, mainly because most of the inferential statistical procedures require a sufficient number of cell counts for each group. If the proportion of consanguineous marriages is small, the cell count may be insufficient to conduct meaningful analysis when the data set is farther broken down into various categories of variables (Norusis, 1994).

Modernization theorists anticipate a definite decline in the frequency of consanguineous marriage in the future. These types of marriages were common in many cultures prior to industrialization. Family rituals and customs pertaining to consanguineous marriages pervaded individuals lives, and rules pertaining to consanguinity governed many aspects of lifelong relationships, such as the selection of a mate , were often made at birth , along with decisions about the flow of resources and wealth within and between families (Doman, 1988).

Goode (1963) argued that societies such as sub-Saharan Africa, India, and those in Middle East were undergoing a set of socio cultural and economic trans- formations, generally covered under the common rubric of modernization. Such modernization results in erosion of various types of marriage transactions, by raising the level of education, creating modern occupational in the formal labor force. All these processes cause individual to wield greater autonomy in mate choice.

Haldane (1963) argued that industrialization and movement of population would lead to decline in consanguinity. Goode (1963) also associated the decline in the institution of arranged marriage with a decrease in the frequency of consanguineous marriage. also goods theory may not materialize in all settings (e.g. khoury and Massad 1992) , substantial empirical support (Rao and Inbaraj, 1977; Thornton and Fricke, 1987; Driver and Driver, 1988) indicates that frequency of consanguineous marriage is declining over time thus only a few population offer a promising setting for the study of consanguinity. In these populations which are experiencing considerable decline in the proportion of consanguineous marriage the effect of consanguinity on demographic processes is difficult to isolate from that of other socioeconomic and cultural differentials.

Southern Regional Committee for Rehabilitation. A Study of 19 Palestinian Communities in the Southern District of the West Bank with a Special Reference to the Needs of Persons with Disabilities. SRCR, 1996: 92 pp.

This study presents the basic findings of a house-to-house survey conducted in 19 communities in the Southern District of the West Bank (Bethlehem and Hebron regions). It provides data on the general socio-economic conditions of the communities, with an emphasis on documenting the conditions of persons with disability and assessing their needs. The report was created to inform the development of a community-based rehabilitation (CBR) programme that has been launched by the Southern Regional Committee for Rehabilitation (SRCR). Of the approximately 116,000 persons surveyed, 2.4% were disabled. Among other things, results indicate a need for developing activities that assist disabled families and their families with daily activities. A great need also exists to socially integdisabled persons, especially children. The study lists three priorities

that CBR programs should focus on. These are impoverished households and communities, girls with disabilities, and persons with mental disabilities.

In light of this, data from Palestine offer an unusual opportunity for studying consanguinity where high levels still prevail and the practice has not declined over time.
Consanguineous marriage has been a matter of great concern in the western world because of their multifaceted impact on individuals and their social organization. Darwin who himself had fathered 10 children with his first cousin expressed serious concerns over the possible effect of consanguinity. Deaths of three of his children before adulthood caused Darwin to believe that cousin marriages were perilous for the biologic fitness of progeny. He tried to influence legislators to include the question of consanguineous marriage in a population census questionnaire for England and Ireland, but the proposal was declined on ethical grounds in the fear that the results might embarrass those married to relatives .Darwin expressed his discontent on this rejection in his book 'The DESCENT OF MAN' (Darwin, 1871; also referenced by Cavallisforza and Bodmer, 1971; Motulsky, 1986; and Bittles, 1994).

The concern about the negative consequences of consanguinity as found in western societies is not widespread in some Muslim societies, such as Palestine. The practice of marriage among close relatives is deeply rooted in Palestinian culture, dating back several centuries. The preference for consanguineous marriages has largely been fostered by the socioeconomic benefits that they have to offer, cultural norms that favor such marriages, and structural constraints that necessitate them (Donnan, 1988).

The final point in this section centers on the fact that consanguinity has not yet attracted the well- deserved attention of researchers and policy makers in Palestine. Following classical theories of fertility and mortality, the effects of age at marriage on mortality (Sathar and Kiani, 1986; Fricke, Syed and Smith, 1986) , of birth spacing on offspring mortality on couples fertility (Ahmad, 1985; Soomro, 1985 & 1986; Yusuf and Rukan, 1989) have already gained the profound attention of demographers and other social Scientists about consanguinity .

This study will give some attention to the role of such factors, and determine the rate of customary consanguineous marriage and the consequences associated with it in Yatta population – Hebron- West Bank.

1.5 Goal of the Study

The goal of this study is to asses the rate of customary consanguineous marriage in yatta an the health consequences associated with it. In addition, this study will be considered as a literature review for further studies and help in better future planning.

1.6 Aim of the Study

To examine the prevalence of consanguineous marriages in Palestine.

1.7 Research Questions

- Women in earlier birth cohorts are more likely to be consanguineously married than women in recent birth cohorts.
- Women with higher formal education are more likely to marry a non relative than women with little or non-formal education.
- Women married to a relative are more likely to have a longer first-birth interval than those married to anon relative.
- Couples who have experience offspring mortality are more likely to have more births than those who have not experienced offspring mortality.
- Women who have experienced offspring mortality have more living children than couples who have not experienced offspring mortality.
- Women who marry at a younger age have more living children than women who do not marry at a younger age.
- Consanguineous marriage is associated positively with number of live births.
- Consanguineous married couples are not likely to differ from those married non consanguineously in terms of total number of children alive.
- Women whose husbands have more formal education are likely to marry anon relative than women whose husbands have little or no formal education.

1.8 Assumptions

The following assumptions are used in this study:

- Several pockets of congenital disorders and congenital abnormalities developed in Yatta, as more than one member of the same family diagnosed with these disorders.
- Some disorders, e.g., Thalassemia, congenital deafness PKU, and blindness disseminated in communities with high consanguineous mating as it is seen in Palestine.
- Awareness within the community about the risk of consanguineous marriage has a significant effect on the occurrence of new enhanced policies regarding this phenomenon.

1.9 Organization of Thesis Chapters

This thesis is organized into six chapters. The succeeding chapters develop a conceptual framework and hypotheses based on reviewing the existing literature, outlining data and statistical methods, interpreting results and finally, summarizing the findings.

Chapter II present the existing hypotheses and researches findings to aid the theoretical framework and validate the research hypotheses. The first section of the chapter considered as an introduction, the second section focuses on the existing hypotheses related to our study, the third section focuses on the existing research findings, and finally the fourth section will be the summary and conclusion.

Chapter III present the theoretical and conceptual framework of the study.

Chapter IV present the methodology of the study, as the following, introduction, research design, sampling technique, place of the study , ethical considerations, research tool, pilot study, data collection, data analysis, and finally the conclusion.

Chapter V present the results of the study. The first section will be the introduction, then statistical analysis, third section exhibit the results, and finally the conclusion.

Chapter VI present the conclusions and the recommendations. The first section will be as an introduction, the second section focuses on the recommendations, legislations, and finally the recommendations for further researches.

Chapter II
Literature Review

2.1 Introduction.

This chapter provides a general overview of the literature from two different but complementary perspectives. The first embodies review previous research work on consanguinity as conducted in various parts of the world considering various socio-cultural contexts. Primarily, reviewed research dealt with determinants of consanguinity and its consequences for the fertility of consanguinity couples and the mortality of their offspring. This body of literature was used to formulate the research hypotheses, to demonstrate how the present study is distinctive and different from previous researches, and to determine how this study improves knowledge in this field. The chapter closes with a summary.

2.2. Review of Relevent Theories

2.2.1. Modernization Theory (Dijk, J.A.G.M. VAN (1993b).

History and Orientation

A macro-theory with a historical and sociological inspiration. Developed in large-scale historical research investigating the effects of the modernization process on human communication. Modernization means the appearance of ‘modes of social life or organization which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less worldwide in their influence’(Giddens, 1991). Modernization theories explain the changing ways of communication and media use in traditional and (post)modern societies.

Core Assumptions and Statements

Modernization theory has evolved in three waves. The first wave appeared in the 1950s and 1960s. One made the attempt to explain the diffusion of Western styles of living, technological innovations and individualist types of communication (highly selective, addressing only particular persons) as the superiority of secular, materialist, Western, individualist culture and of individual motivation and achievement (Lerner, 1958), Schramm, 1964).
This first wave of theory produced three variants (McQuail, 2000: 84):

1. Economic development: mass media promote the global diffusion of many technical and social innovations that are essential to modernization (Rogers, 1962). See Diffusion of Innovations theory.
2. Literacy and cultural development: mass media can teach literacy and other essential skills and techniques. They encourage a ‘state of mind’ favorable to modernity, e.g. the imagination of an alternative way of life beyond the traditional way.
3. National identity development: mass media could support national identities in new nations (colonies) and support attention to democratic policies (elections).

Most of these theories have been discredited because of their pro-Western bias.

The second wave of modernization theory is a part of the critical theory that was popular in the 1970s and 1980s. It does not support but criticize the influence of Western modernization. This is held to be a case of Western cultural and economic imperialism or dominance (Schiller, 1976).
One of the theories concerned is media dependency theory. Peripheral (developing) countries are assumed to be dependant on mass media in the core (the Western world).
The third wave of modernization theory rising in the 1990s is the theory of late-, high- or post modernity. It tries to be more neutral, being not in favor or against Western modernization. Rather it attempts to unearth the contradictions in the modernization process and to explain the consequences of modernity for individuals in contemporary society (Giddens, 1991a, 1991b). Giddens showed that modern society is characterized by time-space distantiation and disembedding mechanisms. Traditional society is based on direct interaction between people living close to each other. Modern societies stretch further and further across space and time using mass media and interactive media. Disembedding mechanisms such as money, symbolic means, English as the lingua franca and the Internet help to lift out and activities in an abstract or online form that were once embedded in particular material goods and in places.
Benjamin Barber tried to explain the clash of Western and non-Western cultures of the world in his Jihad versus McWorld: How the Planet is both Falling Apart and Coming Together (1996).
This theme of the combination of unification and fragmentation in society and in media use also is present in the work of Meyrowitz (1993) – See Medium Theory- and van Dijk (1993, 1991/1999). Van Dijk tries to explain the rise of the new media such as computer networks and mobile telephony as important tools for modern life. They enable scale reduction and scale extension, a unitary and a fragmented world and, finally, a world that is both social and individualized (network individualism).

Modernization Theory and our Study Relation.

Because consanguineous marriages are deeply rooted in our communities, especially, Islamic and Arabs communities (Palestine is one of them), and the prevalence of this type of marriage is very high. Therefore, we hope and aim to reduce this prevalence.

So, we argue that modernization theory serve us in this field, as this theory (Goode 1963; Haldane 1963) forecasts a decline in the prevalence of consanguinity due to many factors associated with modernization. The factors include break up of isolates, and rise of industrialization and concomitant factors such as education, social status, and female labor force participation. Many of the predictors of consanguineous marriages explained the variation in consanguinity precisely in the way the modernization theorists predicted. For instance, female education and exposure to urban life in pre – adulthood (before age 12) significantly reduced the likelihood of consanguineous marriage. Bittles (1992) takes issue with the modernization argument, suggesting that industrialization, greater population movement, decline in family size, and higher literacy rate will result in arapid decline in the rate of consanguineous marriage, primarily on three grounds.

First, he emphasizes that consanguineous marriage is not merely a cultural tradition but currently performs greater economic functions than ever before, as aresult of shrinking agricultural lands, and aggravating greed for dowry resulting in dowry murders and economic hardship of the brides' parents. Secondly, with the improvements in medicine, puplic health, and hygienic conditions in developing countries, a greater number of

children will survive to marrigable age, which, in turne, will enlarge the pool of marrigable cousins. Bittles, however, does not take into account the position of theories of demographic transition, which advocates that reduced offsprin mortality lead to asmaller family size norm. His final argument was that parts of Islamic world are inclined towards adoption of more fundemantaist doctrine and are, therefore, likely to return to the more traditional practice of consanguineous marriage.
Thus, we suggest that modernization and some of the changes it brings may cause a considerable strain reducing the prevalence of consanguineous marriage factors such as the cultural norms of kinship and sib ship solidarity cherished by consanguineous marriage, and socioeconomic benefits offered by such marriages, tend to outweigh such strain.

2.2. Review of Relevant Research

2.2.1 Global prevalence of Consanguineous Marriages

In some of the societies where consanguineous marriages were once widespread, the prevalence has declined considerably in recent years (Imagismi 1986b,1986c; driver and driver, 1988). But in some others, no such decline has been noticed (Guz , Dedeoglu, and Luleci, 1989). Whereas, a slight increase in the preference of consanguineous marriages has occurred recently (Khoury and Massad, 1992 ; Givens and Hirschman, 1994).

Bittles (1990, 1993, 1994) has observed the prevalence of consanguineous marriages studied in numerous studies all over the globe. Consanguineous marriages are more prevalent in North Africa, central and west Asia ranging currently between 20 to 50 percent. In Japan, they range from 0.4% in Tokyo and Osako (Hosoda, Fujiki and Nakajima, 1983) to 15.5 % in Fukushima (Watanabe, 1956) the proportion of consanguineous marriage in south Asian countries range between 0.4% for Manila-Philippines (Stevenson et al., 1966) and 17.6% in Bangladesh (Bittles, 1990) whit the exception of Indian studies show a prevalence rate of 20% (Kumar, Aai, and Swaminathan, 1967) through 40% (Sanghvi, 1966).
In urban areas of Pakistan, the proportion of consanguineous marriages between second cousin or closely related persons has been found to be 50.3%(Hussain J. Biusoc. 1998) .

The incidence of consanguineous marriage is currently around 44% in Iran (Givens and Hirschman, 1994). Among Middle Eastern countries, Iraq shows the highest (56.4%) (Cook and Hanslip, 1966; Hamamy , Al-Hakkak ,and Al-Taha, 1990; Al-Awadi et al., 1986). The highest frequency of consanguineous marriages has been noticed to be 63.6% in Egyptian Nubia (Badr, 1972) .

Consanguineous marriages are not practiced in the most western countries. Wherever practices , the prevalence is extremely low, for instance , in Europe , it ranges from (0.1%) in Hungary (Czeizel, et al., 176) to (2.8%) in Spain (Gomez 1984) in south America. The highest proportion of consanguineous marriages has bees observed in El Salvador (4.9%) (Freire –Maia, 1968).
Among Canadians, (1.5%) of the people practice consanguinity, A study of the United States population reveals a consanguinity rate of (0.2%) (Freire-Maia 1968, 1982).

2.2.2 Studies in Asia

Studies of inbreeding effects in Asia use a variety of data collection procedures and show contrasting. Consanguineous couples in Pakistan have been reported to suffer greater child loss due to perilous effects of consanguinity on the health of children (Karlberg, et al., 1993). Ferngren, Jali, Khan and co-workers (1993) studied 940 families in the city of Lahore and suburbs during September 1984 to March 1987. They divided their sample into four categories by socioeconomic status. Consanguineous marriages were consequentially for infant and child mortality in all four socioeconomic groups.

Shami and his coworkers pioneered discernment of the role and significance of consanguinity as a demographic variable for the Pakistani population. They collected data on consanguinity in seven cities of the Punjab province through a series of surveys conducted between 1979 and 1982 and reported findings in five different papers. Data in Lahore were generated through interviews with women in hospitals general and labor wards. Analyses showed significantly greater postnatal mortality among women of first–cousin marriages (Shami and Zahida, 1982).

Significantly greater offspring mortality was also observed in the Gujrat sample, which combined of hospital and household surveys (Shami and Hussain, 1984).
The Jhelum sample was the last to show a significant consanguinity- related effect on early childhood mortality (Shami and Minhas, 1984). The remaining household surveys conducted in Mianchannu, Muredke (Shami, 1983), Sheikhupura (Shami and Iqbal, 1983) and Rawalpindi (Shami and Siddigui, 1984) revealed slightly elevated levels of offspring mortality for first cousin marriages, but statistical significance was not evident. Later, the information collected in these seven urban centers in Punjab-Pakistan, was reported in the form of consolidated reports (Shami, Schmitt, and Bittles, Grant, and Shami, 1992a, 1993b). The authors concluded that the apparently substantial contribution of consanguinity to rising mortality levels for progeny should be treated with caution because the information on concomitant social factors was not reported in these studies. Moreover, the general infant mortality rates were higher in these populations rendering the effect of genetic factors inseparable from other causes of child mortality.

Low birth weight is an important determinante of infant mortality and morbidity (McCorrmick, 1985) since the previous studies could not differentiate the genetic causes of infant and child mortality due to their failure to control for socioeconomic factors. Shami et al 1991a adopted an alternative technique to conduct a pilot study in Lahore city that examined the effect of consanguinity on weight and other anthropometric measures at birth among 662 babies this study confirmed the detrimental effect of consanguinity by reduction in all anthropometric measures the effect on birth weight was strikingly noticeable (shami et al., 1991a).

Schull and Neel (1965) conducted the largest best-documented study of an unselected series of first-cousin mating in japan .They reviewed the results of major studies on the effects of consanguinity on mortality concluding that there is good agreement about the effects of inbreeding on perinatal and juvenile deaths, increased at much the same ‘(1965:112). Their study used two bodies of data to evaluate the relationship of inbreeding to morality in Hiroshima and Nagasaki .
One of these data sets recorded mortality experience among 9,292 pregnancies (cohort) and the other was “historical “data on the mortality experience of all live births to the

sample of parents covered by CHS (Child Health Survey). The effect of consanguinity on infant mortality was positive, equal, and significant for the both cities.
The effect of inbreeding on the subsequent mortality of the cohort was positive and significant in Hiroshima but not in Nagasaki.

Other studies in Japan depict a significant effect of inbreeding on morality, except in the study of the Kure population by Schull (1958) and Schull and Neel (1966) .

The B/A ratio for the Kure sample was 0.4 wherein B is the coefficient of regression of the percentage of inbreeding and A is the intercept at F = 0 (Schull, 1958)
The A/B ratio in other Japanese studies ranges from a high 15.2 (Schull , Yanase , and Nemoto, 1962) to a iow 1.1 (Nagasaki City in Schull and Neel's 1965 study) , the strongest positive effect of consanguinity.
mortality B/A =15.2 involved an island (Kuroshima) with a considerable proportion of Catholic population , which tends to have a low degree of consanguineous marriages, and a lower socioeconomic status than Buddhists .
The data for this study were drawn from Catholic Church records (Schull et al., 1962). Another attempt to evaluate inbreeding effect in Japan was watanabe's (1956) in a rural area of Aizu, a mountainous district of Fukushima prefecture, based on data collected through junior high – schoolchildren.

Mortality levels of consanguineous children were found higher (first-cousin marriages 11.47%, first cousin once removed 9.78%) than those of nonconsanguineous marriages (8.46%) Results of the Tanaka (1962) study using primary –school children in Shizouka City were essentially similar, whit higher morality rates of 15.06 percent for first-cousin marriages, 16.07 percent for first cousin once removed, and 13.06 percent for second, 16.07 percent for first cousin once removed , and 13.61 percent for second-cousin marriages compared to 11.59 percent for nonconsanguineous marriages .

A potential source of bias exists in these tow studiers, which were largely based on data collected through schoolchildren.
Only those marriages were included that had at least one child surviving to school age , and ignoring other unions that did not have school going offspring , marriages whit no surviving children up to school age were also not represented .

Greater levels of cumulative mortality for the children of consanguineous marriages, compared to those for nonconsanguineous marriages, were also found in a large study of 45.230 families in Fukuoka , Japan .Chi-square analyses showed significantly greater levels of mortality among inbred children were noticeable as early as three months after birth .the differences between to groups became more subtle gradually and significantly through the six years (Yamaguchi, Yanase Nagano, and Nakamoto, 1970).

Finally, a careful study of 10,530 marriages in hirado revealed that consanguinity has a nonsignificant effect on offspring mortality. parental inbreeding incurred a slight increase in pre-reproductive mortality, however, the relationship failed to attain statistical significance (schull et al . 1970 a , schull, nagano , yamamoto, and komatsu 1970 b, schull and neel 1972) .

Studies in India showed divergent results depending upon historical time and type of study design , Hospital-based studies of consanguinity showed mixed results. Studies that

took place in the sixties revealed that offspring of consanguineously married parents were significantly more vulnerable to mortality, and morbidity than children of nonconsanguineous mates (dronamraju and meera-khan 1963b, kumar et al 1967). Kumar and his colleagues (1967), for instance, found that total mortality among children of unrelated parents was 11.69 percent compared to33.58 percent among those of first-cousin marriages and 20.58 percent for offspring of second-cousin marriages.

Levels of infant and juvenile mortality were also significantly greater for consanguineous than nonconsanguineous marriages than for nonconsanguineous marriages.

Hospital –based studies by Devi, Rao, and Bittles (1981) and Bittles et al. (1987) revealed a nonsignificant relationship between consanguinity, and offspring mortality. The data on 3,350 marriages in Bangalore, Karnataka, failed to demonstrate any significant effect of inbreeding on post-natal mortality, however, the study relied on simple descriptive analytical methods, hence failing to control for socio-economic status and other differentials in consanguinity (Devi et al., 1981).

A gigantic sample (N=65,492) of obstetric inpatients in urban centres of Karnataka yielded consanguinity data between .(1987) study. The sample showed high level of inbreeding F=0.0298),yet the chi- square test revealed no significant difference in proportion of survivors for children of consanguineous and no consanguineous union.

Most household surveys of consanguinity revealed a significant positive association between frequency of consanguineous marriages and various types of Prenatal and postnatal mortality of the children. A detailed bio demographic survey of two Muslim Villages (with N=471 families) in west Bengal, India, yielded a significantly higher index of selection due to embryonic and childhood mortality for the consanguineous group compared to the control group. The author concluded that consanguineous mating lowers the general fitness of offspring (Barua, 1976).

Household studies in Andhra Pradesh, India (Nirmalan ophthalmic Epidemiology 2006), also confirm a positive relationship (with few exceptions) between Levels of inbreeding and those of mortality. Analysis of 265 marriages among Pattusalis of Andhra Pradesh, showed that the levels of postnatal mortality were higher among children of related parents (mean is almost twice as mush) as among that of children from non-consanguineous parents, and the difference between the two was statistically significant at P=0.01 (Reddy and Rao, 1978).Reddy (1985) also found strong evidence of higher mortality rates among offspring of related marriages compared to those among offspring of unrelated marriages (P<01). The total mortality (from conception to the age of 15) was more than two and one –half times greater in the inbred sub sample than in that of the non –inbred .

Sirajuddin (1984) collected data through a field study on a primitive population, the Chenchus of Andhra Pradesh ,and found that selection due to mortality was high in the inbred segment as compared to the non-inbred segment. He compared the selection intensity whit that of other studies in the region , however , the small sample (N= 213) and the primitive population's higher levels of mortality in general the validity of these comparisons questionable.

Srikumari, Rajanikumari, and Rao (1985) in their study of Brahmins (high-caste sector of the society) and Jalaries (low socioeconomic caste) of Andhra pradesh found that genetic load significantly raised levels of postnatal mortality in both castes, although the effects were more severe for Jalaries .

The only study in this region that found a negative relationship between various types of mortality (except for infant mortality) and level of consanguinity is that of Reddy (1987). Based on data from 551 marriages in two Male populations, the exponential regression model showed that increased levels of consanguinity were associated whit decreased levels of mortality, except for infant deaths in one sub-caste .

A large sample of 2,078 women of the vadde fishing population in Andhra Pradesh showed a slightly higher mortality rate (21.0%) of offspring from consanguineous marriages that for offspring of non-consanguineous marriages (17.6%) , but premise that the prolonged custom of inbreeding for 2,000 years or so resulted in elimination of recessive deleterious genes (Reddy 1992) .

Discrepant effects of consanguinity on mortality levels were noted between high socioeconomic and low socioeconomic families of the Andhra Pradesh sample of 1,126 families by Murty (1986). Consanguinity showed a negative effect on offspring mortality for low socioeconomic strata of the sampled population whereas it showed a positive association with mortality among high socioeconomic families .Discrepancies were attributed to a prolonged in the low socioeconomic group, resulting in elimination of deleterious genes; however, overall rates of mortality were higher among the lower socioeconomic group than their higher socioeconomic counterparts. Another hospital-based study in Andhra Pradesh yielded insignificant difference in prenatal and postnatal mortality levels among offspring of consanguineous and non-consanguineous couples (Nair and Murty, 1985).

Research on deleterious effects of consanguinity, based on household data in Tamil Nadu, showed mixed results. A detailed prospective survey of 20, 626 women representing both urban and rural areas of Norh Arcott District of Tamil Nadu revealed that mortality rates were statically significantly greater for offspring of consanguineous marriages that for those of unrelated parents. The authors suggest however, that differences were not substantially great and that large sample sizes were responsible for statistical significance (Rao and Inbarai ; 1977a , 1977b).

In another study of 400 couples from Tamil Nadu 60-percent greater infant and child mortality was noted for consanguineous unions (standardized mean= 0.97) than for nonconsanguineous unions (standardized mean =0.59). The authors suggested that findings indicated greater health risks for offspring of consanguineous unions (driver and driver 1988). Ghosh and Majumdar (1979) studied a small, isolated population from Nilgiri hils, Tamil Nadu, with extremely high levels of in breeding, for inbreeding effects . they found that levels of offspring mortality were not any different for consanguineous marriages than for nonconsanguineous. They attributed the low genetic load in this population to the long history of inbreeding wherein deleterious effect s wither away through natural selection.

A Sri Lankan study used regression analysis of offspring mortality based on a field survey conducted during 1973 in Sri Lanka to find that consanguinity was an insignificant predictor of child morality (Reid, 1976).
A hospital –based study in Iraq compared workers (control group) with patients having reproductive problems to explore inbreeding effects. Results showed that closely related couples show a greater tendency to reproductive higher frequency of infant mortality between the ages of 0 and 2 (Hamamy and Hakkak, 1989).

Consanguineous couples in Jerusalem, exhibited greater levels cumulative mortality (Fried and Davies, 1974) and infant mortality (Goldschmidt et al., 1963). However, these studies suggest that recessive lethal genes hardly manifest during embryonic and fetal periods.

The Goldschmidt and colleagues study in Israel used a reasonably Large sample (n = 2,095 births) to find infant mortality significantly greater for first – cousin marriages only before "preantibiotic period" (p.189). the difference disappeared after 1944, which marked the greater availability of modern medical care . Fried and Davies's (1974) study was limited to Moroccan Jewish community in West Jerusalem , with a small relatively small sample size (27 consanguineous and 27 control families). Therefore, the results may not be extrapolated to the entire population.

Studies in Lebanon show children of first – cousin marriages at a higher risk of mortality . Analysis of data from a population – based health survey of 2,752 households showed a relatively higher proportional deaths for first – cousin marriages (76\1,000 live births) than for unrelated spouses (54/,000 live births) . Linear logistic regression analysis indicated that consanguineous offspring are at a 1.33 times higher risk of death than nonconsanguineous offspring, the difference being statistically significant (Khlat, 1988a).
A comparison of 100 consanguineous unions with the same number of non-consanguineous marriages revealed a widespread awareness of genetic effects of consanguinity among both groups of women. Yet, women who had married a close relative were reluctant to admit (Khlat et al., 1986).

High rates of consanguineous marriages prevail in Turkey (35.2%). Information collected from 2,604 couples manifested significantly greater levels of infant and child deaths in consanguineous matings than in nonconsanguineous mating. The authors of this study also listed results of other inbreeding studies on inbreeding in Tukey ; finding a rate of death in all reviewed studies significantly correlated with consanguinity . Ghild deaths were significantly greater for consanguineous couples in four out of seven investigations (Guz et al . 1989)

For consanguineous couples in four out of seven investigations (Guz et al.1989).
In contrast, a small sample of 42 Samaritan women in Jordan indicated no systematic relationship between level of inbreeding and infant or child mortality. When the sample was broken into five levels of inbreeding , however , very small numbers of cases per category rendered the results unreliable (Roberts and Bonne 1973) .

Globally, the most common form of consanguineous union contracted is between first cousins, in which the spouses share 1/8 of their genes inherited from a common ancestor, and so their progeny are homozygous (or more correctly autozygous) at 1/16 of all loci.

Conventionally this is expressed as the coefficient of inbreeding (*F*) and for first cousin offspring, *F* = 0.0625. That is, the progeny are predicted to have inherited identical gene copies from each parent at 6.25% of all gene loci, over and above the baseline level of homozygosity in the general population. In some large human populations genetically closer marriages also are favored, in particular uncle-niece and double first cousin unions where the level of homozygosity in the progeny is equivalent to *F* = 0.125.
As shown in the accompanying map, national populations can be approximately subdivided into four main categories: those in which consanguineous unions account for less than 1% of marriages, 1% to 10%, and 20% to over 50%, and populations where the level of consanguinity is unknown, either because it has not been reported or the data are of insufficient reliability and depth to make a prediction with any degree of confidence. Applying these definitions, the present numbers in each category are less than 1% Consanguinity, 1,061 million; 1% to 10% consanguinity, 2,811 million; 20% to 50+% Consanguinity, 991 million; and unknown, 1,064 million (Bittles *et al.* 2001). As the data collection methods employed were conservative, these figures should be regarded as lower bound estimates.

A study on fertility in Pakistan and India showed higher fertility among women in the first cousin unions(Rafat Hussein and Bittles, A. H., 2004). The prevalence of National Populations were: less than 1,061 millions, 1% to 10% consanguinity 2.811 millions, 20% to 50+% consanguinity 991 millions, and unknown 1,064 millions (Bittles et al. 2001). The prevalence of Esophageal a chalasia from consanguinity among Indians varies from 0.6 -1.0/100,000 / 1 year(Amar Shah and Anirudh Shah, 2006).

A demographic study of Pakistani Population showed that the prevalence of Consanguineous Marriages were 86.4%, 66.4% of them had deafness (Yoong. S. Y. 2005). A hospital Survey in west Yorkshire on the frequency of Consanguineous Marriage among British Pakistanis showed that 55 were married to their first cousins, while only 33 cases had their mother been married to their first cousin. This suggests an increase rate of consanguinity, (A Darr and Modell. B., 2005).

2.2.3 Studies in Europe

Consanguinity rates are generally low in European population (bittles 1990) , for example, Coleman (1980) found less that one percent of marriages celebrated in Reading, England , during 1972-73 were between close relatives.
Accordingly , researchers have conducted few investigation of inbreeding for these populations, Consanguinity studies in England in most cases focus on immigrant populations from Africa , India , Pakistan , and Bangladesh (e.g. .Honey man , Bahl , Marshall , and Wharton 1987: Darr and Modell 1988: Bundey et al. 1990) .

The consanguinity rare of these immigrant mini-cultures is generally high , for example, 68.7 percent of Pakistani women (out of total of 956) interviewed in a recent prospective survey in Birmingham were married to a blood relative , although the proportion of such marriages was relatively low among other Muslims (23%) .
Several studies in England have found that these groups have higher perinatal mortality rates than other races where consanguineous marriages are not prevalent (Bundey et al., 1990) .

Investigations of the effects of consanguinity in Sweden have demonstrated the nonexistence of any effect of consanguinity among offspring on neonatal or post neonatal mortality. Book (1957) concluded this by using data on 34 consanguineous of 34 control families in Norrbotten County , another study in Sweden consisted of interviews whit 207 families having children whit monohybrid autosomal recessive : levels of mortality in inbred families were not different from general population (Lindelius 1980) .

In contrast , the Magnus , Berg, and Bjerkedal (1985)study in Norway , based on comparison of 848 consanguineous marriages whit 1,696 control marriages , showed that the former group had significantly higher levels of early-offspring mortality .

The prevalence of Consanguineous Marriages among Northern Sweden was 20.8% (Bittles, A. H. 2005).

2.2.4 Consanguinity among Arab Populations

Among Arab populations, consanguineous marriages are customary and constitute 20 - 50% of all marriages. First cousin marriages constitute almost one third of all marriages in many Arab countries. The rate of these marriages differ between countries as well as within one country, marriages between first cousins are favored culturally and socially and considered the "usual" or "expected " pathway in life for first cousin whether they were reared in close proximity or reared far apart.

Country	Average % of cousin marriages	Sources
Algeria	10-16	Zaouis, Biemonte (article in frensh) Sante ,2002
Bahrain	21	A-arrayed Bahrain medical bulletin,1995.
Egypt	12.4	Hafezm el-tahantt , awadallam ,1983
Iraq	29.2	Hamamyh , bayatir , kubaisyw 1986
Israeli Arabs	22	Jaberl, halpern gd ,shohatt,2000
Jordan	32	Khoury sa , massadd ,1992
Kuwait	30.2	Al-awadi sa, moussa ma , naguibkk,1985
Lebanon / Muslims	17.3	Khlat m .amj med genet 1988
Christian	7.9	Khlat. amj med genet 1988
Oman	24.1	Rajaba , patton ma . amj med genet ,1997
Palestinian Arabs	22.6	Al-abdulkateem aa , ballal sg . 1988
Saudi Arabia	25.8	El-hazmi m ,al-swailem ar . 1995
United Arab Emirates	30	Al-gazali li , bener a, abdulrazzaq ym .1997
Yemen	36	Jurdi r .saxena pc . j biosocsci, 2003

also there is a study was done in 2004 on congenital malformation among Arabs newborn in Jerusalem , An incidence of 15.8% of major congenital malformation was reported among 6\0 Israeli Arabs children this prospective study was conducted in the maternity departments of four or five hospitals in western Jerusalem (Hadassah University medical centers at Ein karem and mt . Scopus, Bikur holim Hospital , and Misgav ladach

Hospitals out of 547 mothers who delivered during the study period and were asked to participate, seven refused, yielding a compliance of 98.7%.

A study on familial dilated Cardiomyopathy in Saudi-Arabia showed that 41 cases (20%) out of 55 cases were of Arab Descent, 19 families (46%) parents were first cousin; no Consanguinity in 22 families(54%), (Mohammed A. Seliem, Khader B. Mansara, 2005). A 1986 study of 4500 married hospital patients and staff in Baghdad found that 46% were wed to a first or second cousin, while a smaller 1989 survey found 53% were consanguineously married.(Steve Sailer, 2003).

In Lebanon consanguineous marriages are reported to be more prevalent within the Druze community than the china Muslims and less again among Sunni Muslims (Loiselet 1971).

The incidence of consanguineous marriage is high in middle Eastern societies. Consanguineous marriage currently accounts for 20% to over 50% incidence in these societies (Bittles, 1995). In Beirut, for example, in 1984, 25% of marriages were among relatives(Khlat and Halabi, 1986).

Hammamy and Hakkak (1989) found that among 4491 marriages in Iraq Approximately half of marriages (46.4%) are consanguineous.

Bittles (1995) reviewed statistical information about kin marriages in some Middle Eastern countries. Two studies in Bahrain found that consanguinity to be 31.8% and 45.5% respectively. Three studies in Jordan found that the percentage of consanguineous marriage is from 39.7% to 52.1%. Four studies in Saudi Arabia found a range of consanguineous marriage to be from 31.4% to 55.0%.

The prevalence of consanguineous marriage is related to cultural believes and values in these societies. In Lebanon, for example, Klat (1988) studied the incidences of the consanguinity in Christian and Muslims in Beirut. The incidence of consanguinity is 16.5% among Christian while it is 29.6% among Muslims.

In 5007 Kuwaiti females aged 15 years and above, they found that the rate of consanguineous marriage was 54.3% with an estimated population incidence rate of 52.9% to 55.7%. This rate was considered to be very high. First cousin marriage was the most frequent, totaling 30.2%. Paternal first cousin marriage constituted 18.5% of the total marriages (60% of the first cousins marriages).The second and other cousin marriages constituted 20.8% of the total marriages. Non-consanguineous marriages constituted 45.7% of the total marriages.

In Iran, consanguinity among Muslims and Jews is high compared with other groups. The incidences are 24.3% and 25.5% respectively. Among Zoroastrains it is 17.0% and in Assyrians it is 9.3%. Among Armenians, consanguinity is only 2.8% in Iran. In Israel, consanguinity among Muslims is 39.7% while it is 28.8% among Christians.

A total of 560 Arab newborns (53.5% males) resulting from 540 pregnancies (520 singletons and 20 pairs of twins were recruited for this study , Among them ,253 infants (45.2%) were born to consanguineous parents, the degrees of consanguinity among parents were first cousins (24.6%) , second cousins (11.5%) , third cousins (8.75) , and no consanguinity (55.2%), major malformations were identified in 22 infants(3.9%), and

minor malformations in 28 infants (5%). major malformations were suspected in an additional 46 infants (8.2%) . In the last group, a final diagnosis was confirmed after 4-10 months in only four infants (all presented with a systolic murmur and ambulatory echocardiography confirmed the diagnosis of congenital malformations was 18(7.1%) in babies of consanguineous couples compared with 8(2.6) among babies of unrelated couples.

Infant mortality rate among Palestinians consanguineous parents were 15 deaths/1000 births of first cousin marriages, and 6.1 deaths/1000 for the progeny of parents from the same patrilineal clan,(Pedersen, J. 2002).
consanguinity rate at 49 .4%.

In Gaza strip, the prematurity and congenital anomalies comprised 30.4% of all infant deaths (P.M.O.H. Annual report. 1995). The total number of phenylketonuria in West Bank was 44 cases that comprised 4/100.000 (Nida maraca 1997). Among Palestinian people in Gaza Strip, it is suggested that between 70% to 80% of the phynlketonuria births have been seen among consanguineous couples.

2.2.5 Consanguinity and Prenatal Mortality

Prenatal mortality (abortions, miscarriages , still births) is a consequential risk factor for the healthy of mother and fetus (Bresler, 1970 ; Mac Gluer, 1980) and is, therefore ,worth assessing for association .A diverse range of investigations has studied the effect of parental consanguinity on prenatal mortality , only to yield counter view . three contrasting positions have emerged from these studies; (a) consanguinity contributes to elevated of prenatal mortality ;(b) consanguinity has no effect on prenatal mortality; and (c) consanguinity contributes to diminished levels of prenatal mortality .

The following mechanism is considered operative in the first case , which indicates that consanguinity heightens prenatal mortality . Increased homozygosity of inbred individuals reduces fitness of the fetus , thereby decreasing viability (MacGler 1980) . consanguineously married couples have greater likelihood of sharing common histocompatility antigens such as HLA (Bittles et al., 1991) .The resemblance of histocompatility antigens between spouses causes maternal – fetal histocompatility, thus limiting the fetus's capacity to initiate the maternal immunologic response essential to prevent the fetus being aborted (Komlos et al., 1977 ; Ober et al., 1983 ; Thomas et al., 1985).

Oksenberg and colleagues (1984)used data from Israel Jews to demonstrate that the previously assumed hypothesis positing a positing a positive association between spousal HLA sharing and fetal – loss may be seriously questionable .
Proponents of the middle position, who argue that prenatal mortality is independent of consanguinity ,draw their suppose from the argument that the frequency of lethal and semi –lethal is lower in the prenatal period compared to that of the postnatal . consequently, only few genes can produce impairments at the embryonic stage , rendering the effect of consanguinity insignificant at that stage (Schull, 1959 ; Maecallo, et al., 1964).

Other parallel arguments bolster the same position. The effect of inbreeding in highly inbred populations may vanish because defective genes may already have been weeded out through selective survival of only fit individuals (Sanghvi, 1966). Moreover, abnormalities in fetal development do not necessarily result from lack of dominance shown by certain loci . that is , many developmental abnormalities might be inherited as autosomal dominants because they are single – gene defects (Maccluer, 1980). Thus consanguinity has no prenatal mortality may simple be undetectable for a variety of reasons. First, the level of inbreeding in the majority of human populations is too low to exhibit a note worth influence on fetal loss. Second, the extent of inbreeding depression depends upon the difference in the level of homozygosity between inbred and out bred individuals. Current estimates of percentage of loci that are polymorphic and the average heterozygous at 90.6 percent of all loci, a finding very similar to non- inbred individuals who are homozygous at 90.0 percent of loci, (Mac Cluer, 1980). This difference is perhaps too small to produce a detectable difference in fetal loss. Third, a high rate of fetal loss occurs due to chromosomal aberrations regardless of the level of homozygosity (Warburton and Fraser, 1964). Empirically, almost 50 present of all recognized fetal deaths in humans can be attributed to chromosomal anomalies (Warburton et al., 1980; Thomas et al., 1985). Thus, it is hard to isolate the effect of recessive genes that might have caused a relatively small number of spontaneous abortions (Bittles et al., .1991) finally, the harmful effect of inbreeding on fetuses may go undetected largely because deleterious genes may cause spontaneous abortion shortly after conception (before there month's gestation)(hann1985).

Proponents of the third position, that consanguinity exerts a depressive effect on prenatal mortality, base their argument on maternal-fetal compatibility in such groups, plays an important role in preventing spontaneous abortions, miscarriages, and still births (Golschmidt et al.,1963 ; Peritz,1971). Research shows that fewer maternal-fetal incompatibilities occur when parents are closely related because homozygosity increases the number of homotypic combinations(stern and Charles 1945,Hann 1985).on the other hand , progeny of unrelated mates may have antigens not present in the mother, as a result , maternal- fetal incompatillity is higher in such families (Nair and Murty, 1985). Studies have shown that the existence of Rhesus incompatibility between mother and fetus increases the risk of fetal loss like other immunological compatibilities; prevalence of Rhesus incompatibility is greater in nonconsanguineous unions (Philippe, 1974).
Research studies in various parts of the world have revealed contrasting results regarding effects of consanguinity on prenatal mortality. Studies that support the hypothesis that prenatal mortality increases with consanguinity are infrequent as compared to those that propose no association between these two phenomena. Sanghvi (1982), who analyzed three data sets from the United States, France, and Japan, found that still births were slightly more frequent in consanguineous marriages.
A hospital- based study of genetic load in Turkey also found significantly higher levels of reproductive wastage in consanguineous unions (guz et al 1989) .ln addition to the above investigations , studies in Nigeria (scott – emuakpor 1974) , Norway (Magnus et al .1985) , chile (Blanso and Chakiaborty 1975), japan (Matsunaga and *It*oh 1958), India (Rao and Murty 1986) , and brazil (Freire – Maia 1984) . also demonstrated a positive association between consanguinity and prenatal 1984) also demonstrated a positive association between consanguinity and prenatal mortality .

Cousin marriage is also most prevalent among the poorer and less educated groups and families of the society. At the same time, a higher rate of consanguineous marriage may also occur in families with high socioeconomic situation(Al-Thakeb 1985).

The prevalence of consanguineous marriage was higher (52.9%) among married Bedouin who do not use the prenatal care of Israeli Ministry of Health services than among users (38%). It was reported by the Palestinian Bureau of Statistics that more than 47% of marriages in Gaza Strip were between cousins and relatives(PCBS 1999).

On the other hand , a large proportion of studies failed to establish any significant relationship between consanguinity and prenatal mortality ; including studies in sudan (Saha et al ,1990) , United states (slatis et al 1958) , Canada (Fraser and biddie 1976), brazil (Freire – Maia and Krieger 1975; freire Maia and Takehara 1977; Marcallo et al 1964), India (Ghosh, 1972 ; Rao and Inbaraj, 1977a; Reddy and Rao, 1978 ; Ghosh and Majumder 1979 ; Hann 1985), Srilnka (Reid, 1976), Israel (Fried and Davies 1974), Kuwait (Al-Awadi et al., 1986), Japan (Suhull 1958; Matsunaga and Itoh, 1962; Schull and Neel, 1872), and Sweden (Lindelius, 1980) .

Only a handful of studies show that consanguinity actually helps reduce reproductive wastage. In a comprehensive analysis of eight generations inbreeding data, Philippe (1974) found that frequency of fetal death with increasing levels of inbreeding . The author proposed maternal–compatibility as the favorable factor in consanguineous marriages. In a similar way, book (1957) found in his sample of mothers from Norrbotten County- Sweden, that the rates of spontaneous abortions and still births were lower in cousin families as compared to those of control groups, primarily because of early miscarriages going undetected.
Finally, Roberts and Bonne (1973) also noted a negative impact of consanguinity on prenatal mortality, although it was not significantly.

2.2.6 Summary and Conclusion.

Consanguinity or marriages between close blood relatives, particularly the direct descendents of one or both sets of common ancestors (double-cousin marriages), is
A distinctive feature of Islamic societies and of many religions and ethnic isolates. The Western negative image of consanguinity as a characteristic of populations that suffer from murky physical disorders and low levels of intelligence has done little to dampen the popularity o such marriages among groups that have cherished the traditions.

Preferences for consanguineous marriages has been fostered by favorable socioeconomic benefits, and cultural and structural constraints. Marriages in many preindustrial, agricultural-based societies are often characterized by complex negotiations of marriage transactions. People resort to kin-marriages with preindustrial, agricultural-based societies are often characterized by complex negotiations of marriage transactions. People resort to kin-marriages with comparative ease for marriage negotiations and to avoid costly dowries. Land-owning families conduct marriages in close kin to avoid alienation of property and to keep inheritable shares of family property from transferring to non-kin.

Consanguineous marriages generally are prevalent among the poorest, least-educated families. The general rationale is that posit consanguineous marriages as perilous to

offspring health and emphasize the need for romantic love as the basis for marriage. On the other hand, among the poor, old-fashioned families, control over matrimonial matters rests with the patriarch. Consanguineous marriages in this setting perpetuate family and sibling solidarity over individual choice. Concern about purity of family lineage remains the cardinal incentive for consanguineous marriage. Mutual knowledge of families and potential mates within a kin-folk network assures a highly desirable characteristic of the potential bride, that is, her modesty. Undivided loyalties of the bride in consanguineous marriages also promotes the domestic harmony by reducing traditional tensions between mother-in-law and her daughter-in law.

Structural constrains, such as social isolation and genealogical structure, have a definite bearing on prevalence of consanguineous marriages. Isolation with respect to religion, caste, class, and ethnicity, and endogamy with respect to these traits aid occurrence of these marriages. Opportunity for potential spouses to meet and availability of relatives is prescribed categories and suitable age range alters the rate of consanguineous marriages. The effect of these factors is typically different from rural populations compared to urban, also varying for each age cohort. The effect on any outcome of consanguinity that has an unequal likelihood o occurrence in different socioeconomic segment of the population.

Attempts to investigate genetic effects of consanguinity date back to the mid-nineteenth century; however, the last three decades have witnessed considerable enrichment in understanding this phenomenon. A sound scientific theory of inheritance, put forward by George Mendel as early as 1866, disclosed that inheritance of qualitatively graded traits in humans can only studied separately because each trait depends on a different pair of loci. This principle became the backbone of theory in subsequent studies. Presently, consanguineous marriages are known to contribute to elevated levels of fertility in couples, as well as to increased morbidity and mortality of their offspring.

The perilous effects of consanguineous marriages are produced due to increased homozygosity in an individual who is prone to expression of rare recessive genes inherited from common ancestor(s). Populations in which marriages between relatives are commonplace are subject to general loss of fitness (genetic load), ascribable to homozygosity. On the contrary, some geneticists argue that intensely perpetuated inbreeding is relatively less inimical compared to short-span inbreeding (over too few generations) because the former situation results in cleansing of harmful genomes through positive selection (defective offspring's get aborted at the embryonic stage).

Studies on consanguineous marriages use a variety of data collection procedures to household surveys, state marriage records, vital registrations, church records, and information's from hospital patients and school children (Feire-Maia, Chautard, and Aguiar-Wolter, 1986). The majority of these studies showed the risk of mortality to be relatively higher or offspring consanguineous marriages.

The effect of consanguinity on mortality is mediated by several concomitant factors, including historical times, socioeconomic status of family, urban versus rural residence, and mother's education. The type of study design also contributes to divergent results. Harmful effect of consanguinity was more obvious in earlier studies than in those conducted in recent decades. In particular, offspring mortality in consanguineous marriages was more evident before the mid-1940s, which was followed by the "antibiotic period". Socioeconomic status intensified inbreeding effects. In India, detrimental effects

were more evident among families with high socioeconomic status because they were not characterized by prolonged inbreeding. The effect of consanguinity has access to superior medical facilities.

Studies of consanguinity as a risk factor for prenatal mortality yield counterviews. Principles of classical population genetics suggest that greater prenatal mortality in cousin marriages is due to expression of deleterious genes. Sharing of histocompatible antigen such as HLA may also cause greater levels of intrauterine mortality in cousin matings. Effects of consanguinity, however, may simply go undetected because of the higher frequency of spontaneous abortions due to chromosomal abortions, lower level of consanguinity in several populations and too early an abortion due to operative lethals. Moreover, inbreeding may not be a significant factor largely because most recessive lethals have been weeded out in prolonged inbreeding and because very few recessive lethals operate at the prenatal stage. In spite of all this, consanguinity does help reduce intrauterine mortality due to the mother's efficient immunologic response in fact of maternal-fetal compatibility by Rhesus and ABO blood group antigens. The relationship of consanguinity with offspring mortality should be interpreted with caution when controls for other covariates are not introduced in analyses. These covariates include age of mother, birth cohort, socioeconomic status, nutrition, religion and contraceptive prevalence.

The relationship of consanguinity with fertility is influenced by a wide rang of social and biological processes. Consanguineous marriages take place at a relatively younger age for the bride, simply because such marriages are more prevalent the poorest, least educated who generally value their daughter's chastity over education. Marriages between blood relatives save time in match seeking. The younger age at marriage elongates the reproductive period, which is naturally longer for inbred women due to early menarche and delayed menopause. Offspring of consanguineous unions are at greater risk to prenatal and postnatal mortality. A child's death during infancy is likely to make a conscious effort to replace the child, a phenomenon referred to as reproductive leading to short-spaced birth. Parents of a deceased child are likely to make a conscious effort to replace the child, a phenomenon referred to as reproductive compensation. In societies with low contraceptive rates, the quality of relationships in cousin marriages also results in short-spaced children. Because such marriages take place at an early age, the interval between marriage and the first birth is longer, and gynecological immunity leaves the mother more susceptible to recurrent simultaneous abortion.

Chapter III

Conceptualization

3.1 Introduction

This chapter encompasses two major parts. The first addresses structural, socio-cultural and epidemiological concepts contributing to the profile of consanguinity in a country. These include concepts of; family, kinship, marriage, mate selection models, types of marriage, consanguinity definition and socio-demographics, and lastly related morbidities, and mortalities
The second part, however, puts forward framework of analysis as depicted and designated for this study in light of the visited research and examined theories.

3.2 Conceptual Framework

3.2.1 The Family Concept

Family is the central social institution in all human societies .It refers to a group of people, related by blood marriage or adoption sharing a common residence and cooperating economically (Nass 1978, farley 1994). Family is a building block of all Societies, though the precise nature of family organization varies from one society to another (Murodock, 1945) generally it is divided into basic types: extended and nuclear Pre-industrial societies. Pakistan, for example, is generally characterized by extended family also called "consanguine family" because it comprises person with" shared blood "(Macionis, 1994) an extended family is asocial unit made up of more than two generation and may include other kin , such as aunts , uncles ,and cousins , who generally live together members of an extended family contribute to the economic wellbeing of household and share child rearing responsibilities (Farley,1994).

The nuclear family unit, more prevalent in industrial societies, is made up of two or fewer generations who live together, and usually includes a husband a wife and their dependent children (Joues, Callagher and Mcfalts,1995)
.
In all societies the family performs several functions. For instance, family is the first, and perhaps, the most influential institution of primary socialization. Families are also a key basis of social placement of individuals. Family is also a source of material and emotional security. In simple societies, many functions in social organization, including replacement or reproduction, communication, production, distribution, protection, and social control, are performed by family (Lenski and Lenski, 1982; Reiss and Lee, 1988).

3.2.2 The concept of Kinship

Families are the basic units upon which kinship is built. Kinship is a network of social relationships based on blood, marriage, or adoption (Jones et at . 1995) . kinship is also defined as the system of role relations in a human community , used for classifying people who are related through a chain of connected parent – child ties (Wiliams, 1970; Crapo, 1993) who is classified as kin varies from society to society or place to place .Yet, kinship is the fundamental form of social organization in many

industrial societies. Kinship networks can theoretically contain hundreds of people (Esheman, 1978).

3.2.3. The concept of Marriage

Most people, during their life course, belong to at least three different families. When. an individual is born, he/she becomes the member of his\ her family of orientation. The second family is family of procreation. Formed when one marries. In-law family is yet the third type, the membership of which is also attained through marriage (Nass,1978). The definition of marriage may vary cross- culturally. Marriage is asocial institution comprising the set of law and custom chat specifies the socially accepted unions of sexually cohabiting adult who have parental rights and obligations to any children of the unions (Eshleman, 1978 ; Crapo, 1993).
Marriage is perhaps the single most important institution in the social organization of humans , marriage not only unites two (or more) individuals as spouses , but also links individuals and gin through legally established network of economic rights and obligation . a nearly universal legal contract giving aright of passage to sex and procreation , and hence the source of social identity to any child born to the married couple (Wornak and Marti, 1993) .

3.2.4. Different Models of Mate Selection

The bases of mate selection differs cross- culturally. In many countries of the word today young men and women exercise virtually complete freedom and autonomy in the selection of their marriage partners (Goode, 1959) such freedom in the choice of mate in consistent with the American value system that emphasizes personal freedom and individual rights– contrary to western ideal interpersonal attraction and love has as primary factors in mate selection , most pre-industrial societies continue to have arranged marriages (Goode 1964) family elders or parents decide who should marry whom , based on issues such as kinship and family solidarity , cementing ties between tow families , maintaining political power and social (influence , and accumulating property and wealth (need ham1972,ember and ember 1983). Three ideal – type forms of entering into marriage have been described by Kammeyer (1987) as models against which a particular case can be compared . they are the traditional-agrarian model, the courtship model , and the contemporary model .

3.2.5. Types of Marriages: Number of Partners.

Marriage may take several forms based on number of partners allowed to form the marriage relationship. monogamy refers to marriage uniting two spouses at a time , generally of opposite sexes . monogamous marriages are the most common form a all societies, even where forms are considered the ideal type (Crapo,1993). Yet only a small proportion of societies (16%) has been documented to restrict marriages to monogamous form (ford and beach 1951). In some industrial societies such as the united states , monogamy turns into a particular pattern called serial monogamy because many people tend to have more than one spouse in their lifetime due to high rates of divorce and remarriage (Farley, 1994).

Polygamy is the pattern of marriage followed in some pre industrial societies that permit people to have more than one spouse at a time. Polygyny , which is by and far

the most Prevalent of the two (83.6% of polygamous societies) , refers to the arrangement where a man takes several wives at a time (ford and beach 1951 such marriages are allowed in Muslim societies but have been commonly practiced in societies where warfare is common, or large family size is beneficial for economic welfare of the family (Crapo,1993). Polygynous marriages were also practiced by Mormons until 1890(farley1994).In some societies, a man marries with two or more women who are sisters, the phenomenon referred to as sororal polygyny. Polygynous marriages are ability to afford multiple wives who are a drain on man's wealth; the phenomenon is called male- ranked polygyny.

Another variant of polygynous marriage is made stratified polygyn*y* or wealth increasing polygyny, triggered by the economic value of women's labour to perpetuate wealth(White,1988) polyandry is another form of polygamy in which one woman has several husbands at a time. Such marriages are rare among humans, but have been documented in four societies: the Nayar and Toda of south India, the Marquesans of Polyanesia, and Tibetan Buddhists of Himalayas (Murdock,1957) .Two variants of polyandry are fraternal polyandry vs. non fraternal polyandry, where in the former involves husbands who are brothers, and the latter involves husbands who are non related (Nass, 1978) polyandrous marriages are argued to promote personal security, and economic wellbeing of its participants , but are linked to infanticide, and selling of women (Reader, 1988; Coldstein, 1990).

Group marriages have been reported to be a custom among the Kaingang of Brazil , the Dieri of Australia, and the Chuckchee of Siberia (Nass, 1978). However, some anthropologists argue that such marriages , also called . Co marriages, do not fulfill all the conditions of a marriage, such as shared residence or shared economic responsibility (Crapo 1993).

Other atypical marriages reported by Crapo (1993) include symbolic marriages by religious specialists with a deity, non sexual marriages contracted for political or economic purposes fixed term marriages (called Muta) among Shiate Muslims of Iran where marriage dissolves after the term expires and fictive marriages or marriages between members of the same sex are further categorized into hemophilic marriage and pathic/ intergenerational marriage (Gregerson ,1983; Adam, 1986) .

3.2.6. Definition of Consanguineous Marriage.

Consanguineous marriage is marriage between blood relatives who have at least one common ancestor no more than a great- great ground parents widespread consanguinity in a community will lead to a relative increase in the frequency of affected homozygotes with a relative decrease in the frequency of heterozygotes (Robert, 1995) besides geneticists usually classify unions between biologically related person such as second or closer as consanguineous the genetic risk for less closely related couples differs only marginally from that in non-consanguineous unions.

In many parts of the world consanguinity in highly prevalent. In 1994 combined population of countries where 10% of marriages are consanguineous was 732 million, excluding the populations of china and Indonesia. Furthermore , 1.468 million live in Latin America , parts of central Africa ,northern India , Japan , and Spain where consanguinity rates vary from 1% to 10% .

Throughout the Arab world, consanguineous marriage is traditionally common , overall, around 40-50 % of marriages in the Arab world are consanguineous . The specific types of consanguineous marriage very between and within countries , first cousin marriages are the common consanguineous bonds in the Arab world estimates indicate that the percentage of first cousin marriages is approximately 11.4% in Egypt 21% in Bahrain 29% in Iraq 30% in Kuwait, 31% in Saudi Arabia, and 32% in Jordan, in Palestine 39.7% among Muslims while it is 28.8% among Christians.

3.2.8 Selected Religions and Consanguinity

Variation with regard to incest taboo (involving relatives other than parent –child and siblings) occur in place , in time , and in practice (Mardock, 1949) . Accordingly, the range of kin permitted for consanguineous marriage also varies.
Such variation in prescribed forms of consanguineous marriages across different Societies depend on religion as well as region.

Hindus and Sikhs in north India proscribe unions between close biological relatives . In this region, the only consanguineous marriages have been documented in two urban centers: Delhi (Basu, 1975; Krishnan, 1986; Lueknow and Basu 1975) .
In comparison, other religious groups in south India including Hindus permit and practice consanguineous marriages (Bittles et al., 1987; Rao and Inbaraj, 1977a, 1977b).

The variation in type of consanguineous marriages by religion is evident from the striking proportion of uncle-niece marriages - the marriages uniting a man with his older sisters daughter - among south Indian Hindus Christians (Dronamaraju and Meera-Khan 1963a , snghri 1966, Bittle et al., 1987) Muslims on the contrary , strenuously prohibited such unions , because uncle-niece marriages are prohibited by the Koran (Bittles et al ., 1993a) .

In Islam, a man is allowed to marry any of his parallel or cross - cousins but his marriage whit mother , daughters , sisters aunts , niece , and some of his in -lows is banned (Tapper and Tapper, 1988).

Although the preference of patri-lateral parallel cousin marriages is found in most of the Muslim societies , the the oritoriat - specific prescriptive or proscriptive marriage rules result in two variants , the preference of FBD (fathers brothers daughter) marriage in the Middle East and other predominantly Muslim regions is fostered by virilocal rule of post marital residence and a normative preference for territorial endogamy (gilbert and Hammrl, 1966; Hammel and Goldberg, 1971; Khlat and Halbi 1986; Al- Awadi et al., 1986) .

The second variant, found in Afghanistan, is where norm of virilocal residence combined whit territorial exogamy norm results in the combination of both cross-cousin and parallel cousin marriages (Das, 1973), Bittes (1994) noticed seven types of consanguineous marriages in urban punjub- Pakisan. First - cousin marriages had the highest proportion (37.1%) followed by first cousin once removed / double cousin (11.75%) slightly less than one percent unions were between double first cousins ,and still smaller proportion (0.6%) between second cousins. Bradari marriage, the classification of which as

consanguineous unions is questionable, made up 33.9% of the sample. The rest of 15.8% marriage was non-consanguineous.

Islam permits marriage between first cousins .lf you read the Quraanic verses which enumerate women to whom a Muslim cannot be married you will find that this list does not include cousins therefore such marriage is permissible what we have mentioned about the effect of such marriage on children is quite true hereditary points of weakness in a family tend to be more pronounced in the children of any marriage between cousins of that family may I say that this is not totally anew discovery in fact the Prophet himself touched on it where he recommended his followers to marry outside their families and indeed outside their clans it is needless to say that when marriage of cousin is repeated over several generations they are bound to have more effects on children. The Islamic view is that while marriage between cousins is permissible, it is certainly preferable to choose a marriage partner from outside one's family. We have to distinguish between what is permitted and what is advocated. (So far from what is advocated).

By permitting such marriages Islam does not encourage them .it advocates, not only for the reasons outlined above, the cementing of social relations through marriages between totally unrelated families. The PROPHET once told one of his companions to choose a wife from a tribe different to his and them to choose for his son a wife from a third tribe and to seek for his second son a girl from yet a mother tribe preferring his course of action, Islam nevertheless permits marriage between cousins because it meet a social need.

3.2.9 Socio -demographics of consanguinity

The specific types of consanguineous marriage that are favored can vary quite widely between and within different countries, with religious, ethnic, and local or tribal traditions playing a major role at local and national levels. The reasons most commonly given for the popularity of consanguineous marriage can be summarized as: strong family tradition of consanguineous unions; the maintenance of family structure and property, the strengthening of family ties; financial advantages relating to dowry or bride wealth payments; the ease of marital arrangements and a closer relationship between the wife and her in-laws; and greater marriage stability and durability (Bittles, 1994; Hussain, 1999).

The degree of social compatibility, and the close involvement of the entire family in consanguineous unions, may explain both the greater stability that has been claimed for consanguineous unions, which have lower divorce rates, and enhanced female autonomy. Among the major populations so far studied, the highest rates of consanguineous marriage have been associated with low socioeconomic status, illiteracy, young age at marriage, low education of mother, low occupation of husband, and rural residence. In some populations a high prevalence of marital unions between close relatives has however been reported among land-owning families, and in traditional ruling groups and the highest socioeconomic strata (Bittles, 1994, 1995a). Interactions between consanguinity and social variables can potentially complicate assessment of the genetic effects of human inbreeding, and failure to account for social variables when estimating the possible effects of inbreeding on mortality predictably would lead to biased results, with overestimation of the adverse biological effects ascribed to consanguinity. Conversely, where consanguinity has not been included as an explanatory variable, the

influence of other more widely investigated demographic determinants, such as maternal age, maternal education, birth interval, and birth order, probably require significant downward revision.

3.2.10 Consanguinity and reproductive behavior

It has been proposed that fertility may be lower in consanguineous couples due to a failure to initiate pregnancy when the couple share specific HLA haplotypes (Ober et al. 1992), or because of the expression of deleterious genes acting during early embryonic or fetal development that result in periconceptual 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 (Schull and Neel 1972; Tunçbilek and Koç 1994; Bittles *et al.* 2001). In general, higher total fertility rates are reported for consanguineous marriages (Bittles 1995b). 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 (Bittles *et al.* 1991, 1993). Although the time elapsed to first pregnancy often is longer in consanguineous unions, possibly due to gynaecological 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 (Tunçbilek and Koç, 1994). Consanguineous couples may also be less likely to use reliable methods of contraception (Hussain and Bittles, 1999). 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 of childbearing in the mothers' most fertile years.

3.2.11. Consanguinity, morbidity, and mortality

The detrimental health effects associated with consanguinity are caused by the expression of rare, recessive genes inherited from a common ancestor(s). In populations where inbred unions are common, increased levels of morbidity and mortality caused by the action of detrimental recessive genes can be predicted. Generally, inbreeding is associated with loss of biological fitness. It is however preferential consanguinity, alleles which are rare in large populations can rapidly increase to high frequency in a breeding pool of restricted size, because of factors such as founder effect and random genetic drift. Empirical studies on the progeny of first cousins indicate morbidity levels to be some 1% to 4% higher than in the offspring of unrelated couples (reviewed in Bittles and Makov, 1988). The less common a disorder, the greater the influence of consanguinity on its prevalence, a generalization that applies to recessive multigene disorders as well as to single gene conditions. For this reason, many previously unrecognized genetic diseases have first been diagnosed in highly endogamous communities, and in a significant proportion of cases the underlying mutation may be unique to the community. At a practical level, this community-specific pattern of disease leads to major problems when attempting to estimate the burden imposed by consanguinity-associated morbidity at national or even at regional and local levels.

In a study based on combined data from 38 populations in eastern and southern Asia,

the Middle East, Africa, Europe, and South America, with average coefficient of inbreeding values ranging from 0.0005 to 0.0370, mean excess mortality at the first cousin level was 4.4% (Bittles and Neel, 1994). This estimate appears to be valid for all of the large human populations so far examined. However, consanguinity interacts with a range of socio demographic variables in determining rates of mortality during infancy and early childhood. When these influences were simultaneously analyzed using data collected retrospectively as part of the 1990/91 Pakistan Demographic and Health Survey, the major determinants of early death were maternal illiteracy, maternal age at birth of less than 20 years, and a birth interval of less than18 months. But, even after controlling for these factors, first cousin progeny had statistically significant odds ratios for neonatal, post neonatal, and infant mortality of1.36, 1.28, and 1.32, respectively (Grant and Bittles, 1997). Given the numbers potentially involved, the contribution of recessive genes as predisposing factors in common diseases of adulthood is of great interest and significance, but to date this topic has been little investigated. Nonetheless, in a preliminary study in Pakistan, higher levels of inbreeding were reported in patients with a range of major adult disorders, including some common cancers and cardiovascular disease (Shami et al., 1991).

3.3 Framework for Analysis

Review of research on the determinants of consanguineous marriages revealed that the tradition of such marriages has generally been fostered by their socioeconomic benefits, underlying supportive norms and facilitating structural and constitutional constraints. Our suggested model speculates both direct and indirect effects for several background factors on the likelihood of consanguineous unions including; age cohort, exposure to rural versus urban cultural and social experiences before the age of 12, experience of salaried employment, formal schooling of both men and women (education) and the province of current residence. From our perspective this all constitutes the "context" within which groups and individuals in various capacities and social entities operate and make decisions and choices about various life affairs.

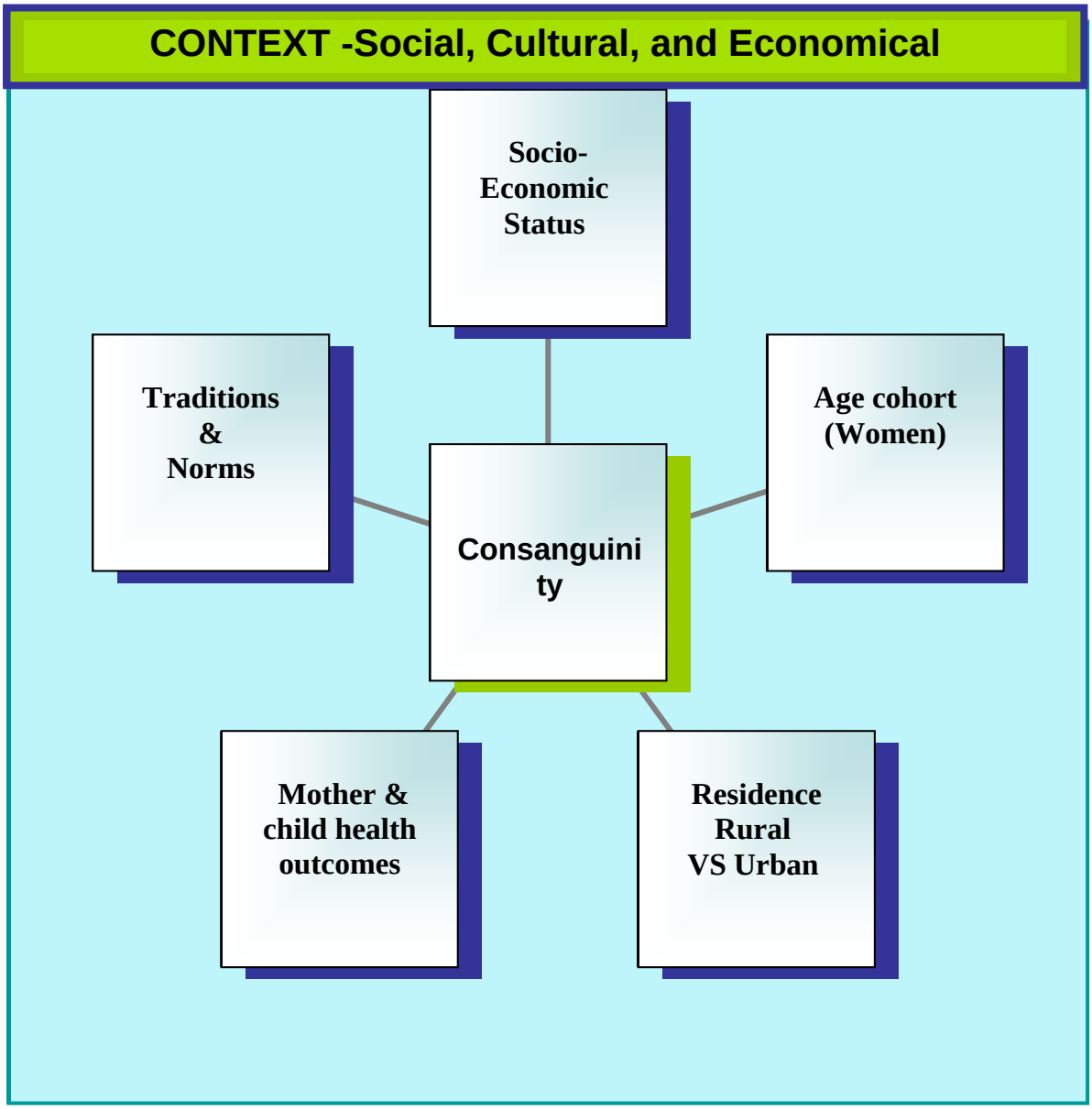
We argue that younger cohorts are likely to progressively be more receptive to romantic love and pre-marriage acquaintance as the basis of marriage. Exposure to urban life, formal schooling, university life and a salaried job would enhance this and hence lower likelihood of marriage to a blood relative given the wider scope of choice and richer life experiences then, more significantly to women than to men.

Alongside, we recognize the impact of consanguinity on marriage outcomes and fertility levels as well as survival prospects of progeny. Here we hypothesize that consanguineous marriages would be characterized by a younger age at marriage and longer interval between marriage and first birth. And so we expect to find higher level of offspring mortality in consanguineous marriages.

In our suggested framework we link consanguineous marriage to the number of children ever born and number of children alive. Our hypotheses posited a positive effect of consanguineous marriages on the number of children ever born. However, we anticipate that the number of children alive for consanguineous unions to be no different from those born in non consanguineous unions as a result of reproductive compensation. Cost of this is multi fold. First, at the individual level with respect to the wellbeing of the woman

(mother), as she would potentially have to go through a higher number of pregnancies and birth giving experiences, serious morbidity and mortality profile is one outcome literature has rigorously documented. The same applies to children born to consanguineous unions. Second, at the social level, history of a genetically induced disease in a given family brings about considerable morale costs to those in the ancestry line. Third, nationally, costs of genetically induced diseases on the health care system are always substantial. This is largely influenced by the interventions integrated within the adopted health policy including relevant legislations.
These are all dimensions we have integrated within our framework for analysis of the data yielded in this study. Please refer to the pictorial presentation below for our depiction.

Figure 1: Framework for Analysis by factors influencing Consanguinity in Yatta.



CHAPTER IV
Methodology

4.1 Introduction

This chapter provides a general overview of the methodological framework of the study, outlining the pertinent features of the research design, sample size, type of sampling design, place of the study, ethical and confidential matters, instruments of data collection, pilot study, and methods of data collection.
The chapter concludes with a brief discussion of statistical techniques used to process data, and to justify conclusion.

4.2 Research Design

Cross-sectional study, a household survey has been employed.

4.3 Sampling frame

The sample frame was Yatta city map. Within the map, and according to Palestinian census Bureau of statistics (PCBS) maping system, there is 32 statistical areas. In each area there is 135- 150 households, which provides us with 5000 households which is our sample unit.

4.4 Sampling method and sample size

A systematic sample method was chosen to select the required number of householdes. The PCBS calculated for us the required sample size that satisfies our study objectives. The determined sample size was 500 households. Therefore, we divided number of households in the samople frame by our sample size (5000/500=10). Then, each 10^{th} house after the selcetd random start for the houses was included in the sample.
When the selected house cannot have our target population, i.e. a child or a women, the next household was selected.

4.4.1 Inclusion criteria

The eligible subjects in this study was all married women who had children , and selected by a systematic simple random sample.

4.4.2 Exclusion criteria.

- All married women but have no children.
- All married women and has children but she refused to participate in our study.
- All married women and has children but she withdrawled through the study not included in the analysis.

4.5 Study Setting

The study was carried out in the town of Yatta sitting on 24,835 dunoms to the south of Hebron District in a semi desert area. Seven small villages (Khirab) lying in the town

peripheries follow it administratively. These were excluded from our sampling frame for logistic and pragmatic reasons.

4.7 Ethical and confidentiality matters

The survey instrument is anonymous. The interviewers read out the written instructions on the cover sheet of the questionnaire as well as the verbal explanation .No names were written on the questionnaire, No one was given access to complete the questionnaire except the researcher and the data entry persons. The interviewers explained to every woman in the sample of the study population about the aim of the study and emphasized confidentiality, and explained to the woman that she has the right to accept or refuse to participate. A consent form was signed by the interviewer who carried out the interview. The interviewer herself signed on behalf of because if we asked the woman to sigh the consent form , this will lead to suspicion and culturally not a acceptable , and this may affect the response rate .

In addition, the study was undertaken under the following conditions:

1. Approval of the thesis advisor Dr. Ayesha Al- Rifai.
2. Approval of the Committee of Higher Studies at the School of Public Health/ Al–Quds University.
3. Approval of the Municipality of Yatta.
4. Informed Consent of each and every individual participant in the study.

4.8. Data Collection Instrument: A Questionnaire

The questionnaire used for this study is a modified version of a previously used one that was employed one in Gaza strip by M'ueen EL-Kariri (1999) for a similar study conducted earlier in the Strip.

But some modifications and changes carried out to achieve our goal and to suitablize it with the study population to be more understood and acceptable . This was done due to the fact that, the culture and norms of the study population (yatta) is differ from those in Gaza strip .So we added some questions like (what is the current age of the wife and husband by years) .
Also (do you encourage consanguineous marriage if yes … why ? , if no …why ?) .
The questions about the family income were changed from Dollar to shekel .

These modifications and change occurred by the help of my advisor Dr .Aysha Al-rifai , and we took the opinion and approval of three highly qualified scientific and professional persons :-

1- Assistant professor, Dr. Nuha El-Sharif – Al-Quds University/ faculty of public health.
2- Associate professor, Dr Omar Mustafa, Illinois university-USA
3- Associate professor, Dr Ali Ghrayeb; Concordia University, Canada

The questionnaire was written in Arabic language (Native language) to be easily understood by both the interviewers and interviewees .

The questionnaire includes four areas of questions as follows :-

1- Personal information's includes; Age of couples at marriage , current age of couples .
2- Socioeconomic factors include; level of education of both wife and husband , occupation , income level of education of the wife and husband , love of education of parents , income of parents , housing includes (ownerity , type of the building , number of the rooms) .
3- Obstetric profile includes , first birth interval , abortions , number of still births , number of lived children , number of infants and children deaths , pregnancy health related problems , and number of cesarean sections .
4- Children and infant morbidity including; genetics , non genetics and multifactorial causes like (birth weight , convulsion cerebral palsy , Asthma , eczema , mental handicap or retardation , blindness , hearing impairment , deaf-mutism , metabolic disorders and any recessive inherited disorders, Thalassaemia major , sickle cell anemia or cystic fibrosis .

4.9. Pilot Study

A pilot study has been conducted after completing the questionnaire designing , and before starting the data collection . The sample for pilot study was chosen in the same way we choused the whole sample for this study , 10% out of the 500 house holds , that's mean 50 subjects were chosen to test the questionnaire , and they were chosen from Beit – Emra , which is one of the seven small villages that are belongs to yatta administratively , and lies at the peripheral of yatta . This village was chosen because the people has same norms and culture . The pilot study was necessary to measure and evaluate the clearness , cooperation , and understanding of the questionnaire by the people in the piloting study , and the team of field workers . The result of the pilot showed that the language of the questionnaire was easily understood by the women ,and the rate of acceptance and cooperation was high ,
So there was no need to change of the questionnaire according to the result of the pre test.

4.10 Fieldwork Techniques

To collect data from eligible women, female interviewers were selected at the regional level to ensure familiarity with local norms and locations of sampling areas. The three selected fieldworkers working with the Palestinian Census Bureau of statistics system, were given adequate training using role play techniques and small group discussion of the questionnaire. Furthermore, appropriate means for maintaining close and open contact between the researcher and fieldworkers was established.
The data collected throughout face to face interview between the interviewers and the interviewees, but the data and answers were registered by the interviewers only.

4.11 Method of Data Analysis

We used Chi-Square test to delineate the relationship between dependent and independent variables, univariate analysis.

Statistical Package For Social Sciences (SPSS) on Windows was used to run the statistical procedures.

Constraints and limitations of the study.

1. the main limitation of this study was the financial aspect; there was no fund to support the study .
2. there was no cooperation from the municipality of yatta , they refused to help in transportation as yatta is a very wide town , so transportation was costly , especially data collection occurred in winter .
3. photocopy of more than 4500 paper of the questionnaire was costly especially without any fund .
4. the salary of three field workers over 60 days plus the cost of transportations ,and the cost of the work shops over two days , and the conduction of the pilot study was very costly .
5. the payment for the data entry peoples and statistician person was very cost .
6. some women hidden some information's that related to the disabilities and diseases of their children's for the purpose of protection .
7. some women hidden the information's related to their family and their parent's families income .

4.12 Conclusion

This chapter outlined the methodology of this study. Data were drawn from household-based survey, in which information from every eligible subject (all married women who has at least one live child, and selected by a systematic simple random sample), the information's collected by using a designed Questionnaire, and though an interview done by the interviewer.

Chapter V
Results

5.1. Introduction

This chapter presents results of the study in a concise manner. A detailed discussion of findings is reserved for the final chapter.
The findings are organized into three sections, the first of which contains a profile of demographic and socioeconomic characteristics of the respondents. The remaining sections appear according to the organization of variables in the theoretical framework of chapter III in the following order: descriptive and inferential analysis of (a) the type of social and economic correlates of consanguinity; (b) reproductive behavior and consanguinity, namely, offspring mortality, birth interval, offspring morbidity, maternal mortality and morbidity (controlling for background factors contributing to consanguinity).
A brief summary of results will mark the chapter's conclusion.

5.2. Data Analysis

In this study, we used Chi-Square test to delineate the relationship between dependent and independent variables. Statistical package for Social Sciences (SPSS) on widows was used to run the statistical procedures. The statistician found that, it was better to use Chi-Square test for analysis, because it gave us the percentage, cases frequency, and gave us degree of significance.

5.3. Results

5.3.1. Characteristics of the Respondents

Table 4 presents the characteristics of the respondent including, the current age of the couples, level of education, occupation, number of live children, and number of total pregnancies.
The results showed that only three (0.6%) husbands were less than 18 years old, and 30(6.0%) were between 18-25 years old, but the majority were more than 25 years old, they consist 93.4% (467) husbands of the total.
Table 1 show that 167(33.4%) husbands obtained less than seven years of education, and the majority 273 (54.6%) obtained between 7-12 years of education, and the minority of respondent reached high educations.
The results analysis of husbands occupation showed that 92(18.4%) husbands were unemployed, and 109(21.8%) were skilled, the majority of them 220(44.0%) were unskilled, 35(7.0%) husbands were Merchant, land or Factory owners, but only 7(1.4%)

Table 4. Brief Description Of Background Characteristics Of Respondent (Categorical Variables).

Characteristic	Percent in Category	N
Husband Age		
Less than 18	0.6	3
Between 18-25	6	30
More than 25	93.4	467
Husband Education		
Less than 7	33.4	167
Between 7-12	54.6	273
More than 12	12	60
Husband Occupation		
Unemployed	18.4	92
Skilled Worker	21.8	109
Unskilled	44	220
Professional	7.4	35
Merchant, Land or Factory Owner	7	35
Socially High Professional	1.4	7
Wife Age		
Less than 18	2	10
Between 18-25	12	63
More than 25	85.4	427
Wife Occupation		
Housewives	92	460
Working Outside with payment	7.6	38
Working Outside without payment	0.4	2
Wife Education		
Less than 7	49.6	248
Between 7-12	42.2	211
More than 12	8.2	41
Total Pregnancies		3561
Number Of Living Children		2777

Table 4. showed that 10(2.0%) women were less than 18 years old, and 63(12.0%) were between 18-25 years old, but the majority of them were more than 25 years old, they equal 427 (85.4%) women of the total study population. Education of women appeared in the results analysis as the following, 248(49.6%)women obtained less the seven years of education, 211(42.2%) women obtained 7-12 years of education, and only 2 women reached high education, that equal 0.4% of the total study population.
The study analysis of the women's occupation results showed that, the majority of the study population were housewives, they represent 460 women, that equals 92% of the total, and 38(7.6%) women were working with payment, but only 2(0.4%) women were working without payment.
Table 4 showed that the total number of pregnancies was 3561 pregnancy, and the total number of live children was 2777 child.

5.3.2. Study Variables by Consanguinity

5.3.2.1. Socioeconomic Study Variables By Consanguinity

Woman

Table 5 presents social variables by consanguinity among women. The study shows that 207 (41.4%) women of the total were married before the age of 18 years old , 142 (28.4%) of them were consanguineously married , and 65(13.0%) of them are non consanguineously married while 273 (54.6%) women of the total were married between 18-25 years old 83 (16.6%) of them were non consanguineously married . But only 41 (8.2%) of them were married after the age of 25 years old, 22(4.4%) of them were consanguineously married, and 19 (3.8%) of them were none consanguineously married. The difference between the three gropes by consanguinity was highly statistical significant (pco.o5) .Also the study shows that 248 (49.6%) of the total study population had less than seven years of education , 155(31%) of them were non consanguineously married while 211 (42.2 %) of the total has 7-12 years of education , 128 (25.6%) of them were of consanguinity and 83 (16.6%) of total had more than 12 years of education , 22 (4.45) out of them were of consanguinity and 19 (3.8%) of them were of non consanguinity . The difference between the three show no statistical significance.
The study also shows that the majesty of the study population 460 (92%) are housewives , 284 (56.8%) were consanguineous women , and 176 (35.2%) were non consanguineous women . While 38 (7. 6%) of the total are working out side their homes with payment, and only 2 (4%) 0f them are working out side their homes without payment. Thy statistical differences between the three groups were not significant.

Table 5. Distribution of Women Characteristics By Consanguinity

Consanguinity							
	Yes		No		Total		
Variable	**No.**	**%**	**No.**	**%**	**No.**	**%**	**P Value**
Age at marriage							
Less than 18	142	28.4	65	13.0	207	41.4	0.005
Between 18-25	155	31.0	118	23.6	273	54.6	
More than 25	8	1.6	12	2.4	20	4	
Education							
Less than 7	155	31	93	18.6	248	49.6	0.556
Between 7-12	128	25.6	83	16.6	211	42.2	
More than 12	22	4.4	19	3.8	41	8.2	
Occupation							
House wives	284	56.8	176	35.2	460	92.0	0.515
Working with payment	20	4.0	18	3.6	38	7.6	
Working with out payment	1	0.2	1	0.2	2	0.4	

5.3.2.1.2. Husbands

Table 6. Shows socioeconomic variables of the husband by consanguinity. The study shows that 48 (9.6%) of the husbands were married before the age of 18 years, only 9 (1.8 %) of them were non consanguineous, but 39 (7.86) of them were consanguineous husbands.

The majority of the three groups were married between the age 7-12 years old they represent 336 (67.2%) , 221 (44.2%) of them were consanguineous husbands , while 115 (23%) of them were non consanguineous husbands . And only 60 (12%) were married after the age of 25 years old. The differences between the three groups show highly statistical significance (P value 0.005).

The results show that 167 (33.4%) husbands were at the level of less then 7 years of education , 108 (21.6%) husbands were consanguineous , and only 59 (11. 8%) were non consanguineous husband . The majority of the three groups were at the level of 7-12 years of education, they represent 273 (54.6 %) husbands, 171 them married to non relative. Only to (12%) husbands were at the level of high education (more than 12 years) 26 (5.2%) husbands were consanguineous ones, and 34 (6. 8%) husband were not consanguineous. The statistical differences between the three groups show a highly statistical significance (P value .005).

The study shows that the family income has no statistical significance. 234 (46.8%) husbands had less than 1000 Shakel income, and 190 (38%) husband had income between 1000-2000 Shakel, and only 76 (15.2%) husbands had income more than 2000 Shakel

Table 6. Distribution of Husbands Characteristics by Consanguinity

Consanguinity							
	Yes		No		Total		
Variable	**No.**	**%**	**No.**	**%**	**No.**	**%**	**P Value**
Age at marriage							
Less than 18	39	7.8	9	1.8	48	9.6	0
Between 18-25	221	44.2	115	23	336	67.2	
More than 25	45	9	71	14.2	116	23.2	
Education							
Less than 7	108	21.6	59	11.8	167	33.4	0.01
Between 7-12	171	34.2	102	20.4	273	54.6	
More than 12	26	5.2	34	6.8	60	12	
Occupation							
Unemployed	57	11.4	35	7.0	92	18.4	0.359
Skilled	67	13.4	42	8.4	109	21.8	
Unskilled	134	26.8	86	17.2	220	44.0	
Professional	20	4.0	17	3.4	37	7.4	
Merchant, land or factory owners	25	5.0	10	2.0	35	7.4	
Socially high professional	2	0.4	5	1.0	7	1.4	

Parents of Wives

Table 7. shows that the majority of the woman's fathers education were at the level less then 7 years of education , they represent 414 (82 .8 %) husbands , 257 (51.4 %) of them are fathers of the women married to thesis relatives . And only 19 (3.8%) of them were at the Level of high education.

Regarding to the father's occupation, 254 (50. 8%) of them were unskilled, 159 (31.8 %) out of them were father of the women married to their relatives. only 16 (3.26) fathers were professionals, But only 5 (1%) fathers of the total were socially highly professionals. The statistical differences between the six groups shows no statistical significance.

Regarding to the women's mothers education , the majority 439 (87.8%) mothers of the total were abstaining less than 7 years of education , out of them 268 (53.6 5) mothers were of relative differences are not significant .

Regarding the occupation of the women's mothers' occupation, the statistical differences are not significant.

The study shows that 476 (95 .4%) of them were house wives, 268 (53.6%) were mother's of women married to their relatives. And 18 (3.6%) were working with payment, and 5 (1%) were working with out payment.

The study shows that 212 (42 .4 %) of the total had monthly in come less than 1000 Shakel , 188(37.6%) had between 1000-2000 Shakel monthly in come , and 100 (20 %) had more than 200 Shakel monthly in come , the statistical differences shows no significance between the three groups.

Table 7. Distribution Of Women's Parents Characteristics By Consanguinity

Consanguinity							
	Yes		No		Total		
Variable	**No.**	**%**	**No.**	**%**	**No.**	**%**	**P Value**
Education of their fathers							
Less than 7	257	51.4	157	31.4	414	82.8	0.528
Between 7-12	38	7.6	29	5.8	67	13.4	
More than 12	10	2	9	1.8	19	3.8	
Occupation							
Unemployed	49	9.8	28	5.6	77	15.4	0.398
Unskilled	159	31.8	95	19	254	50.4	
Skilled worker	57	11.4	36	7.2	93	18.6	
Professional	9	1.8	7	1.4	16	3.2	
Merchant, land or factory owners	30	6.0	25	5.0	55	11	
Socially high professional	1	0.2	4	0.8	5	1	
Education of their mothers							
Less than 7	268	53.6	171	34.2	439	87.8	0.953
Between 7-12	37	7.4	24	4.8	61	12.2	
More than 12	0	0	0	0	0	0	
Occupation of their mothers							
House wives	289	57.9	187	37.5	476	95.4	0.773
Working with payment	11	2.2	7	1.4	18	3.6	
Working without payment	4	0.8	1	0.2	5	1	
Income by Shakel							
Less than 1000	133	26.6	79	15.8	212	42.4	0.185
Between 1000-2000	119	23.8	69	13.8	188	37.6	
More than 2000	53	10.6	47	9.4	100	20	

5.3.3. Consanguineous Marriage

Prevalence of Consanguineous marriage

Table 8. Shows that the prevalence of consanguineous marriage among the study Population (Yatta) was found to be 61 % of the total population.

Table 8. Prevalence of consanguineous marriage among study population

Consanguineous marriage	**No.**	**%**
Yes	305	61.0
No	105	39.0

Degree of Consanguinity

Table 6 shows the degree of consanguinity among the total study population. The majority of the consanguineous married women were found of first degree of consanguinity, they equaled 174 (34.8%) women of the total study population, this result is due to the bloody problems within each family and between the families in Yatta, so they prefer to marry from close relatives. 60 (12.0%) women were found to be of second degree of consanguinity, the third degree of consanguinity was found to be 71(14.2%) women. But 105 (39.0%) women were of no relation, they represent the nonconsanguineous married cases.

Table 9. Distribution of Consanguineous Marriage by Degree of Consanguinity among study population

Degree of consanguinity	**Consanguineous married women**	
	No.	**%**
First degree	174	34.8
Second degree	60	12.0
Third degree	71	14.2
Total	**305**	**61.0**

Decision of Relative and Non Relative Marriage and Reasons behind that.

Table 10.Showed that 176 (35.2%) women of the total study population encouraged consanguineous marriage for the following reasons, which categorized as the following: 139(27.8%) women answered Yes, because relative marriage lead for promoting family ties and to secure the families according to their opinions, 17(3.4%) women said Yes, because it is easy for marriage negotiation, 17(3.4%) women said it is a family tradition, 3(0.6%) women said, it is good because of heritage, and o % who answered do not know.

Table 10. Decision of Relative and Non Relative Marriage and Reasons behind That.

		No.	%
Do you encourage consanguineous marriage	Yes	176	0.352
	No	324	0.648
Reasons behind who answered yes			
1. Promote family ties and secure the family		139	27.8
2. Easy for marriage negotiations		17	3.4
3. It is our family tradition		17	3.4
4. Heritage		3	0.6
5. Don't know		0	0.0
Reasons behind who answered No			
1. Avoid heredity disease		185	37.0
2. Promotion of genes and I.Q.		30	6.0
3. Avoid family problems		99	19.8
4. Initiate new family relationship		10	2.0
5. Don't know		3	0.6

The results showed that 185(37.0%) women answered no, in order to avoid heredity diseases, and 30(6.0%) women said in order to filtrate genes and Intelligence, but 99(19.8%) women of the total study population voted (NO) to initiate new family relations, and only three (0.6%) women answered with don't know.

5.3.4. Obstetric History of the Women

Age at First Pregnancy

The result of the study analysis showed that 169(33.8%) women of the total study population were less than 18 year of age at their first pregnancy, the majority of them 113(22.6%) were women married their relatives (see table 8), and 56(11.2%) were women married to non relatives(see table 11).

The study also showed that, 176(35.2%) women were between 18-25 years of age at their first pregnancy, and married to their relatives. And 121(24.2%) women had their first pregnancy at the age between 18-25 years and married non relatives (see table 11).

Table 11. Showed that 34(6.8%) women were got their first pregnancy after the age of 25 years.

Table 11. Distribution of the age at first pregnancy by Consanguinity

Age at first pregnancy	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P-Value
Less than 18	113	22.6	56	11.2	169	33.8	0.061
Between 18-25	176	35.2	121	24.2	297	59.4	
More than 25	16	3.2	18	3.6	34	6.8	

Number Of Pregnancies, Deliveries, And Living Children

Table12. Showed that the number of total pregnancies in consanguineous women were higher than those in non-consanguineous women, 68 (13.6%) consanguineous women had less than four pregnancies, but 46(9.2%) non-consanguineous women had less than four pregnancies. And 176 women of the total study population, that equals 35.2% had between 4-7 pregnancies, 105 (21.0%) of them were consanguineous women, and 71(14.2%) of them were of non-consanguineous unions. 210 (42.0%) women had more than seven pregnancies, 132(26.6%) women were married to their relatives, and 78(15.6%) women were married to non relatives.

Table 12. Distribution of Number of Pregnancies, Deliveries, and Living Children by Consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Number of pregnancies							
Less than 4	68	13.6	46	9.2	114	22.8	0.769
Between 4-7	105	21.0	71	14.2	176	35.2	
More than 7	132	26.4	78	15.6	210	42	
Total deliveries							
Less than 4	89	17.8	57	11.4	146	29.2	0.844
Between 4-7	120	24	81	16.2	201	40.2	
More than 7	96	19.2	57	11.4	153	30.6	
Total of living children							
Less than 4	97	19.4	59	11.8	156	31.2	0.769
Between 4-7	123	24.6	85	17	208	41.6	
More than 7	85	17	51	10.2	136	27.2	

The result showed that 305 (61.0%) of cases were of consanguineous marriages, and they were the majority, 89 (17.8%) cases had less than four deliveries, 120 (24.0%) cases had between 4-7 deliveries, and 96 (19.2%) cases had more than seven pregnancies(table12) But, 195 (39.0%) of the total study population were of non-consanguineous marriages,

57(11.4%) cases had less than four deliveries, and 81(16.2%) cases had between 4-7 deliveries, and 57 (11.4%) cases had more than seven deliveries.
Table 12.Showed that 305 of living children belonged to consanguineous women, that equaled 61.0% of the total study population, 97(19.4%) women had less than four children, 123 (17.0%) women had between 4-7 children, and 85(17.0%) women had more than seven children.
But, 195 (39.0%) women of the total study population were non-consanguineous, 59(11.8%) women had less than four children, 85(17.0%) women had between 4-7 children, and only 51(10.2%) women had more than seven children.

Women health problems and their types

Table 13. Showed that 250 (50%) of the women had health problems, and the other half had no health problems.
The study shows that 143 (28.6%) women complained from Anemia , 88(17.6 %) of them were consanguineous women , and 55 (11 %) of them were non consanguineous women, 56 (11.2 %) of the total has bleeding during their pregnancies , 39 (78%) of them were consanguineous women and 17 (3.4%) of them were non consanguineous women .
It is clear that the health problems are higher among consanguineous women more than non-consanguineous, but it does not reach the level of statistical significance.

Table 13. Distribution of health problems and their kinds by consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Health problem							
Yes	153	30.6	152	30.4	305	61	0.927
No	97	19.4	98	19.6	195	39	
Kind of health problem							
Anemia	88	17.6	55	11	143	28.6	0.876
Bleeding	39	7.8	17	3.4	56	11.2	0.159
Toxemia of pregnancy	30	6	17	3.4	47	9.4	0.676
Frequent headache	84	16.8	53	10.6	137	27.4	0.93
Stress and tension	84	16.8	59	11.8	143	28.6	0.512

Abortions, Stillbirths, and Cesarean Sections

Table 14. shows that 226 (45.2%) women were with no abortions, 188 (37.6%) of the total were with one or two abortions, and only 86 (17.2%) of the total were with more than two abortions, associations were statistically significant between the three groups.
The study shows that the majority of the study population 469 (93.8%) had no stillbirths 29 (5.8 %) women had still births between 1-2 times and only 2 (.4%) women had still births more than two times whom they were consanguineous women .
But the differences were not of statistical significance.
Table 6 shows that 375 (75%) of the total population had no cesarean sections, and 125 (25%) of the total had cesarean sections, 82 (16.4 %) women were married to their relatives, with no statistical significant differences.

Table 14. Distribution of Abortions, Stillbirths, and Cesarean Sections by Consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Abortion							
No abortion	131	26.2	95	19.0	226	45.0	0.037
Between 1-2	111	22.2	77	15.4	188	37.6	
More than 2	63	12.6	23	4.6	86	17.2	
Stillbirths							
No stillbirth	285	57.0	184	36.8	469	93.8	0.521
Between 1-2	18	3.6	11	2.2	29	5.8	
More than 2	2	0.4	0	0.0	2	0.4	
Cesarean section							
Yes one and more	82	16.4	43	8.6	125	25.0	0.223
No	223	44.6	152	30.4	375	75.0	

5.3.5.]Infants and Children Mortality

Table 15. Showed results of infants and children analysis, there were 469 (93.8%) women of the total study population didn't experienced infants and children deaths, 285(57.0%) women were married to their relatives, and 184(36.8%) women were married to non relatives. But, the results appeared that, 29(5.8%) women had between 1-2 infants and children deaths, 18(3.6%) women were of consanguineous marriage, and 11(2.2%) were non-consanguineous women. While, only 2(0.4%) women of consanguineous marriages had more than tow deaths, and there was no cases among the non-consanguineous women.

Table 15. Distribution of Infants and Children Deaths by Consanguinity

Deaths	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
No deaths	285	57.0	184	36.8	469	93.8	0.521
Yes, between 1-2	18	3.6	11	2.2	29	5.8	
Yes, more than 2	2	0.4	0	0.0	2	0.4	

5.3.6. Distribution of Children Health Problems by Consanguinity

The study shows that 20 (4%) of the total study population were women who had children with congenital anomalies, 13 (2.6) were women who had children with congenital anomalies and were consanguineous married. But the majority 480 (96%) of the total study population were women who had children with no congenital anomalies 292 (58.4 %) of them were women who were married to their relatives.
The differences between the two groups are not significant ($p < .05$).
Regarding to congenital hip dislocation only 16 (3.2 %) of the total study population were women who had children with congenital hip dislocation, 10 (2%) of them were women married to their relatives. The statistical differences were not significant.
The table shows that, the total number of women who had children with Down syndrome was seven which represent (1.4 %) of the total study population.
The statistical differences were not significant.

Table 16. Distribution of some of children health problems by consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Congenital anomalies							
Yes one and more	13	2.6	7	1.4	20	4.0	0.7
No	292	58.4	188	37.6	480	96.0	
Conenital hip dislocation							
Yes one and more	10	2.0	6	1.2	16	3.2	0.9
No	295	59.0	189	37.8	484	96.8	
Congenital heart disease							
Yes one and more	5	1.0	3	0.6	8	1.6	0.9
No	299	59.9	192	38.5	491	98.4	
Down syndrome							
Yes one and more	4	0.8	3	0.6	7	1.4	0.8
No	301	60.2	192	38.4	493	98.6	
Febrile convulsion							
Yes one and more	21	4.2	9	1.8	30	6.0	0.1
No	284	56.8	186	37.2	470	94.0	
Non febrile convulsion							
Yes one and more	19	3.8	16	3.2	35	7.0	0.3
No	286	57.2	179	35.8	465	93.0	

The results shows that only 30 (6%) women of the total study population had children with febrile convulsion , 21 (4.2 %) of them were women who had children with febrile convulsion and married to their relatives , there was no statistical signifiers between the two groups .

The table shows that 35 (7 %) women of the total study population had children with non febrile convulsion , and the majority was women whom had children with non febrile convulsion , the represent 465 (93 %) of the total women in the study population . There was no statistical significance between the two groups.

5.3.7. Endocrine, Nutritional, and Metabolic Diseases of The Children

The result shows that 465 (93 %) women of the total study population were women who had children with no phenyl-keton- urea , and the women who had children with phenyl-keton-urea were represent 35 (7 %) women of the total study population , 22 (4.4%) women out of them were married to their relatives .
There was no statistical significance between the groups .
The study shows that only 8 (1.6 %) women of the total study population having children with congenital hypothyroidism , and 492 (98.4 %) women of the total study population having children with no congenital hypothyroidism . No statistical significance between groups .
Regarding to Diabetes Millets only 21 (4.2 %) women of the total study population having children with Diabetes Millets , 13 (2.6 %) women out of them were married to their relatives . The statistical difference between the two groups shows no statistical significance.

Table 17. Distribution of endocrine, nutritional and metabolic disorders by consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
PKU children							
Yes one and more	22	4.4	13	2.6	35	7.0	0.8
No	283	56.6	182	36.4	465	93.0	
Congenital hypothyroidism							
Yes one and more	5	1.0	3	0.6	8	1.6	0.9
No	300	60.0	192	38.4	492	98.4	
Diabetes millets							
Yes one and more	13	2.6	8	1.6	21	4.2	0.9
No	292	58.4	187	37.4	479	95.8	

5.3.7. Blood Diseases of Children

The study results showed that, 499(99.8%) of the total study population were free of Thalassaemia, 304(60.4%) women were of consanguineous marriage, and 195(39.0%) were non-consanguineous women. And only one case of Thalassaemia was found, which belonged to a consanguineous woman.

Table 18. Distribution of Thalassaemia and Hemophilia By consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Thalassaemia							
Yes one and more	1	0.2	0	0.0	1	0.2	0.423
No	304	60.8	195	39.0	499	99.8	
Hemophilia							
Yes one and more	12	2.4	11	2.2	23	4.6	0.374
No	293	58.6	184	36.8	477	95.4	

Table 15 Showed that 23(4.6%) women had children with Hemophilia, 12(2.4%) women were consanguineous ones, and 11(2.2%) of them belongs to non-consanguineous women.

5.3.8. Multifactorial Disorders

The study shows that 26 (5.2 %) women of the total study population had children with deafness , 20 (4 %) women of them were married to their relatives . and 474 (94.8 %) women of the total study population had children with out deafness . the statistical differences was not significant ($p < 0.05$) .

The results also shows that only 23 (4.6) women of the total study population had children with blindness since birth, 18 (3.6 %) women out of them were consanguineous married. No statistical significance.

Regarding to skin eczema, the table shows that only 17 (3.4 %) women of the total study population had children with skin eczema , 13 (2.6 %) women among them were married to their relatives . The statistical differences were not significant.

The table shows that 63 (12.6 %) women of the total had children with Asthma, 40 (8%) women among them had consanguineous married. No statistical significance.

The total number of women who had children with rickets was three, which gives a percentage of 0.6 % of the total study population. Two of them were among consanguineous married women. No statistical differences.

The results show that only 4 women who had children with cancer, which gives a percentage of 0.8% of the total study population. Three of them belong to consanguineous married women. The statistical differences between the two groups did not reach the degree of significance.

Table 19. Distribution of Multifactorial Disorders by Consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Deafness							
Yes one and more	20	4.0	6	1.2	26	5.2	0.08
No	285	57.0	189	37.8	474	94.8	
Blindness since birth							
Yes one and more	18	3.6	5	1.0	23	4.6	0.08
No	287	57.4	190	38.0	477	95.4	
Skin eczema							
Yes one and more	13	2.6	4	0.8	17	3.4	0.1
No	292	58.4	191	38.2	483	96.6	
Asthma							
Yes one and more	40	8.0	23	4.6	63	12.6	0.6
No	265	53.0	172	34.4	437	87.4	
Rickets							
Yes one and more	2	0.4	1	0.2	3	0.6	0.8
No	303	60.6	194	38.8	497	99.4	
Children with cancer							
Yes one and more	3	0.6	1	0.2	4	0.8	0.5
No	302	60.4	194	38.8	496	99.2	

5.3.9. Birth weight Less than 2500 Gms.

The table showed that 63 women had children with birth weight less than 2500 gm , they equal 12.6 % of the total study population , 38 97.6 %) women out of them were married to their relatives , and 436 (87.4%) women of the total study population had children with birth weight more that 2500gm There was no statistical significance.

Table 20. Distribution of women who had children with birth weight less than 2500gms by consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Birth weight less than 2500 gm							
Yes one and more	38	7.6	25	5.0	63	12.6	0.916
No	266	53.3	170	34.1	436	87.4	

5.3.9. Growth failure, and Cerebral Palsy

The results shows that , women who had children with growth failure were seen which equal 1.4 % of the total study population . Out of them 6(1.2%) women married to their relatives. No statistical significance.

The study shows that, 11 (2.2%) women of the total study population had children with cerebral palsy , out of them 8 (1.6%) women were married to their relatives . The statistical differences between the two groups did not reach the statistical significance.

Table 21. Distribution of Growth Failure, And Cerebral Palsy Cases by Consanguinity

Variable	Consanguinity						
	Yes		No		Total		
	No.	%	No.	%	No.	%	P Value
Growth failure							
Yes one and more	6	1.2	1	0.2	7	1.4	0.1
No	299	59.8	194	38.8	493	98.6	
Cerebral palsy							
Yes one and more	8	1.6	3	0.6	11	2.2	0.4
No	297	59.4	192	38.4	489	97.8	

5.4. Conclusion

This chapter presented results of our analysis. An important conclusion reveals that Palestine has one of the highest levels of consanguinity in the world. Nearly 61 percent of total marriages contracted between close genealogical relatives. Our descriptive analysis reveals another important feature of yatta society, namely, alarmingly low levels of literacy that are particularly low among women. Poor levels of formal education are also noticeable.

Chi-square analysis used to analyze the determinants of consanguinity, the result showed that consanguineous marriages contracted for many reason most likely to promote families and secure the family. But the majority of the studied population showed that

they discourage consanguineous marriage (regarding that some of them were married their relatives) to avoid heredity diseases.

As to consanguineous of consanguinity, we found significantly younger ages at marriage for women who had married blood relatives.

The results of our analysis showed that fertility was high between the both groups, whether it was consanguineous or non-consanguineous marriage.

In addition, Analysis showed that consanguinity has no effect on the offspring health problems or congenital abnormalities. However, the results showed that, there was significant effect on the number of abortions among consanguineous women.

Consanguinity had no significant effect on the offspring mortality between both groups whether it was consanguineous or non-consanguineous.

Chapter VI

Discussion and Recommendations

6.1. Introduction

This chapter was organized into six sections.

The first section begins with the introduction, which view the organization of this chapter. The next section presents the main finding of the study. The third section presents the conclusion. The fourth section presents the implication of the study for contemporary theory.

The fifth section presents the implication of the study for policies and legislations. In addition, the sixth section comprises some recommendations for further research.

6.2. Discussion of the Results.

6.2.1 Age at marriage

Consanguineous unions in yatta are characterized by a younger age of the bride; the results reveal that 59.4% of women marry before the age of 25. The importance of these results comes from the fact that with low contraceptive user, age at marriage is a major determining factor of subsequent fertility. On one hand, we found a monotonic negative impact of consanguinity on age of marriage, and on the other hand, a significant influence of age at marriage on fertility. The two results are jointly indicative of a positive indirect effect of consanguinity on fertility.

This result came from the fact that, if the girl in Yatta not married by the age of 18-20 years old, it will be difficult for her to marry. So the families are seeking to marry their daughters early and before they reach 18 years old.

The results also show that the age at marriage of husbands is a significant factor that affects consanguinity. That is, 52% of husbands in Yatta marry consanguineously before the age of 25, while only 24.8% of the totals who marry before the age of 25 years are non-consanguineous. The result of our study supported the suggestion of the UNICEF report in (2005), which indicated that 55% of women in the Emirates are mariad under 20 years old, while in Sudan 42% of women are married before the age of 20 years old. Aministry of Health field study in Southern Egypt in the late 1980s showed that 44% of

rual women married in the former five years had been under the legal age of 16 at that time (El-Hamamy, Laila Shukry, 1994).

6.2.2. Education

Education was not found to be a significant factor. In other words, people who decide to marry consanguineously do so regardless of their educational level. An interesting finding is that 91.8% of wives in Yatta are below 12 years of education. Here we cannot emphasize or recognize if the education has a direct effect on consanguinity, because the families not paying enough attention to the education of their daughters due to many reasons, like financial reasons, and their early thinking to marry them.

For husbands, education was found to be significant factor that affects consanguinity. The more educated the husband is the higher the chance that he will marry one of his relatives. Because, they look to the educated person like a star in the family, so he must marry from the same family (according to family decision makers).

6.2.3. Occupation

The occupation of wives and husbands was found not to be significant and has no effect on consanguinity. Another interesting finding is that majority of women in Yatta population are housewives. That is, 92% of the wives are found to be housewives and 95.4% of their mothers are house wives as well.

6.2.4. Family income

It was not possible to estimate the monthly income exactly, whether it is for the women's family or for the couples, because the people usually hide the truth for many reasons, like they are looking for help, and they afraid from taxes.

6.2.5. Pevalence of Consanguineous Marriages

Table 8. Shows that the prevalence of consanguineous marriages in Yatta is 61%.When we look to the previous four results as a unit called (socioeconomic factors), it was observed that the results were similar to other results either locally or regionally. For example, in Palestine the prevalence of consanguineous marriages as reported by PCBS was 49% (52% in West Bank and more than 47% in Gaza Strip).

Similar findings were reported by Women's Affairs Center in Gaza Strip, which found the prevalence of consanguineous marriage in 1997 to be 43.1%. Another study conducted by

Abed Y. in 1995 in two Palestinian localities in (Jabalia Village and Rimal area) reports the prevalence of such type of marriages to be 55.1%.

Regionally, the prevalence of Consanguineous Marriages ranges between 20%- 55%. A study among Saudi families conducted by El-Hazmi MA in 1995 showed consanguineous marriages rate of 57.7%.

We can conclude that the high prevalence rate of consanguineous marriage in Yatta can be attributed to multiple factors. These factors can be summarized as follows:

- Promotion of family ties, security to the families and preservation of its properties.
- Easy for marriage negotiation.
- Family traditions.

The socioeconomic variables investigated in this study were proxy indicators.

Those variables included parents' education, parents' occupation, and parents' monthly income, no significant interrelation was observed among ate of consanguineous marriage.

Results of this study wee similar to other results in other parts of the word. For example, in Beirut, Lebanon, Klat M. in 1989 found that choosing to marry a cousin is associated with the strengthening of family ties and the maintenance of properties. Also in Kuwait, Al- Thakeb FT in 1985 found an association between cousin marriage and the poorer and less educated sections of the society.

6.2.6 Offspring mortality.

Our study sheds light regarding the contrasting views held on consanguinity as a risk factor for offspring mortality. The analysis of the study shows a differences in the percentage of offspring mortality, so it is higher in consanguineous than nonconsanguineous women. But the statistical difference was not found to be significant.

The results also show that the percentage of the number of infants or children deaths was higher than the number of stillbirths; also, the difference was not significant. This result is similar to the results of astudy done in Hirado revealed that consanguinity has a nonsignificant effect on offspring mortality; however, the relationship failed to attain statistical significance (Skull et al. 1970a; Skull, Nagano, yamamoto, and Komastsu 1970b and Neel 1972). In addition, our study supported astudy done by Devi, and Bittles (1981) and Bittles et al. (1987) revealed a nonsignificant elationship between consanguinity and offspring mortality.

6.2.7 Fertility

The results show a high fertility among Yatta population whether it was consanguineous or non-consanguineous marriage. The indirect effect of consanguinity on fertility through reduced age at marriage is that it increases the woman reproductive life span. However, for the Palestinian population high fertility is welcomed and looked at as a positive indicator because of the unstable political situation. High fertility rate in Yatta related on one hand, to the believes that their sons are able to be killed by Jewish soldiers through Al-Intifada, and through their efforts to reach their work inside Israel, and on the other hand, there are many bloody problems within and between families in Yatta. In both cases, the population in Yatta believes that they must have many male boys to be ready for that. Our study results are similar to results of Bittles study results which done in 1994, he found apositive association between the total fertility and consanguinity. Bittles AH. 1993 ascribed the greater fertility among consanguineous marriages to the younger female age at time of marriage, which maximizes the maternal reproductive span and increase childbearing in the most fertile years. This situation has been clearly observed in South India and Pakistan.

6.2.8 Birth weight

The results show that whether the marriage is consanguineous or non-consanguineous is not statistically significant. That is, 7.6 % of the low birth weight cases were among consanguineous women, and 5% of the low birth weight cases were among the nonconsanguineous women.

Investigations of the influence of parental consanguinity on infants birth weight was matched with other two studies in Kuwait by El Alfi. 1969 and in Iraq by Ramankutty in 1983. These results were not similar to the findings reported by Klat 1989. So, this topic requires further studies, incorporating careful control for socioeconomic variables such as premature marriage, high number of pre-eclampsia, recurrent pregnancies and poor families.

6.2.9 Congenital heart diseases, congenital hip dislocation and congenital anomalies.

The analysis of the study results showed no statistical significance. The chi-square test showed only 13 (2.6 %) cases of congenital anomalies among consanguineous women , and only 7 (1.4 %) cases among non consanguineous women .

Through out the 500 studied households only eight (1.6 %) cases of congenital heart diseases appeared. And 16 (3.2 %) cases of congenital hip dislocation were appeared.

6.2.10 Thalassaemia and Hemophilia

The results showed that only two cases of Thalassaemia were present , one of them among consanguineous group , and the other case among non consanguineous groups . This reduction may be due to the medical exam, which should be done before marriage. Hemophilia chi square result showed no statistical significance.

6.3 Conclusions

It has been found that the prevalence of customary consanguineous marriages in Yatta is 61%. This rate is high like other developing countries. Consanguineous marriage is deeply rooted in Palestine society for many reasons, like social benefits and support most of the women and husband said that, to marry someone you know is better than one you do not know. The result showed that education of wives had no effect on the consanguineous marriage but it is significant for husbands, that is, the more educated husbands the higher the chance they marry their relatives.

Also there is a fact in Yatta that, if the girl does not marry by the age of 18 -20 years old, it will be more difficult for her to get married, on the contrary, if the man reaches any age, he marries any woman with small age, this is the main reason behind the high rate of early marriage in Yatta.

Results of the study were similar to the results either locally or regionally – For example in Palestine the prevalence of consanguineous marriages as reported by PCBS in 1997 was 49% (52% in the west Bank , and more than 47% in Gaza strip).

And the results of this study were similar to the results of a study done by Moaen El-Kariri in 1999 in Gaza Strip, the results showed that the prevalence of consanguineous marriage was 49.4%.

The prevalence of consanguineous marriages in Saudi Arabia reaches 57.7% (EL-Hazmi: MA, 1995).

The incidence of consanguineous marriage in Yatta correspond to incidence of consanguineous marriage among Kuwaiti Population which was 55.7% (Al-Awadi at al. 1985), in his study which entitled"Consanguinity among the Kuwait Population".
The statistical analysis of the results showed significant effect on consanguinity by the husband's education, and age at marriage. All the other socioeconomic factors has differences in the rate only, but has no clear direct effect on consanguinity.
Also the result showed no relation between consanguinity and health problems of the offspring.
I believe that the results of our study tend to support the hypothesis advanced by some geneticists that prolonged inbreeding helps clean the gene pool by eliminating certain lethal genes through selective survival. By the same token, the burden of deleterious genes diminishes under prolonged practice of consanguineous marriages. Thus the morbidity and mortality rates for the progeny of consanguineous unions are not significantly greater than those of non consanguineous ones (see e.g., Sanghvi 1982)
Regarding that the practice of consanguineous marriages in yatta – Palestine dates back to several centuries, creating the condition of prolonged inbreeding.

6.4. Implication of the study for contemporary theory

The result of this study partially supported the modernization theory (Goode 1963; Haldane 1963) that forecasts a decline in the prevalence of consanguinity due to many factors associated with modernization. The factors include break up of isolates, and rise of industrialization and concomitant factors such as education, social status, and female labor force participation. Many of the predictors of consanguineous marriages explained the variation in consanguinity precisely in the way the modernization theorists predicted. For instance, female education and exposure to urban life in pre – adulthood (before age 12) significantly reduced the likelihood of consanguineous marriage.
However, several other factors appeared to refute the modernization hypothesis. First we found an increase in overall prevalence of consanguineous marriage among younger age groups secondly, male education exerted significant positive influence on the prevalence of consanguineous marriages.

Despite the prediction of moderniization thoerists (e.g. Goode 1963) of apotential decline in the prevalence of consanguineous marriages and the emperical support to this theory, blood relatives are still the prescribed matrimonial choice or the significant majority in

Palestine. Moreover, there is no evidence of the decline in the frequency of consanguineous marriages in the near future. This trend of increasing incidence of consanguineous marriages is not unusual considering the trends in other Islamic societies found by recent studies. Khoury and Massad (1992) reported no evidence of decline in frequency of consanguineous marriages in Jordan. Consanguinity was found to become more prevalent in Iranian society, a situation similar to that in Palestine.Bittles(1992) takes issue with the modernization argument, suggesting that industrialization, greater population movement, decline in family size, and higher literacy rate will result in arapid decline in the rate of consanguineous marriage, primarily on three grounds. First, he emphasizes that consanguineous marriage is not merely a cultural tradition but currently performs greater economic functions than ever before, as aresult of shrinking agricultural lands, and aggravating greed for dowry resulting in dowry murders and economic hardship of the brides' parents. Secondly, with the improvements in medicine, puplic health, and hygienic conditions in developing countries, a greater number of children will survive to marrigable age, which, in turne, will enlarge the pool of marrigable cousins. Bittles, however, does not take into account the position of theories of demographic tansition, which advocates that reduced offsprin mortality lead to asmaller family size norm. His final argument was that parts of Islamic world are inclined towards adoption of more fundemantaist doctrine and are, therefore, likely to return to the more traditional practice of consanguineous marriage.

Thus our study suggest that although modernization and some of the changes it brings may cause a considerable strain reducing the prevalence of consanguineous marriages , factors such as the cultural norms of kinship and sib ship solidarity cherished by consanguineous marriage , and socioeconomic benefits offered by such marriages , tend to outweigh such strain . This implies the theories seeking to explain micro-level aspects such as kinship organization cannot do so by using macro-level structural factors. The need to incorporate cultural factors and family vaiables is evident when addressing such issues. Moreover, our findings suggest that many explanations of human are culture specific. Thus the hope to form gand theories with the ability to expain certain human behavior at the global level may not materialize. Theories, instead, should be rooted in cross-cultural emperical evidence, and should have cultural specific proposition wherever applicable.

Many recent studies (e.g. Reddy 1992) tend to support the hypothesis advanced by some geneticists that prolonged inbreeding helps clean the gene pool by eliminating certain

lethal genes through selective survival. By the same token, the burden of deleterious genes diminishes under prolonged practice of consanguineous marriages. Thus the morbidity and mortality rates for the progeny of consanguineous unions are not significantly greater than those of non-consanguineous ones (see e.g. Sanghvi 1982). The practice of consanguineous marriages in Palestine dates back to several centuries, creating the condition of prolonged inbreeding. Yet, our study casts light to suggest a direct support of this hypothesis because we found no significant incidence of mortality for the progeny of consanguineous unions.

6.5. Implication of the Study for Applied setting

We concluded this dissertation with the implication of its findings for professional practices and applied setting.

The entire set of findings yielded by this study can be approached from a social policy perspective. For instance, understanding of factors leading to a delayed age at marriage can be highly rewarding for policy makers in Palestine who have been trying to curb the population growth rate through fertility decline.

Because of the cultural functions performed by consanguineous marriages, the socioeconomic benefits offered by them, we recommend policy makers to adopt preventive approach by launching public health-education programs. These programs should focus on providing genetic counseling to closely related individuals who plan to marry. However, a potential deterrent to success of such programs is low levels of literacy and formal education, which are a prerequisite for these programs to be successful.

The success of such programs in other countries such as Lebanon (see, e.g. Klat el al.1986) should serve as a standard for these programs in Palestine.

6.6. Recommendations for Further Research

The limitation of this study and unexpected findings revealed by our analyses lead us to pinpoint some potential a venues for further research. Contrary to expectations, this research showed an increase incidence of consanguineous marriage in Yatta. Despite a diverse range of possible explanations advanced for this phenomenon, a tangible empirical rational is still indispensable.

The results of this study partially supported the modernization theory (Goode 1963; Haldane 1963) that forecasts a decline in the prevalence of consanguinity due to many factors associated with modernization. The factors include break up of isolations, and rise of industrialization and concomitant factors such as education, social status, and female labor force participation. Many of the predictors of consanguineous marriages explained the variation in consanguinity precisely in the way the modernization theorists predicted. For instance, female education and exposure to urban life in pre-adulthood (before age 12) significantly reduced the likelihood of a consanguineous marriage.

However, several other factors appeared to refute the modernization hypothesis. First, we found an increase in the overall prevalence of consanguineous marriage among age group, in spite of substantial socioeconomic changes in Palestine society. Also, male education exerted a significant positive influence on the prevalence of consanguineous marriages. This rather strange pattern of association is consistent with the results of an earlier study in Jordan (Khoury and Massad 1992).

Therefore, we suggest further research seeking to explain micro-level aspects such as kinship organization cannot explain this phenomenon by using macro-level factors.

Another potential lead for further research stems from inaccessibility to an appropriate measure of socioeconomic status. In order to appropriately examine the relationship between socioeconomic status and tendency for a consanguineous marriage, the further studies should decide appropriate measures of socioeconomic status by taking into account the order of cause and effect, and the time lag necessary for indicator of status to manifest its effect on behavior in question. To be more explicit, future studies should collect information on the indicators of seriocomic status of the parents to qualify these indicators as the predicting factors of tendency on the part of an offspring to marry a blood relative.

Further research is also needed to distinguish the consequences of consanguinity from those of other concomitant factors. Consanguineous marriages are generally more prevalent among rural residents, the uneducated, and the poor. The same sector of society are also at a higher risk of disease, sickness, and death. Even when the effect of education and other socioeconomic differentials are controlled, the isolation of the effect of socioeconomic factors from the deleterious genetic effects due to consanguinity cannot be guaranteed. We recommend that the future demographic datd on consanguinity be supplemented with comprehensive biosocial information. This may include the systematic

clinical analysis of causes of prenatal and post natal deaths with an intension to separate the genetic effect from social effects.

On the community level, we recommend the following:

As consanguineous marriages were deeply rooted in Palestinian community, religious people and Muslims leaders should be involved in discouraging consanguineous marriages, this is very important to ensure and fit our culture and norms.Also, there are many methods and decisions should be introduced to decrease the prevalence of consanguineous marriages like:
Provide informations and awareness about consanguineous marriages in the school which should be involved in the school curriculum in order to bring up the future spouses with these informations, which will affect their marriage decision in the future.

In addition, we recommend introducing pre-conception couneling services in the primary health services, throughout pre-conception informations, laboratory diagnostic services, development of educational materials about the consequences of consanguineous marriages. This can be conducted by training of primary health care workers on genetic counseling, because incorporation of services into the maternal and child health program will help in reducing, preventing genetic, and congenetal disordes by reducing the prevalence of consanguineous marriages.

Involving mass media can help in increasing community awareness about consequences of consanguineous marriage, through health education program, which takes into considerations the culture, norms, and religion of the population.

Also, providing genetic counseling, clinical genetic procedures should be employed to develop profiles of disease by cause, and to provide prenatal diagnosis of apotential hazards.

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Appendix 1

Questionnaire

Customary consanguineous marriage and its influences in Yatta –Hebron, Jan 2006

Personal information's

1) Women age at marriage …….
2) Current age of women by (complete years)
1. 15-19 2. 20 – 24 3. 25 – 29 4. 30-34
5. 35-39 6 . 40-44 7. 45-49
3) Husband age at marriage
4) Current age of husband (complete years)
1. 15-19 2. 20 – 24 3. 25 – 29 4. 30-34
5. 35-39 6 . 40-44 7. 45-49

Socioeconomic and cultural factors:

5) Consanguinity among couples 1) yes 2) no
If yes , is it
a) First degree (brothers , sister and parents child)
b) Second degree (uncle – niece , aunt-nephew)
c) Third degree (wide family) .
6) Do you encourage consanguineous marriage?
A) Yes B) No
If yes …. Why?
a) Promote family ties and secure the families.
b) Easy for marriage negotiation.
c) It is our family traditions.
d) Heritage
e) don't know
If no … why?
a. Avoid heredity diseases
b. Promotion of genes and I.Q
c. Avoid family problems
d. Initiate new family relationships
e. Do not know

On the Women Background

7) Years of education ……
8) Occupation
a) Housewives
b) Working outside home with payment.
c) Working outside home with out payment.
The question no 9-13 related to the family of the Wife:
9-What was your father occupation when you had married?
A-unemployed b-Unskilled worker

C- skilled worker d-Professional, teacher, nurse, Clerks.
e- Merchant, land or factory owner
f- socially high professional-Large employer ,Engineer , Doctor.
10- Your factors Years of education _____
11- Occupation of your mother
A-Housewife B-Working outside the house"paid"
C-Working outside the house "Not paid"
12- Your mothers Years of education _____
13- Average "wife's family" monthly in come in shkel.
a- Less than 1000.
b- Between 1000-2000.
c-More than 2000.
d- Don't know.

On the Man Background

14- Years of education……

15- Occupation

A-unemployed B-Unskilled worker
C-skilled worker D-Professional, teacher ,nurse, Clerks.
E- Merchant, land or factory owner
F- socially high professional-Large employer ,engineer , Doctor.

16- Average Family monthly income in shakel.
1-Less than 1000.
2- Between 1000-2000.
3- More than 2000
.

Housing

17- Do you the house that you Live in ?
A-Yes B-No
- What type of house do you Live in ?
A- Stone
B-Concrete
C-Low quality or Shanty
*How many people Live with you in the house?_____
*How many rooms are there in yore house " including the Kitchen and the bathrooms?_____

Obstetric history (for Women).

18- Age at first pregnancy _____
19- Number of total pregnancies_____
20- Interval between marriage and first delivery
A- Less than 9months
B- 9_17 month.

C-18-24month.
D- more than 2 year (24month).
21-Number of Total deliveries_____.
22-Numbers of Abortions_____
23- Numbers of stillbirths_____.
24- Number of infants or Children deaths_____.

25-Have you chronic disorders
A- Diabetes B-Hypertension
C-Heart disease D-Uterinbe prolapased
E-Retention of uterine f-Vaginal prolapsed
G- Non
26- Have you any previous cesarean section?
A- Yes B-No
* If yes how many_____.
27- Did you have any health problems in your Last pregnancy?
A- Yes B-No
*If yes ,what was it .
A- Anemia B-Bleeding C-Toxemia of pregnancy
D-Frequent headache E-stress and tension .
28- Did you Children with any of health disorders?

The disorder	No	Yes	No.
* Febrile Convulsion	_____	_____	_____
* Non febrile Convulsion or epilepsy	_____	_____	_____
* Deafness	_____	_____	_____
* Mutism	_____	_____	_____
*Blindness	_____	_____	_____

* Skin eczema
* Asthma
* Birth weight <2500gms
* PKU
* Hypothyroidism .
* Thalassaemia.
* Sickle Cell disease.
* Hemophilia .
* Congenital anomaly
    * Mental retardation
    * Congenital heart disease
    * Congenital dislocation of the hip
    * Diabetes
    * Growth failure
    * others, specify _____
    29 – Did any of your Children badly and frequently need to be hospitalized?
    A- Yes B-No
    * If yes how many _____
    * please what was the cause of medical help____

Thank you

Appendix 2

استبيان

ظاهرة زواج الافارب في بلدة يطا الآثار المترتبة عليها

معلومات شخصية :

رقم متسلسل---------- التاريخ ----------

1)عمر الزوجة عند الزواج ----------

2) عمر الزوجة الحالي بالسنوات المكتملة

أ)15-19 ب)20-24 ج) 25-29 د) 30-34 ه) 35-39 و)40-44 ز)45-49

3)عمر الزوج عند الزواج ----------

4)عمر الزوج الحالي بالسنوات المكتملة

أ)15-19 ب)20-24 ج) 25-29 د) 30-34 ه) 35-39 و)40-44 ز)45-49

العوامل الاقتصادية والاجتماعية والثقافية .

5) هل يوجد قرابة بين الزوجين أ) نعم ب) لا

إذا كان الجواب نعم ، فما هي درجة القرابة بين الزوجين

أ- قرابة درجه اولى " ابناء عم ،عمه ،خال ،او ، او خاله .

ب- قرابه درجه ثانيه "ابن ابن العم ،ابن ابن الخال ، ابن ابن الخاله ،ابن ابن العمه.

ت- ج) قرابه درجه ثالثه " من العائله "

6) هل تؤيد زواج الأقارب أ)نعم ب)لا

- اذا كان الجواب نعم ، لماذا ---------

أ- تحسين العلاقات العائلية وتعزيز الامان للعائلة

ب- سهولةالتفاوض حول امور الزواج وتوابعه من النواحي المالية والاجتماعية

ت- من عادات وتقاليد العائلة وعدم الرغبة في ترويج الاغراب

ث- الميراث والثروة تبقى داخل العائلة

ج- لا اعلم

د- غير ذلك ، حدد .....

اذا كان الجواب لا، لماذا ----------

أ- تجنب الامراض الوراثية

ب- تحسين الجينات ونسبة الذكاء

ت- تجنب وقوع مشاكل عائلية

ث- لإنشاء علاقات عائلية خارجية

ج- لا اعلم

الزوجة " المراة "

7) سنوات الدراسة----------

المهنة

أ- ربة بيت

ب- تعمل خارج البيت باجر

ج - تعمل عمل خاص بدون اجر مثل الزراعة عمل تطوعي

الاسئلة من 8-12 تخص اهل الزوجة " والدها ووالدتها"

8) ماذا كانت مهنة والدك عندما تزوجت ؟

أ- عاطل عن العمل

ب- عامل غير حرفي

ت- عامل حرفي

ث- ذو مهنة " مهندس " طبيب ، مدرسة ،ممرض ، محاسب كاتب

ج- تاجر مالك عقارات أو مصانع

ح- صاحب وظيفة عالية " متميزة اجتماعيا " مثل . استاذ جامعي ، مدير شركة

9) سنوات دراسة والد الزوجة

10) عمل والدة الزوجة عندما تزوجت.

أ- ربة بيت

ب- تعمل خارج البيت باجر

ت- تعمل خارج البيت دون اجر

11) سنوات دراسة والدة الزوجة

12) متوسط الدخل الشهري لأهل الزوجة بالشيكل .

أ- اقل من1000 شيكل.

ب- من 1000-2000شيكل.

ت- أكثر من 2000شيكل.

ث- لا اعلم

الزوج

13) سنوات الدراسة----------

المهنة :

أ- عاطل عن العمل

ب- عامل حرفي

ت- عامل غير حرفي

ث- مهني مثل مهندس ، طبيب ، مدرس ، ممرض ، كاتب ، محاسب

ج- تاجر ،مالك عقارات او مصانع .

ح- ذو مهنه " متميزة اجتماعيا "، مثل استاذ جامعي ،مدير شركه

14) العمر عند الزواج بالسنوات _____.

15) متوسط الدخل الشهري بالشيكل.

أ- اقل من 1000شيكل.

ب- من 1000-2000شيكل.

ت- اكثرمن 2000شيكل.

ث- لا اعلم .

المسكن

16) هل تمتلكون البيت الذي تسكنون فيه ؟ أ) نعم ب) لا

ما هي صفة البيت

أ- حجر .

ب- باطون.

ت- قديم او أكواخ.

- عدد المقيمين في المنزل معكم"في نفس الشقة " يشمل الوالدين _____

- عدد الغرف باستثناء المطبخ والحمام _____

تاريخ الحمل والولادة.

17) العمر عند الحمل الأول _____ بالسنوات .

18) عدد مرات الحمل الاجماليه _____ .

19) الفترة بين الزواج والولادة الأولى.

أ- اقل من 9 شهور

ب- من 9 - 17 شهر.

ت- من18 - 24 شهر .

ث- أكثر من 2سنه .

20) عدد الولادات _____

21) عدد مرات الإجهاض _____

22) عدد الأطفال الأحياء _____

23) عدد الأطفال والمواليد الذين توفوا بعد الولادة _____

24) عدد الأطفال الذين ولدو أموات _____

25) هل تعانين من أي من الامراض المزمنة التالية :

أ- السكر

ب- الضغط

ت- مرض القلب

ث- هبوط في الرحم

ج- سلس في البول

ح- هبوط في الأعضاء التناسلية .

خ- لا يوجد

26) هل أجريت أي عمليه قيصريه أ) نعم ب) لا

-اذا كان الجواب نعم فحددي العدد _____

27) هل عانيت من أي متاعب صحية في الحمل الأخير.

أ)نعم ب) لا

اذا كان الجواب نعم فهل كان هناك (يمكن اختيار أكثر من إصابة).

أ- فقر الدم

ب- نزيف

ت- تسمم حمل

ث- صداع مستمر

ج- توتر وقلق

28) هل لديك أطفال يعانون من المشاكل الصحية المزمنة.

المشكلة	لا يوجد	يوجد	العدد
1) تشنجات حرارية	--------	--------	.....
2) تشنجات غير حرارية أو صداع	---------	--------	.....
3) صمم (ضعف في السمع)	---------	--------	-------
4) عدم المقدرة على النطق	---------	--------	-------
5) عمى	--------	--------	-------
6) حساسية جلديه مزمنة "اكزيما"	----------	---------	-------
7) ازمه صدريه	----------	---------	--------
8) مولود اقل من 2500 غرام.	----------	----------	--------

9) البول الغيثايل كيتوني ---------- --------- --------

10) قصور في نشاط الغدة الدرقية ---------- ---------- --------

11) أنيميا البحر الأبيض المتوسط "الثلاسيميا" ---------- --------- --------

12) الأنيميا ألمنجليه ---------- --------- -------

13) هيموفيليا نزف الدم ---------- --------- -------

14) تشوهات خلقيه ---------- --------- -------

15) اعاقه عقليه "الطفل المنغولي" ---------- -------- -------

16) تشوهات خلقيه في القلب ---------- -------- -------

17) انزلاق مفصل الحوض ---------- --------- -------

18) مرض السكر ---------- --------- -------

19) أعاقه جسمانيه مثل الشلل الدماغي ---------- --------- --------

20) كساح ---------- --------- -------

21) سؤ في النمو ---------- --------- -------

22) سرطانات ---------- ---------- -------

23) إعاقات أخرى مع التحديد إن أمكن ---------- ---------- -------

29) هل يحتاج أي من أطفالك لدخول المستشفى او للعلاج بشكل متكرر

ا- نعم ب-لا

اذا كان الجواب نعم ـــ فحددي العدد ـــــــــــــ.

ـــ ما هو السبب في ذلك ـــــــــــــ.

شكـــــرا لتعاونكم معنا

اسم الشخص الذي أجرى المقابلة.

اعلام نموذج وموافقته

ظاهرة زواج الأقارب في بلدة يطا والآثار المترتبة عليها

حضرة السيدة الكريمة

أود إعلامكم بأننا بصدد إجراء بحث ميداني بهدف معرفة مدى انتشار ظاهرة زواج الأقارب والآثار الصحية الناجمة عن هذه الظاهرة في بلدة يطا . أن هذا البحث تقوم به كلية الصحة العامة في جامعة القدس/ أبو ديس .

أن الباحث والقائم على هذا البحث يدعوك للمشاركة في هذه الدراسة لمساعدته في الحصول على المعلومات الصحيحة والدقيقة لتمكينه من فهم الوضع الحالي في بلدة يطا، وهذا بدوره لمصلحتكم ومصلحة بلدة يطا حيث أن النتائج الصحيحة والدقيقة تساعد على التخطيط الصحي السليم لهذه البلدة .

وان المعلومات التي نحصل عليها ستعامل في غاية السرية وهي للأغراض العلمية فقط .

علما بان لك مطلق الحرية للانسحاب من هذه الدراسة متى تشائين . وأنني اشكر وأثمن عاليا قبولك المشاركة في هذه الدراسة .

مع جزيل الشكر والعرفان .

الباحث

فريد أغريب

كلية الصحة العامة / جامعة القدس / أبو دبس

نموذج تعهد والالتزام

اسم الأم التاريخ

إنني أتعهد للام المذكورة أعلاه بأن لها الحرية الكاملة في تعبئة الاستبيان او رفضه ، وأتعهد كذلك بان المعلومات التي في الاستبيان سوف تكون سريه للغاية وللغرض العلمي فقط

اسم وتوقيع الباحثة التي أجرت المقابلة