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Perceptions and Experiences of Sub-Fertile Couples Served at the in Vitro Fertilization Centers in the Gaza Strip

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Dedication

To the Two Beloved, My Father, Bassam and My Mother, Feryal… The First Love, the Source of Power, Tenderness and Kindness…To My Superheroes…To Those Who Taught Me Resilience and Ambition… …Thanks for Your Help and Support.

To the Biggest Supporter…My other Half …My Soul Mate….my Partner…My Lifelong Companion…A Piece of My Heart…My Mohammed…Without You, Without Your Motivation, Love And Confidence…I Wouldn't Have Finished This Thesis.

To My Dearest Baby Girl… The Basil of My Heart…Who Brought Pleasure to My Heart and Taught Me the Meaning of Love…My Pretty Yafa… Without you, I Would Have Finished This Thesis a Year Ago.

To Faten, Watan, Abed Al Jawwad, Ali …You Are Pieces of My Heart.

To Each and Every One Who Helped Me and Believed in Me to Finalize This Thesis.

A Big Thanks Goes to My Father In-Law, Ahmed And Mother In-Law, Faten and to the Dearest Ehab, Mai And Asmaa Who Never Hesitate to Take Care of My Yafa So I Can Finalize This Piece…

I Dedicate This Thesis to You and From the Bottom of My Heart Thank You and Much Love

Declaration

I certify that this thesis submitted for the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

Signed:

Shahd Abu Hamad

Date: 20/12/2020

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With respect,

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Abstract

Background: *Infertility is a difficult experience with many overwhelming challenges originated from medical, social, financial and psychological factors. This study explores experiences and challenges that infertile/sub-fertile couples face when they utilize in vitro fertilization services in Gaza and flags priority areas for supporting them.*

Method: *The study followed a quantitative, analytical cross-sectional approach. Data were collected from a convenient sample of 320 participants attending In Vitro Fertilization centers in the Gaza Strip. After consenting, a qualified data collection team administered face to face interviews with participants at the centers serving them. The study tool has been constructed by the researcher to incorporate medical, social, psychological and financial dimensions. Tool validation has been done through experts' review and statistical testing. The SPSS software has been used for data entry, cleaning and analysis.*

Results*: The mean age of respondents was 29.8 years, and the mean age of their husbands was 34.9 years. Despite that 76.6% of husbands are working, almost two thirds of them earn less than New Israeli Shekels 1000; 33.4% reported receiving social assistance, half of them indicated that their monthly income is not sufficient to meet their basic needs. Still, 82.2% didn't receive any financial support when they seek In Vitro Fertilization services. One average, interviewed participants reported living with their infertility for around 5.5 years, three quarters of them were told about the reason of infertility, among them, 63.3% reported that disturbed spermatogenesis is the reason for couples' infertility. Two thirds of cases have secondary infertility, 63.4% reported being pregnant before. Of the total surveyed women, 14.7% reported developing health problems attributed to infertility management. Sub-fertile couples reported starting seeking infertility management early, with 40% doing that within less than 1 year of marriage. On average, couples approached around 5 doctors for infertility management and tried two centers, nevertheless, only 13.2% were provided with medical documents that can be used when they approach other centers. More than half (56.9%) of the respondents confirmed visiting a traditional healer. The vast majority of couples reported exposure to social pressure (89.4%), especially by in-laws to conceive which increased their stress.*

The level of satisfaction reported by respondents about the services received was particularly high (93.34%). More importantly, General Health Questionanire-12 scores indicate significant level of psychosocial stress with one quarter showing signs of psychological distress (using 6 as cut off point) and three quarters reporting psychological distress when using 3 as a cut-off point. The overall quality of life score (wellbeing) was 71%, lower than the general population scores with the social domain eliciting the highest score (79.13%) and the environmental domain eliciting the lowest scores 65.93%.

The main challenges facing sub-fertile couples were financial difficulties (91.6%), discrimination (76.6%) especially by in-laws, psychosocial stress (53.1%) and side effects of hormonal therapy (20.6%). Family was the main source of support for sub-fertile couples, as 82% reported being supported by their husbands, 55% by their in-laws and 54.4% by their parents. Psychosocial services are rarely provided at In Vitro Fertilization centers; instead focus was more on hormonal therapy and medical treatments.

Conclusion*: Sub-fertile couples face numerous challenges and should be better supported financially and psychosocially. Beneficiaries' rights to get adequate information, counseling and informed choices should be maintained. Regulatory measures to promote and standardize services at IVF centers is a priority. Also, social discriminatory norms and stigma around infertility should be addressed.*

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List of Abbreviations

ANC	Antenatal Care
ART	Assisted Reproductive Technology
CBOs	Community Based Organizations
FC	Frequency of Citation
FGD	Focus Group Discussion
FP	Family Planning
GDP	Gross Domestic Product
GGs	Gaza Governorates
GHQ	General Health Questionnaire
GIFT	Gamete Intrafallopian Transfer
HH	Household
ICPD	International Conference on Population and Development
IUI	Intrauterine Insemination
IVF	In Vitro Fertilization
KI/KII	Key Informant/ Key Informant Interview
LSD	Least Significant Differences
MOH	Ministry of Health
NGOs	Non-Governmental Organisations
NIS/ILS	New Israeli Shekel
OECD	Organization for Economic Cooperation and Development
PA	Palestinian Authority
PCBS	Palestinian Central Bureau of Statistics
PHC	Primary Health Care
PSS	Psychosocial Services
QoL	Quality of Life
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health and Rights
UN	United Nations

UNDP	United Nations Development Program
UNFPA	United Nation Population Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UTI	Urinary Tract Infection
WB	West Bank
WHOQoL	World Health Organization Quality of Life
ZIFT	Zygote Intrafallopian Transfer

Chapter One
Introduction

1.1 Background

In 1994, representatives from 179 countries, delegates from United Nation (UN) agencies, and civil society met in Cairo for the International Conference on Population and Development (ICPD) (United Nation Population Fund UNFPA, 2014). The ICPD determined a global program of action on population, development and individual well-being. It affirmed that "Sexual and Reproductive Health and Rights (SRHR) is a fundamental human right" (UNFPA, 2014); which means the rights of individuals to freely decide whether to reproduce or not and to attain the highest standard of Sexual and Reproductive Health (SRH). The program of action determined that all countries should make reproductive health care available to all, including prevention and appropriate treatment of infertility (ibid), which has been recently re-emphasized in Nairobi Summit (UN, 2019). Further reports, such as the UN Special Rapporteur Report (2019) on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, documents that the right to health includes an entitlement to a system of health protection, including health care and the underlying determinants of health, which provides equality of opportunity for people to enjoy the highest attainable level of health. In order to achieve this, the report states that states have an obligation to provide SRH services, and further urges duty bearers to provide access to vital services, including infertility treatment (United Nations Economic and Social Council Commission on Human Rights, 2019).

Worldwide, 8% to 12% of couples are infertile, indicating that 1 out of 10 couples experience primary or secondary infertility (Kumar and Singh, 2015). Being a sub-fertile/infertile and the struggle lived by the couples to have children could be a life crisis with a wide range of social, emotional, psychological, economic and health related difficulties that eventually affect the quality of life of the married couples (Kloch, 2011). These challenges are even more acute in the Palestinian community, given the high value placed on of having children (Courbage, AbuHamad and Zagha, 2016). Infertility and its therapies are usually associated with psychological, physical, social and economic challenges, not only for the sub-fertile couples themselves but also for their extended families (ibid).

In July of 1978 ‘Louise Brown’ was born in England, as the first baby to ever be born through IVF (Eshre, 2014). Today, IVF is a common method for treatment of infertility (ibid). It constitutes a treatment of choice for complicated fertility disorders (ibid), but not the first line of treatment of infertility.

Despite the fact that the history of IVF in Palestine goes back to the early 1990s, it has not been adequately investigated, even infertility itself hasn’t been thoroughly investigated. Thus, there is a lack of information about accessibility, affordability and the quality of infertility management in Gaza, particularly about IVF services and the challenges facing sub-fertile couples remain concealed which this study attempts to disclose.

1.2 Research problem

The number of IVF centers in Palestine has grown significantly in the past 20 years (9 in Gaza and 11 in the West Bank) and the number of beneficiaries benefited from these centers has correspondingly increased significantly to reach around 1200 couples annually in Gaza and more than 3000 in the West Bank (Abu Hamad, Matter, Bani Oda, 2019). The literature indicates that infertility and its management are associated with many psychosocial, health, and financial related challenges (ibid). As detailed later, IVF services utilize advanced very expensive technology and cause many maternal and fetal related risks including the use of aggressive hormonal therapy, surgical invasive procedures, anesthesia, too much stress, hope and may be frustration and production of many embryos, which may add a burden on not only nurseries and obstetric services, but also exposes mothers to medical and psychosocial stress (Hammoudeh et al 2013).

Although there are some studies that have investigated the risk factors of infertility (Sirdah et al,2013; AbuShahla, 2013) in Gaza, almost no studies have thoroughly investigated the challenges facing sub-fertile couples served at IVF centers in a comprehensive manner. Experiences and challenges facing sub-fertile couples benefiting from the IVF services remain untold. This study tries to answer such un-answered questions about what are the key challenges facing sub-fertile couples not only from health aspects but also from psychosocial and financial aspects. What are the services available to them, and to which degree these services are accessible, affordable, and meet their needs and expectations? Also, the study looks to the formal and informal support provided to sub-fertile couples.

1.3 Main objective

This study explores perspectives and challenges facing sub-fertile couples served by IVF centers in the Gaza Strip, focusing not only on health issues but also psychosocial and financial aspects as experienced by sub-fertile couples.

1.4 Specific objectives

1. To explore key challenges (health, financial and psychosocial) facing sub-fertile couples served by IVF centers in the Gaza strip.
2. To assess perspectives of sub-fertile couples about the services they receive at IVF centers in the Gaza Strip
3. To ascertain formal and informal support provided to sub-fertile couples served by IVF centers in the Gaza Strip
4. To recognize variations in perspectives about the services received at IVF centers and the challenges facing sub-fertile couples in reference to sociodemographic and infertility related variables
5. To provide recommendations for supporting sub-fertile couples to face their challenges

1.5 Research Questions

1. What are the key health related challenges facing sub-fertile couples served at IVF centers?
2. What are the key psychosocial issues facing sub-fertile couples served at IVF centers?
3. How much sub-fertile couples are different from others in the WHOQoL-26 and the General Health Questionnaire (GHQ)-12 scores?
4. How much financial costs constitute a challenge for sub-fertile couples and how they secure the needed financial resources?
5. To which degree services provided at IVF centers are accessible and affordable?
6. How much services provided at IVF centers' meets beneficiaries' expectations?
7. What are the key strengths and weaknesses of the available IVF services?
8. Are there differences in challenges and experiences facing sub-fertile couples in reference to socio-demographic characters?

9. Are there differences in challenges and experiences of sub-fertile couples in relation to infertility related variables?
10. Are there differences in the services provided to sub-fertile couples in relation to their socio-demographic and infertility characteristics?
11. What are the remained unmet needs of sub-fertile couples and how can they better be supported?

1.6 Justification

Although there are controversies about the actual national prevalence of infertility in Palestine, it is reported to be affecting 7–8% of Palestinian couples (Palestinian Central Bureau of Statistics-PCBS, 2011). This leaves thousands of people affected by infertility and its consequences. This study addresses an issue that is affecting a large number of beneficiaries who are not adequately considered by researchers, policy makers, donor community and other stakeholders. This study is the first in Gaza that entirely focuses on sub-fertile couples looking at their vulnerabilities in a comprehensive approach, not only the medical aspect but also other aspects like psychosocial and financial ones.

With the noticeable shift in donors' agenda from promoting birth control to reinforcing couples right to make free choices about their fertility options, this study provides information about an area that is less known (Abu Hamad and Khader, 2018). Therefore, it supports that shift in donors' agenda by providing suggestions about how best to support SRH rights focusing on a much-neglected category; the sub-fertile couples.

IVF is usually associated with many risks including but not restricted to multiple pregnancies, higher rate of neonatal admissions, increase risks of prematurity, increase caesarian section rates, ovarian hyperstimulation syndrome, invasive procedures which all contribute to increase the rate of maternal mortality and morbidity and many other risks (Abu Hamad, Matar and Bani Oda, 2019); therefore, it is important to study IVF services from the perspectives of beneficiaries in order to provide information that stimulates corrective measures.

The study will be beneficial to many users. Understanding key challenges and experiences will help stakeholders to better support sub-fertile couples. Findings and conclusions are important for the donor community to incorporate infertility management in their programs. Also, health policy makers can use the findings to set polices supporting the

management of infertility and how-to better serve sub-fertile couples. The research is also important to health care providers including the private sector which runs IVF services to set more client-centered services. Also, this study will be beneficial to the body of knowledge, as it generates new knowledge in turbulent context like Gaza.

1.7 Context of the study

1.7.1 Macro context

While considered by the United Nations Development Program (UNDP) to be in the medium human development category (0.667 at the Human Development Index), the Palestinian people remain highly vulnerable (Courbage, AbuHamad and Zagha, 2016). The protracted Israeli occupation, which is punctuated by repeated conflicts and coupled with severe restrictions on the movement of both people and goods especially in the Gaza Strip, has resulted in highly fragmented and distorted local economies which are overwhelmingly dependent on external aid including in the provision of health services (World Food Program, 2015; World Bank 2012).

Set against this 'human dignity crisis', which the United Nations (UN) considers a 'collective punishment' in clear violation of international humanitarian law (UN, 2012). Such complicated uncertain context has affected the Palestinians' ability to set long term policies and plans including population policies, provision of reliable services and securing the needed commodities. The cycles of political instability, combined with continued Israeli occupation, control of the Gaza Strip borders, which drastically restricts freedom of movement and trade, exposes people to violence and cycles of international sanctions against Palestinian (particularly the Gaza Strip blockade instituted in 2006) continue to negatively affect the lives of Palestinians almost in all life aspects (Courbage, AbuHamad and Zagha, 2016). Also, conflict and war like context have skewed priorities and plans towards emergency services and injuries away from development-oriented services. Gaza was exposed to three wars and many escalations in the last 10 years. While the war affected all aspects of life in the Gaza Strip including health, psychosocial (PSS), and economic conditions, it also have caused serious damages to the environment and pollution which is affecting health including fertility

1.7.2 Geo-demographics and economic context

The Gaza Strip is a very small area (365 km), a coastline of 40 km, with a total population of around 1.99 million (PCBS, 2019), one of the mostly populated area on the globe (5,453 per Km2). The Gaza Strip is divided into five governorates: North Gaza, Gaza City, Mid Zone, Khan Younis and Rafah. The crude birth rate in Gaza is 33.9 births/1000 population. The percentage of children aged 0-14 is more than 42%, woman at the reproductive age represents 22%, while the percentage of aged 65 years and above is 3% in Gaza (PCBS, 2019).

Regarding the economic situation in Palestine, the relative poverty line and the deep poverty line according to consumption patterns (for reference household consisted of 2 adults and 3 children) in Palestine in 2017 were 2,470 NIS (USD 671), and 1,974 NIS (USD 536) respectively. The poverty percentage among Palestinian individuals according to consumption patterns was 53% in Gaza Strip (PCBS, 2018). Data revealed that 34% of the individuals in Gaza suffer from deep poverty in 2017, according to consumption patterns (ibid). With regard to unemployment, more than half of the participants (52%) in the labor force were unemployed in 2018, in Gaza Strip (PCBS, 2019). The annual gross domestic product per capita is around 1100 (ibid). This may affect the access of people with infertility to services.

1.7.3 Environmental context

Fundamental infrastructure in electricity, water and sanitation, hygiene and municipal services, is struggling to keep pace with the needs of the growing population in Gaza; already the environmental sector is suffering from serious gaps (Courbage, Hamad and Zagha, 2016). According to a report that was published by the Palestinian Water Authority in 2018, the per capita consumption of water in the Gaza governorates was around 88.7 l/c/d (Gaza Water Recourse Status Report, 2018). As groundwater levels subsequently decline, sea water infiltrates from the nearby Mediterranean Sea (Abu Hamad et al 2015). Salinity levels have thus risen well beyond guidelines by the WHO for safe drinking water (ibid). This pollution is compounded by contamination of the aquifer by nitrates from uncontrolled sewage, and fertilizers from irrigation of farmlands. The literature indicates that the groundwater in some areas of the Gaza Strip is contaminated of heavy metals as a result of the war (Manenti et al, 2016) which affect fertility and conception.

1.7.4 Sociocultural norms

In congruence with the Palestinian norms and traditions, both women and men place very high value on having children, even some regard having male children as an economic and social investment (Courbage, AbuHamad and Zagha, 2016). In the Palestinian community, children provide social security in old age, making infertility a serious long-term issue related to the care of elderly family members (ibid). The researcher claims that inability to procreate in the Palestinian community is frequently considered as a personal tragedy and a hardship for couples, impacting not only their entire life, but their families as well. The rapidly escalation of the urbanization trends, together with shift away from agricultural society is accompanied by shifts in norms and traditions with less reliance in family and informal support and more tendency to seek support from formal services was associated with reduction in fertility level, but still less than the expected (Courbage, AbuHamad and Zagha, 2016). This change in urbanization trend hasn't been associated with major change in social norms therefore the trend of valuing having many children remained high in Gaza Strip (ibid).

The median age of marriage as reported by PCBS (2018) among females is 19 years (24 years among males). Of the entire population 15 years and above, 35% of the females never married before, and 44% among males (PCBS, 2015). The prevalence of the currently married females (15 years and above) reached 56% (54% among males). The majority of households of the Palestinian population in Gaza are nuclear families (79%) (PCBS, 2015). The percentage of extended families is progressively declining; the figure reported 15 years ago was 35% (Courbage, Abu Hamad and Zagha, 2016).

Palestinian girls are also vulnerable to child marriage and pregnancy. They are not only poorly protected by national law—which in the case of the Gaza Strip permits the marriage of girls as young as 16.5 (lunar year)—but they face considerable pressure from their families to marry early in order to uphold honor and also, because of economic hardship (Amasi, 2018). The end result of this high rate of child marriage is that Palestine's adolescent pregnancy rate is also very high. Nearly 30% of girls in Gaza Strip are pregnant before they turn 18 and about half are mothers before the age of 20 (PCBS, 2015). Furthermore, nearly one-third of marriages are contracted between first- degree relatives, which drives the country's high rate of birth defects (Miftah, 2015).

1.7.5 Health status and health care system

1.7.5.1 Health outcomes

Compared to other countries at a similar level of economic development, the Palestinian population's overall health outcomes are relatively good, partly due to strong performance of most basic public health and PHC functions (MOH, 2014; Courbage, AbuHamad and Zagha, 2016). Also, the very high women literacy rates, strong family commitment and cultural values are also positive factors. Reflecting the chronic stress that people in Palestine face, coincided with sedentary life style, and the change in population structure (demographic transition), the area is experiencing an 'epidemiological transition', whereby non-communicable diseases linked to lifestyle and stress, (including heart disease, cancer, hypertension and cardiovascular diseases, and diabetes) are gradually replacing infectious diseases as the leading cause of death (MOH 2017).

Palestine performs better than many countries in the MENA region on key indicators: in Gaza, the infant mortality rate is reasonable-although not improving, at around 22 per 1,000 live births; the maternal mortality ratio fluctuates between 10-30 per 100,000 live births; and immunization coverage is very high, at more than 95% for most vaccines, almost universal coverage of Antenatal Care, all Palestinian women deliver in health facilities and there is a noticeable gradual reduction in fertility rate (MOH, 2017; Courbage, Abu Hamad and Zagha, 2016). The life expectancy in Gaza in total is 73.3 years, for males 71.7 years; for females 74.9 years) (PCBS, 2018).

1.7.5.2 Health Services

The four major healthcare providers in Palestine are the governmental, UNRWA, NGOs, and private for-profit operators. The MOH is responsible for a significant portion of health care delivery including SRH (MOH, 2017), in addition to performing the role of the regulator and the supervisor of the entire health system. This role includes the development of laws, norms, licensing and guidelines pertaining to the provision of health services, pharmaceuticals and some aspects of public health (e.g. food and water safety), and the provision for inspection of their application. Although the national health plans recognize the sector is plural, allowing for market-based competition, there is no clear indication on the ground that the system is well-coordinated and integrated (Courbage, Abu Hamad and Zagha, 2016). There are 31 hospitals in the Gaza Strip. In addition, 152

primary health care centers in the Gaza Strip, around one third of the total number of Primary Health Care (PHC) centers belong to MOH (MOH-annual report, 2018). The number of PHC centers managed by UNRWA is 22. Traditionally, around 75% of the population seek health services at the MOH (MOH, 2014). More than 80% of the specialized services are provided at the MOH facilities in the Gaza Strip and the MOH hires more than 80% of the specialists (ibid). Currently, there are no governmental IVF centers.

UNRWA plays an important role in providing primary health care services, including SRH services through its centers and buying secondary and tertiary services for registered Palestinian refugees (UNRWA, 2017). IVF services are not among the package of services procured by UNRWA from other providers (ibid). NGOs play a complementing role in supporting vulnerable groups, particularly for people living with disability, youth, and women's health services. None of the NGOs provide IVF services.

The private sector is largely unregulated and tends to focus on services which generate high revenue such as obstetrics and surgical interventions (MOH, 2017). The private sector follows direct, market-based, non-contractual interactions between beneficiaries and providers. The legal basis for regulatory activities of this sector in Palestine are established based on Jordanian and Egyptian laws with defining regulations promulgated by the MOH (MOH, 2014). These regulations provide standards for each category of health facility, including building standards, space, equipment, and staffing applicable to the particular category. Hypothetically, the MOH can refuse to grant a license for a particular service on the grounds that it is duplicating other services in the locality or due to not fulfilling the standard (ibid). Economic or political factors may influence the MOH power to demand upgrades or compliance with standards. All the current IVF centers operating in Palestine are private and owned by obstetricians.

Generally, the hospital bed distribution per population in Gaza is reasonable at around 1.6 bed per 1000 population (Courbage, Abu Hamad and Zagha, 2016). The health personnel density per population in Gaza is fair and higher than most Arab countries with 23 physicians and 40 nurses per 10,000 population (ibid). However, specialty and subspecialty areas, are greatly under-represented. Health insurance is mostly available (more than 90% of HHs are medically insured), but it doesn't fulfill peoples' demands – few medicines covered or available, limited specialized services are available and long waiting lists for surgeries (AbuHamad et al 2017). The Health Insurance Department in Palestine is an

administrative division within the MOH and does not function as an independent insurance agency. The premiums and co-payment are pooled at Ministry of Finance level and are supposed to be the source of funding of the MOH (supply side financing system) and not a means to buy health services available on the 'market' (demand side financing system). Moreover, no benefit package has been clearly defined: the coverage is de facto universal, which raises again the issue of equity and sustainability (MOH, 2014). For example, within the governmental health services referral to IVF services are not the norms and require exceptional procedures from the Minister of Health or even a higher level. However, despite that IVF services are not usually part of referrals outside MOH premises, in 2003 and 2004 thousands were referred to receive IVF services with financial coverage from MOH (Abu Hamad, Matar and Bani Oda, 2019).

While people are generally able to access basic health services under ordinary conditions, access becomes very challenging during conflicts and emergencies. Access to advanced services outside MOH premises is restricted by the Israeli measures such as siege, separation wall and checkpoints. In 2017, 20589 referrals outside MOH premises or even outside Palestine were issued for Gazans patients which costed ILS 141 million (Referral database). There is a noticeable decrease in the number of patients permitted by Israel to cross Erez and in the approval rates for patients' companions which decreased from 83% in 2015 to 35% in December 2016 (United Nations Office for the Coordination of Humanitarian Affairs-OCHA 2017). In the WB, getting permit to reach hospitals in Jerusalem, the separation wall and checkpoints constitute a real access barrier. The repetitive wars, blockade, political division and lack of resources especially lack of access to training and subspecialties and drug shortage negatively affect access to health services (UNFPA, 2017; MOH, 2017).

The total expenditure on health in Palestine has increased from USD 397.2 million in 2000 to USD 1.4 billion in 2014, indicating an increasing trend of spending on health (Courbage, Abu Hamad and Zagha, 2016). The average health expenditure per capita in Palestine during 2000-2008 was USD 165, which increased to 312 USD in 2014 (PCBS and MOH, 2018). Regarding sources of funds for the health sector, the contribution of the government in Palestine is limited, at 37% in 2016 (ibid). By comparison, it is 72% in Turkey and in the OECD. In the same year, the contribution of households in Palestine was 40.8%, compared with 19.5% in OECD, constituting a high burden on families and

jeopardize the access of vulnerable and economically disadvantaged population. The ability of poor people to pay medical fees out-of-pocket is less than those who are experiencing greater economic hardship. According to the WHO standards, with such high out of pocket spending on health in Palestine, the term catastrophic health expenditure is valid, which might push many HH into poverty. Poor HHs can be protected from catastrophic health expenditures by reducing a health system's reliance on out-of-pocket payments and providing more financial risk protection.

1.7.5.3 IVF services in Gaza

Before the establishment of PA, no governmental centers or departments providing IVF services do exist. However, from the early 1990s, there was one IVF center in Gaza Strip (Abu Hamad, Matar and Bani Oda, 2019). Currently, there is 9 IVF centers in the Gaza Strip, which are licensed according to the Palestinian regulation issued in 1998. All the IVF centers are private ones (ibid). The ratio of centers per population (1.99 million) is also among the highest in the world with five centers per million people. According to a recent study conducted on IVF services, the number of beneficiaries served by these centers varies and annually reaches around 1200 couples; around 45% of those who need the services (Abu Hamad, Matar and Bani Oda, 2019). This reflects serious gaps in coverage mostly attributed to affordability. The same source indicates that the total number of staff working on IVF centers in Gaza is 58 persons. There is severe shortage in the number of embryologists, More information about IVF services are provided in the literature section.

1.7.6 Definition of terms

- **Infertility** is the inability to attain a successful pregnancy after 12 consecutive months of regular, unprotected sexual intercourse (Watkins and Baldo 2004).
- **Sub-fertility** is the condition of being less than normally fertile though still possibly capable of effecting fertilization. In this research, the two terms (Subfertility and infertility) were used synonymously.
- **IVF centers**, also called fertility centers, are licensed health premises by the MOH to provide IVF and maternity services regardless whether these premises provide solely IVF services or IVF in addition to other health services.
- **Primary infertility** refers to couples who have not being pregnant after at least 1 year having sex without using birth control methods.
- **Secondary infertility** refers to couples who have been able to get pregnant at least once, but now are unable for at least one year.

1.7.7 Proposal layout

This thesis is presented in six chapters, the first is the Introduction which describes the study background, research problem and justification, study aim, objectives, and key questions. Context overview and operational definitions of key concepts addressed in this study come at the end of the first chapter. The literature review which constitutes the second chapter , is presented in a way that summarizes the surveyed relevant research findings and visualizes the framework of the study, with description of the study variables and relationships among them; Methodology is the third chapter which describes the study population, sample, data collection method, data analysis and presents information on its reliability and validity. Findings are presented in chapter four which provides the outputs of the quantitative analysis. It begins by demonstrating the descriptive analysis and then inferential analysis looking for differences and cross tabulations. Chapter five provides the key conclusion of this research together with the key recommendations. The last section lists references and resources cited.

Chapter Two

Research Conceptual Framework and Literature Review

The researcher drawn this provisional conceptual framework based on the literature and her hunches about this topic. The framework helped logically linking potential challenges and how these are affecting the perspectives of clients. The framework is divided into three categories; challenges, influencing factors and perspectives

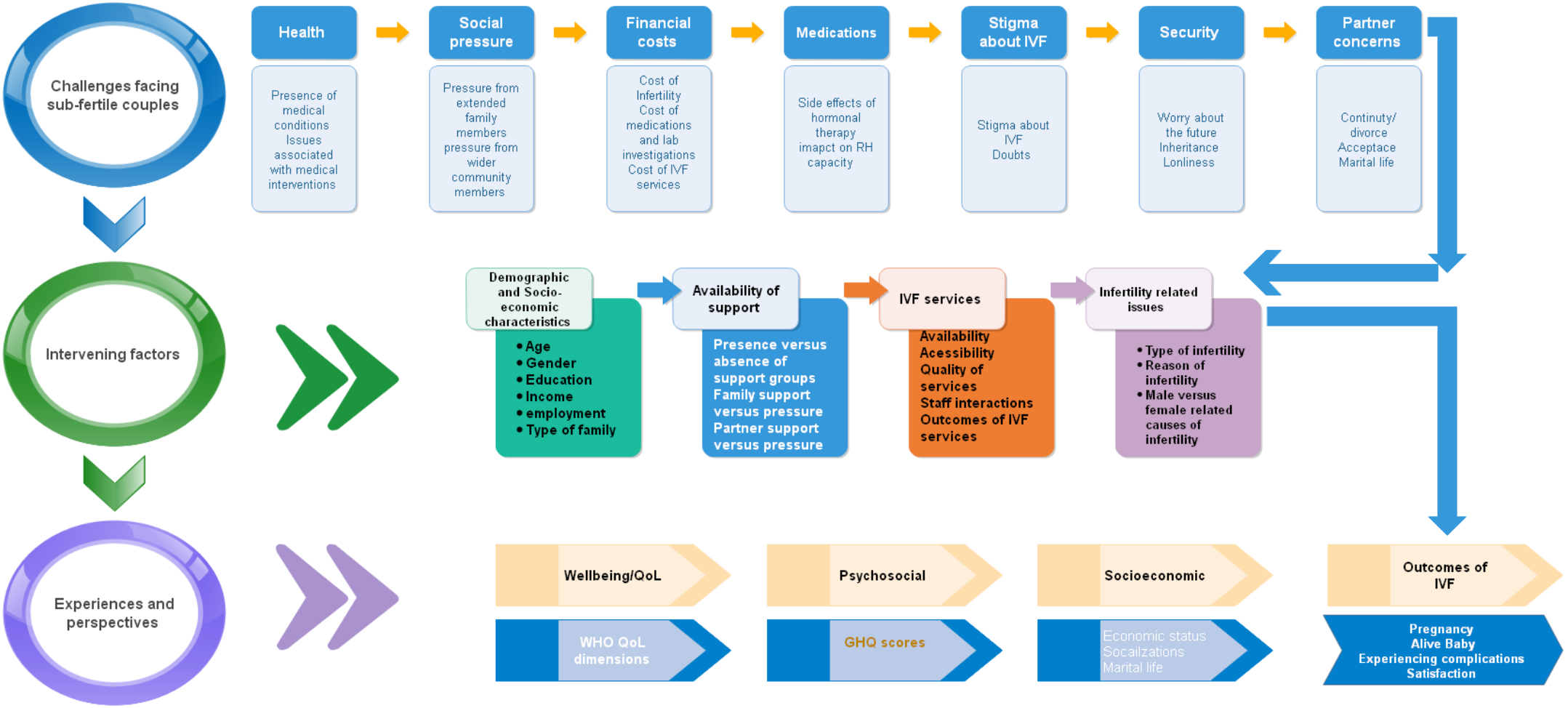
2.1 Conceptual Framework

2.1.1 Challenges

Challenges are the things that make life difficult, annoying, or unpleasant. In this study, the researcher will focus on the following difficulties:

- **Health related challenges**, these include medical conditions and diseases associated with infertility which require medical interventions and constitute a burden on the couples such as medical conditions affecting fertility.
- **Social pressure**, this refers to the pressure exerted by family members and community members including members of extended family on couples to conceive or even remarry. These add additional burden on couples.
- **Financial costs**, these are related to costs of IVF services, medications, lab tests, and any additional expenses which might exhaust the resources and savings available to couples.
- **Medications,** IVF usually involves providing hormonal therapy which is associated with side effects and complications.
- **Stigma about IVF**; IVF services are relatively new and still culturally perceived as stigma and the research concerns with studying how much the social norms affects perceptions and families use of IVF services.
- **Social Security;** because having children is highly valued in the Palestinian culture, the research would like to study challenges related to worry about the future, inheritance, social security when getting older.
- **Partners concerns**; this refers to acceptance versus not acceptance of infertility by the partner, support provided versus intention to discontinue marriage, divorce or remarrying.

Conceptual framework



2.1.2 Intervening/influencing factors

Challenges and perspectives of sub-fertile couples are affected by many intervening/intermediating factors which may exacerbate or minimize the challenges and thus positively or negatively affect perspectives. In this study, the researcher will focus on the following factors

- **Demographic and socio-economic factors**; these represent personal characteristics such as age, gender, employment status, education, might have a potential influence on the perspectives of couples. Economic aspects; which represent financial status and includes income and wealth, dependency on external aid, sources of aid, major economic concern, might play a role in influencing perspectives. Also, social factors like type of family, might play a role in both the challenges and the perspectives of sub-fertile couples.
- **Availability of support**; this refers to support provided by family members, friends, support groups as well as formal support provided by official services. Availability versus absence of support might highly underpins perspectives and perceptions of clients served by IVF services.
- **IVF services**, provided at IVF centers are crucial as it might has positive versus negative impact on sub-fertile couples' perspectives such as the outcome of these services (positive versus negative outcomes), accessibility, quality of services, staff interface with provider, therefore it is important to study.
- **Infertility related issues**, it is hypothesized that type of infertility (primary versus secondary), reasons behind infertility, (male versus female), related reasons behind infertility, all may affect sub-fertile couples' experiences.

2.1.3 Experiences and perspectives

This theme reflects the interactions of the challenges and the influencing factors and the result of that interaction in terms of how it affects perspectives not only from health aspects but also psychosocial, economic, and the overall wellbeing. Experiences and perspectives of sub-fertile couple are categorized into the following;

- **QoL is the wellbeing status** which is reflects perceptions and satisfaction about the quality of their lives. According to WHO, QoL-26 version incorporates four domains as detailed below.

- Physical aspects which hypothesized individuals' perceptions of their physical state; they include level of pain, energy and sleeping.
- Psychological aspects which mean the individuals' perceptions of their cognitive and affective state.
- Social relationships which mean individuals' perceptions of the interpersonal relationships and social roles in their life.
- Environment represents part of the cognitive and normative QoL evaluation and reflects their thoughts about the objective material context at which people live.

- **Psychosocial status** is a term which refers to the mind's ability to adjust and relate the body to its social environment. In this study this will be specially measured by using the commonly in use GHQ-12 which assesses the PSS and mental health condition of the participant. The scale is one dimensional.
- **Socioeconomic;** this relate to how subfertility impacts financial status of couples and its impact on their marriage, socialization patterns, interactions versus social isolation.
- **Outcomes of IVF**, this refers to the outcomes of receiving the services on terms of having or not having a live baby, complications experienced, and satisfaction about services received at IVF centers.

2.2 Literature review

2.2.1 Concept and definition of infertility

Infertility is widely known as having difficulty in conceiving after exposure to unprotected sex for one year or inability to attain a successful pregnancy after 12 consecutive months of regular, unprotected sexual intercourse without the use of birth control (Brazier, 2018; Watkins and Baldo, 2004). It may be that one partner cannot contribute to conception, or that a woman is unable to carry a pregnancy to full term. In the United States, around 10% of women aged 15 to 44 years are estimated to have difficulty conceiving or staying pregnant. Worldwide, 8%-12% of couples experience fertility problems. Between 45% to 50% of cases are thought to stem from factors that affect the man (Kumar and Singh, 2015). The progression in medical technology, and the introduction of IVF and intracytoplasmic sperm injection, has raised the chances of conception for many couples (Gunby and Daya 2007; Collins and Van Steirteghem 2004).

2.2.2 Importance and Rates of Fertility in the Palestinian context

In developing countries, children are highly valued for social, cultural and economic reasons. Many religions and faiths put a great emphasis on fertility and childbearing. In Islam, the position of motherhood is highly honored, and it is believed among Muslims that "Heaven lies at the feet of mothers".

Reproduction is highly recommended in Christianity as well, but infertility is considered another blessing from God by some Christians. Judaism encourages its followers to procreate and some Jewish scholars allow using artificial means for this purpose (Hasanpoor-Azghdy, Simbar and Vedadhir, 2015).

At the Palestinian society, a pressure is made always on women to marry, once she marries another pressure is put on here to give birth to a child, then the pressure circle continues over her to give birth to more and more children (Jones et al, 2016). Moreover, if the couples are unable to get pregnant, the woman will be the one to be blamed and stigmatized and infertility is always seen as the inability of a woman to perform her main role in life (ibid)! There is a strong gender element in the issue of infertility in Palestine. The authors claim that it is not the norm that a man accepts not to have children and therefore many of them marry again before even checking whether he is medically fertile or not. To a large extent, social norms dictate that it is not acceptable for a woman to leave

an infertile husband, although it is acceptable for a man to leave an infertile wife (Abu Hamad, et al 2017). Additionally, women are blamed if they miscarry (ibid). Moreover, issues around reproductive health create considerable stress for woman, especially young ones, who rarely have a say about the timing or spacing of pregnancies, how many children they have, or what type of family planning method they can use.

The Palestinian population has one of the highest fertility rates in the region. Religious and cultural beliefs dominating the society encourage fertility and having many children. Having many children provides a type of social security and protection for the family and the tribe against others (Courbage, Abu Hamad and Zagha, 2016). According to the PCBS, the mean number of children ever born for women ever married in Palestine in 2017 is 4.4 births; of which 4.3 births for the women living in the West Bank and 4.5 births for those living in the Gaza Strip (PCBS, 2019). High fertility rates could be related to factors including, cultural, educational, political, tribal and religious factors (UNFPA). Religious and cultural beliefs dominating the society encourage fertility and having many children. Furthermore, polygamy is not an uncommon phenomenon in the area especially in rural areas.

Additionally, having a large family is a necessity for agricultural work, the main earning source to some of the household despite being gradually eroding (PCBS, 2018). Another significant factor affecting the high fertility rate is the political situation dominating the area. Most Palestinian families lost family members in the consecutive wars and most of the Palestinians are aware of the demographic dimension of the Arab-Israeli conflict therefore, they are committed to the principle of having many children to preserve the national identity. Some Palestinians perceived high fertility and having many children as prestigious and it is among the very few available chances for them to prove themselves and to prove that they exist, with unemployment and lack of opportunities, men represent a symbol of failure and the only thing they can do to protect their ego, is to have more children (Abu Hamad and Khader, 2018).

As aforementioned, having many children "according to the Palestinian community" provides a type of social security and protection to the family and to the tribe against others, children provide social security and financial support to their family that is unlikely to be provided regularly and adequately by the government.

Birth interval is a major determinant of fertility and measures paternal investment in a child. Therefore, analyzing birth intervals will provide useful information for guiding the formulation of effective FP programs. Spouses manage the interval for personal, cultural,

psychological and economic reasons. Also, longer birth intervals of over 3-5 years are becoming necessity for parents who plan to send their children to higher education. Although this period (36-59 months) is the recommended, it was widely believed that a 24-month births interval is the minimum needed to ensure good health outcome for the mother and the child. The average birth interval in 2000 was 33 months longer in the WB (34.1) than the Gaza Strip (31.2) which dropped to 28.5 months (29.3 in the WB and 17.2 in Gaza Strip) in 2006. A slight change occurred between 2010 (28.8) and 2014 (30.1) in both WB and the Gaza Strip.

2.2.3 Magnitude and prevalence of infertility

Worldwide, 8% to 12% of couples experience fertility problems. the incidence of infertility is 20% in the Eastern Mediterranean region and 11% in the developed world (Sirdah et al, 2013), In the United States, around 10% of women aged 15 to 44 years are estimated to have difficulty conceiving or staying pregnant (Kumar and Singh, 2015). Iran has 13.2% infertility prevalence (Maghadam et al, 2014). The exact figures of infertility in Palestine are controversial. However, a prospective study among newly married couples who planned to become pregnant in agricultural villages in Palestine found that 13.4% did not conceive during 12 months of exposure to the risk of conception (Issa et al, 2010). According to the PCBS, 8.4% of married women aging between (15-48) reported to be infertile, 8.4% in the West Bank and 8.3% in the Gaza Strip. Of those infertile females 4.8% reported to have primary infertility, 4.5% in the West Bank and 5.2% in the Gaza Strip. While on the other hand 3.6% of women reported to have secondary infertility, with a percentage of 3.9% in the West Bank and 3.1% in the Gaza Strip (PCBS, 2011). Also, it was suggested that 7–8% of Palestinian couples have difficulty conceiving, with causes attributable to half the women and half the men (Hammoudeh et al 2013), according to the PCBS, 8.4% of married women aging between (15-48) reported to be infertile, 8.4% in the West Bank and 8.3% in the Gaza Strip. Of those infertile females 4.8% reported to have primary infertility, 4.5% in the West Bank and 5.2% in the Gaza Strip. While on the other hand 3.6% of women reported to have secondary infertility, with a percentage of 3.9% in the West Bank and 3.1% in the Gaza Strip (PCBS, 2011).

A prospective study among newly married couples who planned to become pregnant in agricultural villages in Palestine found that 13.4% did not conceive during 12 months of exposure to the risk of conception (Issa et al, 2010).

2.2.4 Risk factors of infertility

It may be that one partner cannot contribute to conception, or that a woman is unable to carry a pregnancy to full term. The progression in medical technology, and the introduction of IVF and intracytoplasmic sperm injection, has raised the chances of conception for many couples (Gunby and Daya 2007; Collins and Van Steirteghem 2004). In 15 to 30% of the affected couples the causes for infertility can be found in both partners. In 5 to 10% no organic cause can be found neither in the man nor in the woman. In this situation stress may be the cause (Abushahla, 2013).

2.2.4.1 Risk factors of infertility among females

The causes of female infertility are Ovulation problems caused by hormone imbalance, tumor or cyst, eating disorders such as anorexia nervosa or bulimia, alcohol or drug use, thyroid gland problems, excess weight, stress, intense exercise, menstrual cycles problems, tubal blocked, a previous infection of the genitourinary system, polyps in the uterus, endometriosis or fibroids, Scar tissue or adhesions, chronic medical illness, a previous ectopic pregnancy, a birth defect, Diethylstilbestrol (DES) syndrome which is given to women to prevent miscarriage or premature birth can result in fertility problems for their children.) (American Pregnancy Association, 2014).

Sirdah (2013) conducted a study on risk factors for subfertility among women attending IVF centers in Gaza, using a case control design. By using multiple logistic regression, different etiological risk factors were associated with subfertility, the most frequently reported factors in descending order were Thrombophilic disorders, fallopian tube problems, sex hormone abnormalities and polycystic ovary syndrome (Sirdah et al, 2013).

2.2.4.2 Risk factors of infertility among males

Regarding male infertility it can be caused by disturbances of the sperm production or maturation and sperm transport disorder due to obstruction of the vas deference, varicocele or infection. According to a study that was conducted on sub-fertile couples attending Al Basma fertility center to find out the causes of infertility among man, it was found that 52.6% of the causes of infertility are related to female factor while 42.4% was related to male factor and the remaining 4.55% was related to both couples (Abushahla, 2013). It was found that in 51.8% of the cases the cause of infertility is related to seminal problems such as azoospermia and oligospermia, varicocele account for 10.1% of the cases, hormonal

problems including hyperprolactinemia and hypogonadotropic hypopituitarism are the cause of 7.6% of the infertility related to man, infection account for 6.8% of the cases, Ejaculation problems account for 3.6% of the cases, the remaining 20.15% is related to more than one cause and was called compound infertility (Abushahla, 2013).

A study conducted by Abu-Khaizaran in 2011 on a convenient sample of 627 medical records for Palestinian males diagnosed with infertility in Razan centers in Ramallah and Nablus governorates between 2007 and 2009 showed that male factor alone accounted for 52% of infertility among couples, of these 83.3% had primary infertility and 16.7% had secondary infertility. The mean duration of infertility was 5 + 3.99 years and the mean age for male cases was 33.5 + 7.24 years. The most common causes among infertile men were, idiopathic infertility (37.6%), varicocele (32.4%), obstruction of the seminal tract (18%), and hormonal problems (5.1%). Less prominent causes reported were, taking medications (2.1%), spinal cord injury (1.8%), cryptorchidism (1.6%), and testicular failure (1.3%) (Hammoudeh et al 2013).

2.2.5 Treatment of infertility

Male infertility can be treated with surgery, if the cause is a varicocele (widening of the veins in the scrotum) or a blockage in the vas deferens which are the tubes that carry sperm. The patient can take antibiotics to treat infections in the reproductive organs. Medications and counseling to treat problems with erections or ejaculation can be done and Hormonal treatments can be taken in case of hormonal dysfunction (WebMD, 2019). Female infertility can be managed by Fertility drugs and hormones to help the woman ovulate or restore levels of hormones or Surgery to remove tissue's affecting fertility (such as endometriosis) or to open blocked fallopian tubes (ibid). When talking about infertility management it's important to mention the traditional and religious healer; as a lot of infertile couples seek their help and advices, when searching the literature it was found that traditional healers represent a source of medical care for infertility and other fertility related issues in Africa, they attribute the causes of infertility to women's past history, physical problems, male potency issues, incompatibility between the couple, being bewitched or even cursed. They manage infertility by scarifying, prayer and fasting, also they depend on the timing of intercourse to coincide with the fertile period (Obisesan and Adeyemo, 1998). According to a study that was performed in West Bank it was found that Herbal healers in the West Bank area of Palestine have a wide range of herbal remedies

used in case of infertility in males and in females. Unfortunately, most of them lack scientific evidence of pharmacological or toxicological nature. As a setting of the study Information about 31 plants used in the treatment of infertility in females and 24 plants used in the treatment of infertility in males were collected. including names of plants, parts used, mode and methods of preparation which were obtained from 51 traditional healers interviewed in rural areas of 9 regions of the West Bank/Palestine. The highest Frequency of Citation (FC) of herbal remedies used in case of infertility in females, were 98.04% for pollen grains from Ceratonia siliqua, 88.24% for Anastatica hierochuntica fruits and 84.31% for Parietaria judaica leaves, while the highest Frequency of Citation (FC) of herbal remedies used in case of infertility in males were 96.08% for Ferula hermonis roots, 88.24% for Phlomis brachyodon leaves and 86.27% for Phoenix dactylifera pollen grains (Jaradat and Zaid, 2019).

Infertility in men and woman can be also treated with assisted reproductive technology, or ART. There are several types of ART such as IUI (intrauterine insemination) in which Sperm is collected and the placed directly inside the woman's uterus while she is ovulating. Or IVF (in vitro fertilization) in which the sperm and egg are collected and brought together in a lab. The fertilized egg grows for 3 to 5 days. Then the embryo is placed in the woman's uterus. IVF is an effective treatment for the couples who suffer from infertility after conventional treatments have failed (ARS, 2019). It is a costly treatment because of the need for highly trained personnel, expensive equipment, lab services and expensive medications. But the problem is that, the cost of IVF is more than what some infertile couples can pay, and this tends to limit access to this treatment, especially when health insurance does not cover IVF treatment expenses. Another method of ART is GIFT (gamete intrafallopian transfer) and ZIFT (zygote intrafallopian transfer) in which the sperm and egg are collected and quickly placed in a fallopian tube. With GIFT, both the sperm and eggs are placed into the fallopian tube. With ZIFT, the sperm and eggs are brought together in a lab and then a fertilized egg is placed into the tube at 24 hours (WebMD, 2019). Intracytoplasmic sperm injection (ICSI) is now considered as the main method used, where the sperm is injected directly to the egg.

The most common health issues for which people choose IVF are Blocked or damaged fallopian tubes, Male factor infertility including decreased sperm count or sperm motility, Women with ovulation disorders, premature ovarian failure, uterine fibroids**,** Women who have had their fallopian tubes removed, Individuals with a genetic disorder and Unexplained infertility (American Pregnancy Association, 2014).

2.2.6 Complication of Infertility Treatment

Infertility treatment carries a high probability of complications development, these complications vary from side effects of medication, stress to multiple pregnancies. Medications used to treat infertility has a side effect that includes nausea, vomiting, headache, hot flashes and stomach pain. Ovarian hyperstimulation syndrome is a rare complication of medication, happens mainly when the ovaries produce a large number of eggs at a time, this in term led to development of abdominal pain and discomfort. Ectopic pregnancy occurs when fertilized egg implementation happens at the fallopian tubes rather than the uterus, multiple pregnancies and the subsequent risks is also featured, these risks include higher chances of miscarriage, pregnancy induces hypertension, gestational diabetes mellitus and preeclampsia (Zana, 2016). Bleeding or infection may develop as a complication of any procedure or surgical intervention as part of infertility management (Mayo clinic,2013).

2.2.7 IVF services

In Vitro Fertilization (IVF) is an Assisted Reproductive Technology (ART) commonly referred to as IVF. IVF is the process of fertilization by extracting eggs, retrieving a sperm sample and then manually combining an egg and sperm in a laboratory dish (Hammoud et al 2009). The embryo(s) is then transferred to the uterus.

There are several steps in the IVF and embryo transfer process. Fertility medications are prescribed to stimulate egg production (Gurevich, 2018). Multiple eggs are desired because some eggs will not fully develop or fertilize after retrieval. A transvaginal ultrasound is used to examine the ovaries, and blood test samples are taken to check hormone levels (ibid). Then eggs are retrieved through a minor surgical procedure that uses ultrasound imaging to guide a hollow needle through the pelvic cavity to aspirate and collect the eggs. The male partner is asked to produce a sample of sperm, which is prepared for combining with the eggs. In a process called insemination, the sperm and eggs are mixed and stored in a laboratory dish to encourage fertilization. To increase fertilization rate nowadays ICSI is the usual method; through this procedure, a single sperm is injected directly into the egg in an attempt to achieve fertilization. The eggs are monitored to confirm that fertilization and cell division are taking place. Once this occurs, the fertilized eggs are considered embryos. The embryos are usually transferred into the woman's uterus three to five days following

egg retrieval and fertilization. A catheter or small tube is inserted into the uterus to transfer the embryos. This procedure is painless for most women, although some may experience mild cramping. If the procedure is successful, implantation typically occurs around six to ten days following egg retrieval.

Given the commercial competition and pressure that IVF centers face, they present their success rates in the most positive manner possible. Globally, IVF centers are required to report their IVF success rates annually to national centers like the Centers for Disease Control and Prevention (CDC) in the USA. IVF success rates are the pregnancy rates after IVF. Rates are calculated by dividing the number of favorable results (number of live births, for example) by the number of procedures performed (number of embryo transfers, for example). The two major types of IVF success rates are the clinical pregnancy rate and the live birth rate (Your Fertility Friend, 2019). Clinical pregnancy rate is calculated by dividing number of clinical pregnancies by number of procedures performed, which is the mostly referred to in Palestine (ibid). Live birth rate is calculated by dividing number of live births by the number of procedures performed.

2.2.8 IVF in Palestine

The history of IVF in Palestine goes back to early 1990s where the first center has been established in Gaza at as a private center. There were many attempts to establish governmental IVF services in the Gaza Strip which were not successful. Motivated by the very low success rate at the time (less than 10%), and the high number of referrals to the private IVF centers, in 2000, the MOH decided to establish the first governmental IVF center in the Gaza Strip. The establishment of the center was subject to a controversy and debate about whether the MOH should engage itself in such business and whether IVF should be part of the essential package of services. The advocates of this idea claimed that the center would reduce referrals, improve the quality of services, especially the success rate, and promote accessibility for disadvantaged groups. Thus, a center for IVF was established in the European Gaza Hospital in 2003 (the only MOH affiliated IVF center in Palestine). The center was closed a few years later and the equipment were sold to the private sector. No records are available to show the justification for the establishment and/or the reasons of closure of the center. Also, no documents show the pregnancy success rate at that center, although some KIIs said that it achieved more than 20% success rate at the beginning and improved with time.

In the past two decades, IVF services in Palestine have been provided outside of MOH facilities. Although the treatment abroad department, in general, was not in favor of referring couples who need IVF to specialized centers in order to receive services that are covered by health insurance, thousands of sub-fertile couples were referred by MOH and the costs were covered by MOH. Some cases were referred through the system where a technical committee approves the referrals. Many others were referred without going through the system and treated as exceptional cases with their referrals backed by the president at the time. The technical referral committee was in favor of referring only couples who never had any children, but many approached MOH for a referral to have children from a second or third wife, even if they already have 10 children. In 2000, 63 Gazans cases were referred by MOH to receive IVF services which increased to 1,264 in 2004, then the number of cases referred significantly dropped until it reached zero in 2006. In total, during the years 2000 to 2006 around cases from the Gaza Strip were referred to receive IVF services that were financially covered by MOH, costing more than ILS 21 million. This reduction in the number of cases is attributed to the change in the political situation and discontinuing exceptional referrals after the death of President Arafat and hiring new ministers of health who decide to ration referrals.

Lack of IVF services at governmental, UNRWA, and NGO facilities triggers the investment of the private sector in this field. The private sector tried to benefit from the referrals made by MOH and they invested heavily in lobbying for referring cases to them. The first IVF regulatory framework was issued in September 1998, signed by the first Minister of Health (Dr. Riyad Al Zanoun). Since that time, these regulations constitute the only available framework for licensing. As MOH, and the country as a whole, lacks adequate technical expertise in this field, there was an article in the regulation (Article 15), on the regulatory framework, which states that the IVF centers must "cooperate together to reach a morale and professional standard that constitutes the foundations of professional, medical, legal and ethical practice when dealing with couples and their samples". Thus, the professional standards are left open to the centers to agree on. However, this never took place. Alternatively, a specialized committee was established in the Gaza Strip in 2015 to introduce some regulations which were adopted by the MOH in the Gaza Strip in 2015. According to the international standard not more than two embryos should be transferred to the uterus, but this is not followed in Gaza, according to an assessment of IVF services conducted in Gaza at 2019, it was found that in 70% of cases, three to five embryos were

transferred (Abu Hamad, Matar and Bani Oda, 2019). At the national level, no unified protocols regulating IVF services exist. Instead, a culture of undermining and blaming exists, where the staff at each IVF center accuses colleagues at other centers of doing harmful practices in diagnosis, treatment and follow up. Each center adopts its own approach which is completely different from the other centers (ibid). As aforementioned the total number of IVF centers in Gaza is 9, they are all private centers and only five embryologists are working in the nine IVF centers. Two of them work in six centers; one per three centers, the remaining three work in a separate IVF center. This is much less than the standard of having two embryologists per 150 annual IVF cycles (Abu Hamad, Matar and Bani Oda, 2019).

2.2.9 IVF success rate

When appraising the success rate of the IVF it's important to mention several factors playing an important role in the success or failure of the process, those factors are Maternal age; The younger the mother, the more likely she will get pregnant and give birth to a healthy baby. Embryo status; Transfer of embryos that are more developed is associated with higher pregnancy rates compared with less-developed embryos. Reproductive history; Women who've previously given birth are more likely to be able to get pregnant using IVF than women who've never given birth. Success rates are lower for women who've previously used IVF multiple times but didn't get pregnant. Cause of infertility; Having a good ovarian reserve increases your chances of being able to get pregnant using IVF. Women who have severe endometriosis are less likely to be able to get pregnant using IVF than women who have unexplained infertility. Lifestyle factors; Women who smoke typically have fewer eggs retrieved during IVF and may miscarry more often. Smoking can lower a woman's chance of success using IVF by 50%. Obesity can decrease your chances of getting pregnant and having a baby. Use of alcohol, drugs, excessive caffeine and certain medications also can be harmful (Mayo clinic, 2013). Factors related to the IVF center including the experience of the IVF staff particularly the embryologists (American Pregnancy Association, 2019). Crude success rates, without appropriate disaggregation and considering the above-mentioned factors, might be misleading or even deceptive.

According to a number of studies it seems that the maternal age is the main prognostic factor for the success or failure of IVF, according to a report published by human fertilization and embryology authority under the name of fertility treatment 2017 trends

and figures it was mentioned that fertility trends differ with the age of the mother mentioning that if the mother age is under 35 then her success rate will be 29%, while age of 35-37 the success rate is 23%, while being between 38-39 the rate is 15% while if you're 40-42 the rate will be 9% on the other hand if you are 43-44 then the rate is 3% and finally if you are over 44 the rate is 2% (Fertility treatment: trends and figures report,17)**.** While based on another report published by the CDC in 2016, about the success rate of all assisted reproductive technologies, of which IVF represent 99%, it was published that pregnancy was achieved in an average of 27.3% of all cycles (higher or lower depending on the age of the woman). While the percentage of cycles that resulted in live births was 22.2% on average (higher or lower depending on the age of the woman) (WebMD, 2019).

A recent study conducted by Abu Hamad (2019) data submitted by IVF centers, the overall success rate (clinical pregnancy) is around 45%. Some reported lower rates around 22%, while others reported up to 55% success rates. The overall success rate of IVF users was 48% in 2018 and 45.6% in 2017. The reported success rate may be misleading due to several reasons, including deliberately not reporting about all the beneficiaries who were treated and selection bias, as in other countries women who seek IVF services are usually older and thus have less of a chance to conceive. In the Gaza Strip, similar to what is reported in other contexts, women older than 36 have lower success rates (35%), and women over 40 have very low success rates (13%). These findings show that due to inadequate monitoring and supervision mechanisms, IVF staff manipulate the success rates and show false positive results. In the Gaza Strip, there is a belief that the actual success rate is not more than 20%, according to KI (Abu Hamad, Mater and Bani Oda, 2019).

No matter how the woman conceives, the chances of having a premature baby vary depending on a number of demographic, general health and socioeconomic factors, which can all affect the chances of having a premature baby. Identified risk factors for prematurity in Palestine are political and domestic related stress, inadequate ANC, failure to gain weight during pregnancy, short interval (<18 months) between pregnancies, vaginal infections and UTI (Abu Hamad, Abed and Abu Hamad al 2007). Even after adjusting for other factors that might cause a higher rate of preterm birth, babies conceived through IVF have a higher chance of prematurity than babies conceived naturally or through other fertility treatments. Twins conceived after IVF are 23% more likely to be born early than twins conceived naturally. IVF singletons are about twice as likely to be premature as singletons conceived naturally (Bird, 2019). Several factors contribute to increased risk for

prematurity including hormonal causes, which increases the number of eggs that are released, implanting multiple embryos, hyper-medicalization as IVF pregnancies are considered precious and carefully monitored by physicians who tend to avoid complications by unnecessarily and prematurely interfering. Maternal factors which increased infertility, such as age and weight, may also play a role in why IVF increases the risk of premature birth (ibid).

2.2.10 Challenges and experiences related to infertility

Infertility and its therapy with accompanying psychological disturbances may also significantly affect the partners' relationships and cause hormonal disturbances with many physical, and psychological manifestations. A study conducted in 2013 by Hammoudeh focused on the social, psychological, economic, and physical effects of infertility on women living in the WB. Women reported physical symptoms that they associated with infertility include; insomnia, fatigue, dizziness, palpitations, and breathing problems. Most of the participants reported feeling emotionally drained or overwhelmed, frustrated, and hopeless. Feelings of anxiety, sadness, and hamm (a combination of different feelings, including anger, distress, frustration, grief, incapacitation, worry, and sorrow) were common. Physical and psychological symptoms might be due to severe pressure on women because of their inability to fulfil their biological and social roles. Symptoms might also be due to treatments, especially hormonal therapy and surgery; the side-effects for these treatments include discomfort, irritability, physical pain, and mood changes. Most women described a void in their lives, feeling incomplete, and unable to fulfil their role as mothers. Fear of ageing without children was common, and some women reported excessive crying at home. The social effect of infertility depended on the surrounding support. Some women reported that their in-laws were more supportive than were their own families. Other women reported cruel treatment by their in-laws, including blaming the woman for the couple's infertility. The effect of communal gossip was felt strongly, making women feel hurt and stigmatized. Almost all women noted a substantial economic burden in their struggle to conceive (Hammoudeh et al 2013). Another study conducted by Katwsa in 2013 on the psychological distress of infertile women attending IVF centers in the West Bank showed that infertility has serious negative impacts on the psychosocial status of women. Statistically significantly, infertile women showed more abnormal findings in the Positive Symptom Distress Index, Global Severity Index, obsessive compulsive neurosis,

interpersonal sensitivity, depression symptoms, anxiety symptoms and phobic anxiety in comparison to their counterpart fertile women (Katwsa, 2013).

2.2.10.1 Cultural norms, values and family attitudes

Social and family customs, values and traditions may restrict sub-fertile couples from seeking infertility related services at the fertility centers. Some infertile couples reject the idea that they have sons conceived through IVF (Abu Hamad, Matar and Bani Oda, 2019). Couples prefer traditional treatment or hormonal therapy, as they don't want to go through IVF processes, such as embryo transfer or implantation (ibid). This reflects lack of awareness and false perceptions about the IVF process. Sometimes the treating physician can, through consultation and information sharing, successfully encourage the couple to go through IVF, but in such cases, they prefer to keep this as confidential and insist not to inform relatives and friends (ibid). Social stigma around IVF may prevent some sub-fertile couples from receiving IVF services and according to the directors of the centers, this phenomenon has become less prevalent (ibid).

Abu Hamad, Mater and Bani Oda in (2019) stated that most couples have confirmed that the person who controls the decision whether to have IVF or not is the husband, but in many cases under the influence and pressure of his wife. Family members, especially in-laws and relatives, pressure newly married couples to seek IVF services. Also, family members from the wife's side usually become worry and push her to seek infertility treatment early. In the Palestinian culture, having children is a family, rather than a personal choice and therefore families tend to interfere in this issue.

2.2.10.2 Financial aspect of IVF treatment

Perhaps one of the most obvious ethical challenges surrounding ART is the inequitable distribution of access to care. The fact that significant economic barriers to IVF exist in many countries results in the preferential availability of these technologies to couples in a position of financial strength. The cost of performing ART per live birth varies among countries. The average cost per IVF cycle in the United States is USD 9,266. However, the cost per live birth for autologous ART treatment cycles in the United States, Canada, and the United Kingdom ranged from approximately USD 33,000 to 41,000 compared to USD 24,000 to 25,000 in Scandinavia, Japan, and Australia (Brezina and Zhao, 2012). The total ART treatment costs as a percentage of total healthcare expenditures in 2003 were 0.06% in the United States, 0.09% in Japan, and 0.25% in Australia. Some have maintained that

the cost for these cycles pales in comparison to the social advantages yielded by the addition of productive members of society. This is especially true in societies that have a negative or flat population growth rate coupled with an aging population (ibid). The funding structure for IVF/ART is highly variable among different nations. For example, no federal government reimbursement exists for IVF in the United States, although certain states have insurance mandates for ART. Many other countries provide full or partial coverage through governmental insurance. In many instances, long waiting times for IVF through these government programs encourage couples to seek treatment in private fertility centers that accept remuneration directly from the patients. In the United Kingdom, for example, only approximately 25% of all IVF cycles performed are funded by the National Health Service (Brezina and Zhao, 2012).

Affordability is a strong determinant for service utilization and also one of the WHO dimensions of quality of services. Economic status and the nature of the local health care system strongly affect access and utilization of IVF services. Different countries follow different policies in the provision of financial coverage to health services, which also applies to IVF. No country can meet all the health needs of its population; therefore, countries make priorities about what services to cover. The social security system in certain countries like France bears all the costs of IVF services (Jognn, 2014). Partial coverage of IVF costs is provided by the government in Belgium and Denmark (ibid). In some states in USA, infertility insurance coverage is mandatory, and the rate of utilization for infertility treatments is substantially higher than the USA average (Jognn, 2014; American Pregnancy Association, 2019).

Almost all IVF users indicated that they have been challenged with the high financial costs that they have to pay out of pocket. The most frequently mentioned price of the IVF cycle by Gazans is around $2,500. For some of the employed people, it is almost the salary of one complete year. The prices in other countries vary. The cost of IVF is a high in the light of the difficult economic situation and the hardship conditions experienced by the Palestinian people especially in the Gaza Strip. The cost per IVF cycle is almost double (200%) the annual per capita GDP in Palestine, while in other countries it is much less (17% of the annual GDP in Israeli; 9% of the GDP in Korea). The cost per IVF cycle in some neighboring countries in 2009 was as follows: $ 4,856 in Israel, $ 2,428 in Jordan, $ 6,475 in Lebanon, $ 6,475 in Saudi Arabia (IVF-worldwide.com,2008). Regardless of the

GDP, the costs in Iran, Pakistan and Korea is significantly less (50% less than in Palestine).

Abu Hamad, Matar and Bani Oda (2019) concluded that of the factors that hinder the couples from obtaining the IVF services, the economic situation of the spouses ranks first, where many suffer from difficult financial situations. The cost of IVF services is a burden on families, which prevents many of those who need the services to receive it or represents a type of economic shock for others. For some beneficiaries, the IVF services are not only very expensive, but also of no value, especially as it requires long periods of treatment.

As aforementioned, because MOH does not control or regulate the fees of the IVF services, centers sometimes manipulate prices, such as reducing the cost of the IVF procedures to around $600, but in the end, they charge extremely high and unjustified high costs for lab services and medications (Abu Hamad, Matar and Bani Oda, 2019).

In conclusion, because of disparities and inequality, many couples who need the services don't receive it, unless ad hoc assistance is provided. Additionally, many unnecessarily go through IVF, especially those who have access to resources and/or are politically well-connected. There should be a mechanism to help people of lower socio-economic status who need IVF services.

2.2.10.3 Information and staff attitudes

Infertility management is a long term, complicated, and uncertain process. The transition from the medical therapeutic stage to the stage of IVF treatment is sometimes a long, painful journey, with many events that may cause the couple to lose hope of having children (Mayo clinic,2015). The absence of a correct diagnosis or repeated treatment attempts with the same patient without achieving positive results combined with the lack of good communication between the patient and the therapist can cause significant physical and psychological burdens, which can lead to undesirable complications.

Some users believed that the physician is intentionally delaying them to create a sense among patients that the physician is famous and has a lot of beneficiaries (Abu Hamad, Matar and Bani Oda, 2019). Many beneficiaries expressed dissatisfaction with the approach of communication and their lack of understanding of information provided to them. In the same study, some beneficiaries suffered from improper staff attitudes at the

IVF center where they were treated badly, which pushed them to change centers, especially after the failure of the IVF trial.

2.2.10.4 Psychosocial aspect of infertility

Talking about the experiences lived by infertile couples, a study was made on Chinese couples in Hong Kong, where seven women and four men were interviewed to explore their lived experiences of being involuntarily childless. The results of this study were as the following "Sub-fertile couples reported feeling of incompleteness, shame, guilt and isolation from the fertile world. These couples acknowledged that sub-fertility had implications on their marital relationship and regretted not having treatment earlier" (Loke, Yu and Hayter, 2011). According to another study that was conducted in Ghana where fifteen childless couples were interviewed it was found that Infertile couples are socially stigmatized and excluded from leadership roles in their communities. Couples without children are denied membership in the ancestral world thereby losing the opportunity to live again. Both males and females are engaged in sex with multiple partners to prove their fertility. And the conclusion of this study was that both men and women suffer from the social effects of childlessness. The desire to have biological children in a pronatalist society results in unhealthy practices (Tabong and Baba Adongo, 2013). Another study regarding infertility and its implication was conducted in Ghana under the name of 'Zero is not good for me' where the date was collected from 107 women seeking treatment at obstetrics and gynecology clinics, the study revealed the following "Infertile women report facing severe social stigma, marital strain and a range of mental health difficulties. Many women feel that they shoulder a disproportionate share of the blame for infertility and, by extension, face greater social consequences than male partners for difficulties conceiving. Women who do not self-identify as infertile corroborate these findings, asserting that the social consequences of infertility are severe, particularly for women" (Fledderjohann, 2012). In addition to that another study to reveal the social consequences of infertility among Iranian women was conducted in 2015, 25 women affected by primary and secondary infertility were interviewed and the findings indicated that the consequences of infertility are divided into five main categories; Violence including psychological violence and domestic physical violence, Marital instability or uncertainty, Social isolation including avoiding certain people or certain social events and self-imposed isolation from family and friends, Social exclusion and partial deprivation including being disregarded by family members and relatives and reducing social interactions with the infertile woman and

Social alienation (Hasanpoor-Azghdy, Simbar and Vedadhir, 2015). What's more, based on a qualitative study done on infertile women attending Razan Centre in West bank to assess the psychological distress among them, the study revealed that there was a significant difference between fertile and infertile women in relation to obsessive compulsive disorder, interpersonal sensitivity, depression, anxiety, phobic anxiety and paranoid ideation and that the infertile women are prone more to the development of such mental conditions (Katwsa, 2013).

2.2.10.5 Psychosocial support

As aforementioned, Palestinian sub-fertile couples face compounded psychosocial and economic stressors, even before seeking IVF services (Abu Hamad, Matar and Bani Oda, 2019; Katwasa, 2013). The cost of IVF services, side effects of hormonal therapy, worries and anxieties about the outcome of the IVF trails, and social pressure from relatives and in-laws combined put psychosocial stress on couples experiencing IVF, with females being more affected (ibid). Usually, the couples are shocked with the failure of IVF trials, especially the wife; therefore, there is a need for psychological support. Interestingly, the same later study noted that it is not only the sub-fertile couples that are affected by IVF failure, but also the extended family members. In some cases, the women who experiences IVF also have to support others.

None of the IVF centers in Gaza reported providing meaningful psychosocial support or even having a counselor to perform that role as reported by Abu Hamad, Mater and Bani oda (2019). The majority of the interviewed couples in that study reported that they received informal psychological support mainly from their relatives or friends but, not from the staff at the IVF centers. The majority reported that the couples themselves support each the other in addition to their families, mother's in-law and sometimes co-workers.

2.2.10.6 Infertility and its effect on the Quality of Life

A newly case control study was conducted in September,2019 to investigate the effect of infertility on women's quality of life, the researcher interviewed 180 infertile women and 540 fertile women, the results of the analyzed data showed that infertility can potentially affect various aspects of women's quality of life such as physical health, mental health, social health and the total score of quality of life significantly (Bakhtiyar et al 2019).

Abu Hamad, Mater and Bani Oda (2019) study concluded that it is essential to incorporate psychosocial support services at the IVF centers and to pay more attention to this important

aspect of the care. Worries and anxieties originated from inadequate information should be addressed through providing individual and couples counseling, awareness sessions, educational materials, prompt feedback and listening to clients. According to a cross sectional study that targeted 180 infertile couple Iran to see the effect of depression on infertile couples, it concluded that QoL in infertile patients was influenced by not only their own depression but also their spouses' depression; therefore, interventions to improve QoL should include both males and females. Furthermore, the results indicated that males' depression exuded a significant partner effect on their wives' QoL. Although the partner effect of females' depression on males' QoL was not statistically significant, males whose wives had higher depression were more to indicate their own QoL was poorer (Maroufizadeh et al, 2018).

Confirming that infertility has a significant psychological effect with a major effect on the QoL a study was conducted in Gaza in 2018 to investigate the QOL of 383 infertile couples attending IVF centers in Gaza it was stated that the males' total scores of FertiQoL and its subscales were higher than females' scores. The this mean increased with better education, however, decreased with increase of age, duration of marriage, duration of infertility and number of IVF attempts. This direct us toward the importance of psychological assessment and Counseling for infertile women taking into considerations factors affecting their QoL (Baloushah et al, 2018). Health related quality of life (QoL) has now been considered as a main tool for outcome measurement in infertility. The following study aimed to determine the association between general and specified QoL with different psychological aspects of self-esteem, social support, sexual satisfaction, and marital satisfaction in a sample of Iranian infertile couples. It was conducted in Iran on 385 infertile couples 2012. For assessing the general QoL state, the WHO-QoL-BREF and FertiQoL tools were employed. Self-esteem scores were lower in the couples with longer infertility duration while the social support mean score was lower in low income couples on the other hand those with higher educational level, shorter infertility duration, and higher income were more satisfied from their marital relationships. Besides, the study revealed that the previous failed efforts for treatment of infertility were adversely associated with the lower social support and sexual satisfaction. A better QoL score was recorded with a higher educational level, higher monthly income, living in urban area, shorter duration of marriage and infertility, and male gender. And the associations between QoL and self-esteem, social support, sexual satisfaction, and marital satisfaction were

significant so we conclude that the QoL status in infertile couples is directly associated with their self-esteem, social support, sexual satisfaction, and marital satisfaction (Keramat et al, 2012).

Chapter Three
Methodology

3.1 Study design

This study design is a descriptive analytical cross-sectional one. Cross sectional design reflects the existing experiences at the point of data collection as it measures the exposure and the outcome at the same time, the participants in cross sectional design are selected based on inclusion and exclusion criteria set for the study. Cross sectional studies are used usually to investigate the prevalence of an outcome. It is considered as inexpensive method that consumes less time than other designs. This design is useful for public health planning, monitoring and evaluation. However; it is difficult to drive a causal relationship from this design (Seita, 2016).

3.2 Study population

The study population were sub-fertile married couples, served at IVF centers in Gaza. Their current annual number is around 1200 couples (Abu Hamad, Matar and BaniOda, 2019)

3.3 Inclusion criteria

In this study, individuals were considered eligible if they met the following criteria:

- Married couples
- Presenting to IVF centers in Gaza to receive IVF services in order to conceive

3.4 Exclusion criteria

The exclusion criteria were individuals who are

- Beneficiaries presented to the IVF centers for other obstetrics or gynecological reasons, other than conceiving
- Beneficiaries presented to IVF specifically to undergo sex selection.

3.5 Study period

The research proposal was submitted and defended in December 2019. Ethical approval was obtained in February 2020. Tools were developed in March 2020 and piloted in April of the same year. The data collection consumed around 3 months and achieved in June through August 2020. Data analysis and reporting consumed another two months. The thesis was completed in November 2020 (Annex1 shows the timetable)

3.6 Study location

The study was conducted at IVF centers distributed all over the Gaza strip.

3.7 Sample and sampling

Sampling approach

Convenience non-probability sampling approach was followed. Clients (females) presented at the centers were consented and when they agree, they were privately interviewed from all the 9 IVF centers. Based on the workload and the number of beneficiaries served at these centers, the participants were selected.

Sample size

Quantitative

In order to calculate the required quantitative sample, the statistical calculator of the Epi Info software program version 7.2.2.6 has been used and the result indicates that a sample should be at least 291 couples/participants (Annex 2). The researcher used the following parameters for sample calculation;

- Maximum acceptable percentage points of error (confidence interval) 5%.
- Confidence level 95%.
- Estimated percentage level of the dependent variable 50%
- Total annual eligible population 1200.

The researcher increased the sample size by additional 30 participants to compensate non-respondents and also to increase the statistical power.

3.8 Study instruments

A structured interview questionnaire was developed to collect the quantitative data. The tool was validated by experts (Annex 3) and then piloted before administration through face to face structured interview. Guided by the conceptual framework, the following themes were covered by the questionnaire;

- Demographic and socioeconomic characters
- Medical history, current medical status
- Marital history and reproductive health history
- Experience with IVF services
- Social and financial support
- Perspectives about IVF services including satisfaction
- Financial costs
- Challenges faced as a result to sub-infertility and the utilization of IVF services
- The General Health Questionnaire (GHQ-12), which assesses the PSS condition of the participant. GHQ is the most extensively used screening instrument for common mental disorders, in addition to being a more general measure of mental well-being (Anjara et al, 2020). The scale is one dimensional and is characterized by high validity and reliability. It consists of 12 items, each one assessing the severity of a mental problem over the past two weeks. The scale is able to identify 80% of people with common mental illnesses when used in PHC. Each question is scored either 0 (which means the symptom is absent) or 1 (which means the symptom is present). The total score of all 12 questions are added up to give a single, summary score for each client. This score is then used as a measure of the person's likelihood of having a common mental illness at this point in time. The higher the score, the more likely the person needs follow up. The cut of point used in Gaza is 6 and above.
- The WHOQoL-26-BREF 2004. The WHOQoL scale measures four domains namely physical, psychological, social and environment and is composed of 26 questions formulated as a 5-point Likert Scale with 1 indicating the least favorable condition and 5 the most favorable one. Self-administration is possible and also it could be completed through face to face interview.

3.9 Ethical and managerial considerations

In this study, several ethical and managerial requirements were fulfilled. The proposal was discussed by Al-Quds University team to get academic approval. Then, the researcher approached Helsinki committee to get ethical approval (Annex4). Administrative letters were sent to IVF centers to allow for the researcher to visit these places and talk to people. In accordance with the Principles of the Helsinki Ethical Declaration, every participant in the study received a complete explanation of the research purposes, program, confidentiality and sponsorship. Every participant in the study knew that participation in the research is optional. Verbal consent was obtained from the participants; Informed consent (Annex 6)

3.10 Pilot study

For the quantitative tool; around 30 respondents were interviewed to fill the questionnaires. This stage aims to explore the appropriateness of the study instruments, the clarity of meanings, wording and scales or rating, and the time it takes to fill the questionnaire in, and to anticipate a response rate. As a result of this stage, some questions were better explained for example the type of infertility .

3.11 Method of data collection

Five data collectors with health background did the actual data collection through face-to-face structured interviews at the IVF centers. Prior to field trail and piloting, data collectors received training on interviewing techniques, recruitment of participants and also on filling the questionnaire, this training was given by the researcher. As expected each questionnaire required 15-20 minutes.

3.12 Scientific rigor and trustworthiness

Reliability

To ensure reliability, questions were tested during the pilot study. Data collectors were trained and received detailed instructions to ensure standardization and to reduce filling errors. Checking and verification of the filled questionnaires was done at the end of each data collection day, so error identification, correction and prevention was more feasible.

Reliability analysis for the tool was performed and it was reassuring (Cronbach Alpha of Wellbeing Scale=0.829, of GHQ=0.701)

Reliability of the Study Scales

Scale/Domain	Cronbach's Alpha
Wellbeing Scale	
Physical	0.778
Psychological	0.724
Social	0.547
Environment	0.686
Overall	**0.829**
General Health Questionnaire	**0.701**

Validity

The questionnaire (English and Arabic versions) was constructed through adapting previously tested instruments in order to best serve the study objectives. Then the constructed tool was validated through expert reviewers who revised the internal content validity and appropriateness in order to ensure content related validity. The tools were nicely formatted in order to ensure face validity. This included appealing layout, logical sequence of questions, clear instructions were added as questions skipping. Also, general reliability, validity and trustworthiness (for the quantitative) measures were implemented including;

- Interviewing an adequate number of participants (appropriate sample)
- Standardization of tools
- Using internationally recognized tools
- Standardization of implementation

3.13 Data analysis

Quantitative

Throughout the data collection process, the researcher reviewed the questionnaires on a continuous basis. Before data entry, the researcher reviewed all questionnaires one by one and corrections was made as needed. Data entry model was designed, and questionnaires and variables were coded and entered into the developed database using the computer

software program SPSS version 25. The process of data entry was performed on a daily basis. Also, re-entry test was done on about 5% of the entered data. Then, data cleaning was performed through checking the frequencies of all variables and looking for illogical values and by double checking a random sample of questionnaires.

General frequencies were done to figure the responses and to identify missing data for each question. Data recording and computation was performed for numeric values and to amalgamate categories as needed. Also negatively phrased questions in scales were converted when means were calculated. Thus, the overall scaling was done in a logical direction; higher (QoL) versus lower (GHQ) values indicate positive versus negative situations (e.g. presence of favorable items or absence of unfavorable items). In addition, central tendency measures were performed including descriptive frequencies, mean, median, mode, standard deviation (SD) and frequency tables. The researcher used inferential analysis to test the statistical significance of differences. For example, an independent t-test was used to compare the QoL mean scores and the score of the GHQ of the in-dependent variable with two categories such as gender. On the other hand, one-way Analysis of Variance (ANOVA) test was used to compare the QoL mean scores of the in-dependent variable with more than two options such as governorates of residency. Additionally, correlation test was applied to associate numerical continuous variables like age and income and the overall QoL score or the score of the GHQ. The statistical difference were regarded as significant when the P value equals or below 0.05.

3.14 Study limitations

- There are known inherent limitations for the study design used in this research (Snap shot); the most significant among them is being cross sectional measurement that reflects subjective (felt) status of participants which may be affected by temporary exposure to instantaneous effects or emotional status. However, diversity of participants and their relative large number may reduce this limitation.
- Some of the questions in the tools of this study will be constructed based on international tools. Questions might be not suitable to all contexts. However, the tool has been internationally tested in many contexts including Gaza and proven to be valid.

- Also, the study focuses on the sub-fertile couples served by IVF, unserved were not included. It is possible that the unserved are mostly disadvantaged ones as they don't afford the services and or their medical status is more complicated.
- The study is mainly quantitative one. Perceptions and lived experience are better reflected in qualitative research. However, this has been done last year in Gaza thus this study complements the one done last year at which the researcher took a part.
- All the participants were females attending the IVF centers and no males participated in this study, this could be explained by the fact that culturally husbands don't usually visit the centers unless they need to perform lab tests or to draw a seminal fluid sample. Otherwise, the wives usually visit the center.
- Finally, contextual limitations include electricity cuts, ongoing conflict and limited access to international publications. Having that said, the researcher kept in mind these limitations during writing this proposal

Chapter Four
Results and Discussion

4.1 Introduction

This chapter illustrates the results of statistical analysis of the data, including descriptive analysis that presents the socio-demographic characteristics of the study sample and the answers to the questions of the study. The researcher starts by descriptive analysis and moves to inferential analysis.

4.2 Descriptive Analysis

4.2.1 Socio-demographic characteristics of the study

The interviewed population were 320 females attending the 9 IVF centers all over Gaza, distributed between governorates as the following; 44.1% from Gaza, 18.8% from Khan Younis, 16.9% from North Gaza,10.3% from Rafah and 10% from Midzone. The mean age of the respondents was 29.8-year-old. Around one third (30.9%) of the respondents were between 25-29 year-old, 30.6% were between 30-35 year-old, 20.3% of them were less than 25-year-old; only 0.3% of them were under18 and 18.1% were above 35-year-old. On the other hand, the mean age of their husbands was 34.92-year-old, 35.3% of their spouses were under 30-year-old, 25.6% were (30-35), 20.9% were between (36-40) year-old and 18.1% were above 40-year-old. The mean age of respondents was close to the results reported by other studies (Sirdah and et al, 2013). This in term implies that the married couples start seeking the infertility management at a young age to increase the probability of conceiving, as it is well-known that the infertility management and the success rates are closely connected to age factor. The older the couples are, the less the conceiving probability; however, some start too early which require better regulatory policies.

Only 20% of the respondents were living in a camp, with 61.9% being refugees, this high percent is expected as the refugees represent 66% of the total Palestinians living in Gaza (UNRWA, 2019). Of the total participants, 80% were living in nuclear families and this finding is consistent with the noticeable increase in the percentage of nuclear families in the Palestinian community, According to PCBS (2015) it's estimated that 79% of the families are nuclear families. The level of education varies among the study respondents

with 55.3% of the females and 48.8% of the males have finished the university education, this could be linked to the finding that in 2019, 17% of the males and 18% of the females attained a bachelor or a higher degree in the Gaza Strip (PCBS, 2020). Almost fifth of the female and the male participants didn't even finished their secondary school. The later is consistent with the finding reported by Sirdah and et al, (2013).

Table (4.1) Distribution of the study participants according to their demographic data

Items	No.	%
Woman current age		
Less than 25 years	65	20.3
25 to 29 years	99	30.9
30 to 35 years	98	30.6
Above 35 years	58	18.1
Total	**320**	**100.0**
Mean = 29.8, MD= 29.0 , Std= 6.1		
Husband current age		
Less than 30 years	113	35.3
30 to 35 years	82	25.6
36 to 40 years	67	20.9
Above 40 years	58	18.1
Total	**320**	**100.0**
Mean = 34.92, MD= 33.0 , Std= 8.96		
Governorates		
North	54	16.9
Gaza	141	44.1
Midzone	32	10.0
Khan Younus	60	18.8
Rafah	33	10.3
Total	**320**	**100.0**
Place of living		
Camp	64	20.0
Non-Camp	256	80.0
Total	**320**	**100.0**
Refugee status		
Refugee	198	61.9
Non-Refugee	122	38.1
Total	**320**	**100.0**
Type of family		
Nuclear Family	257	80.3
Extended Family	63	19.7
Total	**320**	**100.0**
Couple living together in the same house		
Yes	320	100.0
No	0	0.0
Total	**320**	**100.0**
Husband education		
< Secondary	65	20.3
Secondary	83	25.9
University/college	156	48.8

Items	No.	%
Postgraduate	16	5.0
Total	**320**	**100.0**
Wife education		
< Secondary	58	18.1
Secondary	72	22.5
University/college	177	55.3
Postgraduate	13	4.1
Total	**320**	**100.0**
Woman age at marriage		
Less than 18 Years	44	13.8
From 18 to 20 years	98	30.6
From 21 to 25 years	116	36.3
Above 25 years	62	19.4
Total	**320**	**100.0**
Mean = 22.20, MD= 21.0 , Std= 5.06		
Man age at marriage		
Less than 25	134	41.9
From 25 to 30	129	40.3
Above 30 Years	57	17.8
Total	**320**	**100.0**
Mean = 27.38, MD= 25.0 , Std= 8.61		
Duration of marriage		
Less than 5 Years	121	37.8
From 5 to 9	103	32.2
10 years and More	96	30.0
Total	**320**	**100.0**
Mean = 7.31, MD= 6.00 , Std= 5.21		

The median age of marriage for the females was 21-year-old, this is close to the general population age of marriage in the Gaza Strip (20.8-year-old) according to (PCBS, 2019); with majority of the females (36.3%) were married at an age between (21-25), followed by 30.6% females married between (18-20), and only 18.8% were married at an age below 18-year-old, and 19.4% at an age above 25-year-old. On the other hand, it was found that the median age of marriage for males was 25-year-old, resembling that of the general population in the Gaza Strip (25.2-year-old) (PCBS, 2019). Nearly half of the males (41.9%) were married at an age below 25-year-old, 40.3% of them were married when they were between (25-30) and only 17.8% were married when they were above 30-year-old, with a mean duration of marriage of 7.31 years.

4.2.2 Economic Status

When the participants were asked about the economic status aspects, it was found that 76.6% of the males and only 16.3% of the females were working during the last month, and by referring to figure (4.1), we can find the total monthly HH income of the study

participants, focusing on the median monthly household income of 1000 ILS that is compared to an average of 556 Jordanian Dinar (~2.642.22 ILS) monthly HH expenditure in the Gaza Strip according to PCBS in 2017 (PCBS, 2019). Having a work represented the primary source of income for 82.5% of the respondents.

Table (4.2) Distribution of the study participants according to their economic related variables

Items	No.	%
Husband working status in the past month		
Yes	245	76.6
No	75	23.4
Total	**320**	**100.0**
Wife working status in the past month		
Yes	52	16.3
No	268	83.8
Total	**320**	**100.0**
Total monthly household income in ILS		
500 ILS and less	70	21.9
From 501 to 1000	120	37.6
From 1001 to 1500	53	16.6
Above 1500 ILS	76	23.8
Total	**319**	**100.0**
Mean = 1255.89, MD= 1000 , Std= 1010.5		
The primary source of family income		
Work of HHs member/s	264	82.5
Family money	30	9.4
Social Assistance	24	7.5
Assets/rents	2	.6
Total	**320**	**100.0**
Receiving social assistance		
Yes	107	33.4
No	213	66.6
Total	**320**	**100.0**
Type of social assistance (n = 103)		
Food	78	72.9
Cash	36	33.6
Health insurance	11	10.3
Social Affairs	8	7.5
Cash For work	1	0.9
Assistance to cover IVF costs	0	0.0
Clothes	0	0.0
Household renovations	0	0.0
HH income meets basic needs		
Yes completely	54	16.9
Yes partially	104	32.5
No	162	50.6
Total	**320**	**100.0**
Perceptions about family economic status		
Rich	7	2.2
Middle	261	81.6
Poor	52	16.3
Total	**320**	**100.0**

One third (33.4%) indicated receiving some sort of social assistance, of them, 72.9% reported receiving food, 33.6% mentioned that they received cash, and 10.3% received health insurance. Half of the participants indicated that the monthly HH income is not sufficient to meet their needs. When asked about how they regarded their families, the majority (81.6%) of the sample population considered their families as middle-income family, and only 2.2% regarded their families as rich. It is expected that with the ongoing economic crises that the Gaza strip is going through, and fact that the poverty is striking highly in Gaza with a poverty rate of 53% and 33.7% were suffering from deep poverty in 2017 (PCBS,2017). One can expect that the percentages of poor-middle income families will increase and the percent of couples feeling that the monthly HH income is not enough to meet the basic needs will further raise.

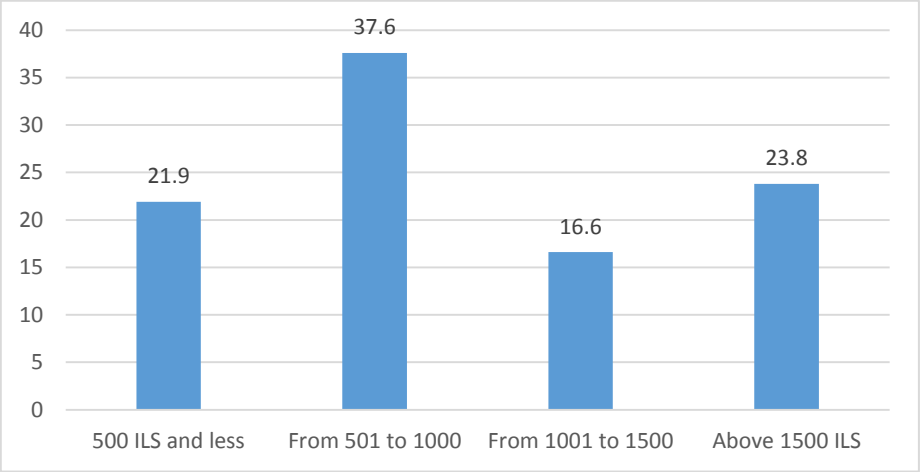


Figure (4.1): Total monthly household income in ILS

4.2.3 General health status

Among participants, 80% were having medical insurance, but only 2.3% (n=6 Participants) indicated that the health insurance helped them in their infertility treatment, mainly in covering the laboratory costs or undergoing surgeries. In some countries the health insurance bear the costs of infertility management partially or completely, but unfortunately this scenario is not applied in Palestine, and the couple have to carry all the costs by themselves with a little help from some NGOs or private donors, this make the costs of the IVF services a burden to the couples to a degree that some of them can't afford the costs and they don't undergo infertility management (Abu Hamad, Matar and Bani Oda, 2019). Only 4.7% of the participants indicated having chronic diseases. The most common were thyroid gland diseases followed by hypertension and diabetes mellitus. This

is actually consistent with the findings when searched the literature that thyroid gland diseases and chronic illnesses like hypertension and diabetes mellitus are considered as an important associative cause for infertility (American Pregnancy Association, 2014). As mentioned, infertility management is usually associated with development of health problems as a result of the medication, hormones or other treatments followed, of the studied population, 14.7% reported developing health problem after the onset of infertility treatment, with the majority indicated that they developed hemorrhagic ovarian cyst, hormonal imbalance, others mentioned ectopic pregnancy, back, bone and stomach pain and obesity. These are congruent with what is mentioned in the literature (Zana, 2016; Mayo clinic, 2013).

Table (4.3) Distribution of the study participants by health related variables

Items	**No.**	**%**
Having health insurance		
Yes	257	80.3
No	63	19.7
Total	**320**	**100.0**
Health insurance is helpful for the infertility management (yes only)		
Yes	6	2.3
No	251	97.7
Total	**257**	**100.0**
If yes, what it covers (n= 6)		
Lab costs	3	50.0
Surgeries	3	50.0
Medications	2	33.3
Referrals	1	16.7
IVF related services	0	0.0
Other	1	16.7
Having chronic health problem		
Yes	15	4.7
No	305	95.3
Total	**320**	**100.0**
Types of chronic diseases (yes only)		
Thyroid	4	26.7
Diabetes Mellitus	3	20.0
Hypertension	3	20.0
Asthma	2	13.3
Cartilage	1	6.7
Colon	1	6.7
Thalassemia	1	6.7
Total	**15**	**100.0**
Developing health problem after starting to receive infertility management		
Yes	47	14.7
No	273	85.3
Total	**320**	**100.0**

4.2.4 Marriage related variables

Of the study sample, 6.6% indicated the presence of polygyny in the HHs, among them, 81% having 2 wives. As figure (4.2) shows, slightly less than half (42.9%) attributed remarriage to infertility. This reflects the high value that the Palestinian community give for parenting and the social pressure –which is one of the challenges mentioned in the conceptual frame work- exerted over the couples by parents or in-laws to a degree that they tend to remarry to serve this purpose. Furthermore, 31.2% of the respondents indicated the presence of consanguinity, 8.4% of them have first degree consanguinity, this finding could be linked to the findings reported in the literature that the presences of consanguinity is associated with low ovarian preserve which is considered as one of the causes of infertility (Seher et al, 2015). The current marriage was the first one for 93.8% of the females and for 87.2% of the males, 38.6% of those who admitted that this is not their first marriage, attributed the remarriage for infertility this is congruent with findings by (Tabong and Baba Adongo, 2013) as the couples tend to engage with multiple partners to prove their fertility. Nearly half (47.7%) of the men and 15.9% of the women had children from other marriages-among those married more than once. For the same category, the average number of children for men was almost 6, while 57.1% of the women had only one child from a previous marriage.

Table (4.4) Distribution of the study participants by marriage related variables

Items	No.	%
Presence of Polygyny in the HHs		
Yes	21	6.6
No	299	93.4
Total	**320**	**100.0**
Yes, how many wives other than you		
One	3	14.3
Two	17	81.0
Three	1	4.8
Total	**21**	**100.0**
If there is more than one wife, is this attributed to infertility		
Yes	9	42.9
No	12	57.1
Total	**21**	**100.0**
Presence of consanguinity		
Yes, first degree	27	8.4
Yes, second degree	73	22.8
No	220	68.8
Total	**320**	**100.0**
This is the first marriage (wife)?		
Yes	300	93.8

Items	No.	%
No	20	6.3
Total	**320**	**100.0**
This is first marriage (husband)?		
Yes	279	87.2
No	41	12.8
Total	**320**	**100.0**
If this is not the first marriage (for any), is the re-marriage related to infertility		
Yes	17	38.6
No	27	61.4
Total	**44**	**100.0**
Presence of children from other marriage; For the man		
Yes	21	47.7
No	23	52.3
Total	**44**	**100.0**
Number of children for man		
Three and less	8	38.1
From 4 to 8	7	33.3
More than 8	6	28.6
Total	**21**	**100.0**
Mean = 5.81, MD= 5.00 , Std= 3.57		
Presence of children from other marriage; For the woman		
Yes	7	15.9
No	37	84.1
Total	**44**	**100.0**
Number of children for woman		
One	4	57.1
More than One	3	42.9
Total	**7**	**100.0**

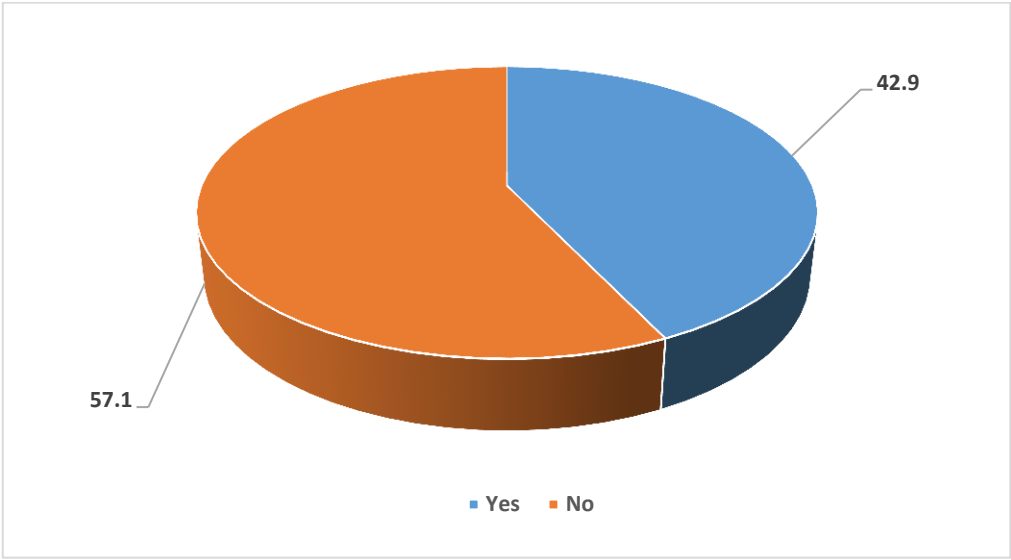


Figure (4.2): Attribution of having more than one wife to infertility

4.2.5 Infertility related variables

Participants indicated that they were informed about their infertility for the first time before five and half years ago on average (5.48 years). For 25.7% of the respondents, they were informed about their infertility issue since 2 years or less, 20.7% were informed before 6 to 10 years while 13.8% were informed since more than 10 years. As figure (4.3) shows, three quarter of them were told about the reason of infertility, 63.3% of them mentioned abnormal semen analysis as the reason. This is consistent with the findings in Abu Shahla's study where in 51% of the cases, the cause of infertility was seminal abnormalities (Abu Shahla, 2013), 19.16% mentioned uterine abnormalities and 18.75% mentioned ovarian cysts as the cause of infertility.

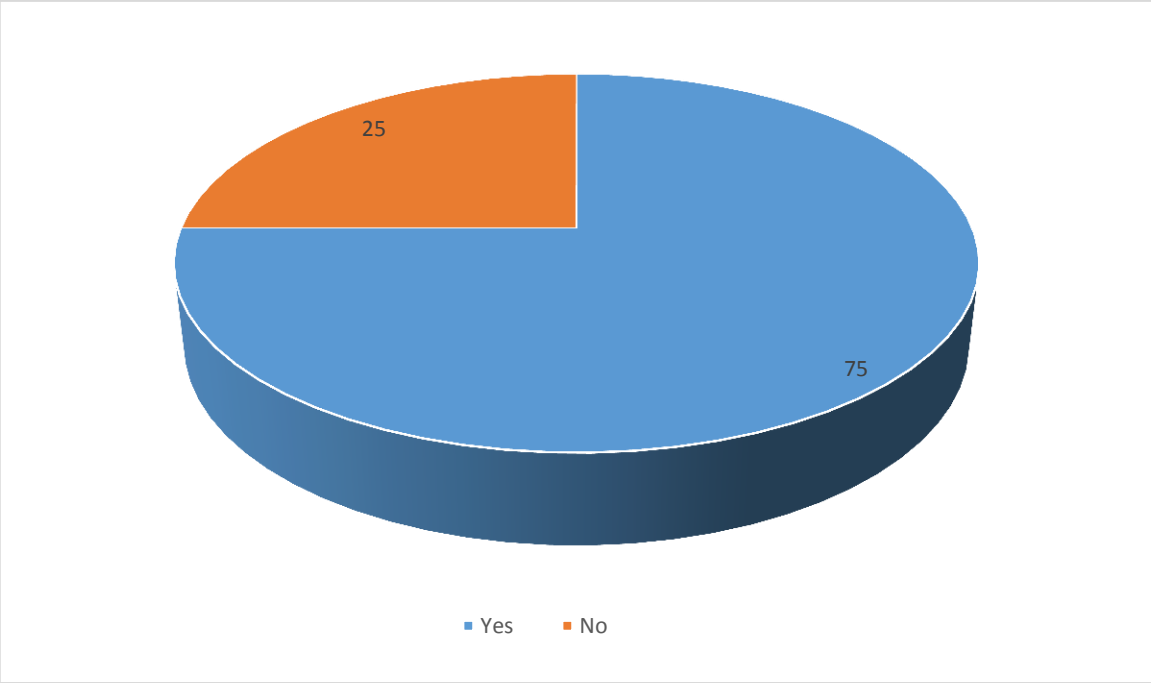


Figure (4.3): Being told about the reason of infertility

Figure (4.4) reveals that two thirds of cases have secondary rather than primary infertility. When asked about who was the responsible for infertility issue, 48.8% indicated that the husband was the responsible, 15.3% indicated that the wife was responsible, both were responsible in 11.3% of the respondents and in 24.7% it wasn't clear who is responsible. Abu Shahla (2013) mentioned that the cause of infertility in 52.6% of cases was related to the woman, and in 42.4% infertility was related to man, while, in 4.55%, the cause was related to both.

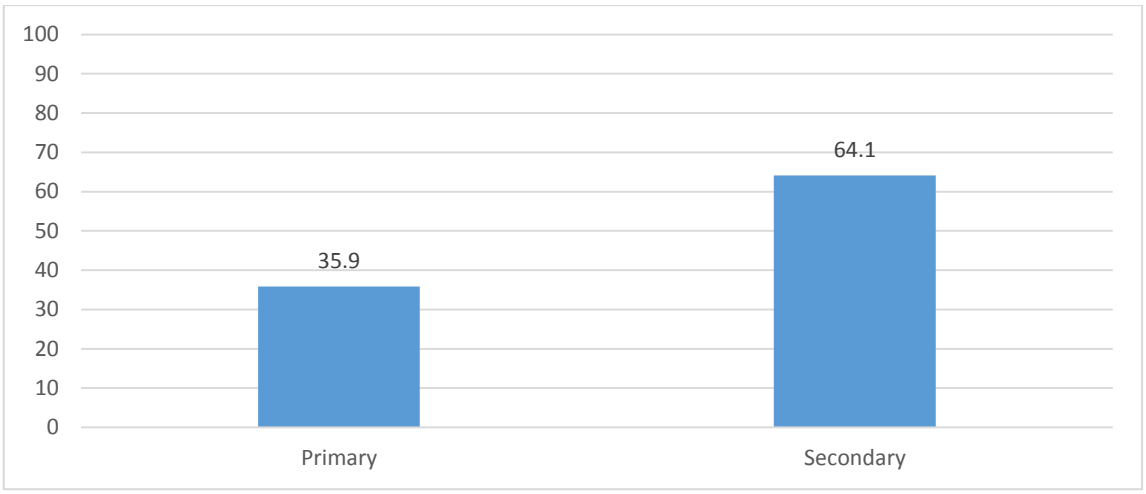


Figure (4.4): Type of Infertility.

On average the couples start seeking infertility management after 1.96 (~2 years) of marriage, however; as figure (4.5) shows, 40% of the respondents started seeking infertility management within less than 1 year of marriage. This reflects inappropriate practice (Watkins and Baldo 2004), as this should not begin before completing one year of unprotected sexual intercourse.

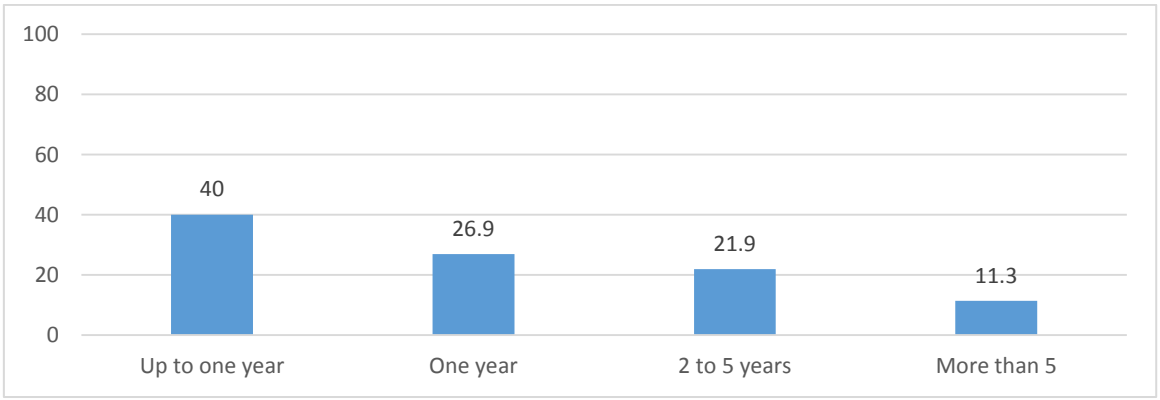


Figure (4.5): Interval between marriage and start seeking infertility management in years

The average number of years since they started seeking management was 5.43 (~5years), the highest percent among the respondents (38.8%) as reflected by figure (4.6), have been seeking infertility management for 3-5 years and 27.2% for 2 years or less, this indicates the long journey the infertile couples go through during their attempts to have a baby.

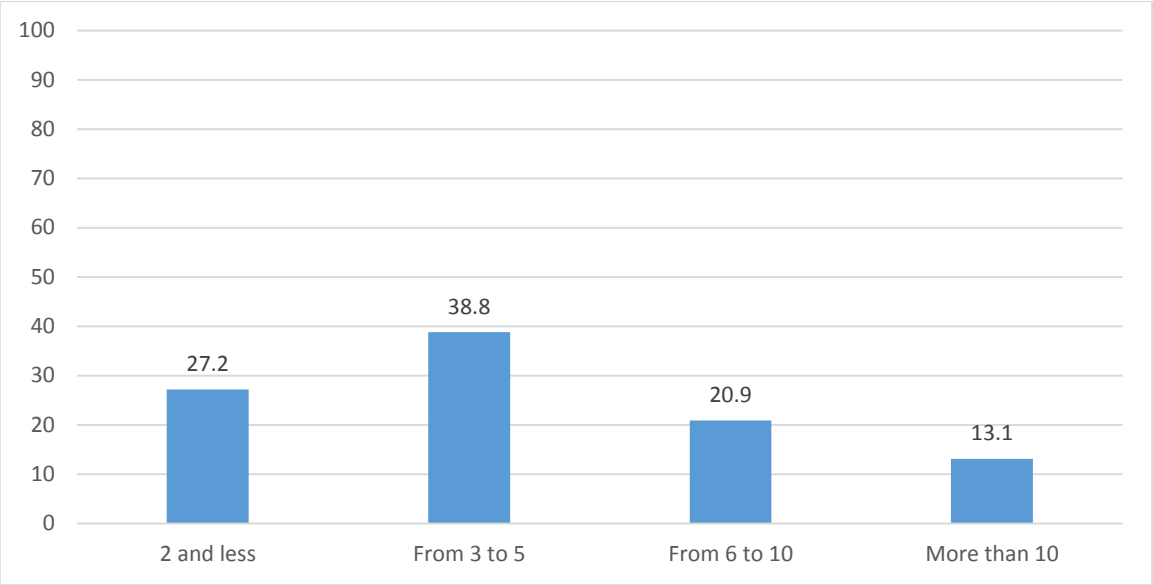


Figure (4.6): Duration of seeking infertility management

Table (4.5) Distribution of the study participants by infertility related issues

Items	No.	%
First time informed about having is an issue in fertility		
2 and less	82	25.7
From 3 to 5	127	39.8
From 6 to 10	66	20.7
More than 10	44	13.8
Total	**319**	**100.0**
Mean = 5.48, MD= 4.00 , Std= 4.59		
Being told about the reason of infertility		
Yes	240	75.0
No	80	25.0
Total	**320**	**100.0**
Type of infertility		
Primary	115	35.9
Secondary	205	64.1
Total	**320**	**100.0**
Reasons of infertility		
Abnormal semen analysis	152	63.3%
Uterus Abnormalities	46	19.16%
Ovarian Cysts-Chocolate	45	18.75%
Ovulation abnormalities	22	9.1%
Vericocele	15	6.25%
Others (Testiculectomy, Paralysed husband, Age factor, hormonal imbalance)	62	25.83%
Responsible person about infertility		
Wife	49	15.3
Husband	156	48.8
Both	36	11.3
Unexplained	79	24.7
Total	**320**	**100.0**

Items	No.	%
Interval between marriage and start seeking infertility management in years		
Up to one year	128	40.0
One year	86	26.9
2 to 5 years	70	21.9
More than 5	36	11.3
Total	**320**	**100.0**
Mean = 1.96, MD= 1.0 , Std= 3.14		
Duration of seeking infertility management in years		
2 and less	87	27.2
From 3 to 5	124	38.8
From 6 to 10	67	20.9
More than 10	42	13.1
Total	**320**	**100.0**
Mean = 5.43, MD= 4.0 , Std= 4.59		
Duration of seeking IVF services in years		
One	178	55.6
2 to 3	50	15.6
More than 3	92	28.7
Total	**320**	**100.0**
Mean = 2.79, MD= 1.0 , Std= 3.64		
How many doctors approached for infertility management		
2 and less	98	30.6
3 to 5	136	42.5
More than 5	86	26.9
Total	**320**	**100.0**
Mean = 4.71, MD= 4.00 , Std= 3.88		
IVF centres approached other than this centre		
One	157	49.1
Two	88	27.5
Three and more	75	23.4
Total	**320**	**100.0**
Mean = 1.92, MD= 2.00 , Std= 1.23		
Person who recommended this IVF centre		
Suggestion by relatives/friend	170	53.3
Self	100	31.3
A physician/gynaecologist	49	15.4
Total	**319**	**100.0**
If you have tried another IVF centre; Have you been provided with a medical document stating the diagnosis and the treatment plan followed		
Yes	42	13.2
No	277	86.8
Total	**319**	**100.0**
Have you felt that you were distracted by medical professionals' different opinions in relation to your fertility management		
Yes	10	23.8
No	32	76.2
Total	**42**	**100.0**
Starting IVF Cycle		
Yes	318	99.4
No	2	0.6
Total	**320**	**100.0**
Number of IVF cycles tried (yes only)		

Items	No.	%
One	180	56.6
Two	80	25.2
Three and More	58	18.2
Total	**318**	**100.0**
Mean = 1.80, MD= 1.00 , Std= 1.30		
Reaching the stage of retrieved and reached embryo transfer		
Yes	152	47.6
No	167	52.4
Total	**319**	**100.0**
Approaching a traditional healer to help solving your problem		
Yes	182	56.9
No	138	43.1
Total	**320**	**100.0**
Believing that traditional healers can help to treat infertility		
Yes	77	24.1
No	243	75.9
Total	**320**	**100.0**
Being a religious makes infertility		
It makes it easier	250	79.4
It makes it worse	65	20.6
Total	**315**	**100.0**
Do relatives and friends make pressure on couples to conceive?		
Yes to high text	260	81.3
Yes to some extent	26	8.1
No	34	10.6
Total	**320**	**100.0**
Who makes that quite often		
Your in Law	225	78.7
Parents	222	22.4
Friend	39	13.6
Other	33	11.5
Do you have a certain personal goal/s in your life		
Yes	278	86.9
No	42	13.1
Total	**320**	**100.0**
Type of personal goals		
Give Birth	232	83.4%
Having a House	41	14.7%
Continue Education	39	14.02%
Work	37	13.3%
Stability	31	11.5%
Educating kids	6	2.1%
Raising Kids	4	1.4%
Others (Pilgrimage, Memorizing Quran, Immigration, improvement of economic Situations)	4	1.4%

Furthermore, when asked about seeking IVF services, 55.6% of the sample respondents started seeking IVF services since a year, 15.6% since 2 to 3 years and 28.7% since more

than 3 years; with an average of 2.79 (~3 years). On average each participant approached around 5 doctors (4.71) for infertility management, nearly half visited 2 or more centers in addition to the center they were interviewed at.

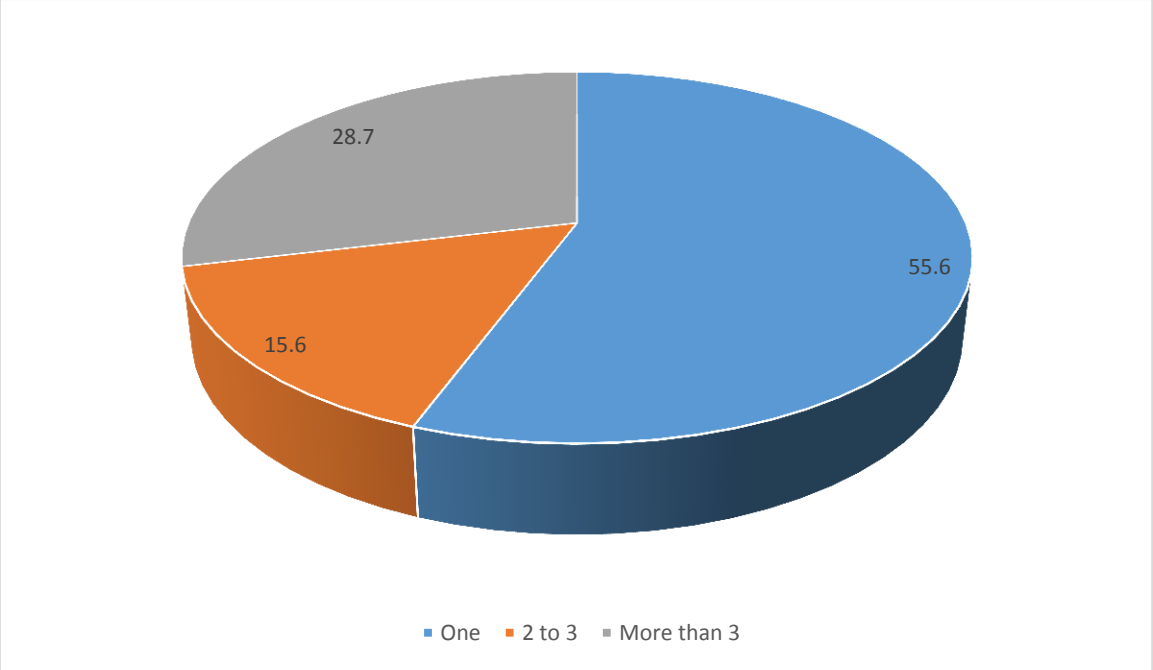


Figure (4.7): Duration of seeking IVF services in years

More than half of the respondents visited the IVF center after being suggested by a friend or a relative, 31.3% by themselves and only 15.4% were referred by a gynecologist or a physician. It worth to mention that of those tried more than one center, only 13.2% (n=42) were provided with a medical document stating the diagnosis and the treatment plan followed; and only 2 respondents out of the 42 who were provided with a medical document confirmed that communication between the two centers about the health status of the respondents was done. Almost a quarter (23.8%) of the respondents claimed that they were distracted by medical professionals' different opinions in relation to their fertility management.

Among the respondents, 99.4% have started any IVF cycle, 56.6% have started only one IVF cycle and only a quarter (25.2%) have started 2 IVF cycles, the remaining (18.2%) have started three or more cycles. As one can notice the majority have tried one rather than more, this could be attributed to the long journey of investigations and preparations that the couples usually go through in their attempt to get pregnant. On the other hand, the cost of the cycle is considered high when compared to other countries (IVF-worldwide.com, 2008) or with the difficult economic situation that is ranked the first factor

that hinder the couple from obtaining the services (Abu Hamad, Matar and Bani Oda, 2019). The inability to secure the needed amount of money for each cycle, reduces the chances of having more than one or two cycles; as table (4.7) implies 94% of the respondents mentioned that they faced difficulty in securing the monetary resources for IVF services. This also linked to the fact that among those who started the cycle, 47.6% of them reached egg retrieved and embryo transfer stage.

As mentioned in the Literature review chapter and supporting the study that was conducted in the West Bank (Jaradat and Zaid, 2019), it was found that people used to believe in traditional and religious healers to help them to overcome infertility issue. Despite that only 24.1% of the respondents believing that they can help, 56.9% confirmed visiting a traditional healer. Furthermore, 99.4% of the respondents mentioned being religious and 79.4% of those confirmed that being religious made it easier to perceive infertility.

Social pressure practiced on the infertile couples was reported by 89.4% who stated that their families and friends usually push the infertile couples to conceive. Of them, 81.3% were pressured to high extent, 78.7% of them being pressured by their in-laws. Because people give a high value to parenting and the idea of having babies, it was found that among the participants, 86.9% have a personal goal in life, of them, 83.4% stated that giving birth to a kid was their main personal goal in life.

4.2.6 Obstetric history

When participants were asked, about being pregnant before, 63.4% of them emphasized that they were pregnant before, 57.6% of pregnancies were facilitated by infertility management. As table (4.6) shows 57.6% of respondents had abortion as a complication, 3% had ectopic pregnancy, and 3% had Gestational Trophoblastic Diseases. On the other hand, 59.7% of the respondents had living babies, with an average number of 2.10 (~2 living babies), this is congruent with the findings in the literature by (Zana, 2016; Mayo clinic, 2013).

Table (4.6) Distribution of the study participants according to their previous pregnancy or abortion

Items	No.	%
Ever been pregnant before (wife)		
Yes	203	63.4
No	117	36.6
Total	**320**	**100.0**
If yes, was it facilitated by infertility management		
Yes	117	57.6
No	86	42.4
Total	**203**	**100.0**
Ever had abortion before		
Yes	117	57.6
No	86	42.4
Total	**203**	**100.0**
Number of abortions		
Once	59	69.4
Twice	14	16.5
Three and more	12	14.1
Total	**85**	**100.0**
Mean = 1.66, MD= 1.0 , Std= 1.66		
Ever had ectopic pregnancy?		
Yes	6	3.0
No	195	97.0
Total	**201**	**100.0**
Ever had gestational trophoblastic diseases		
Yes	6	3.0
No	195	97.0
Total	**201**	**100.0**
Ever having a living baby		
Yes	120	59.7
No	81	40.3
Total	**201**	**100.0**
Number of living baby		
One	59	49.2
Two	27	22.5
Three	20	16.7
More than 3	14	11.7
Total	**120**	**100.0**
Mean = 2.10, MD= 2.00 , Std= 1.44		

4.2.7 Services received and financial challenges faced

Of the total participants, 30.9% reported experiencing IUI, 62.6% had only tried it once, 80% were advised to take hormonal therapy, 68.8% underwent an ovulation induction management and 37.8% were advised to receive medical treatment, this indicates the

different infertility management mentioned in the literature that the couples usually go through (WebMed, 2019). Almost all (95%) felt that the interventions they received were necessary and only 5% felt that unnecessary procedures were done. When women were asked about the services they receive at the center they were attending at the time of data collection and others centers they have attended, 28.4% mentioned hormonal therapy and 26.6% mentioned ovulation induction treatment. While they claimed that the most commonly services provided to them during their attempts at different centers were laboratory tests (93.8%), and this is logical as the first step to be done by the physician before any intervention is to have a full medical history, examination and investigations to better understand the current situation of the couples and to dig more to know the etiological factor of infertility.

Table (4.7) Distribution of the study participants by services received and financial challenges

Items	**No.**	**%**
Ever done Intrauterine Insemination (IUI)		
Yes	99	30.9
No	221	69.1
Total	**320**	**100.0**
Number of Intrauterine Insemination IUI		
Once	62	62.6
Two and More	37	37.4
Total	99	100.0
Mean = 1.52, MD= 1.00 , Std= 0.80		
Treatments couples had been advised to follow after seeking health care for infertility		
Hormonal therapy	256	80
Ovulation induction	220	68.8
Medical Treatment	121	37.8
Diet	15	4.7
Change in lifestyle	6	1.9
Vitamins	24	7.5
Lab Test	8	2.5
Perceptions that unnecessary procedures have been done		
Yes	16	5.0
No	304	95.0
Total	**320**	**100.0**
Services received at this center -this visit		
Hormonal therapy	91	28.4
Ovulation induction	85	26.6
Follow up of pregnancy	60	18.7
Transvaginal Ultrasound (TVS)	60	18.7
Lab investigations	41	12.8

Items	No.	%
Pharmaceuticals	19	5.9
Fertilized egg implementation	16	5
Fertilized egg retrieve	10	3.1
Surgical procedures	5	1.6
Counselling about lifestyle	5	1.6
Nutritional counseling	3	0.9
Psychosocial services	1	0.3
Services ever received in this or in any visit		
Lab tests	300	93.8
Pharmaceutical therapy	199	37.8
Family therapy	75	23.4
Counselling about diet	7	2.2
Others (Vitamins, ovulation induction, stabilizers, hormones, follow up)	23	7.18
How much paid in total by cycle in Dollar at this Center		
Less than 2000	89	28.0
From 2001 to 3000	155	48.7
More than 3000	74	23.3
Total	**318**	**100.0**
Mean = 2913.7, MD= 2400.0 , Std= 1810.7		
How much paid in total by cycle in Dollar at other Centers		
Less than 2000	40	36.7
From 2001 to 3000	29	26.6
More than 3000	40	36.7
Total	**109**	**100.0**
Mean = 3536.7 MD= 2000.0 , Std= 3518.8		
Does the center require that medical tests be performed, or hormonal treatments be received at the center only		
Yes	106	33.1
No	214	66.9
Total	**320**	**100.0**
Receiving any financial support to seek the IVF services		
Yes	57	17.8
No	263	82.2
Total	**320**	**100.0**
Source of support (If yes)		
Family	40	70.2
Friends	8	14.0
Charity Organization	3	5.3
Political Parties	2	3.5
Other (Family of the Husband and Wife)	8	14.0
How much costs for IVF services were burden		
To high extent	291	90.9
To some extent	24	7.5
Not at all	5	1.6

Items	No.	%
Total	**320**	**100.0**
Facing difficulty in securing the monetary resources for IVF services		
Yes highly	269	84.1
To some extent	31	9.7
No	20	6.3
Total	**320**	**100.0**
How the costs of IVF services were covered		
Debts from family	150	50.0
Selling personal jewelry	78	24.3
Loan from friends	45	15.0
Family	41	12.8
Savings	83	11.8
Support from private sources / like rich people	19	6.3
People of Goodness Campaigns	12	3.7
Political parties	7	2.2
Religious organization	2	0.7
Selling Houses	1	0.3
Selling Furniture	1	0.3
Help from workplace	1	0.3
Referral from MOH	0	0.0
International organizations	0	0.0
Postponing or deterring any IVF procedure because of lack of money		
Yes	156	51.7
No	146	48.3
Total	**302**	**100.0**
Knowing people who deterred IVF because of not having money		
Yes	179	55.9
No	141	44.1
Total	**320**	**100.0**

Unfortunately, only one respondent (0.3%) indicated that psychosocial services were received, this findings regarding PSS support what was mentioned in the literature by Abu Hamad, Matar and Bani Oda (2019) as they mentioned that the centers lack PSS service provision, while providing psychosocial support is a real need for infertile couples as they are vulnerable group facing a lot of challenges covered in the conceptual framework, among them is the psychosocial pressure put on them, this pressure cause stress, worries and frustration to the couples (ibid). So, it's important to put in mind the psychosocial aspect when treating sub-fertile couples (Abushahla, 2013; American Pregnancy Association, 2014).

When asked about how much they paid, on average 2913.7 USD were paid per cycle at the IVF centers they are currently visiting, as reported by beneficiaries this is congruent to

what was mentioned in literature (Abu Hamad, Matar and Bani Oda, 2019). This is somewhat less that the amount paid previously at other centers 3536.7 USD. One third of respondents indicated that the center required that all the medical tests to be performed or hormonal therapy to be received only at the same center they were attending. This might be a violation of patients' choices and might be perceived as a mean of manipulation.

Regarding the financial support received, 82.2% didn't receive any financial support to seek IVF services. While the other 17.8% emphasized receiving support. The biggest share of the support provided (70%) goes to the family support. The vast majority (90.9%) felt that the cost of IVF services was a burden to high extent, half of respondents covered the cost of IVF services by debts from the family or loans from friends (15%). While others claimed that they covered selling personal jewelries (24%). Almost half of the respondents (51.7%) had to postpone or deter IVF cycles because of lack of money. Also, 55.9% of the respondents knew people who had to deterred IVF cycle because of not having enough money. This flags the financial burden of IVF services and the lack of enough support for sub-fertile couples attending IVF services in the Gaza strip that was mentioned in literature (Abu Hamad, Matar and Bani Oda, 2019).

4.2.8 Satisfaction about IVF services

When the study participants were asked about their satisfaction about the services which they received, the results were generally positive with a mean percentage of 93.34%; 99.7% were satisfied with the privacy and confidentiality, 98.8% were satisfied with the way the staff at the center were interacting with them, 97.8% were satisfied with the information provided.

On the other hand, only 65.3% were satisfied with the waiting time and 49.4% about affordability of the services. The results were inconsistent with the results of the assessment of IVF services study which stated that beneficiaries were dissatisfied with the way of staff communication, lack of privacy and limited information provision, in addition to inadequate place for clothes changes, this affected them to a degree that they had to switch to another center (Abu Hamad, Matar and Bani Oda, 2019).

The inconsistency of the findings could be attributed to the different designs used in the two studies; in this study we used quantitative approach while in Abu Hamad, Matar and

Bani Oda study a qualitative approach was used which allows more in-depth exploration of perception.

Table (4.8) Distribution of the study participants by satisfaction about the services received

Items	Not Satisfied		Uncertain		Satisfied		Mean%
	No	%	No	%	No	%	
The way the staff at the centre interacting with you	3	0.9	1	0.3	316	98.8	99.00
The privacy and confidentiality of services	1	0.3	0	0.0	319	99.7	99.50
The information provided to you	6	1.9	1	0.3	313	97.8	98.00
Ability to timely reach the doctor	22	6.9	7	2.2	291	90.9	92.00
The degree of empathy you felt from the service provider with you	18	5.6	3	0.9	299	93.4	94.00
Affordability of the services	145	45.3	17	5.3	158	49.4	52.00
Waiting time	93	29.1	18	5.6	209	65.3	68.00
Continuity of care by the same provider	1	0.3	2	0.6	317	99.1	99.50
Continuity of care across provider	1	0.3	5	1.6	314	98.1	99.00
Transparency in services provision	3	0.9	2	0.6	315	98.4	99.00
Degree of your involvement in the care provided	5	1.6	4	1.3	311	97.2	98.00
Psychosocial support you receive from the centre	9	2.8	2	0.6	309	96.6	97.00
Convenience of the place	3	0.9	2	0.6	315	98.4	99.00
Technical skills of the team	2	0.6	5	1.6	313	97.8	98.50
Feedback about services	7	2.2	12	3.8	301	94.1	96.00
Safety	2	0.6	1	0.3	317	99.1	99.00
General impressions about the quality of services	3	0.9	10	3.1	307	95.9	97.50
Outcomes of treatment	4	1.3	19	5.9	297	92.8	96.00
Mean percentage 93.34 , MD = 94.44 , Std = 8.01							

4.2.9 Main challenges faced by sub-fertile couples

Figure (4.8) covers the main challenges faced by the couples, not surprisingly almost all (91.6%) of the respondents reported facing financial difficulties which exhausted HHs financial resources, 53.1% faced deterioration of their psychological status, 24.7% were worried about their loneliness when they get older.

While from a medical perspective, the challenges faced were 20.6% complained of the side effect of drugs, 16.3% had developed medical complications. Furthermore, 10.3% faced the felling of loss of security at the long run, all of these findings were consistent with the challenges that covered in the conceptual framework earlier.

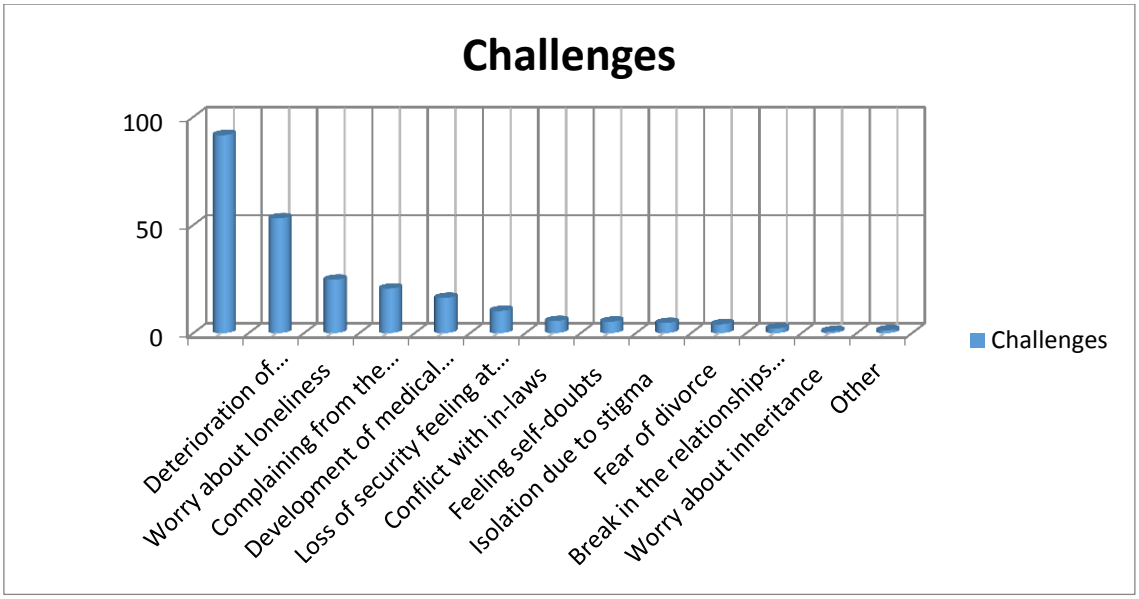


Figure (4.8): Challenges faced by infertile couples.

4.2.10 Support, socialization and facing discrimination

For the infertile/sub-fertile couples, family was the main source of support, as 81.9% reported being supported by their husbands, 55% by their in laws and 54.4% by their parents. Moreover, 6.9% were supported by their friends, 5% were supported by the staff at the IVF centers. Fortunately, 76.6% indicated that didn't experience discrimination because of their infertility. Out of the 23% of those who said yes, 66.7% confirmed experiencing discrimination by their in laws, 38.7% by their parents, 26.7% by their husbands (26.7%) and others (see table 4.9). Aspects of discriminations were mainly showing sympathy and sorrow (73.3%), using bad insulting wards (33.3%), always interfering in the issue of infertility (22.7%) and interfering in the marital life (21.3%) these findings were congruent with the findings which were addressed by (Tabong and Baba Adongo, 2013).

Table (4.9) Distribution of the study participants by receiving support, socialization and experiencing

Items	No.	%
Source of support with regard to infertility		
Husband	262	81.9
In-laws	176	55.0
Parents	174	54.4
Friends	22	6.9
Staff at the IVF centres	16	5.0
Service provider	6	1.9

Items	No.	%
Staff at the UNRWA or MOH centres	1	0.3
Psychosocial worker	0	0.0
Experiencing discriminate because of infertility		
Yes	75	23.4
No	245	76.6
Total	**320**	**100.0**
Who does that		
In-law	50	66.7
Parents	29	38.7
Husband	20	26.7
Sisters in Law	7	9.3
Friends	5	6.7
Sisters	5	6.7
Brothers	4	5.3
Neighbours	4	5.3
Brothers in Law	5	6.7
Others	4	5.3
Aspects of discriminations		
Showing sympathy and sorrow	55	73.3
Using bad insulting words	25	33.3
Always intervening in the issue of conception	17	22.7
Interfering in our marital life	16	21.3
Interfering in using our assets and resources	1	1.3
Others	1	1.3
Socialization activities		
Send emails, uses social media	276	86.3
Visits friends and relatives at their homes	264	82.5
Participate in social events (wedding)	164	51.2
Going out with friend to socialize	56	17.5
Visit clubs and organizations	38	11.9
Visiting religious places	12	3.8

When the study participants were asked about the participation on various social activities, 86.3% reported sending emails and using social media, 82.5% visited friends and relatives, 51.2% participated in social events like a wedding, 17.5% went out with friends, 11.9% visited a club or an organization and 3.8% visited a religious place as a mean of participation. This indicates that those couples tend to participate in various activities, this could be explained by the reality that they have a lot of free time and they tend to spend this time engaging in social events or using social media to make themselves busy with something rather than thinking of their infertility. The finding in this studies were

inconsistent with what was mentioned in the literature by (Hasanpoor-Azghdy, Simbar and Vedadhir, 2015; Tabong and Baba Adongo, 2013) as they indicated that the infertile couples tend to isolate themselves from other people and certain events also they are usually stigmatized socially and being excluded from leadership roles.

4.2.11 Psychosocial status-GHQ-12

By analyzing GHQ-12, and going back to the last 2 weeks, 82.2% were able to face their problems, 80.9% felt happy despite all the things considered, 75% felt that they were playing a useful part in life, 74.1% were capable of making decisions, 61.9% of the respondents showed ability to concentrate on what they were doing and 59.7% were able to enjoy their normal day to day activity.

However, 60.6% were not able to sleep due to worries, 57.2% felt being constantly under strain, 44.7% felt unhappy and depressed, 32.8% couldn't overcome their difficulties,12.5% lost confidence in themselves and 6.9% felt as a worthless person. This is consistent with the results reported in the literature (Katwsa, 2013).

Table (4.10) Distribution of the study participant's responses about the GHQ-12

Items	Yes		No		Total	
	No	%	No	%	No	%
1-Been able to concentrate on what you're doing?	198	61.9	122	38.1	320	100.0
2-Lost much sleep over worry?	194	60.6	126	39.4	320	100.0
3-Felt you were playing a useful part in things?	240	75.0	80	25.0	320	100.0
4-Felt capable of making decisions about things?	237	74.1	83	25.9	320	100.0
5-Felt constantly under strain?	183	57.2	137	42.8	320	100.0
6-Felt you couldn't overcome your difficulties?	105	32.8	215	67.2	320	100.0
7-Been able to enjoy your normal day-to-day activities?	191	59.7	129	40.3	320	100.0
8-Been able to face up to your problems?	263	82.2	57	17.8	320	100.0
9-Been feeling unhappy and depressed?	143	44.7	177	55.3	320	100.0
10-Been losing confidence in yourself?	40	12.5	280	87.5	320	100.0
11-Been thinking of yourself as a worthless person?	22	6.9	298	93.1	320	100.0
12-Been feeling reasonably happy, all things considered	259	80.9	61	19.1	320	100.0

Figure (4.9) shows that according to UNRWA cut of point (6 and more) the majority (72.5%) of the respondents are having normal scores on the GHQ. On the other hand, 27.5% reported scores indicating abnormal score and require mental health interventions. However, the cut off of 6 point which is used in the Palestinian context, is different than the internationally used cut of point 3, and using that cut of point totally reversed the results, three quarters of sub-fertile couples are psychosocially abnormal (UNRWA, 2018)

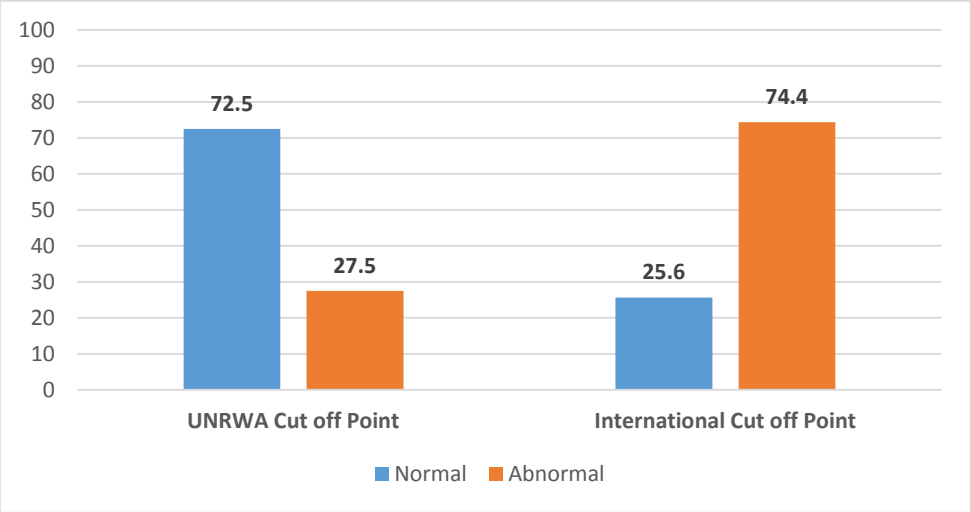


Figure (4.9): GHQ-12 Score

4.2.12 Respondent's Quality of Life

Analyzing the responses to WHO-QoL-BREF two general questions, it was found that 57.2% of the respondents have a good QoL, 29.7% have a very good QoL. On the other hand, 3.1% have a poor QoL and 10% of the participants didn't classify them self either ways. Similarly, the majority of the participants (~70%) indicated being satisfied about their health.

The converted data had been calculated to indicate every domain and the mean percent. Obviously, the mean percent of most of the domains converged around 75% while one domain was lesser than 70% as shown in figure (4.10). The social domain elicited the highest score (79.13%) and the environment domain elicited the least score (65.9%) as detailed in the upcoming sections.

The results were consistent with Al-Bayoumi's study results (2014) where results of the mean percent wellbeing domains were converged around 75%. Similar to this study the environmental domain elicited the least mean percent of 65% (mean= 3.25) while in contrast to this study the highest was the physical health domain (mean percent= 75.8%, mean=3.79).

Table (4.11) Distribution of the study participants according to Respondent about Quality of Life general questions

	Very poor		Poor		Neither poor nor good		Good		Very good		Weighted Mean
	No	%	No	%	No	%	No	%	No	%	
Satisfaction about QoL	0	0.0	10	3.1	32	10.0	183	57.2	95	29.7	82.6
Satisfaction about health status	1	0.3	13	4.1	8	2.5	214	66.9	84	26.3	83.0

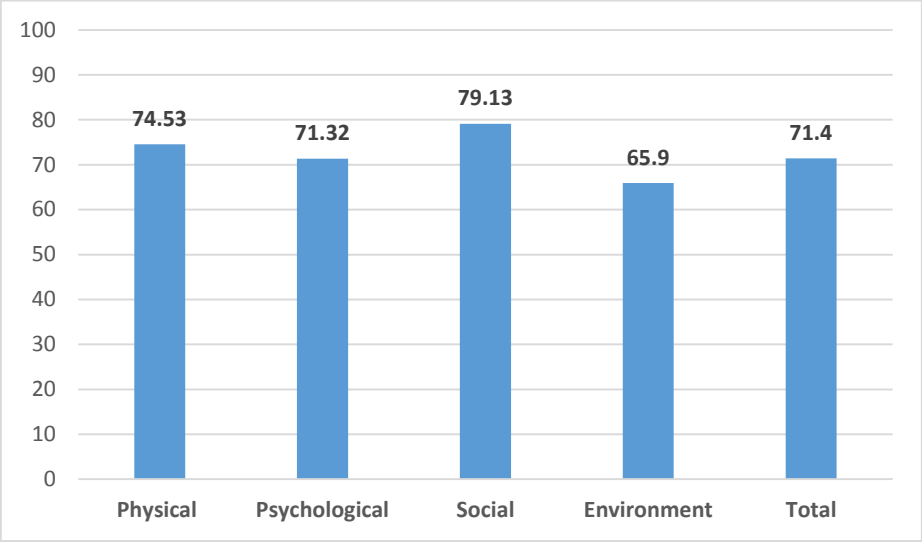


Figure (4.10): QoL domain

4.2.12.1 Physical domain

This domain reflects activities of daily living dependence on medicinal substances, energy and fatigue, mobility, sleep and rest and work capacity As Figure (4.10) shows, the respondents score a mean of 74.53% in the physical domain. This group elicited a score that is higher than the scores of Elyyan's study where hypertensive patients rated their overall QOL as 65.3% on the whole. Not surprisingly, physical domain elicited moderate rating at a percentage of 67.6% (Elyyan, 2007). This comparison – although not adjusted to age variable – could support that health status is strongly associated with the level of satisfaction about physical domain of the wellbeing concept. Still though, this group of respondents is relatively far from the best center score (81%) as indicated by WHO study (WHO, 1998).

Table (4.12) Distribution of the study participants according to their respondent about Physical domain

Items	Not at All		A little		A moderate amount		Very much		An extreme amount		Weighted Mean
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	
To what extent do you feel that physical pain prevents you from doing what you need to do?	161	50.3	61	19.1	60	18.8	36	11.3	2	0.6	81.4
How much do you need any medical treatment to function in your daily life?	242	75.6	52	16.3	17	5.3	9	2.8	0	0.0	93.0
Do you have enough energy for everyday life?	5	1.6	67	20.9	120	37.5	120	37.5	8	2.5	63.6
	Very Poor		**Poor**		**Neither Poor Nor Good**		**Good**		**Very Good**		**Weighted Mean**
	No	%	No	%	No	%	No	%	No	%	
How well are you able to get around?	5	1.6	53	16.6	62	19.4	105	32.8	95	29.7	74.6
	Very dissatisfied		**Dissatisfied**		**Neither satisfied nor dissatisfied**		**Satisfied**		**Very Satisfied**		**Weighted Mean**
	No	%	No	%	No	%	No	%	No	%	
How satisfied are you with your sleep?	6	1.9	99	30.9	24	7.5	161	50.3	30	9.4	66.8
How satisfied are you with your ability to perform your daily living activities?	2	0.6	67	20.9	23	7.2	206	64.4	22	6.9	71.2
How satisfied are you with your capacity for work?	1	0.3	69	21.6	23	7.2	206	64.4	21	6.6	71.0
Mean percent = 74.53 , MD = 77.14, Std= 12.58											

It was emphasized by 50.3% that the presence of physical pain didn't prevent them from doing what they needed to do. Fortunately, 75.6% didn't need any medical treatment to function their daily activity and 75% of them have moderate to high level of energy to meet their daily life. Two thirds (62.5%) had a good and very good wellness to go around. When the respondents were asked about the level of satisfaction, 59.7% were satisfied and

very satisfied regarding their ability to sleep, 71.3% regarding their ability to perform daily activity and 71% regarding their capacity to work. So we can conclude that the study participants are enjoying a moderate level of physical health, that enable them to enjoy doing daily activity without the need for medications or lack of energy.

4.2.12.2 Psychological domain

This domain focuses on the extent and frequency of experienced positive and negative feelings, the acceptance of body appearance and satisfaction of self.

The respondents score an average of 71.32% in the psychological domain, this is higher than the average of the reported in other places (WHO, 1998) with 62.5% overall score. However, it is lower than the highest center scores (77.3%) as indicated in by the WHOQOL group (WHO, 1998).

Table (4.13) Distribution of the study participants according to Psychological domain

Items	**Not at All**		**A little**		**A moderate amount**		**Very much**		**An extreme amount**		Weighted Mean
	No	%	No	%	No	%	No	%	No	%	
How much do you enjoy life?	4	1.3	32	10.0	178	55.6	97	30.3	9	2.8	64.6
To what extent do you feel your life to be meaningful?	4	1.3	17	5.3	127	39.7	133	41.6	39	12.2	71.6
How well are you able to concentrate?	3	0.9	31	9.7	159	49.7	117	36.6	9	2.8	66.2
Are you able to accept your bodily appearance?	3	0.9	20	6.3	35	10.9	196	61.3	66	20.6	78.8
	Strongly disagree		**Disagree**		**Neutral**		**Agree**		**Strongly Agree**		**Weighted Mean**
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	
How satisfied are you with yourself?	1	0.3	15	4.7	8	2.5	239	74.7	57	17.8	81.0
	Never		Seldom		Quite often		Very often		Always		Weighted Mean
	No	%	No	%	No	%	No	%	No	%	
How often do you have negative feelings such as blue mood, despair, anxiety, depression?	25	7.8	41	12.8	107	33.4	114	35.6	33	10.3	65.6
Mean percent = 71.32 , MD = 73.33, Std= 10.47											

The respondents gave a high score regarding their satisfaction with themselves(92.5%), similarly 81.9% have a very much and extreme amount of acceptance to their body image, 55.6% of the study participants were enjoying their life to a moderate extent, and 30.3% were enjoying their life to a high extend, this results were promising and it's good to find that the majority of the respondents are enjoying their life.

When asked about the ability to concentrate, the majority gave a positive response with 49.7% can concentrate to a moderate amount, and 36.6% were able to concentrate to a high degree. Moreover, 41.6% give an answer that they feel that their life is meaningful to a very much extent.

It was expected that 33.4% have negative feeling as blues, despair, anxiety and depression quite often, 35.6% feel that very often and 10.3% feel that always, as infertile/sub-fertile couples face a lot of challenges and pressures that affect their psychological health and usually reflected on them by having such negative feelings, and the results were consistent with the findings of previous studied mentioned in the literature (Katwsa, 2013; Maroufizadeh et al, 2018). .

4.2.12.3 Social domain

This domain focuses on the support provided and received from the people around them. Surprisingly, this domain elicited the highest score with the study participants scored an average of 79.13% in the social domain, it is good to have such a high score for this domain as the global studies suggest a positive association between social domain and health status (WHO, 1998). The score of the social domain of this study was higher than most of the studies, it is higher than the findings of Al-Bayoumi (2014) in Gaza where the overall score was 75.9% in adults generally.

In GGs, available data from the reviewed studies suggest that social domain is highly important, where it elicited 70.14% for hypertensive patients –less than this study score-, and thought to be a major contributor to overall QOL (Elyyan, 2007). On another study it was found that for those who lost their husbands due to the war, social domain elicited a much less score (52.4%) than what was elicited in this study (Al Rekeb, 2011), a finding that supports the previous argument by Elyyan (2007).

Table (4.14) Distribution of the study participants according to Social domain

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree		Weighted Mean
	No	%	No	%	No	%	No	%	No	%	
How satisfied are you with your personal relationships?	1	0.3	10	3.1	13	4.1	252	78.8	44	13.8	80.6
How satisfied are you with your sex life?	2	0.6	15	4.7	10	3.1	258	80.6	35	10.9	79.4
How satisfied are you with the support you get from your friends?	4	1.3	19	5.9	25	7.8	236	73.8	36	11.3	77.6
Mean percent = 79.13, MD = 80.00, Std= 9.33											

Despite the pressure they face from their families and friends and all the difficulties they face and the long journey that the couples go through during their attempts to have a baby, it was found that 80.6% of the participants agreed on satisfaction with their sex life.

While regarding their satisfaction with their personal relationships (78.8%) of the them agreed that they were satisfied, and 73.8% agreed that they are satisfied with the support given from their friends.

4.2.12.4 Environment domain

The environment domain focuses on feeling safe and secure. It also considers the comfort in the place of residence, worries about financial difficulties, and access to opportunity for leisure.

When the environmental domain was studied, the study participant scores an average of 65.93%, it was not surprising for this domain to score the least score when referring to GGs context, as poverty rates are high, security situation is not stable, and infrastructure is not fully convenient.

WHOQOL field trails data indicate that the environment domain elicited 60.4 ± 14.6 for the 19 centers' population. The mean percent score for healthy respondents was 63.1% (WHO, 1998). It is obvious that the environment aspect of the study population is similar to these countries average but lower than many other countries where best scores exceed

75% (WHO, 1998). This can be seen as a result of poverty, modest infrastructure, and security threats that GGs continuously and chronically witnesses.

Table (4.15) Distribution of the study participants according to Environment domain

Items	Not at All		A little		A moderate amount		Very much		An extreme amount		Weighted Mean
	No	%	No	%	No	%	No	%	No	%	
How safe do you feel in your daily life?	4	1.3	20	6.3	100	31.3	176	55.0	20	6.3	71.8
How healthy is your physical environment?	12	3.8	38	11.9	101	31.6	158	49.4	11	3.4	67.4
Have you enough money to meet your needs?	11	3.4	123	38.4	129	40.3	52	16.3	5	1.6	54.8
How available to you is the information that you need in your day-to-day life?	2	0.6	38	11.9	101	31.6	157	49.1	22	6.9	70.0
To what extent do you have the opportunity for leisure activities?	55	17.2	113	35.3	104	32.5	45	14.1	3	0.9	49.2
	Strongly disagree		**Disagree**		**Neutral**		**Agree**		**Strongly Agree**		**Weighted Mean**
	No	%	No	%	No	%	No	%	No	%	
How satisfied are you with the conditions of your living place?	16	5.0	56	17.5	28	8.8	189	59.1	31	9.6	70.2
How satisfied are you with your access to health services?	4	1.3	38	11.9	29	9.1	236	73.8	13	4.1	73.6
How satisfied are you with your transport?	7	2.2	53	16.6	33	10.3	217	67.8	10	3.1	70.6
Mean = 65.93, MD = 67.50, Std= 9.68											

When asked about the feeling of safety in daily life, more than 55% of the respondents acknowledged that they enjoy a very much level of safety. Another 49.4% indicated that they feel that their physical environment is healthy.

Regarding the financial aspect, 40.3% indicated having a moderate amount of money and 38.4% indicated having a little amount of money, this could be linked to the high poverty rate, high unemployment rate and the economic crises that Gaza is going through, and with the fact that no financial support is given to infertile couples as an assistant in their attempts to conceive. With regard to the availability of information needed, 49.1% indicated that the information needed were available to a very much extent.

The majority of the respondents didn't have a lot of opportunities to enjoy leisure activities with 35.3% had a little opportunities and 32.5% have a moderate and 17.2% didn't have an opportunities at all.

Moreover, when the level of satisfaction regarding the respondent's condition of the living place, accessibility to health services and transportation were covered, the almost three quarters of them agreed and strongly agreed that they enjoy high level of satisfaction with a percent of 68.7%, 77.9% and 70.9% respectively.

4.3 Inferential Statistics

To determine whether variations in perceptions and experiences with infertility amongst the groups of respondents exist or not, and whether it is related to people's characteristics such as gender, level of education, geographical distribution, employment status, income, perceived health status, t-test, ANOVA, and Correlation tests have been applied. Results were grouped based on relevance.

4.3.1 Differences in satisfaction about services and demographic characteristics

Results from Table 4.16 showed that there were no statistically significant differences in the level of satisfaction in reference to the socio-demographical characteristics of the study participants; indicating that the level of satisfaction was not affected by any of the following: age, residency, refugee status, type of family, level of education, age and duration of marriage and presence of consanguinity. All of them are alike, having similar or close experiences, this is inconsistent with the literature findings as the level of satisfaction was linked to the gender, level of education, residency, duration of marriage and other variables (Keramat et al, 2012).

Table 4.16: Differences in level of Satisfaction in relation to demographic characteristics

Independent Variables		N	Mean	SD	Factor	Value	Sig.
Woman Age	Less than 25 years	65	94.06	6.59	**F**	0.740	0.529
	25 to 29 years	99	92.54	9.33			
	30 to 35 years	98	93.93	7.18			
	Above 35 years	58	92.91	8.41			
	Total	**320**	**93.34**	**8.01**			
Husband Age	Less than 30 years	113	93.73	7.61	**F**	1.121	0.341
	30 to 35 years	82	92.14	9.45			
	36 to 40 years	67	94.40	6.66			
	Above 40 years	58	93.06	7.96			
	Total	**320**	**93.34**	**8.01**			
Governorates	North	54	94.91	8.04	**F**	1.522	0.196
	Gaza	141	92.30	9.17			
	Midzone	32	92.88	7.98			
	Khan Younus	60	93.75	5.71			
	Rafah	33	94.95	5.58			
	Total	**320**	**93.34**	**8.01**			
Place of living	Camp	64	94.66	6.77	**T**	1.475	0.141
	Non-Camp	256	93.01	827			
Refugee Status	Refugee	198	93.07	7.78	**T**	-0.774	0.439
	Non-Refugee	122	93.78	8.39			
Living in	Extended Family	**63**	**93.61**	**6.64**	T	0.292	0.770
	Nuclear Family	**257**	**93.28**	**8.33**			
Husband Education	< Secondary	65	93.33	8.88	**F**	0.080	0.971
	Secondary	83	93.01	9.41			
	University/college	156	93.54	6.83			
	Postgraduate	16	93.23	7.92			
	Total	320	93.34	8.01			
Woman Education	< Secondary	58	93.92	7.55	**F**	0.725	0.538
	Secondary	72	93.83	6.43			
	University/college	177	93.16	8.47			
	Postgraduate	13	90.60	11.26			
	Total	320	93.34	8.01			
Woman age at marriage	Less than 18 Years	44	93.56	8.30	**F**	0.268	0.849
	From 18 to 20 years	98	93.85	6.93			
	From 21 to 25 years	116	92.89	9.01			
	Above 25 years	62	93.23	7.54			
	Total	**320**	**93.34**	**8.01**			
Man age at marriage	Less than 25	134	93.66	8.44	**F**	0.178	0.837
	From 25 to 30	129	93.13	7.36			
	Above 30 Years	57	93.08	8.50			
	Total	320	93.34	8.01			
Duration of Marriage	Less than 5 Years	121	93.37	7.17	**F**	0.001	0.999
	From 5 to 9	103	93.34	8.50			
	10 years and More	96	93.32	8.56			
	Total	320	93.34	8.01			
Presence of Consanguinity	Yes	100	94.19	9.06	T	1.284	0.200
	No	220	92.95	7.48			

4.3.2 Satisfaction about services and economic status

One way-ANOVA test, shows that there were statistically significant differences between the level of satisfaction and how the respondents perceive the ability of the HH income meets the basic needs (Sig 0.036). Post Hoc LSD test (annex 7.1), shows that there are statistically significant mean differences in satisfaction scores between those who feel that the income meets the basic needs completely and those thinking that the income meet the basic needs partially (Mean differences=2.909, Sig 0.030). As table 4.17 shows, no differences were noticed in other economic variables.

Table (4.17): Differences between Satisfaction and Economic Status and Receiving social assistance

Independent Variables		**N**	**Mean**	**SD**	**Factor**	**Value**	**Sig.**
Husband working status	Yes	245	93.53	7.83	**T**	**0.752**	**0.459**
	No	75	92.74	8.60			
Wife working status	Yes	52	93.06	8.48	**T**	**-0.281**	**0.779**
	No	268	93.40	7.94			
Total monthly Household income in ILS	500 ILS and less	70	93.02	9.49	**F**	**0.338**	**0.798**
	From 501 to 1000	120	92.96	7.76			
	From 1001 to 1500	53	93.92	6.24			
	Above 1500 ILS	76	93.90	8.17			
	Total	319	93.36	8.02			
Receiving social assistance	Yes	107	92.34	7.65	**T**	**-1.587**	**0.114**
	No	213	93.84	8.16			
Thinking that your HH income meets basic needs	Yes completely	54	95.88	7.43	**F**	**3.349**	**0.036**
	Yes partially	104	92.98	6.95			
	No	162	92.73	8.69			
	Total	320	93.34	8.01			
Economically, how you regard your family	Rich	7	93.65	14.50	**F**	**0.325**	**0.722**
	Middle	261	93.50	7.97			
	Poor	52	92.52	7.25			
	Total	320	93.34	8.01			

4.3.3 Difference in GHQ12 scores in reference to socio-demographic characteristics

As table 4.18 shows, there were a statistically significant differences in GHQ and refugee status (P = 0.035). Non-refugees (mean = 4.48 ≈ 89.6%) elicited higher mean scores than refugees (mean = 3.95 ≈ 79%) indicating that non refugee infertile couples have a worse psychological status than refugees. This could be attributed to the fact that refugees have access to support provided by UNRWA; non-refugees don't. No statistically significant differences were noticed with other demographic correlates.

Table 4.18: Differences in GHQ-12 scores in relation to socio-demographic characteristics

Independent Variables		**N**	**Mean**	**SD**	**Factor**	**Value**	**Sig.**
Woman Age	Less than 25 years	65	3.71	1.89	**F**	**1.881**	**0.133**
	25 to 29 years	99	4.46	2.23			
	30 to 35 years	98	4.26	2.32			
	Above 35 years	58	3.95	1.96			
	Total	320	4.15	2.15			
Husband Age	Less than 30 years	113	4.04	2.11	**F**	**0.977**	**0.404**
	30 to 35 years	82	4.43	2.26			
	36 to 40 years	67	3.88	1.90			
	Above 40 years	58	4.29	2.36			
	Total	320	4.15	2.15			
Governorates	North	54	4.26	2.04	**F**	**0.187**	**0.945**
	Gaza	141	4.15	2.14			
	Midzone	32	4.13	2.18			
	Khan Younus	60	4.23	2.33			
	Rafah	33	3.88	2.13			
	Total	320	4.15	2.15			
Place of living	Camp	64	3.88	2.01	**T**	**-1.156**	**0.249**
	Non-Camp	256	4.22	2.19			
Refugee Status	Refugee	198	3.95	2.01	**T**	**-2.113**	**0.035**
	Non-Refugee	122	4.48	2.34			
Living in	Extended Family	63	4.57	2.26	T	**1.726**	**0.085**
	Nuclear Family	257	4.05	2.12			

Independent Variables		N	Mean	SD	Factor	Value	Sig.
Husband Education	< Secondary	65	4.52	2.15	**F**	**1.888**	**0.132**
	Secondary	83	4.40	2.09			
	University/college	156	3.92	2.17			
	Postgraduate	16	3.69	2.15			
	Total	320	4.15	2.15			
Woman Education	< Secondary	58	4.53	2.19	**F**	**1.700**	**0.167**
	Secondary	72	4.36	2.06			
	University/college	177	3.92	2.11			
	Postgraduate	13	4.54	2.85			
	Total	320	4.15	2.15			
Woman age at marriage	Less than 18 Years	44	4.27	2.26	**F**	**0.100**	**0.960**
	From 18 to 20 years	98	4.19	2.05			
	From 21 to 25 years	116	4.12	2.22			
	Above 25 years	62	4.06	2.16			
	Total	320	4.15	2.15			
Man, age at marriage	Less than 25	134	4.31	2.16	**F**	**0.650**	**0.523**
	From 25 to 30	129	4.05	2.07			
	Above 30 Years	57	4.00	2.33			
	Total	320	4.15	2.15			
Duration of Marriage	Less than 5 Years	121	3.88	2.03	**F**	**1.859**	**0.158**
	From 5 to 9	103	4.44	2.37			
	10 years and More	96	4.19	2.04			
	Total	320	4.15	2.15			
Presence of Consanguinity	Yes	100	4.26	2.19	**T**	**0.598**	**0.550**
	No	220	4.10	2.14			

4.3.4 Differences in GHQ and economic Status

Table 4.19 shows that there were statistically significant differences in the GHQ scores and perceptions of respondents that HH income meets the basic needs (Sig 0.002). Post Hoc test (Annex 7.2) shows that the mean differences in the GHQ-12 score differ significantly between those feeling that the HH income can completely or partially meet their basic

needs and those thinking that the HH income can't meet their basic needs. Also, you can notice from table 4.19 that there were statistically significant difference between the GHQ12 scores and how the participant regards their families whether rich or poor (Sig 0.001). By referring to (Annex 7.3), people who regarded their family as rich had lower score than those regarding their families either middle or poor (Mean differences= 2.223, 2.969 respectively, Sig 0.006, 0.001 respectively). This is expected finding and congruent with the literature indicating that the economically better off families can meet their needs, while those who are poorer face more compounded stressors (Abu Hamad, Matar and Bani Oda, 2019).

Table (4.19): Differences in GHQ and Economic Status

Independent Variables		**N**	**Mean**	**SD**	**Factor**	**Value**	**Sig.**
Husband working status	Yes	245	4.12	2.11	**T**	**-0.521**	**0.603**
	No	75	4.27	2.30			
Wife working status	Yes	52	3.69	2.13	**T**	**-1.691**	**0.092**
	No	268	4.24	2.15			
Total monthly Household income in ILS	500 ILS and less	70	4.10	1.96	**F**	**2.056**	**0.106**
	From 501 to 1000	120	4.48	2.27			
	From 1001 to 1500	53	4.15	2.25			
	Above 1500 ILS	76	3.70	2.03			
	Total	319	4.15	2.16			
Receiving social assistance	Yes	107	4.21	2.16	**T**	**0.309**	**0.758**
	No	213	4.13	2.16			
Thinking that your HH income meets basic needs	Yes completely	54	3.39	1.83	**F**	**6.265**	**0.002**
	Yes partially	104	3.98	2.15			
	No	162	4.52	2.19			
	Total	320	4.15	2.15			
Economically, how you regard your family	Rich	7	1.86	0.90	**F**	**6.919**	**0.001**
	Middle	261	4.08	2.10			
	Poor	52	4.83	2.29			
	Total	320	4.15	2.15			

4.3.5 Overall quality of life and socio-demographic characteristics

Table (4.20) illustrates the husband's level of education and overall QoL are positively associated. Results show that wives of husbands who attained higher education reported higher QoL than those married less educated ones (Sig 0.001). The study results in relation to wellbeing- education relationship are consistent with the finding mentioned in the literature (Balousha et al. 2018). Post Hoc test (Annex7.4) shows that there are statistically significant differences in the means with husbands with university and post graduate level of education have a higher QoL compared to who had an educational level of less than secondary (mean differences=3.368, 6.173. Sig=0.003, 0.004 respectively). Possibly, educated husbands show more understanding and show more support to their wives.

Table 4.20: Differences between overall QoL in relation to socio-demographic characteristics

Independent Variables		**N**	**Mean**	**SD**	**Factor**	**Value**	**Sig.**
Woman Age	Less than 25 years	65	71.81	7.21	**F**	**0.087**	**0.967**
	25 to 29 years	99	71.38	8.10			
	30 to 35 years	98	71.40	7.70			
	Above 35 years	58	71.11	7.90			
	Total	320	71.42	7.73			
Husband Age	Less than 30 years	113	71.83	7.52	**F**	**1.149**	**0.312**
	30 to 35 years	82	71.22	7.20			
	36 to 40 years	67	72.33	8.09			
	Above 40 years	58	69.89	8.38			
	Total	320	71.42	7.73			
Governorates	North	54	72.45	7.72	**F**	**0.756**	**0.554**
	Gaza	141	71.41	7.90			
	Midzone	32	72.53	8.50			
	Khan Younus	60	70.57	7.00			
	Rafah	33	70.30	7.62			
	Total	320	71.42	7.73			
Place of living	Camp	64	72.51	8.44	**T**	**1.260**	**0.208**
	Non-Camp	256	71.15	7.54			
Refugee	Refugee	198	71.81	7.98	**T**	**1.149**	**0.252**

Independent Variables		N	Mean	SD	Factor	Value	Sig.
Status	Non-Refugee	122	70.79	7.31			
Living in	Extended Family	63	69.74	7.89	T	**-1.943**	**0.053**
	Nuclear Family	257	71.84	7.65			
Husband Education	< Secondary	65	69.24	7.44	**F**	**5.358**	**0.001**
	Secondary	83	70.13	7.01			
	University/college	156	72.61	7.97			
	Postgraduate	16	75.42	7.01			
	Total	320	71.42	7.73			
Woman Education	< Secondary	58	70.95	7.81	**F**	**1.696**	**0.168**
	Secondary	72	69.87	7.62			
	University/college	177	72.09	7.66			
	Postgraduate	13	73.14	8.29			
	Total	320	71.42	7.73			
Woman age at marriage	Less than 18 Years	44	72.39	7.05	**F**	**1.619**	**0.185**
	From 18 to 20 years	98	70.03	8.02			
	From 21 to 25 years	116	71.79	7.69			
	Above 25 years	62	72.26	7.69			
	Total	320	71.42	7.73			
Man, age at marriage	Less than 25	134	71.09	7.75	**F**	**0.584**	**0.558**
	From 25 to 30	129	71.34	7.37			
	Above 30 Years	57	72.40	8.52			
	Total	320	71.42	7.73			
Duration of Marriage	Less than 5 Years	121	72.18	7.25	**F**	**0.948**	**0.389**
	From 5 to 9	103	70.84	8.33			
	10 years and More	96	71.10	7.66			
	Total	320	71.42	7.73			
Presence of Consanguinity	Yes	100	71.12	7.27	T	-0.480	0.632
	No	220	71.56	7.94			

4.3.6 Overall QoL and Economic Status

Findings show that there are statistically significant differences in the QoL and the husband's working status, with wives of working husbands showing higher mean scores than the wives of the non-working husbands (Mean=72.11 and Sig 0.004). Also, from the table (4.21) we can conclude that people who received social assistance had a lower QoL than who didn't (Mean 69.39 versus 72.45, Sig 0.001), possibly because they are poorer and these findings are consistent with the finding in the literature (Keramat et al, 2012). The same was noticed in reference to income with those with higher income reporting higher scores in QoL (table 4.21). This is consistent with the literature (Keramat et al, 2012).

Table (4.21) Differences between overall QoL and Economic Status and Receiving social assistance

Independent Variables		N	Mean	SD	Factor	Value	Sig.
Husband working status	Yes	245	72.11	7.51	**T**	**2.880**	**0.004**
	No	75	69.20	8.08			
Wife working status	Yes	52	73.30	9.17	**T**	**1.921**	**0.056**
	No	268	71.06	7.39			
Total monthly Household income in ILS	500 ILS and less	70	70.48	6.45	**F**	**6.744**	**0.001**
	From 501 to 1000	120	70.10	7.61			
	From 1001 to 1500	53	70.90	8.80			
	Above 1500 ILS	76	74.79	7.42			
	Total	319	71.43	7.74			
Receiving social assistance	Yes	107	69.39	7.25	**T**	**-3.386**	**0.001**
	No	213	72.45	7.78			
Thinking that your HH income meets basic needs	Yes completely	54	77.28	6.41	**F**	**27.431**	**0.001**
	Yes partially	104	72.08	6.67			
	No	162	69.05	7.68			
	Total	320	71.42	7.73			
Economically, how you regard your family	Rich	7	81.07	4.63	**F**	**18.551**	**0.001**
	Middle	261	72.13	7.22			
	Poor	52	66.59	8.16			
	Total	320	71.42	7.73			

4.3.7 Relationship between Satisfaction and PSS and Quality of Life

According to the table below, and by running a correlation test we can conclude that there was a statistically significant positive correlation between the QoL of the respondents and their level of satisfaction, this is logical as with higher level of satisfaction we can expect a better QoL. On the other hand, there was a statistically significant negative correlation between the QoL and the GHQ score and this is also logical as a higher GHQ score implies a worse PSS and this in term indicate poor QOL.

Table 4.22: Association between QoL and satisfaction about services and GHQ scores

Variables	**R**	**Sig.**
QoL and Satisfaction about services	0.184	0.001
QoL and GHQ-12	-0.513	0.001

Chapter Five
Conclusion and Recommendations

5.1 Conclusion

This study explored perceptions and experiences of sub-fertile couples when they seek IVF services. The study looked to different experiences people seek these services undergo. This study complements other qualitative studies conducted recently in Gaza. Findings presented are extracted from the self-reported responses, which reflect what participants reported without being further verified by records check or service providers' input.

In comparison with other places, IVF respondents are young which might increase the chances of having successful pregnancies; however, many reported visiting the centers and starting treatment even before completing one year of marriage which unnecessarily expose them to many risks and challenges including health, psychological and financial risks. Participants indicated that they were informed about their infertility for the first time before many years (5.48 years on average). This means that the journey of infertility management is a long one and require a lot of patience, time and money. The majority, but not all were told about the reason of infertility, which were more attributed to men related causes. Two thirds of cases have secondary rather than primary infertility and many are having children before from this marriage or other marriages. At least hypothetically, this makes the outcomes of IVF services are favorable. Looking to type of services provided to clients reveals that there is a tendency to hyper-medicalized the services, there is rush to use hormonal therapy, medications and invasive procedures before trying more simple ones related to nutrition, life style and non-invasive procedures.

The study findings conclude that the average income is limited with many families are unable to secure the basic family needs, yet infertility treatment costs come on top of dire financial situation they are facing and it financially burdens families more. Despite having health insurance, it doesn't cover infertility treatment and families have to rely on their own resources. Little if any financial support is provided to support families seeking IVF services, they should rely on themselves to cover the expensive costs of IVF services.

Due to gaps in quality in the IVF services, switching treating doctors (5 on average) and centers as reported by respondents is a common phenomenon. On average, each couple

tried 2 different IVF centers, with many experiences more than 3 or 4 centers and experienced many IVF trails in order to be able to conceive one child.
Although they are satisfied in general about the services they received, still IVF users are not satisfied with very long waiting hours, which contribute further to the violation of privacy while they are waiting at the IVF. The responses of some participants reflects gaps in transparency as for example, IVF centers urge service users to do lab services and procure drugs from their centers and charge them very high costs.

This study indicates that users of IVF centers are not given any documents or cards that specify their conditions, so every time they visit a new center they have to start the journey again from scratch. This causes a lot of pain, exposure to medical risks, waste of resources and duplications of efforts.
The key challenges facing sub-fertile couples who need IVF services are financial in addition to the social and family pressure on couples to conceive. The researcher concluded that of the factors that hinder couples from obtaining IVF services, the economic situation of the couples ranks first, where many suffer from difficult financial situations. The cost of IVF services in Gaza is high and is a burden on families, which prevents some of those who need these services to access them or causes a type of economic shock for others. It is worth mentioning that the social security system in other countries bears all or part of the costs of IVF services. With regard to social pressure practiced on the infertile couples, the vast majority experienced that and they have been bullied or discriminated against by others especially by in-laws. The proportion of respondents who reported that their main personal goal is to conceive is shockingly high. This reflects the centrality of this issue on their life. In addition, although IVF users are highly psychosocially vulnerable, the study concluded that they are not being psychosocially supported by the IVF centers. The majority of the respondents reported that they received informal psychological support, mainly from their relatives or friends, but did not receive it from the IVF staff at the centers at which they were treated.

To give more insights about the psychosocial status of participants, the GHQ results suggest that nearly one third of them meet the criteria of mental illness although we used the cut of point of 6 which is used by UNRWA. When the international cut of point of 3 used, three quarters are in need for mental health treatment. Many reported inability to

sleep due to worries, felt being constantly under strain, felt unhappy and depressed, couldn't overcome their difficulties therefore they need assistance.

The analysis of the WHO-QoL-BREF, indicates that level of wellbeing is reasonably good, still lower than what was reported by other studies. The mean scores of the social domain were the highest and the environment domain were the lowest, and the reported scores are less than the general population. This study was different than the other studies as the physical domain rather than the social scored the highest. However; it was similar in the environmental domain score as the lowest.

Interestingly, there are correlations between the wellbeing scores, and GHQ and satisfaction about services. Differences in inferential statistics were mostly not significant indicating that IVF users face similar challenges and problems. Some differences were noticed in reference to income status and also husbands' education with users with better income and married to educated husbands tend to more favorite scores.

5.2 Recommendations

1. Couples with infertility are highly vulnerable and should be proactively targeted as a particular vulnerable category by health and social protection actors.
2. Advocacy efforts for the rights of sub-fertile couples to have appropriate access to infertility care as an essential part of health rights, including supporting health providers to integrate infertility care into the package of health services are essential.
3. Many beneficiaries were treated for infertility before the completion of one year and care is too much hyper-medicalized. MOH should lead efforts aimed at determining safe standards for IVF practice and service provision, including developing technical protocols that standardize the clinical management of IVF services, with continuous monitoring and supervision to ensure compliance.
4. Implementing a feasible mechanism to financially support socio-economically disadvantaged couples who need IVF services. Economically disadvantaged couples should not be denied IVF services with the contribution of charitable organizations, NGOs and social protection actors.
5. Health insurance policy should be reviewed to incorporate supporting economically disadvantaged couples who can't afford the expensive fees of doing IVF.

6. Psychosocial support should be made available for infertile couples at the IVF centers. This should be part of the licensing procedures at MOH. Also, organizations working on mental health should proactively target couples with infertility
7. Investing heavily in counseling, communication, and enhancing interactions between IVF staff and beneficiaries.
8. Increasing community awareness about IVF services in order to reduce stigma and discrimination around infertility with the participation of health education programs and mass media.
9. Improving management systems at IVF centers to reduce waiting time, streamline patient flow, exchange feedback between providers and users. IVF users should be given documents or cards which contain the essential information that should be communicated to other health care providers to support continuity of care, safety and reduce duplication.
10. MOH should Supervise drug dispensing and laboratory test requested by the IVF centers to reduce hypermedicalization and the provision of unnecessary services

5.3 Research recommendations

- Conduct large-scale national studies about the prevalence and risk factors of infertility in Palestine, in order to estimate the magnitude of the problem and the required response in service provision.
- Conduct national studies on the impact of IVF services on the public health system, particularly in regards to reproductive, maternal, and neonatal health.
- Conduct further national studies about infertility services and the formal and informal support provided to sub-fertile couples.
- Improve efforts for in-depth understanding of physical, social, psychological, and economic challenges facing people with infertility challenges.
- Conduct a large-scale clinical audit to check compliance with the best practice in the provision of IVF services.
- Conduct a study about the perceptions and experiences of sub-fertile males served at IVF centers in the Gaza strip

References

Abu Al-Haija, R. Al-Sabbah, H. Abu-Khaizaran, A. (2011). "*Main Causes of Infertility Among Men Treated at Razan Centers in West Bank: Retrospective Study*". Master's thesis, An-Najah National University. Palestine.

Abu Hamad, B. Gercama, I. Jones, N. Abu Hamra, E. (2017), '*No One Told Me About That!! Exploring Adolescent Access to Health Services and Information in Gaza*'. London: GAGE Program

Abu Hamad, B. Salem, M. Tawwab, A. Jarada, A. AlAshqar, W. Elmezaini, K. (2015), *Baseline Study on Water Quality & Public Health in the Gaza Strip*. Palestinian Water Authority/Austrian Development Agency.

Abu Hamad, B. Matar, H. Bani Oda, K. (2019). *An Assessment of the In Vitro Fertilization Services in Palestine.* State of Palestine, United Nations Population Fund, UNFPA.

Abu Hamad, B., Khader A.(2018). *An Assessment of Family Planning Services in Palestine Challenges and Opportunities.* Palestine. UNFPA

Abu Hamad, Kh. Abed Y. Abu Hamad, B. (2007) "Risk factors associated with preterm birth in the Gaza Strip: Hospital-Based Case Control Study". *Eastern Mediterranean Health Journal*, 13,5,1132-1141.

Abu Shahla, A. (2013). Risk factors associated with subfertility among Palestinian men in the GS. *Journal of Al Azhar University-the GS*, 15: 119-128.

Al Bayoumi, N. (2014). *The Status of Wellbeing in Gaza Governorates: Correlates and Implications*. Al-Quds University-Gaza

Al Rekeb, E. (2011): "*A Study on The Quality of Life and Mental Health of Martyrs Wives After The Cast Lead Operation Against Gaza*". Master Thesis, Al Quds University, SoP.

Anjara, S.G. Bonetto, C. Van Bortel, T. Brayne C. (2020). Using the GHQ-12 to screen for mental health problems among primary care patients: psychometrics and practical considerations. *Int J Ment Health Syst 14, 62.*

Bakhtiyar, k. Beiranvand, R. Ardalan, A. Changaee, F. Almasian, M. Badrizadeh, A. Bastami,F. Ebrahimzadeh, F. (2019): An investigation of the effects of infertility on Women's quality of life: a case-control study, *BMC Women's Health* 19,144.

Baloushah, S. Barjasteh, S. Elsous, A. Alderawi, A. Abou Eid, S. Masad, A. (2018). Quality of Life among Infertile Couples in Gaza City, Palestine. https://www.researchsquare.com/article/rs-15541/v1 [Electronically accessed on 27/9/2020]

Brazier,Y. (2018)**:** Infertility in Men and Women. *Medical News Today*, https://www.medicalnewstoday.com/articles/165748.php#causes_in_men [Electronically accessed on 17/12/2019]

Brezina, P. Zhao, Y. (2012). *The Ethical, Legal, and Social Issues Impacted by Modern Assisted Reproductive Technologies.* Division of Reproductive Endocrinology and Infertility, Department of Gynecology and Obstetrics. https://www.hindawi.com/journals/ogi/2012/686253/ [Electronically accessed on 7/10/2019]

Collins, J. and Van Steirteghem, A. (2004). Overall prognosis with current treatment of infertility. Human Reproduction Update, *PubMed* 10(4):309-16.

Complications of infertility (2020), Infertility, Zana website. https://zana.com/a/infertility-complications-infertility.2641. [Electronically accessed on 28/9/2020]

Courbage Y. Abu Hamad, B. Zagha, A. (2016). *Demographic Transition in Palestine and What it Means for Development.* Ramallah: Prime Minister Office – State of Palestine, United Nations Population Fund, UNFPA.

Elayyan, W. (2007): *Impact of hypertension on the quality of life among patients attending government and UNRWA clinics Gaza, SoP*. Master Thesis, Al Quds University.

ESHRE Capri Workshop Group (2014). "30th Annual Meeting of the European Society of Human Reproduction and Embryology" *European Society of Human Reproduction and Embryology*. Munich, Germany.

Fathalla, MF, Fathalla, MM. (2004). A practical guide for health researchers, *WHO Regional Publications, Eastern Mediterranean. Series 30*. WHO.

Fertility treatment (2017): trends and figures report, Human Fertilization and Embryology Authority. https://www.hfea.gov.uk/media/2894/fertility-treatment-2017-trends-and-figures-may-2019.pdf . [Electronically accessed on 2/11/2019]

Fledderjohann, JJ. (2012). 'Zero is not good for me': implications of infertility in Ghana. PubMed. https://www.ncbi.nlm.nih.gov/pubmed/22357772 [Electronically accessed on 20/11/2019]**.**

Gunby, J. Daya S. (2007). Assisted Reproductive Technology (ART) in Canada, 2003 results. *Canadian ART register*. Fertile Sterile 88:550-559.

Hammoud, S. Nix, D. Zhang, H. Purwar, J. Carrell, D. Cairns, B. (2009). Distinctive Chromatin in Human Sperm Packages Genes for Embryo Development, *Nature*. 460(7254): 473–478.

Hammoudeh, D. Hamayel, L. Abu-Rmeileh, N. Giacaman, R. (2013). Effect of Infertility on Women in The Occupied Palestinian Territory: A Pilot Qualitative Study. *The Lancet Journal*. 382.

Hasanpoor-Azghdy, S. Simbar, M. Vedadhir, A. (2015). The Social Consequences of Infertility among Iranian Women: A Qualitative Study. *International journal of Fertility and Sterility.* 8(4): 409-420

How is IVF done; Step by Step, (2019). Artificial Reproductive Centre, ARC Fertility Blog. https://www.arcfertility.com/how-is-ivf-done-step-by-step/ [Electronically accessed on 17/12/2019]

In Vitro Fertilization (2019). Infertility, American Pregnancy Association. https://americanpregnancy.org/infertility/in-vitro-fertilization/ [Electronically accessed on 15/11/2019]

Infertility and Reproduction Guide (2019), Infertility and In Vitro Fertilization, *WebMD*. https://www.webmd.com/infertility-and-reproduction/guide/in-vitro-fertilization#3 [Electronically accessed on 17/11/2019]

Issa, Y. Sallmen, M. Nijem, K. Bjertness, E. Kristensen, P. (2010). Fecundability among newly married couples in agricultural villages in Palestine: a prospective study, *Human Reproduction*. *PubMed* 25(8),2132–8.

Jaradat, N. Zaid, A.N. (2019). Herbal remedies used for the treatment of infertility in males and females by traditional healers in the rural areas of the West bank/Palestine. *BMC Complement Altern Med* 19, 194.

Jones, N. Abu Hamad, B. Odeh, K. Pereznieto, P. Abu Al Ghaib, O. Plank, G. Presler-Marshall, E. and Shaheen, M. (2016), *Every Child Counts: Understanding the Needs and Perspectives of Children with Disabilities in the State of Palestine*. Palestine/UNICEF.

Katwsa, L. (2013). *"Psychological Distress Among Infertile Women Attending Razan Center in West Bank in Palestine: Quantitative Study"*. Master's thesis, An-Najah National University. Palestine.

Keramat, A. Masoomi, SZ. Mousavi, SA. Poorolajal, J. Shobeiri, F. Hazavhei, SM. (2014). Quality of life and its related factors in infertile couples. *J Res Health Sci*. ;14(1):57-63.

Klock, S. (2011). *Psychological Issues Related to Infertility.* The Global Library of Women' Medicine https://www.glowm.com/section_view/heading/Psychological%20Issues%20Related%20to%20Infertility/item/412 [Electronically accessed on 5/10/2019]

Kumar, N. and Singh, A. K. (2015). Trends of male factor infertility, an important cause of infertility: A review of literature. *Journal of Human Reproductive Sciences*; 8(4): 191-196.

Loke, A. Yu, P. Hayter, M. (2011), Experiences of sub-fertility among Chinese couples in Hong Kong: a qualitative study, Sexual and Reproductive Health, *Journal of Clinical Nursing* 21, 504–512

Manenti, A. Goyet, C. Reinicke, C. Macdonald, J. Donald, J. (2016). *Report of a field assessment of health conditions in the occupied Palestinian territory.* Jerusalem: WHO.

Maroufizadeh, S. Hosseini, M. Rahimi Foroushani, A. Omani-Samani, R. Amini, P. (2018). The effect of depression on quality of life in infertile couples: an actor-partner interdependence model approach. *Health and Quality of Life Outcomes*, 16(1), 73.

Mayo Clinic. (2013). In vitro fertilization (IVF). https://www.mayoclinic.org/tests-procedures/in-vitrofertilization/basics/definition/prc-20018905 [Electronically accessed on 10/11/2019]

MIFTAH, Independent Commission for Human Rights and UNFPA (2015), *Country Assessment towards Monitoring and Reporting Sexual and Reproductive Health and Rights [SRHR] in Palestine*. Available: http://www.miftah.org/Publications/Books/Country_Assessment_Book2015.pdf.

Ministry of Health (2014), *Health Sector Strategy Plan: Gaza Governorates 2014-2018*. Gaza: MOH

Ministry of Health (2017), *Health Annual Report Palestine 2016*. Ramallah MOH

Ministry of Health (2018), Health Annual Report Palestine 2016. Ramallah MOH

Moghadam, A. Delpishe, A. Sayehmiri, K. (2014). The prevalence of infertility in Iran. A systematic Review. *Iranian Journal of Obstetrics*, Gynecology and Infertility. 16. 1-7.

Nairobi Summit (ICPD+25) (2019), Nairobi, Kenya. Uinited Nation. https://www.un.org/en/conferences/population/nairobi2019 [Electronically accessed on 19/11/2020]

Obisesan, KA. Adeyemo, AA. (1998) Infertility and other fertility related issues in the practice of traditional healers and Christian religious healers in south western Nigeria. *Afr J Med Med Sci*;27(1-2):51-55.

OTT, A. (2019). Causes for male and female infertility. Kinderwunsch Zentrum Ludwigsburg. http://www.kinderwunschzentrum-ludwigsburg.de/en/your-way-to-your-desired-child/causes-for-male-and-female-infertility.html[Electronically accessed on 2/11/2019]

Palestinian Central Bureau of Statistics (2004), Demographic and Health Survey.

Palestinian Central Bureau of Statistics (2011), *Palestinian Family Survey* 2010. Ramallah: Palestine.

Palestinian Central Bureau of Statistics (2015), *The Status of the Palestinian Population Living in Palestine*. *Ramallah Palestine*: PCBS

Palestinian Central Bureau of Statistics (2016), *Palestinians at the End of 2016*. Ramallah Palestine: PCBS.

Palestinian Central Bureau of Statistics (2017), *Poverty Profile in Palestine*

Palestinian Central Bureau of Statistics (2018), *A Press Release on the Eve of the International Women's Day*. Ramallah: Palestine PCBS

Palestinian Central Bureau of Statistics (2019), Median Age at First Marriage in Palestine By Sex and Governorate. http://www.pcbs.gov.ps/statisticsIndicatorsTables.aspx?lang=en&table_id=271 [Electronically accessed on 22/10/2020]

Palestinian Central Bureau of Statistics (2019), *On the Occasion of the International Population Day 11/7/2019.* http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3503 [Electronically accessed on 10/11/2019]

Palestinian Central Bureau of Statistics (2020), Percentage Distribution of Persons (15 Years and Over) by Educational Attainment, Region and Sex, 1995, 1997, 2000-2019 http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Education-1994-2019-10E.html

Palestinian water Authority (2018)**,** Water Resources Directorate**:** *Gaza Water Status Report 2017*. https://reliefweb.int/report/occupied-palestinian-territory/gaza-water-status-report-2017-june-2018 [Electronically accessed on 17/12/2019]

PCBS (2014) 'Literacy Rate of Persons (15 Years and Over) in Palestine by Age Groups and Sex, 1995, 1997, 2000-2013', available at http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Education-1994-2013-11E1.htm

Revised glossary on Assisted Reproductive Terminology (ART) (2009). The International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) Revised Glossary on ART Terminology,https://www.who.int/reproductivehealth/publications/infertility/art_terminology2/en/ [Electronically accessed on 2/12/2019]

Safi, A. (2015). *2014 War on Gaza Strip: Participatory Environmental Impact Assessment.* Gaza: Palestinian Environmental NGOs Network – FoE Palestine.

Seher, T. Thiering, E. Al Azemi, M. Heinrich, J. Schmidt-Weber, C. Kivlahan, C. Gutermuth, J. Fatemi, H. (2015). *Is Parental Consanguinity Associated with Reduced Ovarian Reserve?* Reproductive BioMedicine Online 31, 427–433.

Setia, M.S. (2016) Methodology Series Module 5: Sampling Strategies. *Indian J Dermatol*. 61(5):505-9.

Sirdah, M. Abushahla, A. Ghalayeni, B. Aburamadan, A. (2013), Etiological risk factors for subfertility among Palestinian women in Gaza. *The Journal of Biomedical Research.* 27 (2): 127–134.

Tabong, P. Baba Adongo, P. (2013). Infertility and childlessness: a qualitative study of the experiences of infertile couples in Northern Ghana, *BMC Pregnancy and Child Birth*, 13:72.

Technical and management protocol for mental health and psychosocial support within UNRWA's Primary health care model,(2018). UNRWA, Health department, HQ-Amman.

UNFPA (2014), *International Conference on Population and Development*.

UNFPA (2016), Palestine 2030: *Demographic Transition in Palestine and What it Means for Development*. Palestine: UNFPA

UNFPA (2017), *The State of World Population 2017*. Palestine: UNFPA

United Nations Office for the Coordination of Humanitarian Affairs-OCHA (2017), *Overview of Access of Palestinians from Gaza in 2016*. https://www.ochaopt.org/content/overview-access-palestinians-gaza-2016

United Nations Relief and Work Agency (2017), Annual Report Health Department. Amman: UNRWA

UNRWA (2019), Where we work, Gaza Strip https://www.unrwa.org/where-we-work/gaza-strip

Watkins, k. Baldo, T.(2004), The Infertility Experience: Biopsychosocial Effects and Suggestions for Counselors, Wiley Online Library. https://doi.org/10.1002/j.1556-6678.2004.tb00326.x. [Electronically accessed on 5/10/2019]

WHO (1998): *Program on Mental Health, WHOQOL User Manual.* Geneva.

Wilson, W.(1967):"Correlates of avowed happiness". *Psychological Bulletin,67, 294-306*

World Bank (2012), '*The World Bank Annual Report 2012; 1. Main Report. World Bank Annual Report'*. Washington, DC: The World Bank.

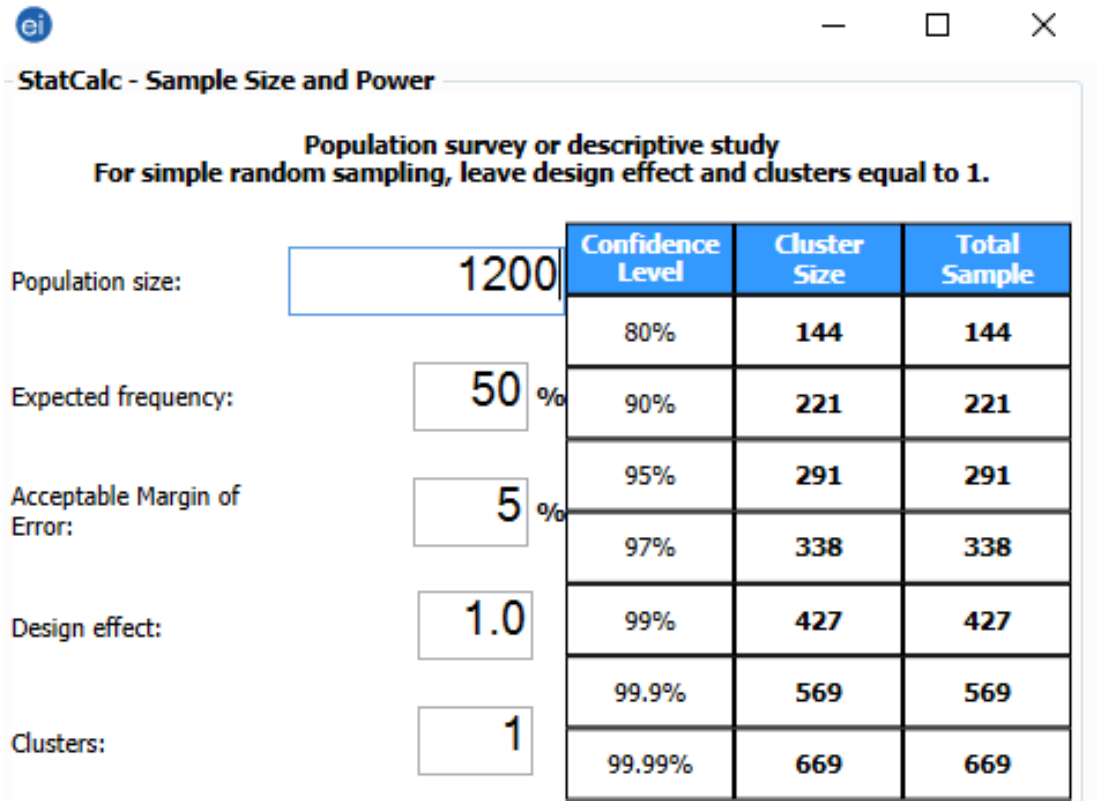
World Food Program (2015). WFP Palestine Situation Report #28, *Annual report.*

Annexes

Annex 1: Time Table

Activity	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	April 20	May 20	June 20	July 20	Aug 20	Sep 20	Oct 20	Nov 20
Preliminary reading and consolidating the idea														
Literature review and writing problem statement														
Finalizing and submitting proposal														
Proposal discussion and approval														
Developing quantitative and qualitative tools														
Seeking ethical approval														
Conducting pilot testing														
Actual data collection														
Data entry														
Data analysis														
Report writing and submission to defense														
Defense and discussion of the thesis														
Final submission of the thesis														

Annex 2: Sample Size Calculation



Annex 3: List of experts validated the tool.

- Dr. Ahmed Al Lilly
- Dr. Andy Ferguson
- Dr. Hani Mahdi
- Dr. Khitam Abu Hamad
- Dr. Mohammed Al Helo
- Dr. Raghda Abu Laban
- Dr. Sami Owaida
- Dr. Tharwt Al Helo
- Dr. Walid Abu Hatab
- Mr. Hani Matar
- Mr. Osama Abu Eita

Annex 4: Helsinki Approval

المجلس الفلسطيني للبحث الصحي
Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار
Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee
For Ethical Approval

Date: 2020/02/03 **Number:** PHRC/HC/691/20

Name: Shahd Bassam AbuHamad الاسم:

We would like to inform you that the committee had discussed the proposal of your study about: نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

Perceptions and Experiences of Sub-Fertile Couples Served at the In Vitro Fertilization Centers in the Gaza Strip

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/691/20 in its meeting on 2020/02/03 و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member 03.02.2020 Chairman 2020 Member 3/2/2020

Genral Conditions:-
1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

E-Mail:pal.phrc@gmail.com
Gaza - Palestine غزة - فلسطين
شارع النصر - مفترق العيون

Annex 5: Questionnaire in Arabic

Perceptions and Experiences of Sub-Fertile Couples Served at the In Vitro Fertilization Centers in the Gaza Strip-Client Questionnaire

تصورات وتجارب الازواج الذين يعانون من صعوبة في الانجاب الذين يتلقون خدمات التلقيح الصناعي في مراكز الاخصاب في قطاع غزة-استبانة المشارك

نموذج الموافقة- خطاب تفسير

عزيزي المشارك،

- انا ---------- اقوم بجمع بيانات لدراسة بحثية بخصوص تجربة الازواج الذين يعانون من مشاكل انجابية في غزة. لقد تم اختيارك بشكل عشوائي للمشاركة بهذه التجربة ومشاركتك ليس لها أي تأثير مباشر اة غير مباشر عليك او على عائلتك.
- المشاركة في هذه الدراسة البحثية تتطلب تعبئة هذه الاستبانة .
- هذه الاستبانة هي جزء من بحث تجريه د. شهد أبو حمد كمتطلب لإتمام درجة الماجستير في الصحة العامة الممنوحة من جامعة القدس.
- الهدف من هذه الدراسة هو لمعرفة الصعوبات والتحديات التي تواجه الازواج الذين يعانون من مشاكل انجابية بهدف عمل برامج لمساعدتهم.
- الدراسة ممولة ذاتيا؛ والنتائج ستستخدم فقط لأهداف بحثية. هذه الدراسة مستقلة تماما ولا علاقة لها بأي جهة حكومية او ذات سلطة او أي جهة رسمية.
- هذه الاستبانة تتيح لك الفرصة لتحدثنا عن شعورك تجاه حياتك، خصوصا فيما يتعلق بعدم القدرة على الانجاب والخدمات التي تلقيتها في مراكز الاخصاب. النتائج سيتم عرضها على شكل مجموعة بحثية ولن يتم الاشارة لأسمك او أي حالة اخرى في الدراسة.
- النتائج والمستخلصات المتعلقة بالدراسة ربما تساعد في تحسين الدعم المقدم للأشخاص الذين يعانون من مشاكل انجابية في غزة.
- السرية سيتم توفيرا والحفاظ عليها، لا داعي لذكر اسمك.
- احترام الحقيقة، واحترام الانسان سيتم المحافظة عليه خلال كل مراحل عمل هذه الدراسة.

- تعبئة هذه الاستبانة قد يستغرق 20 دقيقة من وقتك الثمين.

- **بالرغم من ان مشاركتك مرحب بها ومقدرة، المشاركة اختيارية**.
- برجاء الاجابة على جميع الاسئلة بقدر الامكان.
- اذا احتجتني لقراءة السؤال مرة اخرى او كان لديك أي معاني غامضة لا تتردد بطلب اعادة السؤال او التوضيح.
- اذا لم تكن متأكدا من أي اجابة تختار، بإمكانك اختيار الاجابة التي تصف مساعرك، غالبا هي الاجابة التي تخطر ببالك اولا. ضع في الحسبان انه لا يوجد خطأ وصواب هنا، الاجابة الصحيحة هي التي تشعر انها تعكس انطباعك.
- لديك الحق بالتوقف او انهاء تعبئة الاستبانة متى اردت ذلك ولك الحق بتجاوز أي سؤال لا تريد الاجابة عنه.
- ربما تشعر ان بعض الاسئلة مكررة، برجاء الاجابة عنها جميعا.

تحياتي

شهد ابو حمد

هل بإمكاننا البدء بالأسئلة؟

1-اليوم----------				**2-التاريخ----------**	
3-اسم مركز الاخصاب ----------				**4-عنوان مركز الاخصاب ----------** **الهاتف: ----------**	
5-المستجيب	1. امرأة 2. رجل			**6-سبب زيارة مركز الاخصاب** 1. تلقي خدمات التلقيح الصناعي (استكمال الاستبانة) 2. لعمل تحديد جنس المولود (استثني المشارك) 3. زيارة روتينية لاهداف اخرى غير التلقيح الصناعي (استثني المشارك) 4. أخرى ----------	
7-عمر الزوجة ----------				**8-عمر الزوج ----------**	
9-مكان الاقامة	1.شمال غزة	2.غزة	3.الوسطى	4.خانيونس	5.رفح
10-تصنيف الحي	1.مخيم	2.ليس مخيم			
11-حالة اللجوء	1.لاجئ	2.ليس لاجئ	**12-هل تسكن في**	1.اسرة ممتدة	2.اسرة نووية
13-هل يسكن الزوجين معا في نفس المنزل	1. نعم	2.لا			
14-مستوى تعليم الزوج	1.اقل من ثانوي	2.ثانوي	3.جامعي/دبلوم	4.دراسات عليا	
15-مستوى تعليم الزوجة	1.اقل من ثانوي	2.ثانوي	3.جامعي/دبلوم	4.دراسات عليا	
16-عمل الزوج	1.يعمل	**17-عمل الزوجة**	1.تعمل	**18-الدخل الشهري من كل المصادر**	

	2.لا يعمل		2.لا تعمل	**بالشيكل ----------**	
19-المصدر الأساسي لدخل العائلة	1.عمالة رب المنزل	2.اموال عائلية	3.ايجارات وممتلكات	4. مساعدات اجتماعية	
20-هل تتلقون مساعدات اجتماعية؟	1.نعم 2.لا	**21-اذا نعم، ما نوعها؟**	1.مساعدة مالية 2.سلات غذائية 3.مساعدات لتغطية تكاليف التلقيح الصناعي	4.ملابس 5.ترميم المنزل	6.تأمين صحي 7.العمل مقابل المال 8.اخرى، حدد--- ---
22-هل تعتقد ان دخلك الشهري كاف لسد الحاجات الاساسية؟	1.نعم بشكل كامل	2.نعم بشكل جزئي	3.لا		
23-اقتصاديا، كيف تصنف عائلتك؟	1.غنية	2.متوسطة	3.فقيرة		
24-هل لديك تأمين صحي؟	1.نعم، حكومي	2.نعم، خاص	3.كلاهما	4.لا يوجد تأمين	
25-اذا كانت الإجابة نعم، هل تستفيد من التأمين في علاج مشاكل الانجاب؟	1. نعم 2. لا	**26-اذا كانت الإجابة نعم، ماذا يغطي التأمين؟**	1.الأدوية 2.التحاليل المخبرية 3.التحويلات	4.خدمات التلقيح الصناعي 5.عمليات الجراحية 6...اخرى، حدد------ ---	
27-هل تعاني من أي امراض مزمنة؟	1. نعم 2. لا	**28-اذا نعم، اذكر المشاكل الصحية؟**		**29-متى بدأت المشاكل الصحية؟**	
30-هل حصلت لك أي مشاكل صحية نتيجة استخدام علاجات الاخصاب؟	1. نعم **2.** لا	**31-اذا نعم، ما هي؟**			
32-عمر الزوجة عند الزواج ---------- عمر الزوج ----------		**33-مدة الزواج بالسنوات**			
34-هل يوجد تعدد زوجات بالمنزل؟	1.نعم ----------	2.لا	3.كم عدد الزوجات؟--		
35-اذا كان هناك تعدد زوجات هل يعزى ذلك لعدم القدرة على الانجاب؟	1.نعم	2.لا اعلم	3.لا		
36-هل توجد قرابة بين الزوجين؟	1.نعم، قرابة درجة اولى	2.نعم، قرابة درجة ثانية	3.لا يوجد		
37-هل هذا زواجك الاول (الزوجة)	1. نعم 2. لا	**38-هل هذا زواجك الاول (الزوج)**	1. نعم 2. لا		
39-اذا لم يكن هذا الزواج الاول لأيهما، هل الزواج مرة ثانية يعزى لعدم القدرة على الانجاب؟	1. نعم 2. لا				
40- هل يوجد اطفال من زواج اخر	**للزوج**	1. نعم، كم العدد------ -----	**للزوجة**	1. نعم، كم العدد---------- -----	

	2. لا	2. لا
41-هل جربت أي من المعالجين التقليدين – الشعبيين- لحل مشكلة عدم الانجاب؟ 1.نعم 2.لا	**42-هل تعتقد ان المعالجين التقليدين –الشعبيين- من الممكن ان يعالجوا مشاكل الانجاب؟** 1.نعم 2.لا	
43-هل تصف نفسك بانك شخص متدين؟ 1.نعم 2.لا	**44-كيف اثر ذلك على انطباعك عن عدم الإنجاب؟** • **كونك متدين** 1. جعله اسهل 2. لم يؤثر 3. جعله اسوأ	• **كونك غير متدين** 1. جعله اسهل 2. لم يؤثر 3. جعله اسوأ
45-هل يحثك الاصدقاء والاقارب على الانجاب؟ 1.نعم وبشدة 2.نعم نوعا ما 3. لا	**46-من يحثك بشكل مستمر؟ (حدد كل ما ينطبق على حالتك)** 1.اهلك 2.اهل الشريك 3.الاصدقاء 4.اشخاص اخرين	
47-هل لديك اهداف محددة في حياتك؟ نعم لا	**48-اذا نعم، اذكرها**	
49-هل حصل حمل من قبل (الزوجة)؟ 1. نعم **2.** لا	**50-اذا نعم، هل بواسطة طرق علاج الخصوبة؟** 1. نعم 2. لا	
51- هل حصل اجهاض من قبل؟ 1. نعم، العدد---------- 2. لا	**52- هل حصل حمل خارج الرحم من قبل؟** 1. نعم، العدد---------- ---- 2. لا	**53- هل عانيت سابقاً من أورام تتعلق بالحمل؟** 1. نعم 2. لا
54-هل لك طفل حي نتيجة حمل؟ نعم، العدد --------- لا	**55-اول مرة قيل لك انك تعاني من مشاكل في الانجاب كان قبل كم سنة؟----------**	
56-هل قيل لك سبب عدم الانجاب من قبل؟ 1. نعم **2.** لا	**57-اذا نعم، ما هي الاسباب؟**	
58- ما هو نوع مشكلة الخصوبة التي تعانون منها	1.ابتدائية (لم يحصل حمل مطلقا) 2. ثانوية (حصل حمل مسبق تبعه عدم القدرة على الانجاب)	
59-في حالتكم من المسؤول عن عدم الانجاب؟	1.الزوجة 2.الزوج 3.كلاكما 4.غيرمفسر	
60-كم المدة بين الزواج وبداية البحث عن علاج عدم الانجاب بالسنوات	**61-كم المدة بالسنوات منذ بداية معالجة عدم الانجاب؟----------** **تلقيح صناعي؟ ----------**	
62-كم طبيب زرت لعلاج عدم الانجاب؟	**63-كم مركز اخصاب زرت بالإضافة لهذا المركز؟**	
64- من قام بتحويلك لمركز الاخصاب؟ • طبيب/ اخصائي نساء وولادة • اقتراح من قريب/صديق • بنفسي	**65- اذا كنت قد جربت مركز اخصاب اخر، هل تم تزويدك بوثيقة طبية او تقرير يوضح تشخيص حالتك والخطة العلاجية المتبعة؟** 1. نعم	

	2. لا
66- هل كان هناك اي تواصل ما بين المركزين بخصوص وضعك الصحي؟ 1.نعم 2.لا	**67- هل تشعر بأنك تشتتت بالاراء المختلفة للاطباء بخصوص علاجات عدم القدرة على الانجاب؟** 1.نعم 2. لا
68- هل بدأت اي دورة اخصاب؟ 1. نعم **2.** لا	**اذا كانت الاجابة بنعم، لكم دورة اخصاب خضعت؟ -69** **70- هل وصلت لمرحلة استرداد البويضة ونقل الجنين؟** 1.نعم 2.لا
71- هل اجريت عملية تلقيح داخل الرحم ؟ **1.** نعم، العدد---------- 2.لا	
72- أي من العلاجات طلب منك اتباعها لعلاج عدم الانجاب	1.علاج هرموني 2.علاج دوائي 3.حمية 4.تغير اسلوب الحياة 5.تنشيط التبويض 6.غير ذلك----------
73-هل تشعر بأنه قد تم اجراء اي عمليات او اجراءات غير ضرورية لك؟	1.نعم 2.لا
74-الخدمات المقدمة لك في هذا المركز في هذه الزيارة؟	1.علاج هرموني 2.علاج جراحي 3.استشارة تغذية 4.خدمات نفسية اجتماعية 5.استشارة لتغيير نمط الحياة 6.دوائية 7.تنشيط التبويض 8. اخرى، حدد---------
75-الخدمات المقدمة في هذه الزيارة او خلال فترة العلاج كلها	1.علاج دوائي 2.تحاليل طبية 3.علاج عائلي 4.استشارة تغذوية 5.اخرى مع التحديد ----------
76-بالمجمل كم المبلغ المدفوع لكل دورة تلقيح صناعي بالشيكل	في هذا المركز ---------- في المراكز الاخرى---------- -----
77- هل يطلب المركز ان تقوم بكافة التحاليل الطبية وتتلقى العلاجات الهرمونية من المركز فقط؟	1. نعم 2. لا
78-هل تلقيت أي مساعدة مالية لقاء الخدمات الانجابية 1. نعم 2. لا	**79-اذا نعم، ممن؟** 1.العائلة 2.الاصدقاء 3.وزارة الشؤون الاجتماعية 4.وزارة الصحة 5.مؤسسات خيرية 6.احزاب سياسية 7. اخرى، حدد----
80-مقدار العبء المترتب على مصروفات خدمات التلقيح الصناعي	1.عبء كبير جدا 2.عبء الى حد ما 3.لا يوجد عبء
81-هل واجهت صعوبة في تأمين المال اللازم للإخصاب؟	1.نعم بشكل كبير 2.نعم الى حد ما 3.لا
82-كيف تم تغطية تكاليف خدمات التلقيح الصناعي؟	1.استقراض من العائلة 2.استقراض من الاصدقاء 3. تحويل من وزارة الصحة 4.مؤسسات دينية 5.مؤسسات حزبية 6.مؤسسات دولية 7.دعم من جهات خاصة كأشخاص اغنياء 8. أخرى، حدد---- -----

83-هل أجلت او ألغيت دورة تلقيح صناعي بسبب نقص الاموال؟ 1. نعم 2. لا	**84- هل الغيت او اجلت اي عملية تلقيح لان اقاربك اعتقدوا انك صغير او كبير بالسن (بسبب عامل السن)؟** 1. نعم 2. لا	**85-هل تعرف أشخاصا الغوا دورة التلقيح بسبب نقص الاموال؟** 1. نعم **2.** لا

86-ما مدى رضاك عن الجوانب الاتية المتعلقة بخصوص الخدمات التي تتلقاها

0-غير راضي 1- غير محدد 2-راضي

1. طريقة تعامل الطاقم في المركز معك	
2. خصوصية وسرية الخدمة	
3. المعلومات المقدمة لك	
4. القدرة على الوصول لطبيبك بالوقت اللازم	
5. درجة التعاطف التي شعرت بها جراء الخدمة المقدمة لك	
6. القدرة على تحمل تكاليف الخدمة	
7. وقت الانتظار	
8. استمرارية الرعاية مع نفس مقدم الخدمة	
9. استمرارية الرعاية خلال مقدمي الخدمات	
10. الشفافية في تقديم الخدمة	
11. مقدار مشاركتك في الخدمة المقدمة	
12. الدعم النفسي الاجتماعي المقدم في المركز	
13. الراحة في المكان	
14. المهارات التقنية للفريق الطبي	
15. التغذية الراجعة بخصوص الخدمة	
16. مقدار الامان	
17. النظرة العامة بخصوص جودة الخدمة	
18. نتائج العلاج	

87-التحديات التي تواجهها نتيجة عدم القدرة الانجابية وعلاجها

1. استنزاف المصادر المالية المنزلية	2.تدهور الاوضاع النفسية	3. حصول مضاعفات صحية
4.شعور الشك بالذات	5.انقطاع في العلاقات بين الازواج	6.فقد الاحساس بالأمان على المدى البعيد
7.الشكوى من الاعراض الجانبية للأدوية	8.الخوف من الطلاق	9.القلق من الوحدة
10.القلق بشأن الميراث	11.الاعتزال بسبب الوصمة	12.الصراع مع اهل الزوج/ة

13.أخرى، اذكرها				
88-من يقدم دعم لك بخصوص عدم القدرة على الانجاب		1. الشريك	2.اهل الزوج/الزوجة	3.الاهل
		4.الاصدقاء	5.مزود الخدمة	6.عامل الصحة النفسية
		7.الطاقم في عيادات الوكالة او عيادات الحكومة	8.الطاقم في مركز الاخصاب	9.اشخاص اخرين
89-هل يقوم الاشخاص من حولك بمعاملتك بتمييز بس وضعك؟ 1.نعم 2. لا	**من يقوم بذلك؟**	1.الشريك	2.الاهل	3.اهل الشريك
		4.الجيران	5.الاصدقاء	6.الاخوات
		7.الاخوة	8.اخوات الشريك	9.اخوة الشريك 10. آخرون
90-جوانب التمييز		1.اظهار الحزن والتعاطف	2. التدخل المستمر بمشكلة الانجاب	
		3. استخدام كلمات مهينة	4. التدخل بالحياة الزوجية	
		5.التدخل باستخدام ممتلكاتنا ومصادر دخلنا	5.اخرى----------	
91-خلال الاربع اسابيع السابقة هل شاركت في أي من الاتي؟		1. الخروج مع الاصدقاء	2.زيارة الاقارب والاصدقاء في منازلهم	
		2. المشاركة في مناسبات اجتماعية كالأفراح	4.ارسال بريد الكتروني واستخدام وسائل التواصل الاجتماعية	
		5.زيارة النوادي والمؤسسات	6.زيارة اماكن مقدسة	

92-استبيان الوضع الصحي العام ذو 12 بند (GHQ 12)

بالرجوع الى الاسبوعين الماضيين، اختر الاجابة الاقرب لما تشعر به.

العناصر	**نعم**	**لا**
1. كنتِ قادرة على التركيز في كل ما تعمليه؟	0	1
2. اضطرب نومك بسبب القلق؟	1	0
3. شعرتِ بأنك قمت بدور فعال في مهامك الحياتية؟	0	1
4. شعرتِ أنك قادرة على اتخاذ القرارات اتجاه مهامك الحياتية؟	0	1
5. شعرت دوماً انك متوترة؟	1	0
6. شعرت انك غير قادرة على تجاوز المصاعب؟	0	1
7. كنت قادرة عل الاستمتاع بنشاطاتك اليومية المعتادة؟	0	1
8. كانت لديكِ القدرة على مواجهة مشاكلك؟	0	1
9. راودكِ الشعور انك غير سعيدة و مكتئبة؟	1	0

10. كنتِ تفقدي الثقة في نفسك؟	1	0
11. فكرتِ بانك شخص عديم الفائدة؟	1	0
12. شعرتي بسعادة ناتجة عن مواقف تستدعي ذلك؟	0	1
المجموع		

93. استبيان مختصر لجودة الحياة النوعية من منظمة الصحة العالمية

الأسئلة التالية حول كيفية شعورك تجاه جودة حياتك، وصحتك، أو غيرها من مجالات حياتك. سأقرأ لك كل سؤال، مع خيارات الاجابة. من فضلك اختر الجواب الذي يبدو الأنسب. إذا كنت غير متأكد من إجابة معينة، في كثير من الأحيان يكون أول ما تبادر لذهنك هو أفضل خيار.

		للغاية سيئة	**سيئة**	**لا بأس**	**جيدة**	**جيدة جدا**
1	حياتك؟ جودة كيف تقيم	1	2	3	4	5
		غير راض مطلقا	**غير راض**	**لا راض ولا غير راض**	**راض**	**راض تماما**
2	راض عن أنت كيف صحتك؟	1	2	3	4	5
	لأشياء معينة خلال الأربع أسابيع الماضية تعرضك مدى عن تستفسر التالية الأسئلة					
		يوجد لا	**قليلا**	**بدرجة متوسطة**	**كثير جدا**	**بدرجة بالغة**
3	الى أي مدى تشعر بأن الألم يمنعك من القيام بالأعمال التي تريدها؟	5	4	3	2	1
4	كم تحتاج من العلاج الطبي لتتمكن من القيام بأعمالك اليومية؟	5	4	3	2	1
5	الى أي مدى تستمع بالحياة	1	2	3	4	5
6	الى أي مدى تشعر بأن حياتك ذات معنى؟	1	2	3	4	5
		أبدا	**قليلا**	**لحد متوسط**	**كثيرا**	**لأقصى حد**
7	كم أنت قادر على التركيز؟	1	2	3	4	5
8	كم تشعر بالأمان في حياتك اليومية	1	2	3	4	5
9	الى أي حد تعتبر البيئة المحيطة بك صحية؟	1	2	3	4	5
	الأسئلة التالية تستفسر عن مدى قدرتك على إتمام أمور معينة بالكامل أو ما إذا كنت قادر على القيام ببعضها في					

	الأسابيع الأربعة الماضية					
		لا يوجد	قليلا	بدرجة متوسطة	كثيرا جدا	بدرجة بالغة
10	هل لديك طاقة كافية لمزاولة الحياة اليومية؟	1	2	3	4	5
11	هل أنت قادر على قبول مظهرك الخارجي	1	2	3	4	5
12	هل لديك من المال ما يكفي لتلبية احتياجاتك	1	2	3	4	5
13	كم تتوفر لك المعلومات التي تحتاجها في حياتك اليومية؟	1	2	3	4	5
14	الى أي مدى لديك الفرصة للأنشطة الترفيهية	1	2	3	4	5
		للغاية سيئة	**سيئة**	**لا بأس**	**جيدة**	**جيدة جدا**
15	كم أنت قادر على التجول بسهولة؟	1	2	3	4	5
		غير راض مطلقا	**غير راض**	**لا راض ولا غير راض**	**راض**	**راض تماما**
16	كم أنت راض عن نومك؟	1	2	3	4	5
17	الى أي مدى أنت راض عن قدرتك على القيام بنشاطاتك اليومية؟	1	2	3	4	5
18	كم أنت راض عن قدراتك على العمل؟	1	2	3	4	5
19	كم أنت راض عن نفسك؟	1	2	3	4	5
20	كم أنت راض عن علاقاتك الشخصية؟	1	2+	3	4	5
21	كم أنت راض عن حياتك الجنسية؟	1	2	3	4	5
22	كم أنت راض عن الدعم أو المساعدة من الأصدقاء؟	1	2	3	4	5
23	كم أنت راض عن أحوالك السكنية؟	1	2	3	4	5
24	كم أنت راض عن	1	2	3	4	5

	الخدمات الصحية المتوفرة لك؟					
25	كم أنت راض عن وسائل مواصلاتك؟	1	2	3	4	5
	الأسئلة التالية تشير كم من المرات شعرت أو تعرضت فيها لأشياء معينة خلال الأربعة أسابيع الماضية					
		أبدا	**نادرا**	**غالبا**	**غالبا جدا**	**دائما**
26	كم من المرات كانت عندك مشاعر سلبية مثل الحزن أو اليأس أو القلق أو الاكتئاب؟	5	4	3	2	1

Annex 6: Questionnaire in English

Perceptions and Experiences of Sub-Fertile Couples Served at the In Vitro Fertilization Centers in the Gaza Strip

Client Questionnaire

Consent Form-Explanation letter

Dear participant,

- I am _____ and now collecting data for a research study about the experiences of sub-fertile couples in Gaza. You have been randomly selected to participate in this study and your participation has no direct or indirect negative implications on you or your family.
- Participation in this study requires filling this questionnaire
- This questionnaire is part of a study conducted by Dr Shahd Abu Hamad as a requirement for the Mater Degree in Public Health at Al-Quds University.
- The aim of this study is to investigate the challenges facing sub-fertile couples in order to set programs that help them.
- The study is self- funded; and findings will be used only for the research purposes. This study is completely independent, and it has no any connections with governments, authorities and official bodies.
- This questionnaire gives you the opportunity to tell us how you feel about your life, especially in relation to infertility and the services you received at IVF centers. Findings will be reported for the entire study population as a group (aggregated) and we will not refer to your name or particular case in part of the study.
- The findings and conclusions of this study may help in improving the support provided to sub-fertile couples in Gaza.

- Confidentiality will be provided and maintained. You don't need to tell your name.
- Respect for truth, and respect for human beings will be maintained at all the stages during conducting this study.
- Filling this questionnaire takes about (20) minutes of your valuable time.
- **Even though I welcome and appreciate your participation, participation is optional.**
- Please answer all questions as much as possible.
- If you need me to read the question again or you have any ambiguous meaning please don't hesitate to ask for a repetition or clarification
- If you are not sure about which answer to select, you may select the one better describes your feeling, mostly it is the first one comes to your mind. Keep in mind that there is no wrong and right here, the correct answer is the one you feel most reflecting your perspective.
- You have the right to stop or end filling the questionnaire at any point of time and you also have the right to skip any question.
- You may feel that some questions are repeated, please try to answer them all

Yours

Shahd Abu Hamad

Can we start the interview?

<table>
<tr><td colspan="3">1-Day ----------</td><td colspan="4">2-Date ----------</td></tr>
<tr><td colspan="3">3-Name of IVF center ----------</td><td colspan="4">4-Location of the IVF center ----------</td></tr>
<tr><td>5-Respondent</td><td colspan="2">1-Woman 2-Man</td><td colspan="4">6-Reason for your visit to IVF center (this visit)
1-To receive IVF services (continue filling the questionnaire)
2-To do sex selection (skip this participant)
3-To get routine care not related to IVF (skip this participant)</td></tr>
<tr><td colspan="3">7-Age of the woman ----------</td><td colspan="4">8-Age of husband ----------</td></tr>
<tr><td>9-Residency</td><td>North</td><td>Gaza</td><td>Deir Al Balah</td><td>Khanyounis</td><td>Rafah</td></tr>
<tr><td>10-Classification of</td><td colspan="2">Camp</td><td>Non-Camp</td><td colspan="2">Specify ----------</td></tr>
</table>

neighborhood					
11-Refugee status	Refugee	Non-refugee	**12-Do you live in**	Extended Fam.	Nuclear Fam
13-Does the couple live together in the same house			Yes		No
14-Husband level of education completed	< Secondary	Secondary	University/college	Postgraduate	
15-Woman level of education completed	< Secondary	Secondary	University/college	Postgraduate	
16-Husband working status in the past month	Working	Not-working	**17-Woman working status in the past month**	Working	
18-Total monthly Household income in ILS	----------			Not working	
19-What is the primary source of family income	Work of HHs member/s	Family money	Assets/rents	Social Assistance	
20-Receiving social assistance	Yes, No	**21-If yes, indicate type**	Cash Food Health insurance Cash for work	Clothes Household renovations	Assistance to cover IVF costs
22-Do you think your HH income meets basic needs			Yes completely	Yes partially	No
23-Economically, how you regard your family?		Rich	Middle	Poor	
24-Do you have a health insurance?	Yes, gov	Yes, private	Both	None	
25-If yes, Is it helpful for the infertility management?	Yes, No	**26-If yes, what it covers**	Medications Lab costs IVF related services	Surgeries Referrals Others specify	
27-Do you have any chronic health	Yes		**28-If yes indicate**	**29-When it started**	

problem?	No	----------	----------
30-Did you develop any health problem after starting to receive infertility management	Yes No	**31-If yes** **Indicate**	

32-Age at marriage woman ---------- man ----------	**33-Duration of marriage in years---------- ---**
34-Presence of Polygyny in the HHs	Yes, how many wives ---------- No,
35-If there is more than one wife, is this attributed to infertility	Yes Don't know No

36-Presence of Consanguinity	Yes, first degree	Yes, second degree	No

37-Is this your first marriage (wife)?	Yes No	**38-Is this your first marriage (husband)?**	Yes No
39-If this is not the first marriage (for any), is the re-marriage related to infertility			Yes No

40-Presence of children from other marriage?	**For the man**	**For the woman**
	Yes how many No	Yes how many No

41-Have you ever approached a traditional healer to help solving your problem Yes No	**42-Do you believe traditional healers can help to treat infertility** Yes No
43-Do you describe yourself as a religious person? Yes No	**44- How this affects perspectives about infertility**

Being a religious	**Not being a religious**
It makes it easier It makes it worse No effect	It makes it easier It makes it worse No effect

45-Do relatives and friends push you to conceive?	**46-Who does that quite often? Tick all that apply**

Yes to high text Yes to some extent No	Your parents Your in laws Friends others
47-Do you have a certain personal goal/s in your life? **Yes no**	**48-If yes, state it----------**

49-Ever been pregnant before (wife)	Yes No	**50-If yes, was it through infertility management**	Yes No

51-Ever had abortion before? Yes, number---------- No	**52-Ever had ectopic pregnancy?** Yes, number---------- No	**53-Ever had gestational trophoblastic diseases?** Yes No

54-Ever having a living baby Yes, number---------- No	**55-When first time you have been told that there is an issue in fertility ---------- years**

56-Have you been told about the reason of infertility	Yes No
57-If yes, what is the reasons	**58-What type of infertility?** Primary Secondary

59-Who is responsible about infertility in your situation	You husband both unexplained
60-Interval between marriage and start seeking infertility management in years ----------	**61-For how many years you have been seeking infertility management** ---------- **IVF** ----------

62-How many doctors you have seen for infertility? ----------	**63-How many IVF centers you tried including this center?** ----------
64-Who referred you to IVF center • A physician/gynecologist • Suggestion by relatives/friend • Self	**65-If you have tried another IVF center; Have you been provided with a medical document stating the diagnosis and the treatment plan followed?** Yes No
66-Were any communications between the two centers about your health status? Yes No	**67-Have you felt that you were distracted by medical professionals' different opinions in relation to your fertility management** Yes No

68-Have you ever Started IVF Cycle Yes No	**69- if Yes, how many IVF cycles you tried? ----------** **70-Have reached retrieved and reached embryo transfer.** Yes No
71-Have you ever done Intrauterine Insemination IUI? Yes, how many ---------- No	
72-Which treatments have you been advised to follow after seeking health care for infertility	Hormonal therapy Medical Treatment Diet Change in lifestyle Ovulation induction Others
73-Have you felt that unnecessary procedures have been done to you .	Yes No
74-Services you received at this center -this visit	Hormonal therapy Counseling about lifestyle Surgical procedures Psychosocial services Nutritional counseling Pharmaceuticals Ovulation induction
75-Services ever received in this or in any visit	Pharmaceutical therapy Lab tests Family therapy Counseling about diet Others specify
76--How much you paid in total by cycle in ILS	At this center --------- At other centers ---------- ----
77-Does the center require that medical tests be performed, or hormonal treatments be received at the center only? Yes No	
78-Did you receive any financial support to seek the IVF services Yes No	**79-If yes, who provided support** Family Friends MOSD MOH Charity organization Political parties
80-How much costs for IVF services were burden for you	To high extent To some extent Not at all
81-Have you faced difficulty in securing	**82-How the costs of IVF services were covered**

the monetary resources for IVF services? Yes highly To some extent No	Loans from family Loan from friends Loan from the bank Selling jewelry Referral from MOH Religious organization Political parties International organizations Support from private sources Selling HH assets /like rich people others specify ----------

83-Have you postponed or deterred any IVF cycle because of lack of money	Yes No
84-Have you ever postponed or deterred any IVF procedure because your relatives thought your too young, or old " because of age reasons ".	Yes No
85-Do you know people from who also deterred IVF because of not having money	Yes No

86-How satisfied you are with the following aspect of the services your received

0-Not satisfied 1-Uncertain 2-Satisfied

1. The way the staff at the center interacting with you	
2. The privacy and confidentiality of services	
3. The information provided to you	
4. Ability to timely reach the doctor	
5. The degree of empathy you felt from the service provider with you	
6. Affordability of the services	
7. Waiting time	
8. Continuity of care by the same provider	
9. Continuity of care across provider	
10. Transparency in services provision	
11. Degree of your involvement in the care provided	
12. Psychosocial support you receive from the center	
13. Convenience of the place	
14. Technical skills of the team	
15. Feedback about services	

16. Safety	
17. General impressions about the quality of services	
18. Outcomes of treatment	
87-Main challenges you face as a result of infertility and its management	

Exhaustion of HHs financial resources	Deterioration of psychological status	Development of medical complication
Feeling self-doubts	Break in the relationships between couples	Loss of security feeling at the long run
Complaining from the side effects of medications	Fear of divorce	Worry about loneliness
Worry about inheritance	Fear of the side effects of medications	Isolation due to stigma
Conflict with in-laws	Others specify	

88-Who is providing support to you with regard to infertility	Husband	In-laws	Parents	Service provider	Psychosocial worker
	Friends	Staff at the UNRWA or MOH centres		Staff at the IVF services	Others
89-Do people in the community discriminate against you because of infertility? **Yes No**	Who does that	Husband In-laws Parents		Neighbors Relatives Sisters Brothers	Sisters in law Brothers in law Others ----------

90-Aspects of discriminations	Showing sympathy and sorrow	Always intervening in the issue of conception
	Using bad insulting words	Interfering in our marital life
	Interfering in using our assets and resources	Others ----------

91-During the past four weeks, has you participated in	Going out with friend to socialize	Visits friends and relatives at their homes
	Participate in social events	Send emails, uses social media

any of the following	(wedding)	
	Visit clubs and organizations	Visiting religious places

92-GHQ 12, Thinking about the past two weeks, tick the closest to how you felt

Item	**Yes**	**No**
1-Been able to concentrate on what you're doing?	0	1
2-Lost much sleep over worry?	1	0
3-Felt you were playing a useful part in things?	0	1
4-Felt capable of making decisions about things?	0	1
5-Felt constantly under strain?	1	0
6-Felt you couldn't overcome your difficulties?	1	0
7-Been able to enjoy your normal day-to-day activities?	0	1
8-Been able to face up to your problems?	0	1
9-Been feeling unhappy and depressed?	1	0
10-Been losing confidence in yourself?	1	0
11-Been thinking of yourself as a worthless person?	1	0
12-Been feeling reasonably happy, all things considered	0	1

93-WHOQOL-BREF

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last four weeks.**

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you From doing what you need	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily	1	2	3	4	5
12.	Have you enough money to meet your	1	2	3	4	5
13.	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your capacity for	1	2	3	4	5
19.	How satisfied are you with yourself?	1	2	3	4	5
20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5

22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your	1	2	3	4	5
24.	How satisfied are you with your access to health	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1

Annex 7 Post Hoc tables/ LSD

Annex 7.1

Multiple Comparisons

Dependent Variable: Satisfaction and Thinking that your HH income meets basic needs

LSD

(I) Do you think your HH income meets basic needs	(J) Do you think your HH income meets basic needs	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Yes completely	Yes partially	2.90935*	1.33426	.030	.2842	5.5345
	No	3.15501*	1.24997	.012	.6957	5.6143
Yes partially	Yes completely	-2.90935*	1.33426	.030	-5.5345	-.2842
	No	.24566	.99952	.806	-1.7209	2.2122
No	Yes completely	-3.15501*	1.24997	.012	-5.6143	-.6957
	Yes partially	-.24566	.99952	.806	-2.2122	1.7209

*. The mean difference is significant at the 0.05 level.

Annex 7.2

Multiple Comparisons

Dependent Variable: wellbeing (GHQ21) and Thinking that your HH income meets basic needs

LSD

(I) Do you think your HH income meets basic needs	(J) Do you think your HH income meets basic needs	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Yes completely	Yes partially	-.59188	.35541	.097	-1.2911	.1074
	No	-1.12963*	.33295	.001	-1.7847	-.4746
Yes partially	Yes completely	.59188	.35541	.097	-.1074	1.2911
	No	-.53775*	.26624	.044	-1.0616	-.0139
No	Yes completely	1.12963*	.33295	.001	.4746	1.7847
	Yes partially	.53775*	.26624	.044	.0139	1.0616

*. The mean difference is significant at the 0.05 level.

Annex 7.3

Multiple Comparisons

Dependent Variable: wellbeing (GHQ21) and Economically, how you regard your family

LSD

(I) Economically, how you regard your family	(J) Economically, how you regard your family	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Rich	Middle	-2.22332*	.80993	.006	-3.8168	-.6298
	Poor	-2.96978*	.85138	.001	-4.6449	-1.2947
Middle	Rich	2.22332*	.80993	.006	.6298	3.8168
	Poor	-.74646*	.32114	.021	-1.3783	-.1146
Poor	Rich	2.96978*	.85138	.001	1.2947	4.6449
	Middle	.74646*	.32114	.021	.1146	1.3783

*. The mean difference is significant at the 0.05 level.

Annex 7.4

Multiple Comparisons

Dependent Variable: Overall QOL and Husband Education

LSD

(I) Husband level of education completed	(J) Husband level of education completed	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
< Secondary	Secondary	-.88693	1.25522	.480	-3.3566	1.5827
	University/college	-3.36859*	1.11882	.003	-5.5699	-1.1673
	Postgraduate	-6.17308*	2.11499	.004	-10.3343	-2.0118
Secondary	< Secondary	.88693	1.25522	.480	-1.5827	3.3566
	University/college	-2.48166*	1.02963	.017	-4.5075	-.4559
	Postgraduate	-5.28614*	2.06920	.011	-9.3573	-1.2150
University/college	< Secondary	3.36859*	1.11882	.003	1.1673	5.5699
	Secondary	2.48166*	1.02963	.017	.4559	4.5075
	Postgraduate	-2.80449	1.98941	.160	-6.7187	1.1097
Postgraduate	< Secondary	6.17308*	2.11499	.004	2.0118	10.3343
	Secondary	5.28614*	2.06920	.011	1.2150	9.3573
	University/college	2.80449	1.98941	.160	-1.1097	6.7187

*. The mean difference is significant at the 0.05 level.

دراسة حول تصورات وتجارب الأزواج الذين يعانون من صعوبة في الإنجاب والذين يتلقون خدمات التلقيح الصناعي في مراكز الإخصاب في قطاع غزة

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ملخص

خلفية البحث: تعتبر عدم مقدرة الأزواج على الإنجاب تجربة صعبة يحفها الكثير من التحديات التي تنبع من عوامل صحية، اجتماعية، مالية ونفسية. هذه الدراسة تهدف للكشف عن هذه التجارب والتحديات التي تواجه الأزواج الذين يعانون من انخفاض أو عدم القدرة على الإنجاب والذين يلجأوون لمراكز الإخصاب المخبري في قطاع غزة وتكشف عن أولويات دعمهم.

منهج الدراسة: هذه الدراسة تتبع النهج الكمي التحليلي المقطعي حيث تم جمع البيانات من 320 مشاركة يزرن مراكز الإخصاب في قطاع غزة بعد أخذ الموافقة الشفهية قام فريق من جامعي البيانات المؤهليين بجمع البيانات من خلال إجراء مقابلات وجاهية مع المشاركات من مختلف مراكز الإخصاب في قطاع غزة. أداة البحث كانت عبارة عن استبانة تم تصميمه من قبل الباحثة لتغطي الجوانب الصحية والإجتماعية والنفسية والمالية، وقد تم تقييم هذه الاستبانة من قبل الخبراء والفحص الإحصائي. وقد تم استخدام برنامج الرزمة الإحصائية للعلوم الاجتماعية لإدخال البيانات، تنظيفها وتحليلها.

النتائج: ضمت الدراسة 320 أنثى بمتوسط عمر 29.8 سنوات بينما بلغ متوسط عمر أزواجهن 34.9 سنوات. على الرغم من أن 76.6% من الأزواج كانوا يمتلكون عمل إلا أن ثلثي المشاركات كان يجني اقل من 1000 شيكل شهريا، 33.4% اقروا حصول عائلاتهن على مساعدات اجتماعية، ونصفهن أكدن أن مدخول العائلة الشهري غير كاف لتلبية احتياجاتهم الاساسية. على الرغم من ذلك، 82.2% لم يحصلوا على اي مساعدات مالية عندما لجأوا للتلقيح الصناعي.

بالمتوسط اقرت المشاركات انهن يعشن مع عدم قدرتهن على الانجاب منذ خمس سنوات ونصف، ثلاث ارباعهن اخبروا عن سبب عدم الانجاب، 63.3% منهن قلن أن سبب عدم الانجاب هو اضطراب الحيوانات المنوية، ثلثي المشاركات يعانون من عدم قدرة ثانوية على الانجاب حيث 63.4% كانوا قد انجبوا سابقا.

من بين السيدات المشاركات، 14.7% اشاروا الى انهم بدأوا يعانون من مشاكل صحية نتيجة علاجات الاخصاب، ايضا اشارت الدراسة الى ان الازواج يبدأون العلاج بمرحلة مبكرة حيث اكد 40% منهم انهم بدأوا بالبحث عن علاجات خلال اقل من سنة من الزواج.

بالمتوسط قام الازواج بزيارة 5 اطباء لعلاج مشكلة الخصوبة وزاروا على الاقل مركزي اخصاب، على الرغم من ذلك فقط ما نسبته 13.2% تم تزويدهم بوثيقة او تقرير يشرح مشكلتهم والتدخلات التي تم اجراؤها. اكثر من نصف المشاركات (56.9%) قاموا بزيارة معالجين شعبيين. النسبة الاكبر من المشاركات اكدوا انهم يعانون من ضغوط اجتماعية (89.4%) خاصة من عائلات ازواجهم لحثهم على الانجاب والذي بدوره يزيد توترهم.

مستوى الرضى عن الخدمات المقدمة كان مرتفعا (93.32%). الاهم من ذلك ان نتيجة استبانة الصحة العامة ذات 12 سؤال اظهرت ان المشاركات يعانين من مشكلة نفسية حقيقية حيث اظهرت ربع المشاركات علامات اضطراب نفسية عند استخدام ال6 نقاط كنقطة مرجعية بينما 3 ارباعهن اظهرت تلك العلامات عند استخدام ال3 كنقطة مرجعية. سجل المشاركين مستوى جودة حياة 71% والذي كان اقل من المتعارف عليه للسكان عامة؛ الجانب الاجتماعي كان الاعلى (69.13%) والجانب البيئي كان الاقل (65.63%).

التحديات الاساسية التي تواجه الازواج كانت تحديات مادية بنسبة (91.6%) ، يتبعها التمييز من قبل اهل الزوج/ة بنسبة (76.6%)، ثم التوتر والضغط النفسي بنسبة (53.1%) والاثار الجانبية للعلاجات الهرمونية بنسبة (20.6%). العائلة كانت المصدر الأساسي للدعم، حيث اشارت 82% انهن قد دعموا من ازواجهم، 55% من اهل الزوج و 54.4% من قبل اهلهم. وقد كان جليا ان الخدمات النفسية نادرا ما تقدم في مراكز الاخصاب حيث التركيز الاساسي على العلاجات الطبية والهرمونية.

الملخص: الازواج الذين يزورون مراكز الاخصاب لعلاج مشكلة العقم يعانون من تحديات عديدة وهم بحاجة لدعم نفسي ومادي افضل مع المحافظة على حق المستفيدين في الحصول على قدر كاف من المعلومات والاستشارات ويجب الحصول على موافقتهم بخصوص الخيارات المطروحة لعلاج مشكلة عدم الانجاب لديهم. مع اهمية وضع قوانين منظمة لعمل هذه المراكز والذي يعتبر اولوية، بجانب اهمية استهداف التمييز الاجتماعي والوصمة المتعلقة بعدم قدرة على الإنجاب.