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بِسْمِ اللهِ الرَّحْمَنِ الرَّحِيمِ

RELATIONSHIP BETWEEN INFERTILITY RELATED STRESS AND TYPE OF COPING AMONG INFERTILE MALES AND FEMALES-GAZA STRIP

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master in Community Mental Health from the college of education in the Islamic university – Gaza

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Tables and Graphs

I

بسم الله الرحمن الرحيم

"لله ملك السموات و الأرض، يخلق ما يشاء، يهب لمن يشاء إناثا
ويهب لمن يشاء الذكور أو يزوجهم ذكراناً وإناثا ويجعل من
يشاء عقيماً إنه عليم قديرٌ" صدق الله العظيم

سورة الشورى (آية 49– 50)

DEDICATION

To the spirit of Palestinian martyrs who

sacrifice for community's life

To my parents, brothers, sisters, wife and

daughter, those people who have never

stopped supporting me regardless of their

ability to help

I dedicate this work to my family, without

their support, this work would not see the

light

ACKNOWLEDGMENTS

ABSTRACT

Title*: Relationship between infertility related stress and type of coping among infertile males and females- Gaza Strip*

Background: *Infertility is a critical situation that the couples exposed to, perceive and exert a huge stress upon them and as a result, they reacted differently by using different kinds of coping strategies.*

Objective of the study: *The purpose of this study was to investigate the relationship between infertility related stress and type of coping among infertile couples-Gaza Strip in five infertility clinics, and to determine the variables that may be related to study variables including (age, sex, educational level, occupation, duration of infertility, ...ect)*

Methodology: *The researcher used in this study descriptive analytical approach, because this approach suits the nature of the study .*

Sample of the study: *The study sample consisted of 129 infertile couples from both sexes who were diagnosed as infertile and they live in Gaza Strip governorates, and who were visiting infertility clinic during the data collection and met the inclusion criteria for the study.*

Instruments of the Study: *Fertility Problem inventory(FPI) was used to measure the infertility related stress with five domains; and Lazarus Way of Coping strategy with seven types; and biographical data questionnaire.*

Statistical Analysis: *In this study, we used Descriptive Statistics, Correlation*

Coefficient "Pearson", t-Test and One-Way ANNOVA.

Results: *in this study the results showed that there is a significant relationship between infertility related stress and coping strategy, there is a significant increase in the level of infertility-related stress, and most of the sample (93.0 %) experience very high stress, furthermore, all male participants suffer from very high stress, while, 91.3% of female participants suffers from very high stress.*

The findings of the current study found that there is statistical significances related to duration of infertility, level of education, type of infertility, the type of family, and number of treating doctors

The current study found no significant differences in sex, work, type of infertility related to fertility related stress, and psychological counseling.

Conclusions: *there is a relationship between fertility related stress and coping strategy*

Recommendations: *psychological aspect of infertility should be given more attention, and be considered in all stages of treatment and medical interventions to decrease the psychological suffering of the infertile couples and to prevent developing of the psychological disorder.*

ملخص الدراسة

هدفت هذه الدراسة الكشف عن العلاقة بين ضغط العقم واستراتيجيات المواجهة المستخدمة عند كلا الجنسين في قطاع غزة في خمسة مراكز لعلاج العقم، في ضوء بعض المتغيرات الديموغرافية

1. العمر   4. العمل

2. الجنس   5. عدد سنوات العقم

3. مستوى التعليم

استخدم الباحث في دراسته المنهج الوصفي التحليلي، وكانت عينة الدراسة 129 شخص من كلا الجنسين والذين شخصوا على انهم مصابين بالعقم في هذه المراكز الخمس.

استخدم الباحث في هذه الدراسة استبانة قياس ضغط العقم من تأليف نيوتن،(1999) واستخدم الباحث استبانة لازروس لقياس انماط المواجهة اضافة الى استبانة المعلومات الشخصية.

أظهرت النتائج وجود علاقة دالة إحصائيا بين ضغط العقم واستراتيجيات المواجهة لدا المصابين بالعقم، حيث أن ما نسبته (93%) من أفراد العينة يعانون من ضغط عقم مرتفع جدا، وأظهرت النتائج ان كل الذكور يعانون من ضغط عقم مرتفع جدا، بينما (91.3 %) من الإناث كان لديهم ضغط عقم مرتفع جدا، ووجد فروق ذات دلالة إحصائية في المتغيرات التالية (مدة العقم، عدد سنوات الدراسة، نوع العقم، نوع العائلة، وعدد الأطباء المعالجين)، في حين لم توجد فروق بين الضغط العقم ووسائل التكيف تعزى لأحد العوامل التالية (الجنس، العمل، نوع العقم، وجلسات الاستشارة النفسية).

Chapter one

- Introduction

- Problem statement

- General objectives

- Specific objectives

- Hypothesis

- Study limitation

- Study term

- Presentation of the thesis

- Conclusion

Introduction

Children is the beauty of life where each one of us can see himself in different way through his or her son, and because of them parents starts to work, earn money, keep promises, build a home, construct great city finally willingly they may leave all of that to give them the chance.

Reproduction is the only means of sustaining human life, Pregnancy and childbirth typically are associated with positive emotions (Geller, 2004).

Furthermore, Human beings want to have children not only for the joy of it but as a deep desire to continue their generation and leave a valuable memory of themselves (Ehsanpour, & et al, 2009).

The majority of people entering into marriage expect to some-day have biological children. The eventual conception of children is not viewed by most couples as a question of if, but when. (Peterson, 2001)

The desire to reproduce and having a child has many explanations in social, emotional and biological spheres. For most of the marriages, fertility concerns and sexuality may be the main aspects. The birth of a child is seen as an opportunity to generate, maintain and fulfill the basic needs as well. (ÜNER, 2004).

Then when the desires and needs did not fulfilled it eventually cause stress and even a mental disorder.

"Desire cannot be met or satisfied in the same way that can be said for need. Desire remains with us, pushing us to search for the next best thing. In this sense desire is non-referential because we are unable to locate its true end or its fulfillment."(Ward & Pete, 2002)

When couples encounter a barrier for having a child, which is linked with fertility problems, the distressful, anxious and psychological stressful conditions may arise. After this, they may look for alternative patterns for the purpose of having children (ÜNER, 2004).

The most important aspect of infertility for women is their wish to have a baby, however, for men is their accomplishment of the role of the man, the social pressure which exerts the obligation to create a family, and the ability to hold a marriage (Cook, 1993).

On a social level, infertility in most cultures remains associated with social stigma. Couples who cannot reproduce break social norms and conventions…etc. In some cultures, infertility can result in separation or divorce (typically from the wife) so that the fertile partner has the possibility to have children with another spouse. In addition to these emotional and social factors, in many countries, there is no or limited public funding for medical treatment; thus infertility and its treatment can be a major financial burden for couples (Thorn, 2009).

It is a growing problem and across virtually all cultures and societies almost all over the World and affects an estimated 10%-15% of couples of reproductive age (Thorn & Thorn, 2010).

According to one study done in Sweden, shown that women experienced their infertility more strongly than the men. Women also showed a more intense desire to have a baby than men (Thorn & Thorn, 2010).

Male and female factors are each believed to account for 40% of cases of infertility; the remaining 20% are either unexplained - so-called idiopathic infertility - or of shared etiology (Fisher, 2009).

The assessment of male factors is limited because many men refuse to participate in studies, which may mean that cause is misattributed (Aghanwa et al., 1999).

Egyptian women of low socioeconomic status living in rural areas, who cannot conceive, are regarded as having been subjected to kabsa, or the constraint of reproductive capacity by exposure to contaminated individuals (Inhorn, 1994).

Research has shown that the stress associated with infertility is a significantly greater stress contributor than any other major life issue that a person may confront (Rosenberg & Epstein, 1999).

According to Palestinian central Bureau of Statistics (PCBS) data in 2005, the crude birth rate in Palestine dropped from 42.7 births per 1000 population in 1997 to 37.5 per 1000 population in 2005. However, there are regional discrepancies where the crude birth rate in West Bank decreased from 41.2 births per 1000 population in 1997 to 34.5 per 1000 population in 2005. In Gaza Strip, the crude birth rate dropped from 45.4 in 1997 to 41.7 per 1000 population in 2005.

MOH has reported that Crude Birth Rate in Palestine is 27.5/1000 population in 2005 (33.7 GS& 23.9 WB), previous report.

In addition, the *opposite* of fertility is infertility with inverse relationship and according to previous studies approximately 50 to 80 million people worldwide are currently experiencing infertility, (Ramezanzadeh, 2010).

According to Palestinian central Bureau of Statistics(2010) the Extrapolated Prevalence of infertility in Palestinian territories among the female at the reproductive age is 8.4 % where the primary infertility prevalence is 4.8% and the secondary infertility prevalence is 3.6%, in Gaza strip is about 8.3% where it was 5.2% for the primary type and 3.1% for the secondary type.

Infertility has mental, social, and reproductive consequences, including depression, anxiety, aggressiveness, feelings of guilt, lack of self-esteem, lack of confidence, psychosomatic complaints, obsessions, relationship difficulties, and sexual dissatisfaction (Ramezanzadeh, 2010)

Grief and depression are the most frequently cited emotional responses, reported in 77% of the articles, whereas anxiety, reported in 40% of the articles, is mentioned least often (Dunkel & Wbel,1991).

From above mentioned introduction we can conclude that the infertility problem interfere in human life and the couples reacted to such situation firstly by stress and to alleviate this stress they tend to use one or more of coping type the make them feel normal.

It is noticeable that the experience of infertility and infertility-related stress can have far-reaching effects on the individual and the couple. It has been shown that a better understanding of the nature of the relationship between infertility-related stress and aspects of Coping strategy is needed. More clarity is also needed on the magnitude of the potential effects of infertility-related stress on the Coping strategy, as well as on the nature of such effects, whether positive or negative. This information can be utilized to assist couples in coping with infertility and to protect the marital relationship from potential negative effects. The present study aims to examine couples' experiences of infertility-related stress and to present a baseline profile of specific aspects of their Coping strategy: ultimately, to gain more insight into the experiences of infertile couples

Therefore, this group is a vulnerable and in need to be investigated where few investigations are done on them by researchers, and due to that the researcher obligated to investigate them and dig deep to find out their mental health.

So far, there have not been any studies on infertility related stress and its relation with coping strategy in Gaza Strip. This issue is part of educational and career responsibilities of health personnel who should know the intervening variables related to infertility and coping type, furthermore, the differences between infertile men and women in order to provide effective useful advices and control infertility related stress for a more successful results.

Problem statement:

Infertility is a critical situation that the couples exposed to, perceive and exert a huge stress upon them and as a result they reacted differently by using different kinds of coping strategies.

In Gaza Strip, it is well-known that the emotional support take place for those with sons and emotional help is given to them from both nuclear and extended family but if the couples did not reproduce their own biological children they deprived from all those emotional support and become fragile for psychological disorder.

This study is interested in exploring the relationship between the stress among the infertile couples and the type of coping strategy used among couples in Gaza Strip and those are summarized by the follow general objectives.

General objectives

1. To evaluate the level of infertility related stress among infertile couples in Gaza strip
2. To evaluate the relationship between stress and coping strategy among infertile couples in Gaza strip

Specific objectives:

1. To what extent does the infertility produce stress among infertile males and females?
2. Is the duration of infertility has a correlation to infertile males and females level of stress?
3. Do the socio-demographic/economic characteristics have differences among the infertile males and females related to level of stress?
4. To what extent are the intra-couple mean score of coping type of infertile males and female related to husbands and wives reports of infertility related stress?
5. Does the mean number of treating doctors has a significant relationship to the infertility related stress?
6. Does the psychological counseling significantly correlated to infertility related stress?

Hypothesis:

1. There is an increase of the couple level of stress among Gazian women.
2. There is a significant relationship between the mean of duration of infertility and the level of stress.
3. There is a significant relationship between the socio-demographic characteristics and infertile couple level of stress.
4. There is significant relationship between mean score coping type and couple's stress.

5. There is a significant relationship between the mean number treating doctors and infertility related stress.
6. There is a significant relationship between the psychological counseling for infertility and infertility related stress.

Significance of the study

This study is intended to investigate, detect and gather information about the relationship between those variables and be familiar with the effect of such factor to be used by health personnel during the course of treatment and patient encountering health services

Study limitation
Place: infertility clinic

- Al-Taqua Fertility Clinic
- Al-Basma Fertility Clinic
- Qurat Al aain Fertility Clinic
- IUG fertility Clinic

Time frame:
September to December 2011

Study terms
Infertility

Either individuals or couples who are unable to conceive after a specified period of regular unprotected sexual intercourse or those seeking medical assistance in order to conceive. The specified time of trying to conceive has varied from 12 months to more than 24 months (WHO, 2009)

In addition, this definition operationally used in this study and the duration for diagnosing infertility used is 12 months or more.

Stress:

Akter Banu(2008) define Stress is a complex pattern of cognitive appraisals, physiological responses, and behavioral tendencies that occur in response to a perceived imbalance between situational demands and our resources needed to cope with them. Stressors are specific kinds of eliciting stimuli or events that place strong demands on us that tax or exceed our resources.

Infertility-related stress

The term infertility-related stress refers to the level of such stress perceived by each spouse individually. In the context of the present study, stress is viewed as a response to a stressful event or stressor, namely infertility (Newton et al., 1999).

Coping:

Refers to the cognitive and behavioral activities that a person uses in an attempt to manage a trying situation. (Lazarus and Folkman,1984)

Coping strategies:

Which are defined as "cognitive and behavioral efforts to manage specific external and/or internal demands" related to the stressor one is experiencing (Lazarus and Folkman,1984)

The researcher used in this study Lazarus Way coping scale to determine the coping type used by infertile male and females.

Presentation of the thesis

Following from the above, Chapter Two provides a theoretical conceptualization of infertility. four theoretical frameworks that can be applied to infertility are presented. Chapter Three presents a review of the literature on infertility, infertility-related stress and Coping strategy. Chapter Four covers the research methodology: the research design; the identification and demographic characteristics of participants; the measuring instruments administered; the procedures for data collection and ethical considerations; and, finally, the methods of data analysis. In Chapter five the results of the quantitative data are presented. Pearson correlation coefficients, one sample t test and (ANOVA) are used. The results and limitations of the present study are discussed, recommendations for further research are made and conclusions are drawn in Chapter six.

CHAPTER 2
THEORETICAL CONCEPTUALISATION OF INFERTILITY

Introduction

The primary aim of the present study was to investigate the nature of the relationship between the level of infertility-related stress, as experienced by male and female participants who formed part of infertile married couples, and coping strategy.

Therefore, This chapter will provide an overview of two theoretical frameworks, namely family systems theory, Self-Efficacy Theory, Coping Theory, and Stress and Appraisal Theory , that are deemed appropriate to conceptualize infertility related stress and its relationship to specific aspects of Coping strategy. It is beyond the scope of the present study to provide a comprehensive discussion of each theory. However, sufficient information will be supplied to clarify the main constructs underlying family systems theory and bio psychosocial theory. Lastly, relevant aspects of each theory will be applied to infertility.

1. Family systems theory
Overview of family systems theory

Family systems theory developed as a branch of Ludwig von Bertalanffy's general systems theory (Von Bertalanffy, 1968). In order to fully understand family systems theory, a basic grasp of general systems theory is needed. General systems theory challenged the mechanistic theories that were predominant in the mid-twentieth century, arguing instead that organisms are complex, interactive, and organised (Von Bertalanffy, 1968). A general systems perspective focuses on and investigates the manner in which underlying components of a system interact with one another in order to form a whole. A systems perspective does not merely focus on separate parts, but on how all the separate parts are connected, interdependent and interrelated. From a systems perspective, one will examine how any fluctuation in one part of the system can affect other components of the system, which, in turn, can affect the initial component. General systems theory thus suggests that a holistic view is necessary to fully understand all the dynamics involved in any situation (Von Bertalanffy, 1968). A system is defined as a set of objects with relationships between the objects and between the attributes of the objects (Hall & Fagan, in Barker, 2007). Almost any assembly of different parts will meet these criteria, therefore a more complex description was needed for a living system such as a cell or individual organism. Bertalanffy's general systems perspective provides a suitable alternative. In recent years, the general conclusion has been made that the family is "… an example of an open, ongoing, goal-seeking, self-regulating social system and that it shares the features of all such systems" (Broderick, 1993, p. 37). In addition, specific characteristics, such as a family's structuring of gender and generation, differentiate if from other social systems. Also, each individual family is moulded by its own specific and unique characteristics (e.g. size, life stage, complexity), the psychobiological characteristics of

the individual family members (e.g. gender, age, health, fertility, temperament), and the family's socio-cultural position in the larger society (Broderick, 1993). To summarize, a comprehensive definition of the family systems theoretical framework proposes that the "… individual behaviors of men and women are best understood in the context of their mutual interactions and systemic relationships" (Peterson et al., 2006).

Central premises of family systems theory

The central premises of family systems theory will be discussed in this section, specifically the organization and dynamic nature of the family system. Relevant terms related to each central premise will also be clarified.

Organization of family systems
(i) Holism

Family systems theory is built upon the premise that, in order to master daily challenges and tasks of life and to adjust to the needs of its separate members, family systems organize Themselves accordingly (Broderick, 1993). The concept of holism underlies this premise of organisation. Thus, from a family systems perspective one will focus on the family as a whole, and not merely on the separate parts or individual family members. As Aristotle and others have noted, the whole is greater than the sum of its parts and has qualities that cannot be deduced from the combined characteristics of each part . Jackson (1965, p. 5) suggests that measures are needed that "…do not simply sum up individuals into a family unit; we need to measure the characteristics of the supra-individual family unit". Family systems theory thus recognises that the family system is the result of all individual members together, and that the interaction and communication between all individual members should be studied in order to understand the system as a whole (Broderick, 1993).

(ii) Hierarchies

Another concept of family systems theory is that families organise themselves into hierarchies; in other words, families organise themselves into smaller units or subsystems (Minuchin, 1974). Subsystems are often created and organised according to gender or generation. In family systems theory, a distinction is made between three primary subsystems: marital (couple), parental and sibling. Generally, each subsystem is comprised of members who work to accomplish the relevant tasks of the specific subsystem. Families have been found to experience difficulties when the lines between subsystems become blurred and members from one subsystem enter another subsystem, for example when a child is involved in aspects of the marital subsystem (Fleming, 2003; Minuchin, 1974; Minuchin, Rossman, & Baker, 1978).

(iii) Boundaries

As family members organise themselves into hierarchies they draw boundaries between what is internal and part of (included in) the family system, and what is external to and not included in the family system (Broderick & Smith, 1979). Boundaries are created at every level of the family system, as well as between

subsystems (Broderick & Smith, 1979; Fleming, 2003). Families differ in the permeability of their boundaries, with some families being more open and others more restricted in their boundaries. Information into and out of the family is regulated by boundaries; once again, some families are more permeable and allow information to flow freely, whereas other families may strictly regulate what information may be discussed with people outside the family system. Another aspect of boundaries is that the permeability of boundaries may change with the age and need of family members, an example being adolescents and young adults who press for more freedom and permeability in the family system (Broderick, 1993; Fleming, 2003).

(iv) Interdependence

As families organise themselves into a family system, all individual members and subsystems that make up the family system are interdependent and mutually influenced by each other (Von Bertalanffy, 1975; Whitchurch & Constantine, 1993).

Dynamic nature of family systems

Another central premise of family systems theory is that families are dynamic in nature, with strategies and patterns that guide the manner in which they interact with each other (Broderick, 1993;Fleming, 2003). The dynamic nature of families provides them with the ability to adapt to the changing challenges of daily life and to assist in the developmental growth of the individual family members. This dynamic nature of families can also be described by referring to family systems as open, ongoing systems, where the term "open" can be described as an information and energy flow between the family system and its environment, while "ongoing" focuses on the fact that change may occur in relationship to time (Broderick, 1993).

(i) Equilibrium

Families have to adapt to daily tasks and events and to long-term challenges and changes. Equilibrium is a concept used to explain how families always aim for a balance between the resources available to the family and the challenges with which the family is confronted (Broderick, 1993; Fleming, 2003). The family thus strives for a sense of balance, or homeostasis (Bradshaw, 1988), and when this is not reached the family may need to adjust its strategies and rules in order to restore this balance. Steinglass (1987) refers to morphostasis, a concept that alludes to the family system's ability to maintain its organisational structure, regardless of challenges. On the other hand, morphogenesis refers to the ability of the system to change and grow over time in order to adapt to the changing needs of the family. There is a constant dynamic tension in all family systems to maintain a balance between remaining stable and Allowing change (Broderick & Smith, 1979).

(ii) Feedback loops

Feedback loop is a specific term in family systems theory that refers to the patterns or channels of interaction that assist families in moving towards morphostasis or morphogenesis (Broderick, 1993; Fleming, 2003). Positive feedback loops are

patterns of interaction that assist in movement towards growth in the system. Negative feedback loops are patterns of interaction that assist in maintaining homeostasis. It should be noted that the words positive and negative are neutral and should not be interpreted as good or bad (Fleming, 2003).

(iii) Goal orientation

From a family systems perspective, families are viewed as goal oriented, as they strive to attain specific goals (Broderick, 1993; Fleming, 2003). Through patterns of interaction, whether through negative or positive feedback loops, the attainment of goals may become more or less possible. A family system is able to reach the same goals by taking different routes, and these are
13 termed equifinality (Fleming, 2003). Thus, the same beginning may lead to different possible outcomes, while one outcome may be attained through different possible routes.

Application of family systems theory to infertility

A systems perspective can aptly be applied to the study of the family as a system, since families consist of individual members who are all interactive, interdependent and interrelated. A family is a complex system and changes in one part of this system will have an impact on other, interrelated parts, or members, of the system. Family systems theory thus creates a framework from which to attempt to understand the complexity of families as an organized system. A perspective that focuses on the larger system or context surrounding an individual is ideally suited to a focus on infertility and preferred to an individual perspective or focus, specifically because the experience of infertility is shared by both partners and experienced within this larger context of behavior. The level of congruence between the partners' experiences of infertility-related stress and specific aspects of the marital relationship – the quality of marital communication, satisfaction with the coping strategy – may influence, as well as be influenced by, the experience of infertility. On the basis of family systems theory, a partner's adjustment to infertility will most likely be impacted by the systemic nature of the marital or couple relationship. As mentioned, infertility is often experienced as a crisis and has the potential to negatively influence different aspects of the marital relationship (Burns & Covington, 2006). The couple will attempt to adapt to the challenge of infertility, either through morphostasis or morphogenesis. Infertility may disturb the equilibrium of the marital relationship and result in stress and conflict. Each partner's experience of the processes of infertility in a marital relationship will thus be examined in the present study from a family systems perspective. Numerous previous studies suggest and support the use of a family systems approach in infertility research (Andrews et al., 1991; Peterson, Newton, & Rosen, 2003; Ulbrich, Coyle, & Llabre, 1990). A recent study that examined how couples cope with infertility and what the implications are of different coping patterns and skills was guided by family systems theory (Peterson et al., 2006). Furthermore, Ulbrich et al. (1990) regard the couple as an interactive andinterlinked unit that can be viewed from a systemic perspective of treatment. Although some studies, such as these mentioned

above, have opted for a systemic framework to be applied to coping and infertility (Levin et al., 1997),researchers have called for additional studies using this framework (Greil, 1997).

According to family systems theory, stress-related outcomes of each partner will likely be impacted by each other's coping processes. For example, one partner may cope using escape/avoidance coping techniques in an effort to minimize emotional pain and reduce infertility stress. This coping style may be beneficial to the individual, but may prove costly to the couple relationship as his or her partner may feel a sense of withdrawal from the relationship or denial of the problems they face together (Beaurepaire, Jones, Thiering, Sanders, & Tennant, 1994 in Peterson, 2002). While the partner using escape/avoidance may experience a decreased levels of infertility stress, his or her partner may actually experience increased stress because of the partner's coping process.

2. *Stress and Appraisal Theory:*

"Stress" is defined in this study as the interaction between person and environment. When people appraise the external and internal demands of this interaction as exceeding their coping resources and on impacting their general well-being, than it is considered a stressor (Lazarus & Folkman, 1984).

Definitions and concept of stress

as cited in Jayashree Nayak(2008), he was summarize the definition as follow: According to Selye (1956) stress is "any external event or internal drive which threatens to upset the organismic equilibrium". While Wolf and Goodell (1968) defined stress as a dynamic state with in an organism in response to a demand for adaptation. And Cofer and Appley (1964) defined stress as a state of an organism where he perceives that his wellbeing is endangered and that he must direct all his energies to its protection. Lazarus (1966) referred stress a state of imbalance with in an organism that is elicited by an actual/perceived disparity between environmental demands and the organism's capacity to cope with these demands; and is manifested through variety of physiological, emotional and behavioural responses. McGrath (1970) defined stress as a perceived imbalance between demand and response capacity under conditions where failure to meet demand has important consequences. Cox (1978) has described three classes of definitions. Stress can be variously thought of as a response, i.e. the stress response to an extreme stimulus; as a stimulus i.e. as the stressor itself as an intervening variable. Spielberger (1979) defined stress in two different ways. According to him, it is a dangerous potentiality, harmful/unpleasant external situation/conditions (stressors) that produce stress reaction; and secondly to the internal thought, judgment, emotional state and physiological process that are evoked by stressful stimuli. Ryhal and Singh (1996) stated that stress is the state of an organism it perceived that its well-being is endangered and that it must direct all its energies to its protection..

The concept of "stress" is the subject of much discussion and debate among psychologists. Historically, stress has been conceptualized as an event or stimulus, which may be considered a stressor that is imposed upon an individual and may include internal states such as hunger and environmental factors such as natural disasters. However, this stimulus definition of stress does not accommodate individual differences in reaction to stress, instead assuming that events or stimuli are universally stressful. An alternative conceptualization has defined stress as a response, such as an autonomic reaction to the presence of a stressor or the psychological experience of distress. However, this response definition of stress fails to account for the cause or precipitant of the stress response, reflecting a lack of specificity that reduces the utility of this conceptualization (Lazarus & Folkman, 1984, p. 21). Separately, these conceptualizations lack attention to and accommodation of critical aspects of the individual's experience of stress.

In an effort to better integrate these concepts into a more comprehensive and specific framework, Lazarus and Folkman (1984) suggested that stress refers not simply to a stimulus or response, but rather to a relationship between the individual and the environment that is appraised as exceeding the individual's resources and jeopardizing the individual's well-being. This theory is referred to as the transactional model of stress. Lazarus (1999) wrote that stress is especially strong when demands that are difficult to meet are presented to the individual (p. 58). As detailed in Lazarus and Folkman's (1984) definition, a fundamental aspect of the transactional model is the process of appraisal. The authors described appraisal as the process of evaluating the significance of an event or stimulus in relation to an individual's well-being. The appraisal process has been sub divided into "primary appraisal" and "secondary appraisal," which are discussed below. Together, these appraisals contribute to an individualized process of evaluating the personal meaning and significance of an event or stressor.

Primary appraisal refers to an evaluation of the impending harm or benefit of a stressor. Lazarus and Folkman asserted that a stressor may be evaluated as either a) irrelevant, b) benign-positive, expected to result in preservation or enhancement of well-being, or c) stressful, expected to exert a negative influence on well-being. Events or stimuli appraised as stressful are described using three sub-types: a) harm/loss, which refers to damage that has already been sustained; b) threat, which refers to an appraisal in which harm or loss is anticipated, and which allows for anticipatory coping; and c) challenge, which refers to an appraisal that focuses on the potential for gain or growth from a stressor, and which also allows for the mobilization of coping efforts. Of note, appraisals of threat and challenge may occur simultaneously for the same stressor, rather than representing mutually exclusive poles on the same axis (Lazarus & Folkman, 1984, p. 32)

Secondary appraisals refer to evaluation of options for managing or responding to a stressor. Secondary appraisal processes have been discussed in relation to coping with stressors, and are best conceptualized as cognitive precursors to coping action. Lazarus has referred to secondary appraisal as "the cognitive process which determines the form of coping" (1966, p. 155) and as "the cognitive underpinning for coping"

(1999, p. 76). Elucidating the relationship between secondary appraisal and coping, Lazarus and Folkman (1984) described secondary appraisal as a complex process of considering all coping options, evaluating the likelihood that coping strategies will accomplish the desired outcome, and evaluating the likelihood that the strategies can be successfully implemented (p. 35). In a reflection on his early writings on stress and coping presented in his 1966 seminal work, Lazarus (1999) further explained the close tie between appraisal and coping, asserting that stress-related thoughts or actions may be both appraisals and coping processes, either in different contexts or at the same time. In fact, the term "cognitive coping" was coined to describe the influence of cognitive reappraisal of the stress transaction on stress and emotion. As such, secondary appraisal is thought to mediate the relationship between perceived threat and coping processes. This revision of earlier interpretations of stress, appraisal, and coping highlights the close and overlapping relationships among these processes.

3. Self-Efficacy Theory

The concept of self-efficacy has been developed and explored by Bandura (1982, 1997), who describes self-efficacy as an individual's beliefs in his/her capabilities to complete the action(s) determined to be necessary to produce a desired outcome (Bandura, 1997, p. 3). Bandura asserts that self-efficacy beliefs are a fundamental basis of action, because without an individual's belief that actions will produce the desired outcome, incentive to act will be low. Lazarus and Folkman (1984) have discussed self-efficacy as one form of secondary appraisal, as self-efficacy beliefs can bolster an individual's belief that they can perform identified and chosen coping behaviors.

4. Coping Theory

Folkman and Lazarus (1984) define coping as constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. This definition addresses limitations of traditional approaches as follows: First, it is process-oriented rather than trait-oriented, as reflected in the words constantly changing and specific demands and conflicts. We shall elaborate on this below. Second, this definition implies a distinction between coping and automatized adaptive behavior by limiting coping to demands that are appraised as taxing or exceeding a person's resources. In effect, this limits coping to conditions of psychological stress, which requires mobilization and excludes automatized behaviors and thoughts that do not require effort. Third, the problem of confounding coping with outcome is addressed by defining coping as efforts to manage, which permits coping to include anything that the person does or thinks, regardless of how well or badly it works. Fourth, by using the word 'manage', we also avoid equating coping with mastery. Managing can include minimizing, avoiding, tolerating, and accepting the stressful conditions as well as attempts to master the environment

Coping as a Process

      A process approach to coping has three main features. First, observations and assessment are concerned with what the person *actually* thinks or does, in contrast to what the person usually does, would do, or should do, which is the concern of the trait approach. Second, what the person actually thinks or does is examined within a *specific context.* Coping thoughts and actions are always directed toward particular conditions. To understand coping, and to evaluate it, we need to know what the person is coping with. The more narrowly defined the context, the easier it is to link a particular coping thought or act to a contextual demand. Third, to speak of a coping process means speaking of *change* in coping thoughts and acts as a stressful encounter unfolds. Coping is thus a shifting process in which a person must, at certain times, rely more heavily on one form of coping, say defensive strategies, and at other times on problem-solving strategies, as the status of the person-environment relationship changes. It is difficult to see how the unfolding nature of most stressful encounters, and the concomitant changes in coping could be adequately described by a *static* measure of a general trait or personality disposition. The dynamics and change that characterize coping as a process are not random; they are a function of continuous appraisals and reappraisals of the shifting person-environment relationship. Shifts may be the result of coping efforts directed at changing the environment, or coping directed inward that changes the meaning of the event or increases understanding. They may also be the result of changes in the environment that are independent of the person

      Coping is considered critical to the process of managing emotions (Lazarus, 1999). Folkman and Lazarus (1988) discussed the role of coping in emotional response. Coping is thought to have a bidirectional relationship with emotions in stressful situations, such that a stressful stimulus prompts primary appraisals of threat, harm, or challenge, which produces emotions and secondary appraisals, which then influence coping processes. How one copes with infertility can directly and indirectly effect fertility outcome. For example, an avoidant patient may not seek information or adhere to treatment required to facilitate reproduction. Someone with poor coping skills may appraise situations as stressful and experience psychological distress. Someone who ineffectively copes with the infertility may decide to drink excessively, smoke, or disengage in sexual activity, all negatively influencing physical health and fertility. This distress mediates physiological processes involved with reproduction. Thus, when one appraises a situation as a stressor, the physiological and psychological changes ensue. (Zwick, 2003)

      In turn, the coping processes influence the relationship between the person and the environmental stressor, which is then reappraised, leading to a change in emotional response. In this way, coping has been discussed as a mediator of the emotional reaction, which bidirectionally stems from and leads to various emotional reactions. The authors empirically investigated coping as a mediator of emotional response to stress and found support for this model (Lazarus & Folkman, 1988).

According to Lazarus and Folkman (1984), the term coping refers to the cognitive and behavioral activities that a person uses in an attempt to manage a trying situation. They identified two forms of coping: problem-focused coping and emotion-focused coping. The goal of problem-focused coping is to change the objective problematic situation for the better, whereas the aim of emotion-focused coping is to manage the emotional distress related to a problem. Lazarus and Folkman viewed problem solving as a form of problem-focused coping, the adaptive usefulness of which is limited to problem situations that are appraised as changeable. Lazarus and Folkman (1984) described two central processes that predict negative reactions from stressful events. These are cognitive appraisal and coping (i.e., emotion and problem focused coping). Primary appraisal questions, when confronted with a stressful situation, address the issue of "what is at stake in this encounter?" The person evaluates whether the situation is a threat or a challenge. Those who appraise a situation as threatening may be more likely to experience emotional distress. The secondary appraisal question asks, "What, if anything, can I do about the situation?" These conclusions effect the psychological adjustment of individuals. Lazarus' framework of coping has been applied to the infertility population in several empirical studies. Infertility can be conceptualized as a chronic, unpredictable and uncontrollable stressor that may exceed the couple's coping resources. In the realm of distress, coping responses act as buffers to help people avoid psychological distress by moderating the potential effects that stressors have on functioning, as well as preventing future stressors (Billings & Moos, 1982).

Studies examining infertility, stress and coping are commonly guided by Lazarus and Folkman's (1984) stress and coping theoretical perspective. According to this theory, stress occurs as a person perceives events in his or her environment that "tax or exceed his or her resources and endanger his or her well-being" (p. 19). Encounters with stressful events are commonly accompanied by coping strategies, which are defined as "cognitive and behavioral efforts to manage specific external and/or internal demands" related to the stressor one is experiencing (p. 141).

Folkman and Lazarus (1986) note three key theoretical considerations when examining coping. First, coping is process oriented meaning that "it focuses on what the person thinks and does in a specific stressful encounter" (p. 993). Second, coping is viewed as contextual. According to this view, coping is situation specific. For example, one type of coping strategy may be highly effective and promote positive outcomes for one stressor, while the same strategy could result in negative outcomes when used to cope with a different stressor. And third, no a priori assumptions are made regarding effective or ineffective coping strategies. Rather, coping is defined simply as a person's efforts to "manage demand" and the success or failure of the coping can only be determined by an evaluation of the outcome as opposed to a theoretical prediction (p. 993).

Lazarus and Folkman have identified a variety of coping categories through the use of The Ways of Coping Questionnaire (see attachment 2). By analyzing responses to this

questionnaire using factor analysis, they identified eight specific coping categories (i.e., confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape/avoidance, planful problem-solving, and positive reappraisal), in addition to two more general categories – problem-focused and emotion-focused coping. Problem-focused coping is "directed at defining the problem, generating alternative solutions, weighing the alternatives in terms of their cost and benefit, choosing among them, and acting" (p. 152). When applied to the stress of infertility,

The Multiple Functions of Coping

An important feature of our conceptualization is that coping involves much more than problem solving and that effective coping serves other functions as well. We do not want to confuse coping functions with coping outcomes. A coping function refers to the purpose a strategy serves; outcome refers to the effect a strategy has. A strategy can have a given function, for example, avoidance, but not result in avoidance. In other words, functions are not defined in terms of outcomes, although we can expect that given functions will have given outcomes. This distinction is consistent with our definition of coping in that it is independent of outcome.

the coping functions is directed at managing or altering the problem causing the distress and coping that is directed at regulating emotional response to the problem. We refer to the former as problem-focused coping and the latter as emotion-focused coping

Problem-focused coping techniques may be seen as couples consult medical professionals, seek alternatives in the form of treatments, weigh alternatives with regard to the cost and potential benefit, and act on these problem-focused techniques. Since data were collected for this study by participants seeking advanced infertility treatments, they have already used a variety of problem-focused coping methods since attempting to change the situation is indicative of a problem-focused coping strategy.

Emotion-focused coping is defined as "processes directed at lessening emotional distress and includes strategies such as avoidance, minimization, distancing, selective attention, positive comparisons, and wrestling positive value from negative events" (Lazarus & Folkman, 1984, p. 150). People may engage in emotion-focused coping to "maintain hope and optimism, to deny both fact and implication, to refuse to acknowledge the worst, [and] to act as if what happened did not matter" (p. 151). Emotion-focused coping can include reappraisals of the situation which alter and change the meaning of the stressor, or it may be used in an escape/avoidance form that is "designed to make life more bearable by avoiding realities which might prove to be overwhelming if directly confronted" (p. 154).

The effectiveness of emotion-focused coping strategies have been studied in the infertility and coping literature (Stanton, et al., 1992). Interestingly, some emotion-focused coping strategies are effective in reducing distress, while others promote increases in distress. For example, escape/avoidance coping contains an emotion-focused component (e.g., wished that the situation would go away or be over with), and is consistently linked with increased distress in infertile populations (Stanton, et al., 1992). On the other hand, positive reappraisal, which is also a form of emotion-focused

coping, has been shown to decrease distress in infertile men and women. This form of coping promotes the creation of positive meaning from stressful situations.

Because of these dichotomous results related to emotion-focused coping, it is difficult to analyze data by grouping all forms of emotion-focused coping together (e.g., varying forms of emotion-focused coping can be negatively correlated) (A.L. Stanton, personal communication, February 25, 2002). Because of this, a more effective approach may be to examine the relationship between the various forms of emotion-focused coping as opposed to studying them as a set/group.

The idea that coping is not viewed as adaptive or maladaptive, but rather situation specific, had direct implications for this study. Stanton (1991) noted that problem-focused coping is often an effective coping strategy, but may be limited when used in situations beyond a person's control. Similarly, she notes that avoidance may be an effective coping approach in situations that are short-term. Coping with infertility may call for varying coping strategies. For example, since problem-focused approaches may be more effective in stressful situations that are chronic and controllable, they may prove effective only to a degree when coping with infertility. While infertility can be chronic, couples have limited control over the eventual outcome (e.g., they may choose all the available treatment options, but still be faced with the infertility). Because of this, problem-focused coping may be ineffective if treatment attempts are repeatedly met with failure. On the other hand, emotion-focused coping in the form of escape/avoidance may promote unhealthy adaptation as infertility is rarely short-term and the problem is unlikely to be solved without some type of action by the individual or couple. Thus, consistent with Lazarus and Folkman's assumptions regarding their framework, both problem-focused strategies and emotion-focused strategies may be ineffective in coping with infertility stress. Conversely, both types of coping may also promote positive outcomes. The purpose of this study was to discover how coping is related to stress in infertile men and women.

In summary, coping is "the effort to manage psychological stress" (Lazarus, 1999, p. 111). Given its mediating role, coping is an essential aspect of emotional reactions to stress.

In coping with the stress of illness people use a wide range of strategies. The follow table shows a range of different strategies. The table has been split into two columns: active, problem-focused coping strategies versus more passive, avoidant coping strategies. Research in a range of cardiac and respiratory conditions tends to suggest that more problem-focused coping is associated with better psychological adjustment, while avoidant strategies are less helpful.

Table1.1: Summary of different coping strategies

Active/problem-focused coping	Passive/avoidant coping
Seeking information	Withdrawal
Problem solving	Wishful thinking
Cognitive reinterpretation	Avoidance
Seeking emotional support	Denial

However, as the usefulness of a coping strategy will very often be dependent on the particular situation. One particular coping strategy that has variously been described as both helpful and unhelpful is denial. In working with denial it is important to understand exactly what is behind this and the purpose it holds for the individual. Given the complexity of this it may often be most appropriate to refer to a specialist trained in this area, such as a psychologist. It should be pointed out as well that denial may be less frequent than typically believed by the health care professional and may actually reflect that the patient has simply not 'heard' or understood information that has been told to him about his condition. This may particularly be the case where individuals have been given bad news in a way that has not accounted for the time required to process this information. If an individual is seen to be having difficulty coping it may be appropriate to refer him to a trained member of the team who can work on positive coping strategies. For example, individuals may be taught problem solving techniques, can be taught how to manage emotions through exercises such as expressive writing, can be taught social skills and communication which facilitate increasing social support and may be aided in cognitive reinterpretation of symptoms. (Bryon and Steed,2007)

Infertility-Related Stress

Different definitions of stress are found in the academic literature and stress is not always differentiated adequately from concepts such as 'pressure', 'strain', 'stressors' and 'demand' (Jones & Bright, 2001 in Merwe(2010)). The lack of clarity among researchers regarding the definition of stress may be problematic, as it could lead to ambiguity. For example, the term stress is often used to refer to the threatening situation as well as to the anxious response (Tucker-Ladd, 2000 in Merwe(2010)).
Similarly, stress is sometimes used to describe an external environmental stimulus or stressor, while at other times to describe an internal response or strain (Jones & Bright, 2001).

The contemporary concept of stress suggests that it involves a demand that results in physiological, biochemical, psychological, and behavioural changes (Ogden, 2000 in Merwe(2010)). Various other definitions are used for stress, yet it is beyond the scope of the present study to go into a comprehensive discussion of all possible definitions. Stress can be defined, for the purpose of this study, as an individual's response (whether physiological, psychological and/or behavioural) to a demand or life event that he or she appraises as threatening. In terms of this definition, infertility-related stress can be defined as the anxious response of the individual to the demand (or stressor) of infertility. Infertility is perceived as a low-control stressor. A low-control stressor is defined as a stressful situation about which an infertile couple can do "… little or nothing to influence the nature or the outcome of their situation" (Terry & Hynes, cited in Merwe(2010)). Infertility-related stress is not a new phenomenon, and couples that are not able to meet the expectation to bear children, as imposed by themselves, their spouses and society, have been struggling with individual and relationship difficulties for years (Andrews et al., 1991). However, there has been increasing awareness of infertility-related stress and the difficulties infertile couples may experience over the past few years.

Construct of Infertility-Related Stress

The experiences of having infertility and undergoing fertility treatment, as well as associated factors including cost and success rate, represent important stressors that may result in elevated subjective stress for many couples. Consistent with Lazarus' (1999) assertion that stress occurs when situations endanger or defeat intentions or goal commitments and is impacted by the strength of such goal commitments, infertility-related stress has been conceptualized as encompassing many aspects of the individuals' life goals, commitments, and intentions. Stress related to infertility has been found to incorporate and affect many aspects of an individual's life. Much of the literature addressing stress in individuals with infertility has assessed stress in several specific domains, which may include social, marital, sexual, and personal distress. It is important to bear in mind that varying operational definitions of infertility-related stress may complicate comparisons across studies and interpretation of the literature, so attention to measurement and reporting of specific infertility-related stress domains is necessary.

In an effort to adequately measure and assess for stress specific to infertility, a construct describing infertility-related stress has been developed and defined by Newton and colleagues (1999) as constituting several related, though distinct, domains. These domains represent relevant commitments, goals, and intentions, as emphasized in Lazarus' (1999) commentary on stress. Basing their conceptualization of infertility-related stress on qualitative and quantitative research related to problems and distress reported among individuals with infertility, Newton et al. identified five predominant domains of infertility-related stress, including: a) Social concern, described as sensitivity to comments or reminders of infertility as well as feelings of isolation and alienation from family and friends; b) Sexual concern, defined as decreased sexual interest or self-esteem as well as difficulties with scheduled intercourse that may be typical for couples attempting to conceive; c) Relationship concern, defined as difficulty discussing infertility with the partner, difficulty understanding sex differences in reactions to infertility, and concerns about the impact of fertility problems on the relationship; d) Need for parenthood, defined as identification with the parent role and perceptions of parenthood as an essential life goal; and e) Rejection of a childfree lifestyle, defined as a negative evaluation of childlessness and the dependence of future happiness on having a child. Together, these five domains are thought to comprise global stress related to infertility (Newton et al., 1999). This stress construct and the developed measurement tool appear to reflect Lazarus and Folkman's transactional stress model, as they accommodate individuals' subjective responses to specified external stimuli.

Infertility-Related Stress and Gender:

It has consistently been reported that infertility-related stress and stress response have a greater impact on women than on men (Newton et al., 1999).

Newton et al. (1999) have also reported that in addition to women reporting higher overall infertility-related stress than men, women also had higher specific stress in the domains of social concern, sexual concern, and need for parenthood.

Additionally, male-factor infertility appears to place both women and men at greater risk for infertility-related stress in the social, sexual, and need for parenthood domains, as well as for greater overall infertility-related stress, compared with other types of infertility (Newton et al., 1999).

Negative Outcomes of Infertility-Related Stress

Infertility-related stress appears to be associated with a variety of negative functional outcomes. For instance, infertility-related stress has been demonstrated to have a significant impact on mood and psychiatric symptomatology. Newton et al. (1999) reported that higher global infertility-related stress, as well as reports of higher stress in the social, sexual, and relationship concern domains, need for parenthood, and rejection of a childfree lifestyle are all significantly, positively associated with greater symptoms of both depression and state anxiety.

Additionally, women's higher ratings of global infertility-related stress, as well as each specific stress domain, had a significant inverse relationship with marital adjustment (Newton et al., 1999).

Infertility

Estimating the prevalence of fertility difficulties, infertility or involuntary childlessness is hampered by variations in the definitions of these conditions (Schmidt & Munster, 1995; Kols & Nguyen, 1997). The central difficulty is in defining both the population with compromised fertility and the appropiate comparison population. The former may be conceptualized as either individuals or couples who are unable to conceive after a specified period of regular unprotected sexual intercourse or those seeking medical assistance in order to conceive. The specified time of trying to conceive has varied from 12 months to more than 24 months. Some studies have included people with primary in- fertility (the inability to conceive at all), secondary infertility (those who have at least one living child but are unable to conceive again), and sub fecundity (the capacity to conceive but not to sustain a pregnancy to term). The comparison populations have sometimes included those who have never tried to conceive and large groups of young women who may not yet have tried to conceive.

Another definition for infertility which can be appraises as Involuntary childlessness which defined as the inability to conceive in spite of repeated efforts over a period of one year or more, resulting in unanticipated and undesired childlessness (Sabatelli, Meth & Gavazzi, 1988)

According to norms of our community the Couples considered themselves as infertile till the born of the first male baby as indicated by an interviewed female with 9 girls in al basma Clinic 2011.

"I and my husband seek medical intervention because we did not have male baby, I think we are infertile till his born even with 9 girls we have''

The definition of infertility has a significant impact on clinical outcomes, including those reported in research studies. Definitions vary in terms of whether the condition is identified by self-report, or based on a life calendar of re- productive events, a physician consultation or a physician diagnosis. Infertility can be regarded as a heterogeneous group of health problems, influenced by a range of risk factors (Marchbanks et al., 1989 in WHO,2009).

Psychological causation of infertility?
There has been a long-standing belief that female infertility, particularly of unknown etiology, is attributable to psychological factors so-called "psychogenic infertility". This has commonly been defined as fertility difficulties for which no organic cause can be identified and in which psychological mechanisms are assumed to be operat- ing. Studies have attempted to find personality or psychiatric factors that would explain infertility. Almost all have focused on women, and most have made retrospective attribution of the observed differences between fertile and infertile women (usually those seeking treatment) to pre-existing factors. The issues proposed as etiologically in- volved have included uncertain gender identity, external locus of control, infertility as a defence against inner conflicts, ambivalence about hav- ing children, psychiatric symptoms, in particular depression and anxiety, marital problems "mas- querading as infertility" and sexual dysfunction (Callan & Hennessey, 1988b; Moller & Fallstrom, 1991; Greil, 1997 in WHO,2009).

Gender differences in the psychological sequelae of infertility
And according to WHO report in 2009, infertility exerts adverse psychological effects on both men and women, there is evidence that they react differently (Abbey, Andrews & Halman, 1991; Nachtigall, Becker & Wizny, 1992; Cook, 1993). Women have been found to experience more emotional distress and depressive symptoms associated with infertility than men, except in cases of male factor infertility where the degree of distress is similar (Nachtigall, Becker & Wizny, 1992; Beaurepaire, et al., 1994; Morrow, Thoreson & Penney, 1995). Similarly, there are adverse effects on the gender identity of all women with infertility regardless of the etiological factor; but male gender identity is adversely affected only by male factors (Nachtigall, Becker & Wizny, 1992). Even when male factors are implicated, women experience more guilt and self-blame than their male partners (Abbey, Andrews & Halman, 1991). This may be because, even when male factors are involved, most of the investigation and treatments focus on the female partner. Women's lives are more disrupted by infertility than men's (Abbey, Andrews & Halman, 1991). It also appears that the loss of sex role identity and the experiences of childbirth and parenthood is more profound for women than for men (Abbey, Andrews & Halman, 1991; Nachtigall, Becker & Wizny, 1992; Cook, 1993). Both men and women are more likely to believe that the woman is responsible if unexplained or combined factors are etiologically involved (Abbey, Andrews & Halman, 1991). Men are more likely than women to experience infertility as a sign of compromised potency and sexual adequacy (Nachtigall, Becker & Wizny, 1992). Individuals respond to disturbing life events in different ways. Women who are

able to take an active part in seeking information and making decisions about treatment have lower levels of depression and attract more social support than those who passively submit to medical recommendations (Woods, Olshansky & Draye, 1991). Individuals with high self-esteem and dispositional optimism are better protected against severe depression (Litt et al., 1992). Denial and avoidance are elements of a normal response to adverse experiences, including infertility (Menning, 1982). Some individuals may appear to be more persistently unaffected emotionally by the diagnosis of infertility, but denial is not an effective defense against severe emotional distress. Individuals who use avoidant coping and deny the emotional impact of infertility may seek multiple medical opinions, in order to find an optimistic assessment. They are at higher risk of becoming depressed and may also be vulnerable to exploitation by extravagant claims for treatments, including those for which there is scant scientific evidence (Woods, Olshansky & Draye, 1991; Litt et al., 1992; Morrow, Thoreson & Penney, 1995 in WHO,2009).

Islamic opinion related to infertility:

Islam instills in its adherent a sense of his or her place and belonging within the family and of a responsibility to that group. Thus, Islamic ethics considers the nature of duty arising from obligations within the family and community. A Muslim woman, for example, regards her responsibilities as necessitating a balance with, or even subordination to, those of the family group. The rampant Individualism often experienced in contemporary life, that which treats the goals of the individual in isolation from other factors, or as the supreme goal, runs against a deep Islamic commitment to this social interdependency. This sense of belonging and the central importance of lineage are pivotal to understanding reproductive ethics from an Islamic perspective, particularly in relation to assisted reproductive technologies, as it affects permissibility of adoption, surrogacy and sperm or egg donation. Thus, in Islam, to maintain purity of lineage, not only are adultery and fornication (Zina) prohibited but also adoption, thus keeping the family line 'unambiguously defined without any foreign element entering into it' (Qaradawi, cited in Irfan 2005). It likewise prohibits artificial insemination of sperm unless it is provided by the recipient's husband. The Qur'an defines the free individual as someone who belongs. This belonging is applied to two communities: 1) the larger community of Islam and 2) the family. This concept of the individual as one who belongs is a key factor in understanding Islamic ethics, and particularly in relation to fertility. Rights, duties and obligations for the individual arise from this identity and sense of belonging. In contrast, Western philosophical concepts of the individual tend to stress rights and obligations in relation to the state or society, setting the individual apart from others rather than establishing an identity with or for others. 'I am because I belong' is strategically dissimilar to the identity of 'I am because I am diferent'. Thus, Islamic ethics emphasises community ties and the obligations and duties arising from them. The family is the foundation of Muslim society. The Islamic family (Rahim) is extensive and it includes all relatives, whether close or distant, heirs or not, including also for a man those female relatives whom he can marry. The Arabic root from which the word (Rahim) is derived indicates mercy,

compassion and justice, which are core principles of Islamic ethics, and this word encapsulates the interdependence, duties and obligations of the individual.

Muslims also believe that Allah gave humans a power and freedom as rational beings. If morality is an expression of duty and obligation, then it follows that the concept of free will is fundamental to morality. No moral judgement could be made where an agent has no freedom to choose, if their actions were directed solely by the 'laws of nature' or by providence. Consequently, each individual is accountable for his or her deeds. The eminent Muslim scholar, Sheikh Muhammad Al-Hanooti (2003), puts it thus: 'There are two circles of qadr. One of those circles is called the circle of the lawful will. In that circle, man can decide what to do or what not to do. He has a full free will. There is nothing compulsory for man in that circle. Everything of that circle is his responsibility. He can be praised if he complies with the law. He will be condemned if he violates the law. No one in this circle will justify what he does or what he neglects as a matter of qadr.'Accordingly, in one sense infertility might be seen as God's providence; but God has also charged humans with a responsibility to eradicate disease and human suffering. Attempts to cure infertility are therefore not only permissible, but may also be seen in Islam as a duty to both family and community.

Islam is not against the application of modern scientific technological developments to treat infertility, provided it does not contravene the will of God in the process of creating a pregnancy (Eskandarani 1996). Islam encourages infertile couples to seek treatment for infertility and to fulfill their wish of having a baby of their own. (Mohammad Iqbal and Ray Noble,2009).

Conclusion

The infertility literature base has grown substantially over the past two decades. This is evident in the quantity of studies conducted, as well as the quality of discoveries made. However, gaps still exist and future studies are needed to address the limitations of prior research. This study attempted to address these limitations in the literature related to coping and infertility stress. By using a data collection instrument to measure specific forms of infertility stress, and by studying individual and Lazarus forms of coping, this study significantly adds to the infertility literature and makes a unique contribution to the field's knowledge base.

A comprehensive review of the literature (according to the researcher knowledge) on infertility, infertility-related stress and coping is provided in Chapter Three

Chapter 3

Previous studies

In this chapter the researcher will present the previous study starting with Stress and Coping among infertile couples, Infertility and coping, Infertility and stress, Summary, and finally with conclusion.

I- Stress and coping among infertile couples

Lykeridou and et al. (2011) study aims were to examine the association between (1) occupational social class and coping responses, (2) coping responses and infertility-related stress and (3) occupational social class and infertility-related distress. DESIGN: This study was a cross-sectional survey. METHODS: The study involved 404 women undergoing infertility treatment at a public clinic in Athens, Greece. State and trait anxiety (State-Trait Anxiety Inventory), infertility-related stress (Copenhagen Multi-centre Psychosocial Infertility) and coping strategies (Copenhagen Multi-centre Psychosocial Infertility) were measured. RESULTS: Women of low/very low social class reported higher levels of active-confronting coping compared with women of higher social class ($p < 0.001$). A positive correlation between active-avoidance coping and both state and trait anxiety ($r = 0.278$ and 0.233, respectively, $p < 0.01$) was observed. The passive-avoidance coping scale was positively correlated with marital and personal stress ($r = 0.186$ and 0.146, respectively, $p < 0.01$). All three kinds of stress (marital, personal and social) were positively correlated with both active-avoidance ($r = 0.302, 0.423$ and 0.211, respectively, $p < 0.01$) and active-confronting scale ($r = 0.150, 0.211$ and 0.141, respectively, $p < 0.01$). CONCLUSIONS: Infertile women of the lowest social class used more active-confronting coping and more passive-avoidance coping than women of the highest social class. Factors such as low social class and maladaptive coping strategies might contribute to infertility-related stress and anxiety.

Broeck and et al.(2010) aimed to describe, explore and test a self-constructed conceptual framework designed to understand the relative impact of infertility-specific and general psychological characteristics, in predicting psychological distress. Where they used validated self-report questionnaires that measured the concepts of the encompassing framework (personality characteristics self-criticism and dependency, attachment in the partner relationship, child wish, coping, intrusiveness, infertility-related stress and general psychological distress) were completed by 106 women and 102 men before starting the first IVF/ICSI treatment at a university hospital based fertility centre. Data were analyzed by hierarchical multivariate linear regression analysis and path analysis. The **results related** to our study is The second level (coping) explained 50% of the variance in psychological distress($P , 0.001$). Passive coping was a significant positive

predictor whereas active coping and seeking social support were significant negative predictors with beta-values 0.61, 20.16 and 20.16, respectively A path analysis confirmed the framework and highlighted the mediating role of coping and intrusiveness. No significant differences were found when comparing responders to non-responders concerning age, type of infertility, marital status, female and male medical pathology and duration of infertility. conclusions: The current study of patients starting IVF-treatment demonstrated that general psychological characteristics, specifically active and passive coping, personality characteristics, dependency and self-criticism and intrusiveness, are more important in predicting the variability in psychological distress than infertility-specific concerns.

Joshi et al. (2009) investigated the psychological distress, coping resources and subjective well-being among infertile women in comparison to normal women. The sample for the study consisted of 200 women (100 infertile and 100 normal) The sample was assessed with Subjective Wellbeing Inventory, Coping Resources Index, and General Health Questionnaire-12 (GHQ-12). Data were processed for Discriminant Analysis. When compared, results clearly demonstrated that the infertile and normal subjects differ significantly on five of the eight variables of coping. Infertile women have scored significantly lower than their normal counterparts. The second measure in this study is Subjective Well-being (SWB). On nine out of eleven domains, both infertile and normal subjects differ significantly. Two variables, Confidence in Coping and Perceived Ill Health have not shown any difference between the groups. The results show that both the infertile and normal group differs significantly on the measure of psychological distress. The F-ratio for the measure is 39.64, which is significant at .01 level of probability. The mean score for infertile women is 3.35 as compared to 1.24 for normal women. It may be interpreted as infertile women undergo more psychological distress as compared to their normal counterparts. So to sum up; poor subjective well-being, high level of psychological distress, and inappropriate coping among infertile women as compared to their normal counterparts.

Farzadi L, and his et. al. (2007) conducted a descriptive study to evaluate the stressors and coping strategies of 150 infertile women presenting to Tabriz Al-Zahra Hospital since Aug. 2000 to Feb. 2002. were selected by convenience sampling and were evaluated. The data were collected by regular interview and questionnaire with closed-response questions. Of 31 questions in the questionnaire, To reach to the study goals (determination of psychosocial stressors and their intensity), they used the same method; and to reach to (assessment of coping strategies), the 40-item Jalowiec scale (including 25 affection-oriented and 15 problem-oriented coping strategies) was used.
Tiredness due to frequent trips to the clinic was the most common physical stressor in 67.3% of cases with severe and very severe intensities; and anxiety about effectiveness of treatment was the most common mental stressor in 87.3% of cases with severe and very severe intensities. Of affection-oriented coping strategies,

praying and trust in GOD was the most used coping strategy (79.3%). Of the problem-oriented coping strategies, accepting the situation was used always in 74%. Psychosocial stressors were more frequent in comparison with physical stressors. So, obviating the affective problems of infertile women will have significant role in decrease of their stress and anxiety. (12)

Lechner, Bolman, Dalen (2006) study investigates the association of coping style and the degree of satisfaction regarding social support from primary support groups with distress symptoms of involuntarily childless individuals. MATERIALS AND METHODS: Subjects in this cross-sectional study were people who wanted to have children with their partner but were unable to conceive and had acknowledged their involuntary childlessness. The sample consisted of 116 persons (response 88%) with an average age of 39 years (SD = 6.0), with 75% women. The sample group completed a questionnaire consisting of passive and active coping styles from the Utrecht Coping List (UCL), the discrepancy variant of the Social Support List (SSL-D), the short version of the Questionnaire on Experienced Health Complaints (VOEG-21), the Hospital Anxiety and Depression Scale (HADS) and the Inventory of Complicated Grief Revised (ICG-R), adapted for this study. RESULTS: Women especially experienced more health complaints, more anxiety and depression symptoms and more complicated grief than the general population. Regression analysis shows that when controlled for sex and the duration of involuntary childlessness, the concepts passive coping style and dissatisfaction with social support were positively associated with health complaints, depression, anxiety and complicated grief. The concept active coping style was negatively associated with depression, anxiety and complicated grief. Explained variance of the different distress symptoms varied from 30 to 65%. A moderating association of perceived social support is only found between a passive coping style and health complaints.

Pottinger et al. (2006) perform a study aimed to identify gender differences in coping responses and the association between coping and psychological distress in couples undergoing Invitro-fertilization (IVF) treatment. Methods: All men and women (n = 52) invited to complete questionnaires on their coping responses (Ways of Coping Checklist (19) were used), self-reported distress (General Health Questionnaire (GHQ-28)) and socio-demographic data. **Result** showed that Seeking medical advice and engaging in wishful-thinking, namely, hoping for a miracle and fantasizing about the outcome were the strategies most commonly used by more than 75% of participants. The least reported strategies included 'avoiding being around pregnant women or children' and 'eating, smoking or drinking more'.both men and women used wishful thinking strategies and seeking advice most often and to a lesser extent emotion-focussed coping. Women generally used all three types of strategies more often than men. The strategies that men used more often were those that allowed them to avoid talking about their experience, namely 'keeping feelings to themselves' and 'making self better by

eating, drinking or smoking', along with the specific problem-solving strategy of using alternative medicine. Gender differences were found to be statistically significant for two of the coping strategies. More women engaged in excessive self-blame than men (32% vs 4%, FET, $p = 0.01$). Also, significantly more women than men isolated themselves by keeping others from knowing their pain (44% vs 13%, FET, $p = 0.02$). It is noted that no one reported 'taking out their feelings on others', and while 17% of women reported avoiding encounters with pregnant women or young children, the men denied doing so. Pearson correlation was used to correlate coping strategies of participants with reports of feelings of hopelessness, worthlessness and despair. Although only 15% of the participants reported distressing feelings, a direct relationship was found between persons who reported feeling psychological distress and those who ruminated about what they did wrong or kept others from knowing their pain ($p < 0.05$). Of note, all participants who reported high levels of distress were female except for one.

Peterson BD, et al., (2004) conducted a study on men and women use a variety of coping strategies to manage stress associated with infertility. This study examined the coping behaviors of 1026 (520 women, 506 men) consecutively referred patients at a University-affiliated teaching hospital. Participants completed the Ways of Coping Questionnaire, Fertility Problem Inventory and the Dyadic Adjustment Scale. Women used proportionately greater amounts of confrontative coping, accepting responsibility, seeking social support and escape/avoidance when compared with men, whereas men used proportionately greater amounts of distancing, self-controlling and planful problem-solving. For men and women, infertility stress was positively related to escape/avoidance and accepting responsibility and negatively related to seeking social support, planful problem-solving and distancing. By analyzing relative coping scores, this study identified key gender differences in how men and women cope with infertility. This was particularly true for men's coping processes that had previously remained hidden because of less frequent use of coping strategies when compared with women

Fido A, Zahid MA. (2004) study designed to examine psychological distress among Kuwaiti women with infertility problems and explore the perceived causes of infertility. METHODS: An Arabic version of the Hospital Anxiety and Depression Scale (HADS) was used to examine the psychological status of 120 Kuwaiti infertile women and an age-matched sample of 125 healthy pregnant women as a control group. RESULTS: Compared with age-matched pregnant control sample. The infertile women exhibited a significant higher psychopathology in all HADS parameters in the form of tension, hostility, anxiety, depression, self-blame and suicidal ideation. The illiterate group attributed the causes of their infertility to supernatural causes such as evil spirits, witchcraft and God's retribution, while the educated group blamed nutritional, marital and psychosexual factors for their infertility. *Faith and traditional healers were considered as the first treatment choice among illiterate women*, while the

educated women opted for an infertility clinic for treatment. Childlessness results in social stigmatization for infertile women and places them at risk of serious social and emotional consequences.

II- Infertility and coping

Peterson and et al (2011) performed a study to assess the relationship between infertility, marital benefit, and coping in a sample of men and women undergoing unsuccessful fertility treatments, a Prospective longitudinal cohort design using multilevel modeling. Was done in Danish public and private hospitals (n = 5) specializing in treating fertility patients whom were Danish men and women about to start a cycle of medically assisted reproduction treatment and were followed for a 5-year period of unsuccessful treatments. They used the Copenhagen Multicenter Psychosocial Infertility research program Coping Strategy Scales and Marital Benefit Measure. RESULT(S): Compared with men, a greater percentage of women reported high levels of marital benefit. For active-avoidance coping, there was a significant partner effect by gender interaction. Meaning-based strategies increased between 1 and 5 years for men and women. The use of meaning-based coping had a significant positive actor effect with marital benefit for both men and women. CONCLUSION(S): Approximately one-third of participants undergoing unsuccessful fertility treatments reported high marital benefit as a positive consequence of the infertility experience. Partner effects for men and women related to active-avoidance coping may be related to the degree of emotional support that each spouse can offer the other, whereas differences in meaning-based coping indicate a possible timing effect related to gender

Lee and et al. (2010) explore Grief responses and coping strategies among infertile women after failed in vitro fertilization treatment using cross-sectional study and investigated 66 women who had experienced at least one failure with IVF treatment. The data were gathered by a self-administered structured questionnaire, and included the participant's personal profile, grief responses and the Jalowiec's coping scale. The most common grief response among the respondents was bargaining, followed by acceptance, depression, anger, denial, and isolation. The order of coping strategies used, from highest-to-lowest, were confrontative, optimistic, self-reliant, fatalistic, supportive, evasive, palliative, and emotive. Use and self-perceived effectiveness among all coping strategies had a high correlation, except emotion. Bargaining, the most common grief response, was associated with a variety of coping strategies. All coping strategies were correlated with grief responses. The results of identifying the grief responses and associated coping strategies of women who have undergone failed IVF treatment

may assist nurses and other health care professionals in their efforts to provide appropriate information, care and psychological support

Shahid, Huma. (2010) present a study which was undertaken to investigate the relationship between perception of social support and marital satisfaction among infertile couples. Moreover, coping strategies were also examined separately for husbands and wives. The instruments used were Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), Comprehensive Marital Satisfaction Scale (Blum & Mehrabian, 1999) and Brief COPE (Carver, 1997). The study was completed in three phases. The first phase consisted of translation of MSPSS following a try out study (n =40) that aimed at establishing the psychometric properties of the instruments. In second phase, the translated scales were administered on a sample of husbands (n=20) and wives (n= 20) of infertile couples. The results of try out yielded satisfactory results. The third phase comprised of main study conducted on 100 infertile couples (husbands n= 100 and wives n= 100) seeking infertility treatment. The age of the husbands and wives ranged from 24 years to 55 years (M=33.55, SD=5.84) and 20 years to 50 years (M=29.71, SD=5.64) respectively. The results revealed a significant positive correlation between perception of social support and marital satisfaction among infertile couples. Regression analysis showed that perception of social support is an important predictor in determining the marital satisfaction of infertile couples. Wives tend to exhibit more active-avoidance and religious/denial coping and husbands were more likely to employ problem-focused and positive coping. Chi-square analysis demonstrated that wives showed more interest towards adoption of a child as compared to husbands. On the basis of qualitative data, different themes emerged depicting the perceptions of infertile couples about impact of childlessness on their lives.

Kraaij et al. (2010) researched The relationships between cognitive coping strategies, goal adjustment, and symptoms of depression and anxiety were studied in people with fertility problems. Both cross-sectional and prospective relationships were studied in a sample of 313 patients attending an infertility clinic. Self-report questionnaires were filled out at home. Positive refocusing, rumination and catastrophizing, and goal reengagement were related to symptoms of depression and anxiety. When looking at the long-term effects, rumination and catastrophizing were also related to emotional problems nine months later. These findings suggest that intervention programs should focus on cognitive coping strategies and goal-based processes.

Donkor, Sandall (2009). Perform a study to explores the coping strategies adopted by 615 women seeking infertility treatment in southern Ghana. Both closed and open-ended questions were used through a survey conducted using face-to-face interviews in three languages at three health sites--a hospital, a health center and a private clinic. The findings suggest that the **majority** of the women

preferred to keep issues of their fertility problems to themselves. The reason could be due to the associated stigma of infertility. Further, the majority of the women coped through drawing on their Christian faith. Others also coped through the support they received from their husbands, their occupation by way of achieving economic independence, and some avoided situations that reminded them of their infertility problem.

Kraaij, Garnefski, and Vlietstra (2008) examined the relationships between infertility characteristics, cognitive coping strategies, and depressive symptoms in definitive involuntarily childless people. Both cross-sectional and prospective relationships were studied in a sample of 169 persons for whom an involuntarily childless future was definitive. The Cognitive Emotion Regulation Questionnaire (CERQ) and the Symptom Check List (SCL-90) were filled out at home. Almost no infertility characteristics were related to depressive symptoms. The cognitive coping strategies self-blame, rumination, catastrophizing and positive reappraisal appeared to be related to depressive symptoms. In addition, catastrophizing was related to depressive symptoms two years later. These findings suggest that intervention programs for people with definitive involuntary childlessness should pay attention to cognitive coping strategies.

Parveen B. and et al (2008) Psychosocial Adjustment of Educated and Uneducated Infertile Females of Pakistan which was designed to investigate the differences in psychosocial adjustment of educated and uneducated infertile females. Using a Cross Sectional study
Subjects and Methods: The data was collected from infertility Advisory Center, Sheikh Zayed Hospital, Fatima Memorial Hospital and Jinnah Hospital Lahore, from March 2005 to July 2005. The total sample consisted of 50 diagnosed infertile females, age range 25-45 years, prerequisite condition was that they had a minimum duration of marriage of three years without children and were under the treatment. In study, 40 translated items were used to assess the psychosocial adjustments, which were derived from Bell Adjustment Inventory (BAI). The data was analyzed by the help of SPSS. Results: Results indicated that there is a significant difference (t=3.39and p<0.05) between psychosocial adjustment of educated and uneducated infertile females. The social class, employment and unemployment factors have also significant impact on adjustment of infertile females.

The objective of the **Kraaij, Garnefski, and Vlietstra (2008)** study was to examine the relationships between infertility characteristics, cognitive coping strategies, and depressive symptoms in definitive involuntarily childless people. Both cross-sectional and prospective relationships were studied in a sample of 169 persons for whom an involuntarily childless future was definitive. The Cognitive Emotion Regulation Questionnaire (CERQ) and the Symptom Check List (SCL-90) were filled out at home. Almost no infertility characteristics were related to depressive symptoms. The cognitive coping strategies self-blame, rumination,

catastrophizing and positive reappraisal appeared to be related to depressive symptoms. In addition, catastrophizing was related to depressive symptoms two years later. These findings suggest that intervention programs for people with definitive involuntary childlessness should pay attention to cognitive coping strategies.

Pottinger AM and et al., (2006), aimed to identify gender differences in coping responses and the association between coping and psychological distress in couples undergoing In Vitro Fertilization (IVF) treatment at the University of the West Indies (UWI). Methods: All men and women (n = 52) who were offered psychological counseling prior to beginning IVF treatment between October 2003 and May 2004 were invited to complete questionnaires on their coping responses, self-reported distress and socio-demographic data. One female declined. Results: Of the 51 participants, 52% had completed secondary education, 44% tertiary education, and 37% were 38 years or older; 42% of the couples were trying for more than seven years to have a child. Gender differences in coping included more women than men keeping others from knowing their pain (p < 0.01) and more women ruminating about what they did wrong to cause the infertility (p < 0.01). These strategies were also associated with reports of heightened distress (p < 0.05). Talking to others to obtain information was associated with less negative feelings. The study found that while men and women both frequently use a combination of strategies to cope, namely, avoidance coping and active-problem solving, and to a lesser extent, emotion-focused coping, there are gender differences in their choice and frequency of use. Coping strategies are not homogenous or gender-specific. Conclusion: Women coping with infertility may be at risk for self-depreciation and isolation because of their choice of coping strategies and the meaning they ascribe to the infertility. As a result, they are likely to experience more heightened distress than men who are also infertile. Counseling that is specific to gender-needs is indicated.

Verhaak and et al. (2005) conduct A longitudinal study into the course of the emotional response to IVF from pre-treatment to 6 months post-treatment and factors that contributed to that course. METHODS: A total of 148 IVF patients and 71 partners completed self-report questionnaires on anxiety, depression, personality characteristics, meaning of fertility problems, coping, marital relationship and social support at pre-treatment. Assessments of anxiety and depression were repeated immediately following the final treatment cycle and again 6 months later (follow-up). RESULTS: Women showed an increase of both anxiety and depression after unsuccessful treatment and a decrease after successful treatment. Men showed no change in anxiety and depression either after successful or after unsuccessful treatment. In the 6 months after unsuccessful treatment, women showed no recovery. At follow-up, >20% of the women showed subclinical forms of anxiety and/or depression. Personality characteristics, meaning of the fertility problems, and social support determined the course of the

emotional response CONCLUSIONS: Most women adjusted well to unsuccessful treatment, but at follow-up, a considerable proportion still showed substantial emotional problems. Personality characteristics, pre-treatment meaning of the fertility problems and social support have demonstrated the adjustment to unsuccessful IVF in women. This allows early identification of women at risk as well as tailored interventions.

Schmidt L, Christensen U, Holstein BE. (2005) conduct a study to analyze the cross-sectional association between coping responses with infertility and occupational social class. Infertility is evenly distributed across social classes in Denmark, and there is free access to high-quality assisted reproduction technology. METHODS: Data were based on a questionnaire in a consecutive sample of 1169 women and 1081 Danish men who were about to begin assisted reproduction treatment. The coping measure was developed from an adaptation of Lazarus and Folkman's Ways of Coping Questionnaire and based on results from interviews with infertile people. The measure was developed in four categories: active-avoidance coping; active-confronting coping; passive-avoidance coping; meaning-based coping. These subscales were later confirmed by factor analysis. Occupational social class was measured in a standardized way. RESULTS: Contrary to expectations, the logistic regression analyses showed that women from lower social classes V + VI and men from social classes III + IV used significantly more active-confronting coping. Women from lower social classes V + VI used significantly more meaning-based coping. Both men and women from social classes III - VI used significantly more passive-avoidance coping and significantly less active-avoidance coping. CONCLUSION: Due to the significant social differences in coping with infertility, the study suggested that elements of coping may be learned from one's social network and reference group.

Mindes et al. (2003) study examined the association of unsupportive social interactions and psychological adjustment among 123 women with fertility problems, and tested whether threat appraisals and avoidance coping mediate this association. Cross-sectional analyses suggested that infertility-specific unsupportive responses received from other people were associated positively with adjustment problems. Avoidance coping and threat appraisals mediated this association between unsupportive social interactions and adjustment. Longitudinal analyses with 67 of these women revealed that after controlling for Time 1 adjustment, Time 1 unsupportive social interactions were associated positively with depressive symptoms and overall psychological distress only for women who remained infertile at Time 2, compared with women who were pregnant or had given birth. Associations between Time 1 unsupportive social interactions and self-esteem at Time 2 were similar for both groups of women.

Berghuis JP, Stanton AL. (2002) study designed to examine how intimate partners' coping processes with regard to infertility predicted depressive symptoms

across the course of a treatment cycle, 43 couples completed assessments in the week prior to and the week after receiving a negative pregnancy result from an alternate insemination attempt by the partner. Depressive symptoms in both partners *increased significantly* after the pregnancy result receipt. As hypothesized, avoidant coping predicted increased distress over time. and approach-oriented coping(e.g., problem-focused coping, emotional processing, and expression) predicted decreased distress. Coping strategies engaged in by both individuals and partners predicted depressive symptoms, and for women, interactions also emerged between their own and their partners' coping.

Kowalcek et al (2001) investigate Coping with male infertility. Gender differences where they assigned the target group Depending on the diagnose to four groups: Group 1: female infertility (infertile women of fertile men), Group 2: infertility of the men, Group 3: infertility of both partners, Group 4: idiopathic sterility). One hundred and ten infertile couples were investigated with the **Freiburg** questionnaire of Coping with Illness. Compared to their partners, the women of infertile couples report a higher feature rating in the scales "depressional coping" and "self-distraction and self-stabilisation". Women of infertile couples show lower feature ratings compared to the standardized collective of patients with chronic somatic disease only on the scale "religiousness and search for meaning". Involuntarily childless men activate all coping strategies to a smaller extent than the reference sample. The experience of infertility is greatly affected by gender and the associated role expectations.

Kowalcek et al. (2000) analyzed whether coping strategies vary depending on gender and sterility diagnosis. A 110 couples investigated using the "Freiburg Questionnaire of Coping with Illness". The questionnaire consists of 5 analytic scales, covering one coping-strategy each: F1: depressive coping; F2: problem-faced coping; F3: diversion and building-oneself-up; F4: religion and sense-seeking; F5: trivialization and wishful thinking. RESULTS: Women with unfulfilled child-wish score lower than the group of chronically sick only on the scale "religion and sense-seeking", whereas involuntarily childless men activate all coping strategies to a lesser extent than the standardized collective. Compared to their partners, women score higher on the scales "depressive coping" and "diversion and building-oneself-up". CONCLUSIONS: Gender and sex-role expectations related to it influence the experience of infertility.

III- Stress and infertility

Martins et al. (2011) examined relationships between social support contexts and infertility stress domains, and tested if they were mediated by infertility-related coping strategies in a sample of infertile women. METHODS The Multidimensional Scale of Perceived Social Support, the Copenhagen Multi-centre Psychosocial Infertility coping scales and the Fertility Problem Inventory were completed by 252 women seeking treatment. Structural equation modeling analysis was used to test the hypothesized multiple mediation model. RESULTS The final model revealed negative effects from perceived partner support to relationship concern (β = -0.47), sexual concern (β = -0.20) and rejection of childfree lifestyle through meaning-based coping (β = -0.04). Perceived friend support had a negative effect on social concern through active-confronting coping (β = -0.04). Finally, besides a direct negative association with social concern (β = -0.30), perceived family support was indirectly and negatively related with all infertility stress domains (β from -0.04 to -0.13) through a positive effect of active-avoidance coping. The model explained between 12 and 66% of the variance of outcomes. CONCLUSIONS Despite being limited by a convenience sampling and cross-sectional design, results highlight the importance of social support contexts in helping women deal with infertility treatment. Health professionals should explore the quality of social networks and encourage seeking positive support from family and partners. Findings suggest it might prove useful for counselors to use coping skills training interventions, by retraining active-avoidance coping into meaning-based and active confronting strategies.

Another study performed by **Ehsanpour et al. (2009)** which is a descriptive correlative study on 75 couples (150 subjects) who referred to clinics of Isfahan for professional treatment of infertility. The sampling method was simple and the subjects were selected based on entry criteria. Data were collected by a questionnaire completed by interview and included personal and social characteristics, infertility treatment stress and social support.
And the results showed that the mean score of infertility treatment related stress was 58.68 and 86.7% of couples experienced average to severe stress in professional treatments for infertility. The highest and lowest score of social support were 23.28 and 84.45 for spouse support and 2nd and 3rd level relatives, respectively. There was an inverse correlation between social support and infertility treatment related stress (p = 0.0001). Also, there was a significant relation between age, sex, and career with infertility treatment stress.
CONCLUSION: Considering the findings of the study, it seems necessary to provide educational courses for couples on different techniques of reducing stress, counseling and information and emotional support by health personnel as well as general education of families on how to provide support for couples.

Abedinia N. et al.,(2009) study aimed to determine factors affecting depression in infertile couples and effect of psychological intervention on pregnancy rate of infertile couples.
Materials and Methods: In this study, 638 infertile patients referring to a university

infertility clinic were evaluated. Among them, 140 couples with different levels of depression in at least one of the spouses were found and the study was continued by dividing them randomly into two groups, entering a randomized clinical trial. Patients in the case group received 6-8 sessions of psychotherapy before infertility treatment and were given daily Fluoxetin 20- 60 mg at the same period, and the control group did not receive any intervention. Three questionnaires including Beck Depression Inventory (BDI), Stress Scale (Holmes-Rahe) and a socio-demographic questionnaire were applied for all patients. Pregnancy rate was compared between two groups. Results: Depression was initially found in 48% of women and 23.8% of men. The mean±SD Beck scores fell from 18.7±9.7 to 10.7±5.8 in the group psychologically treated before receiving infertility treatment (P<0.001). Pregnancy rate was 47.1% in case group and 7.1% in control group. Pregnancy rate showed a significant relation with duration and cause of infertility and the level of stress in both groups (P< 0.001). Pregnancy rate was shown to be higher in couples with a second level of education in men (P< 0.001).

Sreshthaputra O., Sreshthaputra R. And Vutyavanich (2008) study infertility-related stress among men and women and to examine its relationship with the level of perceived social support. Method: The Fertility Problem Inventory (FPI) and the Personal Resource Questionnaire (PRQ) were translated into Thai and used to assess the level of infertility related stress and perceived social support, respectively, in 238 infertile subjects. Results: Two hundred thirty eight infertile subjects (111 infertile couples, 3 infertile males and 13 infertile females) completed the questionnaires. The mean age of the males was significantly higer than that of the females (34.1 + 5.8 and 31.8 + 5.1 years, respectively; p = 0.002). Most of them had primary infertility. There was no significant difference in the average duration of infertility and treatment in the male and female subjects (50.3 + 38.7 versus 49.2 + 37.8 months; and 23.7 + 23.6 versus 23.4 + 22.9 months, respectively). The stress levels of both male and female subjects were moderate in the subscale scores of social concern and rejection of childless lifestyle, but high in sexual concern, relationship concern, and the need for parenthood. Their global stress was high, with no significant difference among males and females. There was a positive correlation between the global stress scores of infertile females and their partners (r = 0.562, p = 0.000).There was no significant difference in the mean PRQ scores between the male and female subjects (134.0 + 16.7 and 137.8 + 14.0, respectively). There was a significant negative correlation between the global stress scores and the scores of perceived social support in infertile women (p < 0.001), but not in men

Ehsanpour S. and et al. (2007) study investigates the relationship between social support and stress of infertility treatment. It is a descriptive correlative study on 75 couples (150 subjects) who referred to clinics of Isfahan for professional treatment of infertility. The sampling method was simple and the subjects were selected based on entry criteria. Data were collected by a questionnaire completed by interview and included personal and social characteristics, infertility treatment stress and social support. The results showed that the mean score of infertility treatment related stress was 58.68 and 86.7% of couples experienced average to

severe stress in professional treatments for infertility. The highest and lowest score of social support were 23.28 and 84.45 for spouse support and 2nd and 3rd level relatives, respectively. There was an inverse correlation between social support and infertility treatment related stress (p = 0.0001). Also, there was a significant relation between age, sex, and career with infertility treatment stress.

Mcnaughton-Cassill et al. (2002) conduct a research about Efficacy of Brief Couples Support Groups Developed to Manage the Stress of In Vitro Fertilization Treatment

Where couples in IVF treatment were given the option of participating in a biweekly support group at the IVF clinic at Wilford Hall Medical Center, San Antonio, Tex. At least 1 member of 26 couples participated in the brief couples support groups, and at least 1 member of 19 other couples completed the questionnaires but did not attend the support group sessions and so comprised the control group. Facilitators used cognitive behavioral techniques to help participants process their feelings and cognitions about their infertility. Emotional and cognitive factors were assessed both before and after group attendance by using the Beck Depression Inventory; the Beck Anxiety Inventory; the Life Orientation Test, which assesses optimism and pessimism; the Survey of Personal Views, which measures irrational beliefs; and the Social Provisions Scale, which measures social support.

Results: Women who attended group sessions were significantly less anxious after the IVF treatment than they were before the cycle (P<.001). Men who attended the group sessions were more optimistic than nongroup men or the women at the completion of the IVF cycle (P<.001) but endorsed greater numbers of irrational beliefs (P<.001). Conclusions: Despite the fact that the service was relatively inexpensive compared with IVF in the civilian community, the complexity of IVF treatment and the logistic and psychological stress experienced by couples made it hard to form and maintain such groups. Nevertheless, both men and women derived psychological benefit from the group: women reported less anxiety and men greater optimism on completion of the group sessions.

Summary

The researcher can summarize from these studies that this study general objective is congruent with the study of Lechner, Bolman, Dalen (2006), Joshi et al. (2009), Farzadi L, and his et. Al(2007), Lykeridou and et al. (2011), where Pottinger et al. (2006), Kowalcek et al (2001).

Pottinger and et al., (2006) investigated the Gender Differences in Coping among infertile couples, while Schmidt L, Christensen U, Holstein BE. (2005) investigated The social epidemiology of coping with infertility, and Kraaij, Garnefski, and Vlietstra (2008) and Kraaij et al. (2010) studied the Cognitive coping and depressive symptoms in definitive infertility and Donkor, Sandall (2009),

Kowalcek et al. (2000), Parveen B. and et al (2008), Peterson and et al (2011) studied only the Coping strategies of women seeking infertility treatment, but the later added mrital benefits for both couples while others added depressive symptoms to coping strategy as done in studies of Berghuis JP, Stanton AL. (2002), Kraaij, Garnefski, and Vlietstra (2008)

And according to the size of the sample we can categorize the studies into two groups large and small samples, and the studies with large sample 300 and over Lykeridou and et al. (2011), Schmidt L, Christensen U, Holstein BE. (2005), Donkor, Sandall (2009), Abedinia N. et al.,(2009) and the rest of the studies are less than 300 subjects and our study rested between the sample size samples with 129 subjects.

And according to methodology of the studies the first type is Cross sectional as in Lechner, Bolman, Dalen (2006), Pottinger et al. (2006), Broeck and et al.(2010), Farzadi L, and his et. al.2007), Fido A, Zahid MA. (2004), Lykeridou and et al. (2011), Schmidt L, Christensen U, Holstein BE. (2005), Lee and et al. (2010), Pottinger AM and et al., (2006), Parveen B. and et al (2008), Mindes et al. (2003), Chachamovich et al. (2010); And the Second type is Longitudinal prospective as in Verhaak and et al. (2005), Kraaij, Garnefski, and Vlietstra (2008), Kraaij et al. (2010), Peterson and et al (2011) as cohort study, Kraaij, Garnefski, and Vlietstra (2008), Ehsanpour S. and et al. (2007); Third type is Interview as in Donkor, Sandall (2009), Ehsanpour et al. (2009)

And to classify the above studies according to the type of the stress questionnaire they used the follow questionnaire: Pottinger et al. (2006) used self-reported distress (General Health Questionnaire (GHQ-28) and Sreshthaputra O., Sreshthaputra R. And Vutyavanich (2008), Martins et al. (2011) used, Lykeridou and et al. (2011), Broeck and et al.(2010) used infertility-related stress (FPI), furthermore, Fido A, Zahid MA. (2004) used Hospital Anxiety and Depression Scale (HADS) and Mcnaughton-Cassill et al. (2002) used the Beck Anxiety Inventory, but Abedinia N. et al., (2009) used Stress Scale (Holmes-Rahe).

And to classify the above studies according to the type of the coping questionnaire they were as follow: Lechner, Bolman, Dalen (2006) used Utrecht Coping List (UCL) and Joshi et al. (2009) used Coping Resources Index and Pottinger et al. (2006) used Ways of Coping Checklist (19) while Lee and et al. (2010), Farzadi L, and his et. al. (2007) used the 40-item Jalowiec scale furthermore Peterson and et al (2011), Lykeridou and et al. (2011), Schmidt L, Christensen U, Holstein BE. (2005) used Lazarus and Folkman's Ways of Coping Questionnaire and Kowalcek et al (2001)used Freiburg questionnaire of Coping with Illness and Kraaij, Garnefski, and Vlietstra (2008) used The Cognitive Emotion Regulation Questionnaire (CERQ) and Parveen B. and et al (2008) used Bell Adjustment Inventory (BAI) and Shahid, Huma. (2010) used , Brief COPE

(Carver, 1997) But Martins et al. (2011) used Copenhagen Multi-centre Psychosocial Infertility coping scales

to classify the above studies according to Study settings: Peterson and et al (2011) Was done in Danish public and private hospitals (n = 5) specializing in treating fertility, whike Donkor, Sandall (2009) conducted his study in three languages at three health sites--a hospital, a health center and a private clinic.

To classify the above studies according to Main results: passive coping style and dissatisfaction with social support were positively associated with health complaints, depression, anxiety and complicated grief. The concept active coping style was negatively associated with depression, anxiety and complicated grief. Lechner, Bolman, Dalen (2006)

No significant differences were found when comparing responders to non-responders concerning age, type of infertility, marital status, female and male medical pathology and duration of infertility Broeck and et al.(2010)

The illiterate group attributed the causes of their infertility to supernatural causes such as evil spirits, witchcraft and God's retribution, while the educated group blamed nutritional, marital and psychosexual factors for their infertility Fido A, Zahid MA. (2004)

A positive correlation between active-avoidance coping and both state and trait anxiety ($r = 0{\cdot}278$ and $0{\cdot}233$, respectively, $p < 0{\cdot}01$) was observed. The passive-avoidance coping scale was positively correlated with marital and personal stress ($r = 0{\cdot}186$ and $0{\cdot}146$, respectively, $p < 0{\cdot}01$). All three kinds of stress (marital, personal and social) were positively correlated with both active-avoidance ($r = 0{\cdot}302, 0{\cdot}423$ and $0{\cdot}211$, respectively, $p < 0{\cdot}01$) and active-confronting scale ($r = 0{\cdot}150, 0{\cdot}211$ and $0{\cdot}141$, respectively, $p < 0{\cdot}01$). Lykeridou and et al. (2011)

And from the above literature the researcher conclude the following:

I. Stress-coping

1. Positively: Lykeridou and et al. (2011) with avoidance coping, Pottinger AM and et al., (2006) with avoidance coping,

2. Negatively: Berghuis JP, Stanton AL. (2002) with Active/problem-focused coping, Martins et al. (2011) with meaning-based coping

II. Coping style

1. Passive coping style

Positively: Lechner, Bolman, Dalen (2006) with health complaints, depression, anxiety and complicated grief., Pottinger et al. (2006), Broeck

and et al.(2010), Lykeridou and et al. (2011) with stress, Berghuis JP, Stanton AL. (2002) with distress

2. Active coping style

Positively: Lykeridou and et al. (2011) with state, trait anxiety and All three kinds of stress (marital, personal and social), Peterson et al (2011) with marital benefit,

Negatively: Lechner, Bolman, Dalen (2006), Broeck and et al.(2010), Martins et al. (2011) with relationship concern, sexual concern and rejection of childfree lifestyle, Martins et al. (2011) with social concern

Conclusion

This chapter provided a comprehensive overview of the existing literature on all the key constructs that are applicable to the present research (from the researcher knowledge and ability). The large prevalence and significance of infertility as a potential life stressor were emphasized. Furthermore, numerous studies reported coping strategy of couples experiencing high levels of infertility-related stress.
This overview of literature, which often suggests the potentially devastating impact of infertility-related stress on the marital well-being of couples, emphasizes the great importance of a better understanding of infertility, infertility-related stress and its mediating factors such as coping strategy when trying to improve the psychological management of infertility and, ultimately the lives of couples and individuals experiencing infertility.

Chapter four covers the research methodology that was employed in the present study.

Chapter 4

Methodology

Introduction

As discussed in Chapter Three, the experience of infertility and the accompanying infertility related stress have been proposed to relate the coping strategy of infertile couples.

The present study primarily examined the nature of the relationship between the level of infertility-related stress, as experienced by infertile couples at the onset of different types of infertility treatment, and seven specific aspects of the Way coping strategy.

This chapter will cover the research methodology employed in the study and will explain the steps that have been conducted in the field which include: an overview of the research design; study population; the identification of participants and the demographic characteristics of the sample; an elaboration of the measuring instruments; pilot study; response rate; eligibility criteria; a description of the procedures for data collection; ethical considerations; ethical consideration; and limitation of the study; and, finally, the methods of data analysis.

Research design

The design of this study is a quantitative, cross sectional descriptive study for the Gazian couples undergoing infertility treatment between the first of October to the first of December .

Cross sectional study is study in which a statistically significant sample of a population is used to estimate the relationship between an outcome of interest and population variables as they exist at one particular time. Since both the outcome and the variables are measured at the one time. (medical-dictionary, 2011)

Research Approach

The non-experimental survey approach was used for this study.

Research population

All married couples who was undergoing treatment for infertility in the age of reproductive period (15-49) for female and men who will visiting a predetermined infertility centers in Gaza strip at the time of the study.

Participants

Research Sample

The study sample was comprised of married couples at reproductive age with a diagnosis of primary or secondary infertility who were being treated for infertility. 166 were recruited from private fertility and reproductive endocrinology Clinics in Gaza Strip. 129 Participants complete the questionnaire appropriately and analysis performed depending on them.

Sampling strategy

A purposive sampling strategy was used to obtain a sample of infertility patients, Purposive sampling is a non-probability sampling strategy in which participants from a pre-specified group are purposively sought out and sampled (Trochim, 2000). Thus, participants have to meet the inclusion criteria for being in the sample. Potential participants were approached at five infertility clinics in Gaza Strip, Palestine.

Sampling criteria:
Inclusion criteria:
Infertile male and female who:
1. Who were willing to participate in this study.
3. Including of both primary and secondary infertility.
4. Those who are not adopted family planning methods.

Exclusion criteria:
Infertile male and female who:
1. Who were not willing to participate in this study.
2. Who were not mentally fit.
3. Who are not present at the time of data collection.

Sampling process

The researcher choose all the Clients reaching to the five Centers from 1/10/2011 to 15/1/2012 and applied the questionnaires with the Clients after the researcher have get the consent forms from them and notify them about their right to withdraw whenever they request.

Sample statistics:
Demographic profile of participants

Response analysis revealed that, of the 166 potential participants who were approached for participation in this study, 129 agreed to participate (77.7% response rate). The reason that the female more than male sample due to when approaching the infertility clinic the majority of the client presented is female and so the female represent 80.6 % of the total sample.

Distribution of the study population according to gender

Males were (25) respondents representing (19.4 %) of the total number of the study population; females where (104) respondents representing (80.6 %) of the total number of the study population and this result is congruent with Lechner, Bolman, Dalen (2006) where 75% of the sample was females. (Figure 1)

Figure1: distribution of the sample according to gender
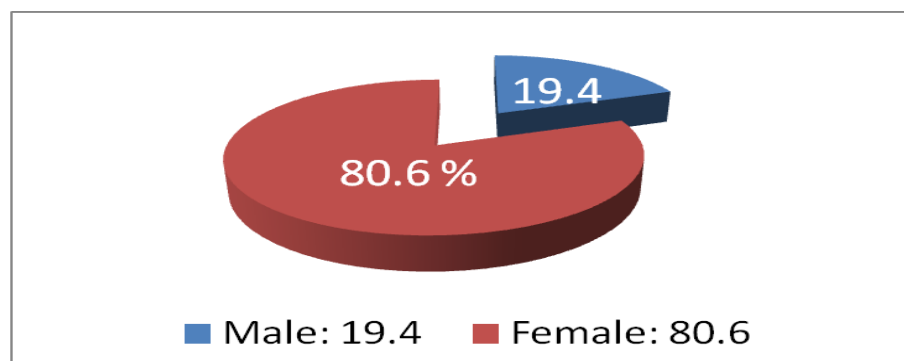
Distribution of the study population according to living area:

The study analysis shows that 13 subject of the study population representing 10.1 % live in north Gaza; 59 cases representing 45.7 % live in Gaza City; 7 clients representing 5.4 % live in Mid-Zone; 29 clients representing 22.5% live in Khanyonis; and 21 clients representing 16.3 % live in Rafah.

Distribution of the study population according to age group:

The mean age of the study sample is 29 years with standard deviation ±7, and Age was divided into three age-groups (less than 25, 25 to 30, more than 30), from the total sample 30.2 % were less than 25 years old (39 cases), and 32.5 % were between 25-30 years old, and 37.2 % more than 30 years old, so 87 % of our sample was less than 30 years old and most of them highly educated. So they start seeking help early but according to Pottinger AM and et al., (2006) 37% were 38 years or older and this may attributed to the cultural background in the time of starting procreation and thus the journey of infertility if presented. (Graph 2)

Graph2: distribution of infertile couples according to age group
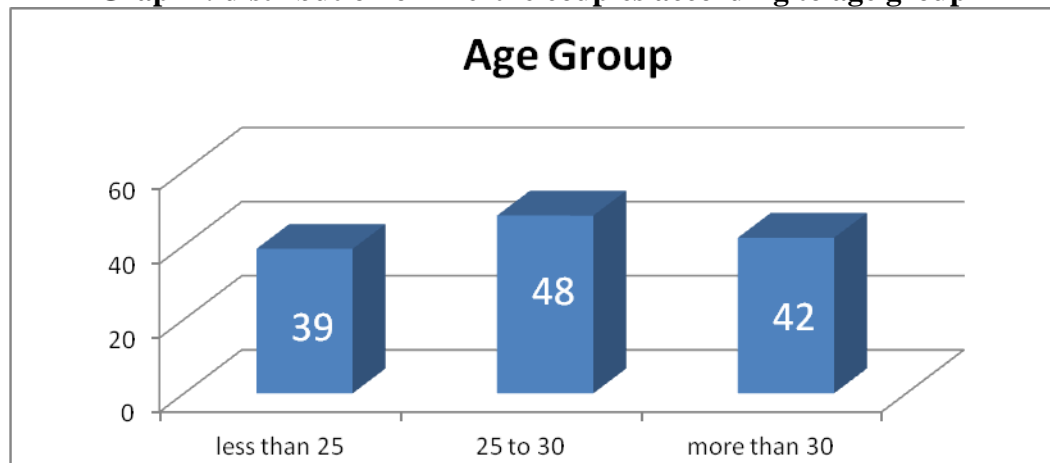
Distribution of the study population according to level of education:

The result showed that 5 subjects representing 3.9% of the total sample where elementary level; 6 clients representing 4.7 % finished primary level; 26 clients representing 20.2 % finished secondary level; 82 client representing 63.6 % finished university level; 6 clients representing 4.7 % higher education(Master or PhD). So most of our sample highly educated (68.3%) comparing with **Pottinger AM and et al., (2006)** sample which was 52% had completed secondary education, 44% tertiary education.

Distribution of the study population according to the employment status:

The result showed that 44 subject representing 34.1 % of the total respondents were unemployed ; while 82 subject representing 63.6 % of the total respondents were employed; and 3 client did not respond to this question representing 2.3 %.

Distribution of the study population according to the Type of family:

      The follow figure shows that 55 subjects live in a nuclear family representing 42.6 %; while 58 subjects live in an extended family representing 51.3 %; 16 subjects did not respond to this question representing 12.4 %. (Figure 3)

Figure3: distribution of the sample according to gender
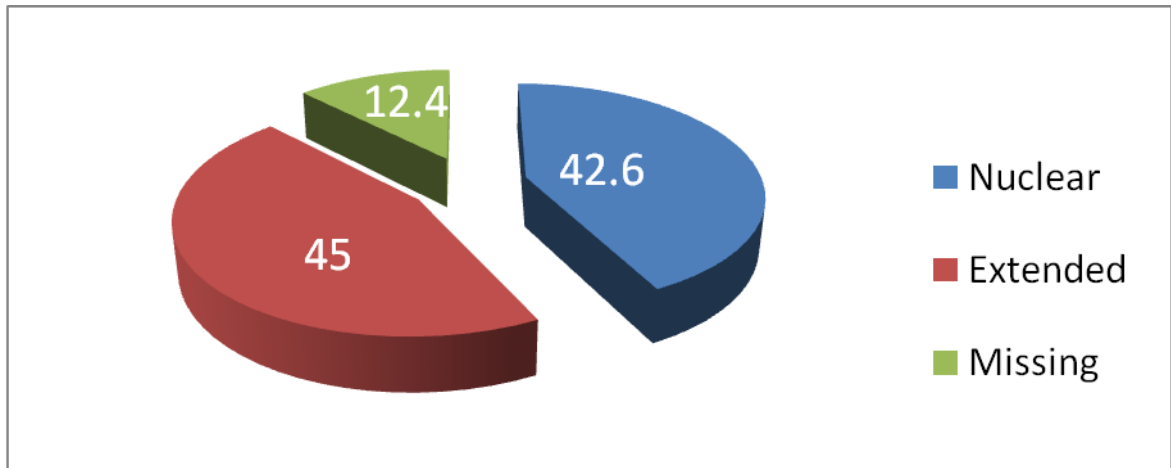
Distribution of the study population according to the Cause of infertility:

      The result showed that 28 husband representing 21.7 % of the total respondents were the cause of infertility; while 26 were the wife representing 20.2 % of the total respondents; 10 subjects report that the cause was related to both of couples representing 7.8 % of the total respondents; 63 subjects respond that the cause in unknown representing 48.8 % of the total respondents; and 2 client did not respond to this question representing 1.6 %.

Graph3: distribution of infertile couples according to the Cause of infertility
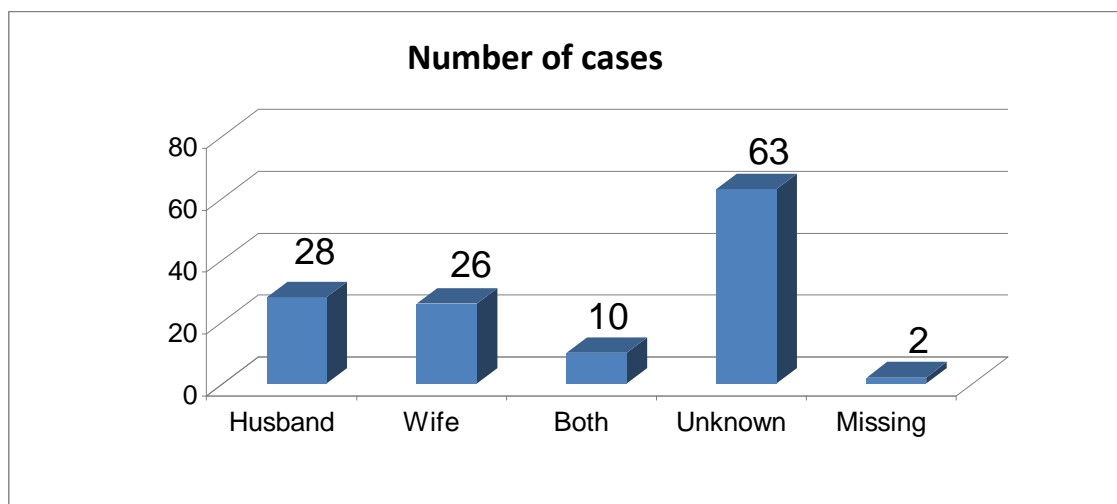
Distribution of the study population according to the Type of infertility:

The result showed that 100 subjects have Primary type of infertility representing (77.5 %) of the total respondents; while 29 subject respond that they have at least one child and then become secondary infertile representing (22.5 %) of the total respondents (Figure 4)

Figure 4: distribution of the sample according to Type of infertility
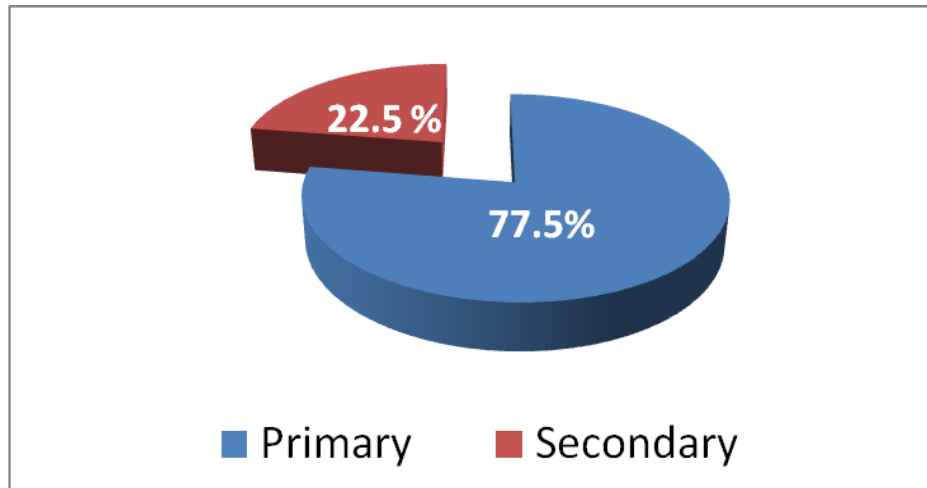
The study settings
1. Al-Basma Inertility Center (Gaza city, Khanyonis).
2. Qurrat A'ain infertility Center (Gaza city, Rafah).
3. Al-Taqwa infertility clinic(Gaza city, Mid-Zone).
4. Al-Helo Infertility Center.
5. Islamic university Clinic.

Pilot study

Before starting the actual data processing, Pilot study was done prior to the beginning of data collection to check applicability, identify problems in the research questionnaires and test data collection for validity and reliability.

And the researcher deleted the ambiguous weak items (4.11.12.16.21.23.30.33.46) in the fertility problem inventory. and then complete the statistics.

Research tools:

The follow instrument was adapted to our community as follow:

1. **Demographic Questionnaire**:

Sex, Age, governorate, year of marriage, type of family, educational level, work, income, type of infertility, duration of infertility, time since diagnosis, number of treating doctors, and history of prior mental health service utilization, number of mental health service utilization, cause of infertility (if known), current cost, and total cost was assessed.

2. **Fertility problem inventory (FPI):**

The FPI (attachment 3), a 46 item questionnaire developed by Christopher Newton of the London Health Sciences Center in Ontario, Canada, was used to

measure the level of a couple's infertility stress. Since much of the psychological research on infertility has been limited by a lack of infertility specific measures, the FPI was developed to provide a reliable and valid instrument to address this critical need (Newton, 1999). A preliminary questionnaire was developed after conducting an extensive review of the infertility literature, which examined the attitudes and beliefs of infertile patients. From this search, infertility related themes were identified resulting in seven relevant domains or themes including social concern, sexual concern, relationship concern, role loss, role failure, need for parenthood, and rejection of childfree lifestyle. Respondents were asked to indicate their agreement with each question using a six-point Likert scale ranging from "strongly disagree" to "strongly agree" (Newton, 1999). The result was an 84-item questionnaire which addressed each of the seven sub-scales. The FPI was finalized after an extensive test-development period. During development, the FPI employed a "sequential strategy of scale construction". Items which 95% of males or females reported as a 1, 2, 5, or 6 were considered to "discriminate inadequately among respondents and were discarded". Convergent and discriminant validity were enhanced by eliminating items that correlated more highly with any scale other than the scale for which they were intended. Items that generated socially desirable responses were also eliminated. The final questionnaire consisted of five scales: social concern, sexual concern, relationship concern, need for parenthood, and rejection of childfree lifestyle. Newton et al., (1999) noted that because "role loss and role failure showed unacceptably high correlations both with social concern (.81 and .72 respectively) and with each other (.77)" both scales were discarded.

Each of the five scales consisted of relatively homogenous items as indicated by the moderate to high reliability (internal consistency) of each scale (social concern = .87, sexual concern = .77, relationship concern = .82, rejection of childfree lifestyle = .80, need for parenthood = .84, and global stress = .93). Test-retest correlations performed after a 30 day interval also showed moderate to high reliability (global stress was .83 for women and .84 for men).

Mean FPI norms were calculated using the sample. For females, mean FPI scores of 0-97 indicate low infertility stress, scores of 98-132 indicate average infertility stress, 133-167 indicate moderately high infertility stress, and scores of 168 or greater indicated extremely high amounts of infertility stress. For males, mean FPI scores of 0-87 indicate low infertility stress, scores of 88-113 indicate average infertility stress, 114-146 show moderately high infertility stress, and scores of 147 or greater indicated extremely high amounts of infertility stress.

Validity and reliability of the Fertility problem inventory:

Reliability: means that the observer repeating the test, or someone else using the same method should be able to obtain the same findings. Internal consistency, that is the extent to which the responses on different questions correlate with each other.(WHO, 2004) The researcher use the Cronbach's alphas for each item with its dimension and it was (0.801) which indicate a strong reliability

Validity: means that the measurement should actually represent what it is intended to measure. (WHO, 2004). The following table showed the validity of the questionnaire

Item-Total Statistics

item	Corrected Item-Total Correlation	Item	Corrected Item-Total Correlation	item	Corrected Item-Total Correlation
f1	.186	f22	.398	f40	.309
f2	.382	f24	.256	f41	.202
f3	.449	f25	.126	f42	.376
f5	.346	f26	.220	f43	.549
f6	.229	f27	.357	f44	.214
f7	.259	f28	.246	f45	.304
f8	.357	f29	.388	f36	.111
f9	.261	f31	.351	f37	.430
f10	.369	f32	.401	f38	.343
f13	.236	f34	.190	f39	.270
f14	.430		.188	f40	.309
f15	.159			f41	.202
f16	.169	f36	.111	f42	.376
f17	.282	f37	.430	f43	.549
f19	.501	f38	.343	f44	.214
f20	.253	f39	.270	f45	.304
				f36	.111

The researcher deleted the inconvenient weak items (4.11.12.16.21.23.30.33.46).

3. Ways coping scale:

The Ways coping scale is a 44-item scale which was used to assess the coping strategies of infertile men and women in this study (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). The Ways of coping strategy used in this study composed of seven subscales

1. Wish and avoidance thinking with the follow items (3, 11, 19, 21, 34, 39, 42).
2. Problem solving including (7, 12, 15, 23, 43, 44).
3. Reinterpretation including the following(5, 8, 9, 16, 20, 31, 32, 38, 40).
4. Affiliation including (1, 17, 24, 30, 33).
5. Accountability including the follow items (2, 10, 18, 26, 41).
6. Self-control including (6, 13, 14, 22, 28, 35, 37).
7. Trouble and escape including (4, 25, 27, 29, 36).

Folkman et al (1986) studied the Ways of coping among community sample and show their alpha independently as follow: confrontive coping (.70); distancing (.61), self-controlling (.70); seeking social support (.76); accepting responsibility (.66); escape & avoidance (.72); planful problem solving (.68); and positive reappraisal (.79), (El-Hasanny, 2011).

Validity and reliability of the Ways coping scale:

1. The alpha reliability estimate for the current study was 0.759

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.759	.861	8

2. And the validity between the subscale and the total scale is listed in the follow table:

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Wish and avoidance	.472	.734
Problem solving	.735	.724
Reinterpretation	.726	.704
Affiliation	.737	.730
Accountability	.620	.743
Self control	.668	.726
Escape and trouble	.270	.762

Data collection

Data were collected by the researcher and two assistant who was trained and prepared well to collect the data and fill the questionnaire from 1/10/2011 to 15/1/2012 from 5 different infertility Centers

Data entry and statistical analysis

Statistical package for social science (SPSS) version 19 was used for **analysis**.

The analysis of data was conducted as
1. Review of the field questionnaire
2. Coding the questions
3. Appropriate entry model
4. Coding variables
5. Data cleaning
6. Frequency and cross tabulation of the result
7. Advanced statistical analysis

Statistical relationship between variables and infertility were assessed appropriately with confidence interval of 95%.

T-test and analysis of variance (ANOVA) was used to compare mean.

Ethical consideration:
1. An official letter of approval to conduct the study was obtained from the high studies deanery, Islamic University.
2. An official letter of request was obtained from the centers owner.
3. Consent form were obtained from all participant to ensure their voluntary participation.
4. Full explanation about the purpose of study to all participants.
5. Maintain confidentiality all the time during the study.

Researcher difficulties
- Lack of scientific resources like books and journals
- Lack of resources including budget and facilities especially during Gaza strip siege
- recurrent cut of electricity.
- The sensitivity of the studied subjects toward their condition and busyness and short time they have in the waiting time for the doctor visit.

Chapter (5)

Results and discussion

Introduction

This chapter will present all the research results. The statistical analysis of the data obtained from the self-report questionnaires revealed how infertility-related stress and seven coping strategy variables. Depending on One sample K-S test, Pearson correlation coefficients, t test, one way ANOVA and frequency statistics results will be presented.

I. Normality test:

The follow table shows the test of normality using one sample K-S test:

Table A: One-Sample Kolmogorov-Smirnov Test

N		Total FPI	Total Lazarus
		94	113
Normal Parameters[a,b]	Mean	170.7234	118.4336
	Std. Deviation	27.18412	11.79730
Kolmogorov-Smirnov Z		1.075	.675
Asymp. Sig. (2-tailed)		.198	.752

(Table A) showed the following:

The P value is more than (0.05) for fertility problem inventory and Lazarus questionnaire and therefore we conclude that the data follow normal distribution and parametric tests can be used.

II. Hypothesis test:

5.1. First hypothesis: There is an increase of the couple level of stress among Gazian infertile couple.

To verify the validity of the first hypothesis, the researcher calculated the total score of the respondents related to global stress and according to the FPI Norms the (Table 5.1.1) shows the results related to this hypothesis.

Table5.1.1 percentage of level of fertility-related stress

Level of infertility-related stress		Frequency	Valid Percent
Valid	Average stress	4	3.1
	Moderately high stress	5	3.9
	Very high stress	120	93.0
	Total	129	100.0

(Table 5.1.1) showed the following:

- The previous table showed that there is a significant increase in the level of infertility-related stress and most of the sample (93.0 %) experience very high stress, *furthermore*, all male participants suffer from very high stress, while, 91.3% of female participants suffers from very high which indeed requested every urgent intervention from the health personnel.
- We can accept the alternative hypothesis and reject the null-hypothesis
- And this is attributed to the social stigma in Gaza strip, where the aim of family formation is to reproduce and when this task did not fulfilled the stress from all the relatives by different means exerted upon the spouse to find the cure for such I think not a medical but a social problem.
- And this result agreed with the findings of Lechner, Bolman, Dalen(2006) which clarified that infertile Women especially experienced more health complaints, more anxiety and depression symptoms and more complicated grief than the general population, and with **Joshi et al. (**2009) where he conclude that infertile women undergo more psychological distress as compared to their normal counterparts and Ehsanpour S. and et al. (2007) where he conclude that the mean score of infertility treatment related stress was 58.68 and 86.7% of couples experienced average to severe stress in professional treatments for infertility.

5.2. Second hypothesis: There is a significant relationship between the mean of duration of infertility and the level of stress.

- To verify the validity of the second hypothesis, the researcher calculated the correlation coefficient, "Pearson" between the duration of infertility and Fertility Problem inventory dimensions.(Table5.2.1) shows the results related to this hypothesis .

Table5.2.1 Correlation coefficient (r) between the duration of infertility and Fertility Problem inventory dimensions:

	Pearson Correlation	Total FPI	social concern	sexual	Relationship concern	rejection of lifestyle	need for parenting
Duration Of Infertility		.007	.074	.044	.243[**]	-.110	-.105
	P	.939	.406	.619	.006	.216	.237
	N	128	128	128	128	128	128

**P<0.01   *P<0.05   // P>0.05

(Table 5.1.2) showed the following:

- There is a positive, and significant relationship between the mean of duration of infertility and relationship concerns
- it hadn't observed relationship with statistical significant between duration of infertility and the following FPI dimensions (social concern, sexual concerns, rejection of lifestyle and need for parenting).
- We can accept the alternative hypothesis and reject the null-hypothesis
- In our culture if the more the infertility year the more the men think in the second wife and because 80% of our sample is female so, with the advancement

of year they become more concerning about their relationship with their husbands.

- And this result agreed with (Edelmann & Connolly, 1986 as cited in Marni, 2003) that the longer one has been diagnosed as infertile, the greater their distress levels will be compared to fertile couples.
- And disagree with Marini, (2003) and Broeck and et al., (2010) where No significant differences were found when comparing responders to non-responders concerning duration of infertility

5.3. Third hypothesis: There is a significant relationship between the socio-demographic characteristics and infertile couple level of stress & coping strategy.

5.3.1: Sex

To verify the validity of the Third hypothesis , the researcher used T- test (Independent -Sample T-Test) as describes in the following tables:

Table 5.3.1: T- test results of comparing between male and female proportion to the Fertility Problem inventory dimensions .

	sex	N	Mean	Std. Deviation	t	df	P
Total fpi	male	25	134.9200	17.01205	.273	127	.786
	female	104	133.2981	28.49659	.368	60.845	.714
Social concern	male	25	28.8000	11.81454	1.661	127	.099
	female	104	25.4519	8.27076	1.340	29.891	.190
Sexual concern	male	25	20.2000	5.76628	-.900-	127	.370
	female	104	21.6827	7.72245	-1.075-	47.116	.288
Relationship	male	25	16.9600	4.17812	.871	127	.385
	female	104	16.0288	4.93345	.964	41.692	.340
Rejection of lifestyle	male	25	35.6800	7.80342	1.354	127	.178
	female	104	33.2500	8.11178	1.387	37.498	.174
Need for parenting	male	25	33.2800	7.82901	-1.562-	127	.121
	female	104	36.8846	10.86931	-1.903-	48.944	.063

Table 5.3.1) showed the following:

It hadn't observed any substantial differences with statistical significant between male and female related to the following FPI dimensions (social concern, sexual concerns, relationship, rejection of lifestyle and need for parenting).but through the means we can see that male has Global stress more than female and this may attributed to the meaning of infertility utilized by male witch had been rationalized by Connolly and Cook (1987 as cited in Peterson BD, et al. (2003), p:21) found that husbands reported lower levels of self-esteem because, "infertility and virility become intertwined for the infertile; a man who is unable to father a natural child may feel that others doubt his masculinity and even they may develop erectile dysfunction as shown by Seibel and Taymor ((1982) as cited in Peterson BD, et al. (2003), p:21) whom estimated that up to 10% of infertility is directly related to, or has its origins in male impotence or other

sexual dysfunction. In addition, impotence is a common side effect of male infertility, further complicating the issue.

And according to our culture the male rarely present in the infertility clinics and send significant others as a substitution for him, but when his presence is a must, which may as a result of previous failure to conceive and the doctor ask his presence, a huge stress will be developed not only due to the infertility but also due to he is required to face the greatest fear which is feeling "less of a man" felt when inter the clinic, when interviewed by health team, when faced by a known one, when a test requested, or a result near to be completed. And according to our date the male demonstrate higher stress when the cause of the infertility is due to male factor or unknown add demonstrate low level of stress when the cause due female factor.

5.3.2: T- test results of comparing between the averages of male degrees and average of female degrees proportion to Lazarus coping styles dimensions

	sex	N	Mean	t	df	P
Wish and avoidance	male	25	19.4800	.217	127	.829
	female	104	19.1827	.151	27.374	.881
Problem solving	male	25	16.9200	-.225-	127	.822
	female	104	17.1058	-.206-	33.257	.838
Reinterpretation	male	25	25.1600	-1.461-	127	.147
	female	104	26.9423	-1.421-	35.324	.164
Affiliation	male	25	14.1600	-.653-	127	.515
	female	104	14.6346	-.687-	38.777	.496
Accountability	male	25	12.6000	-1.767-	127	.080
	female	104	13.6827	-1.751-	36.044	.088
Self control	male	25	19.2400	-.914-	127	.363
	female	104	20.0673	-.702-	28.920	.488
Escape and truble	male	25	12.2800	.717	127	.475
	female	104	11.7212	.559	29.192	.580

Table 5.3.2) showed the following:

It hadn't observed any substantial differences with statistical significant between male and female related to Lazarus coping styles dimensions.
- We cannot reject the null hypothesis which says that there is no significant relationship between the sex and infertile couple level of stress & coping strategy.
- This rejection of the alternative hypothesis is due to the sample size which was small comparing with the literature samples.
- This results dis agree with Pottinger et al. (2006), Peterson et al (2011) and Ehsanpour S. and et al. (2007)

5.3.2: Work

To verify the validity of the third hypothesis, the researcher used T- test (Independent -Sample T-Test) for two independent sample to compare between the average of unemployed degrees and the average of employed degrees proportion to Fertility Problem inventory dimensions & coping styles as describes in the following table **5.3.2.1**:

Table 5.3.2.1: T- test results of comparing between the averages of unemployed degrees and average of employed degrees proportion to the Fertility Problem inventory dimensions.

	work	N	Mean	Std. Deviation	df	t	P
Total fpi	unemployed	44	133.9091	18.07069	124	.315	\\.754
	employed	82	134.5122	30.10691	122.3		
Social concern	unemployed	44	27.0000	10.21854	124	-.712-	\\.478
	employed	82	25.7195	8.57541	71.3		
Sexual	unemployed	44	20.4773	6.17380	124	-.545-	\\.587
	employed	82	21.9634	7.98215	75.8		
Relationship	unemployed	44	17.0227	4.06625	124	.268	\\.789
	employed	82	15.9268	5.09364	108.4		
Rejection of lifestyle	unemployed	44	34.7045	6.89651	124	-.024-	\\.981
	employed	82	33.4390	8.69667	106.0		
Need for parenting	unemployed	44	34.7045	7.69953	124	1.689	\\.094
	employed	82	37.4634	11.43656	117.5		

(Table 5.3.2.1) showed the following:

It hadn't observed any substantial differences with statistical significant between employed and unemployed related to the following FPI dimensions (social concern, sexual concerns, relationship, rejection of lifestyle and need for parenting).

Table 5.3.2.2: T- test results of comparing between the averages of unemployed degrees and average of employed degrees proportion to the Lazarus coping styles dimensions.

	work	Mean	Std. Deviation	t	P
Wish and avoidance	unemployed	18.5455	7.39407	-.933-	.353
	employed	19.6098	5.29560		
Problem solving	unemployed	17.2500	4.01234	.361	.719
	employed	17.0000	3.52767		
Reinterpretation	unemployed	26.0227	5.99414	-.898-	.371
	employed	26.9512	5.27023		
Affiliation	unemployed	14.0682	3.23065	-1.229-	.221
	employed	14.8049	3.19505		
Accountability	unemployed	12.9773	2.81597	-1.612-	.109
	employed	13.8049	2.71001		
Self control	unemployed	19.4318	5.12358	-1.000-	.319
	employed	20.1951	3.40457		
Escape and truble	unemployed	11.4545	4.05460	-.835-	.406
	employed	12.0000	3.16228		

(Table 5.3.2.2) showed the following:

- It hadn't observed any substantial differences with statistical significant between employed degrees and the average of unemployed related to the following Lazarus dimension (Wish And Avoidance, Affiliation, Self Control, problem solving, Reinterpretation, Accountability and Escape And Trouble).

From the two above tables we cannot reject the null hypothesis and reject the alternative hypothesis which says "There is a significant relationship between the work characteristics and infertile couple level of stress & coping strategy".
This result disagree with Ehsanpour S. and et al. (2007) results.

5.3.3: level of education:

To verify the validity of the third hypothesis the researcher used One Way ANNOVA test to study the differences between level of education among the infertile couples and fertility related stress. The following table (**5.3.3**) shows the results related to this hypothesis.

Table 5.3.3.1.1: One Way ANNOVA test analysis between level of education and fertility related stress

		Sum of Squares	df	Mean Square	F	Sig.
Total fpi	Between Groups	3473.101	4	868.275	1.206	.312
	Within Groups	85701.698	119	720.182		
	Total	89174.798	123			
Social concern	Between Groups	138.652	4	34.663	.397	.811
	Within Groups	10395.694	119	87.359		
	Total	10534.347	123			
Sexual concern	Between Groups	659.485	4	164.871	3.177	.016*
	Within Groups	6176.289	119	51.902		
	Total	6835.774	123			
Relationship concern	Between Groups	58.762	4	14.690	.640	.635
	Within Groups	2732.916	119	22.966		
	Total	2791.677	123			
Rejection of lifestyle	Between Groups	168.383	4	42.096	.625	.646
	Within Groups	8017.576	119	67.375		
	Total	8185.960	123			
Need for parenting	Between Groups	553.034	4	138.259	1.296	.276
	Within Groups	12694.151	119	106.674		
	Total	13247.185	123			

(Table 5.3.3.1.1) showed the following:

There is a substantial statistical significant difference between levels of education of infertile couples for sexual concerns. In addition, to find out dimensional comparison the researcher used LSD.

There is no substantial statistical significant difference between levels of education of infertile couples for (Social concern, Relationship concern, Rejection of lifestyle, Need for parenting).

Table 5.3.3.1.2 Through the Post Hoc Tests the results of LSD test for dimensional comparison in the Sexual Concern related to educational level:

FPI	Level of education	N	mean		Level of education				
					Elementary	Primary	Secondary	University	High
SEXUAL CONCERNS	Elementary	5	19.6	P		0.353	0.092	0.861	0.801
				MD	0	- 4.0	- 6.0	- 0.58	1.1
	Primary	6	23.6	P			0.556	0.255	0.217
				MD		0	-1.9	3.4	5.1
	Secondary	25	25.6	P				0.001	0.032
				MD			0	5.4*	7.1*
	University	82	20.1	P					0.582
				MD				0	1.6
	High	6	18.5						0

(Table 5.3.3.2) showed the following:

Through the LSD test for dimensional comparisons of the homogeneity of variance, it shows a statistically significant difference between level of education in the Sexual Concern.

- The difference between the University group and Secondary group means (5.4) is statistically significant (0.001). We can conclude that the Couples with University level of education have significantly less sexual concerns than did the couples with Secondary level of education.
- The difference between the High group and Secondary group means (7.1) is statistically significant (0.032). We can conclude that the Couples with Secondary level of education has significantly sexual concerns than did the couples with High level of education.
- From the previous result the infertile couples with lower level of education become more interested in sexual concerns and due to their low level they unable to comprehend the goal from the sexual relation and how they react to their infertility.

And these results disagree with Akter Banu (2008) which his result showed that the stress of graduate respondents is significantly higher than that of secondary level and illiterate respondents.

Table 5.3.3.2.1: One Way ANNOVA test analysis between level of education and fertility related stress

		Sum of Squares	df	Mean Square	F	Sig.
Wish and avoidance	Between Groups	168.817	4	42.204	1.116	.352
	Within Groups	4499.022	119	37.807		
	Total	4667.839	123			
Problem solving	Between Groups	161.330	4	40.333	3.265	.014
	Within Groups	1469.920	119	12.352		
	Total	1631.250	123			
Reinterpretation	Between Groups	400.249	4	100.062	3.606	.008
	Within Groups	3302.485	119	27.752		
	Total	3702.734	123			
Affiliation	Between Groups	88.197	4	22.049	2.348	.058
	Within Groups	1117.545	119	9.391		
	Total	1205.742	123			
Accountability	Between Groups	109.530	4	27.382	3.875	.005
	Within Groups	840.954	119	7.067		
	Total	950.484	123			
Self control	Between Groups	76.414	4	19.104	1.200	.314
	Within Groups	1894.424	119	15.920		
	Total	1970.839	123			
Escape and truble	Between Groups	35.873	4	8.968	.757	.555
	Within Groups	1409.571	119	11.845		
	Total	1445.444	123			

(Table 5.3.3.2.1) showed the following:

There is a substantial statistical significant difference between levels of education of infertile couples for problem solving, reinterpritation and accountability. in addition, to find out dimensional comparison the researcher used lsd.

There is no substantial statistical significant difference between levels of education of infertile couples for (Wish And Avoidance, Affiliation, Self Control, Escape And Truble).

Through the LSD test for dimensional comparisons of the homogeneity of variance, it shows a statistically significant difference between the Elementary, the Primary, the Secondary, University, and High level of as follow:

Table 5.3.3.2.2: Through the Post Hoc Tests the results of LSD test for dimensional comparison in the PROBLEM SOLVING related to educational level:

FPI	Level of education	N	mean		Elementary	Primary	Secondary	University	High
							Level of education		
PROBLEM SOLVING	Elementary	5	19.4	**P**	0	0.023	0.066	0.22	0,606
				MD		4.9*	3.2	1.99	-1.1
	Primary	6	14.5	**P**		0	0.289	0.053	0.004
				MD			-1.7	-2.9	-6.00*
	Secondary	25	16.2	**P**			0	0.137	0.008
				MD				-1.2	-4.3*
	University	82	17.4	**P**				0	0.039*
				MD					-3.09
	High	6	20.5						0

(Table 5.3.3.2.2) showed the following:
- The difference between the Primary group and Elementary group means (4.9) is statistically significant (0.023). We can conclude that the Couples with primary level of education use significantly less problem solving styles than did the couples with elementary level of education.
- The difference between the High group and Primary group means (-6.0) is statistically significant(0.004). We can conclude that the Couples with primary level of education use significantly less problem solving styles than did the couples with High level of education.
- The difference between the High group and Secondary group means (-4.3) is statistically significant (0.008). We can conclude that the Couples with Secondary level of education use significantly less problem solving styles than did the couples with High level of education.
- The difference between the High group and University group means (-3.09) is statistically significant (0.039). We can conclude that the Couples with University level of education use significantly less problem solving styles than did the couples with High level of education.

From the previous result we conclude that high level of education has the highest usage of problem solving styles and this is congruent with the literature that with the increase of years of education the couples become more oriented to the life and how to deal with daily stressors and earns a lot of new method to solve the encountering problem and daily stressors.
And our result is congruent with the result of Akter Banu (2008) which his result showed that the stress of graduate respondents is significantly higher than that of secondary level and illiterate respondents.

Table 5.3.3.2.3: Through the Post Hoc Tests the results of LSD test for dimensional comparison in the REINTERPRITATION related to educational level:

FPI	Level of education	N	mean		Level of education				
					Elementary	Primary	Secondary	University	High
REINTERPRITATION	Elementary	5	19.4	**P**		0.067	0.699	0,65	0.22
				MD	0	5.9	1.00	-1.07	-3.9
	Primary	6	14.5	**P**			0.043	0.002	0.002
				MD		0	-4.9*	-6.9*	-9.8*
	Secondary	25	16.2	**P**				0.087	0.042
				MD			0	-2.07	-4.9*
	University	82	17.4	**P**					0.202
				MD				0	-2.8
	High	6	20.5						0

(Table 5.3.3.2.3) showed the following:

- The difference between the Secondary group and Primary group means (- 4.9) is statistically significant (0.043). We can conclude that the Couples with primary level of education use significantly less Reinterpretation styles than did the couples with Secondary level of education.
- The difference between the University group and Primary group means (- 6.9) is statistically significant (0.002). We can conclude that the Couples with primary level of education use significantly less Reinterpretation styles than did the couples with University level of education.
- The difference between the High group and Primary group means (-9.8) is statistically significant (0.002). We can conclude that the Couples with primary level of education use significantly less Reinterpretation styles than did the couples with High level of education.
  - The difference between the High group and Secondary group means (-4.9) is statistically significant (0.042). We can conclude that the Couples with Secondary level of education use significantly less Reinterpretation styles than did the couples with High level of education.

From the above result we can conclude that high level of education can use Reinterpretation or Positive reappraisal (reframing a situation to see it in a positive light); more than other levels which mean they able to look to their problem on other way and reappraised the infertility in a way that can help the to cope positively with these stressors.

Table 5.3.3.2.4: Through the Post Hoc Tests the results of LSD test for dimensional comparison in the ACCOUNTABILITY related to educational level

FPI	Level of education	N	mean		Level of education				
					Elementary	Primary	Secondary	University	High
ACCOUNTABILITY	Elementary	5	19.4	P		0.020	0.063	0.4	0.8
				MD	0	3.8*	2.4	0.8	-.3
	Primary	6	14.5	P			0.26	0.01	0.008
				MD		0	-1.3	-2.9*	-4.1*
	Secondary	25	16.2	P				0.011	0.022
				MD			0	-1.5*	-2.8*
	University	82	17.4	P					0.27
				MD				0	-1.2
	High	6	20.5						0

(Table 5.3.3.2.4) showed the following:
- The difference between the Primary group and Elementary group means (3.8) is statistically significant (0.020). We can conclude that the Couples with primary level of education use significantly less Accountability styles than did the couples with Elementary level of education.
- The difference between the University group and Primary group means (-2.9) is statistically significant (0.01). We can conclude that the Couples with primary level of education use significantly less Accountability styles than did the couples with University level of education.
- The difference between the High group and Primary group means (- 4.1) is statistically significant (0.008). We can conclude that the Couples with primary level of education use significantly less Accountability styles than did the couples with High level of education.
- The difference between the University group and Secondary group means (- 1.5) is statistically significant (0.011). We can conclude that the Couples with Secondary level of education use significantly less Accountability styles than did the couples with University level of education.
- The difference between the High group and Secondary group means (-2.8) is statistically significant (0.022). We can conclude that the Couples with Secondary level of education use significantly less Accountability styles than did the couples with High level of education.

Higher level of education use Accountability more than other which is due to their full understanding of the current situation.

And this result related to infertility related stress agree with Fido A, Zahid MA. (2004), and also agree with Parveen B. and et al (2008) related to coping strategy.

5.3.4: Type of infertility:

To verify the validity of the third hypothesis, the researcher used T- test (Independent -Sample T-Test) to compare between the average of Secondary degrees and the average of Primary degrees proportion to Fertility Problem inventory dimensions as describes in the following tables.

Table 5.3.4.1: T- test results of comparing between the averages of Secondary type degrees and average of Primary type degrees proportion to Fertility Problem inventory dimensions

	Type of infertility	N	Mean	STD	df	t	P
Total fpi	Secondary	29	137.2069	38.92885	125	.843	.401
	Primary	98	132.4286	22.13222	33.524		
Social concern	Secondary	29	25.8621	14.00185	125	-.144-	.886
	Primary	98	26.1429	7.26664	70.893		
Sexual concern	Secondary	29	22.3793	8.82130	125	.851	.396
	Primary	98	21.0408	6.98587	32.581		
Relationship	Secondary	29	16.2414	4.92555	125	.097	.923
	Primary	98	16.1429	4.77968	38.970		
Rejection of lifestyle	Secondary	29	34.0000	9.75778	125	.248	.804
	Primary	98	33.5714	7.64280	44.775		
Need for parenting	Secondary	29	38.7241	15.00213	125	1.447	.150
	Primary	98	35.5306	8.69080	38.721		

(Table 5.3.4.1) showed the following:

It hadn't observed any substantial differences with statistical significant between Primary and Secondary related to the following FPI dimensions (social concern, sexual concerns, relationship, rejection of lifestyle and need for parenting).

The researcher due this to the special characteristic of the sample where most of them female (80.6 %), and according to our religion which enforce the procreation and did not forbid the polygamy and 52 % of the female respond that the cause of infertility is unknown, while about 20 % of them attribute the infertility to themselves. So, both of female with or without a previous child has a high level of stress. Furthermore, while the female anxious about their relationship with the husbands where the worst thoughts may happen which is the new marriage and polygamy. Both female with and without child extremely scared from this eventual outcome.

From social perspective the family become more frequently in daring to tell the secondary infertile women about their delay in bearing another child and start joking, talking in a way that provoke sad, sorrow, and inferiority feeling which in turn has a direct negative feeling, in contrast, the primary infertile female is avoided in such talks about their infertility in the same way that they talk to in front of the secondary type.

Table 5.3.4.2: T- test results of comparing between the averages of Secondary degrees and average of Primary degrees proportion to Lazarus dimensions

	Type of infertility	Mean	Std. Deviation	t	P
Wish and avoidance	Secondary	19.4483	3.14627	.194	.846
	Primary	19.1939	6.82877		
Problem solving	Secondary	17.6552	4.00246	.964	.337
	Primary	16.8980	3.63116		
Reinterpretation	Secondary	28.1724	5.07845	1.776	.078
	Primary	26.1122	5.60170		
Affiliation	Secondary	15.0345	3.30025	.893	.374
	Primary	14.4184	3.25521		
Accountability	Secondary	14.4483	2.33890	2.254	.026
	Primary	13.1531	2.81876		
Self control	Secondary	20.1724	3.46481	.401	.689
	Primary	19.8265	4.23784		
Escape and truble	Secondary	11.3103	3.33920	-.900-	.370
	Primary	11.9796	3.56957		

(Table 5.3.4.2) showed the following:

- There is substantial differences with statistical significant between the average of primary infertility degrees and the average of Secondary infertility degrees in ACCOUNTABILITY dimension for the secondary type of infertility. The differences were for the secondary type of infertility that indicates for the secondary type of infertility has ACCOUNTABILITY more than primary infertility.

  And this due to the family with child practice the parenting role and become more accountable.

- Whereas it hadn't observed any substantial differences with statistical significant between primary infertility degrees and the average of secondary type of infertility related to the following Lazarus dimension Wish And Avoidance, Affiliation, Self Control, problem solving, Reinterpretation, and Escape And Trouble).

5.3.5: Type of family

To verify the validity of the third hypothesis, the researcher used T- test (Independent -Sample T-Test) to compare between the average of Nuclear family type degrees and the average of Extended degrees proportion to Fertility Problem inventory dimensions as describes in the following tables.

5.3.5.1: T- test results of comparing between the averages of nuclear degrees and average of extended degrees proportion to FPI dimensions.

	Family type	N	Mean	STD	t	df	P
Total fpi	nuclear	55	135.0182	31.20155	.315	111	.754
	extended	58	133.3966	23.19176		99.524	
Social concern	nuclear	55	25.9455	10.74350	-.712	111	.478
	extended	58	27.1724	7.34402		94.821	
Sexual concern	nuclear	55	21.0182	7.57063	-.545	111	.587
	extended	58	21.7931	7.55044		110.650	
Relationship	nuclear	55	16.3636	4.91921	.268	111	.789
	extended	58	16.1207	4.70564		109.947	
Rejection of lifestyle	nuclear	55	33.6182	9.25661	-.024	111	.981
	extended	58	33.6552	7.26576		102.413	
Need for parenting	nuclear	55	38.0727	12.43629	1.689	111	.094
	extended	58	34.6552	8.86854		97.220	

It hadn't observed any substantial differences with statistical significant between the average of Nuclear family type degrees and the average of Extended degrees related to the following FPI dimensions (social concern, sexual concerns, relationship, rejection of lifestyle and need for parenting).

Through the previous table, we can conclude that the infertile male and female who lives in nuclear family had higher mean degree of (Global stress, Relationship, and Need for parenting) which mean they have more stress than and also they have more relationship concerns more than extended and finally they have more need of parenting than the extended family and those may attributed to the family who live alone without the relatives lack support then they have higher stress; and facing the other part of the problem (male/female) all the day makes them all the time remember the problem; while living alone has a direct effect with continuous stress on the nuclear family.

While the extended family was higher in (Social concern, Sexual concern, and Rejection of lifestyle) which mean when live in an extended family the husband acquire how to react and interact with his wife and at last the couples who live in extended family may have nephew so they tend to compare and feel the natural which is concurrent with the relatives comments, gestures, expression, and behavior that lead to increase couples above mentioned concerns.

5.3.5.2: T- test results of comparing between the averages of nuclear degrees and average of extended degrees proportion to Lazarus dimensions.

	Family type	N	Mean	STD	t	P
WISH AND AVOIDANCE	nuclear	55	18.9455	3.43413	-.721-	.472
	extended	58	19.8103	8.24293		
PROBLEM SOLV	nuclear	55	17.9455	3.65360	2.349	.021
	extended	58	16.3793	3.43270		
REINTERPRITATION	nuclear	55	27.8364	5.41180	2.134	.035
	extended	58	25.6897	5.27891		
AFFILIATION	nuclear	55	14.9636	3.45856	1.452	.149
	extended	58	14.0690	3.08853		
ACCOUNTABILITY	nuclear	55	14.0364	2.78198	1.953	.053
	extended	58	13.0172	2.76248		
SELF CONTROL	nuclear	55	20.2909	3.74004	1.152	.252
	extended	58	19.4483	4.01826		
ESCAPE AND TRUBLE	nuclear	55	11.7636	2.95625	-.121-	.904
	extended	58	11.8448	4.08163		

(Table 5.3.5.2) showed the following:

- There is substantial differences with statistical significant between the average of nuclear family degrees and the average of extended family type degrees in Lazarus (problem solving, and Reinterpretation) dimension for the nuclear family. The differences were for the nuclear family that indicates the nuclear family use problem solving, and Reinterpretation, more than extended family.
- Whereas it hadn't observed any substantial differences with statistical significant between nuclear family degrees and the average of extended family type related to the following Lazarus dimension (Wish And Avoidance, Affiliation, Self Control, Accountability, and Escape And Truble).
- The nuclear family according to researcher view point use problem solving more than the extended is because they live apart from the root family and they have to do all by themselves and so they tend to form their own reinterpretations in contrast with the extended family whom take this help from the relatives and support them at once.

5.4. Forth hypothesis: There is significant relationship between mean score of coping style and couple's stress.

To verify the validity of the Forth hypothesis, the researcher founded the correlation Coefficient "Pearson" between the grades coping styles and Fertility problem inventory .The following table shows the results related to this hypothesis.

Table 5.4: Correlation coefficient (r) between the degrees coping styles and Fertility problem inventory dimensions

		Total fpi	Social concern	sexual	relationship	Rejection of lifestyle	Need for parenting
Wish and avoidance	Pearson Correlation	.167	.119	.063	.148	.044	.176*
	Sig. (2-tailed)	.058	.180	.475	.094	.621	.046
	N	129	129	129	129	129	129
Problem solving	Pearson Correlation	.008	-.065	-.155	.021	.006	.173*
	Sig. (2-tailed)	.928	.461	.079	.811	.945	.050
	N	129	129	129	129	129	129
Reinterpretation	Pearson Correlation	.004	-.097	-.158	-.010	-.044	.245**
	Sig. (2-tailed)	.966	.275	.074	.907	.619	.005
	N	129	129	129	129	129	129
Affiliation	Pearson Correlation	.061	-.068	.023	.138	-.071	.190*
	Sig. (2-tailed)	.490	.446	.797	.118	.427	.031
	N	129	129	129	129	129	129
Accountability	Pearson Correlation	.141	.092	-.013	.138	-.071	.280**
	Sig. (2-tailed)	.112	.297	.880	.120	.421	.001
	N	129	129	129	129	129	129
Self-control	Pearson Correlation	-.177**	-.156	-.309**	.009	-.209*	.062
	Sig. (2-tailed)	.045	.077	.000	.916	.017	.485
	N	129	129	129	129	129	129
Escape and truble	Pearson Correlation	.196*	.164	.211*	.131	.080	.085
	Sig. (2-tailed)	.026	.063	.017	.139	.368	.338
	N	129	129	129	129	129	129

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

(Table 5.4) showed the following:

The result showed that, there is a poor, Negative statistical significant correlation between grades of fertility related stress (Global stress) and SELF CONTROL (r = - 0.177, p value< 0.01). This shows that the greater the fertility related stress, the less infertile couples using SELF CONTROL. The researcher attribute this findings as the infertile couples in Gaza Strip ability to control emotional consequences and the intense feeling and actions aroused by their infertility is diminished by their increasing Global level of stress

It is founded that, there is a poor, positive statistical significant correlation between grades of Need for parenting and WISH AND AVOIDANCE (r= 0.176, p value< 0.05). And this shows that the greater the Need for parenting, more infertile couples using WISH AND AVOIDANCE. This mean that infertile male and female use a strategy to minimize the significance of the situation by means of detachment or disengagement from the reality as their coping refer to diverse confused efforts by using negative coping strategies such as sleeping more than usual, eating, substance use. And due to the increasing level of stress the couples become have low self-esteem, low confidence, frustration and inferiority. All of that resulted in the use of a negative coping strategy to alleviate such high level of stress.

It is founded that, there is a poor, positive statistical significant correlation between grades of Need for parenting and PROBLEM SOLVING (r = 0.173, p value< 0.05). And this shows that the greater the Need for parenting, more infertile couples

using PROBLEM SOLVING. This mean that couples with this situation start to think of the alternatives of such problem.

It is founded that, there is a poor, positive statistical significant correlation between grades of Need for parenting and REINTERPRITATION (r= 0.245, p value< 0.01). And this shows that the greater the Need for parenting, more infertile couples using REINTERPRITATION. This mean that the infertile tend to define this as an exam held by Allah to test their faith and believing, so they tend to redefine this as a test of courage, patience, and strength.

It is founded that, there is a poor, positive statistical significant correlation between grades of Need for parenting and AFFILIATION (r = 0.190, p value< 0.05). And this shows that the greater the Need for parenting, more infertile couples using AFFILIATION. With the increase of the need for parenting which lead to identification with the role of parent, and so the essential life goal of the infertile male and female become the parenthood and even their primary life goal and with such increase they start using AFFILIATION as a coping strategy.

It is founded that, there is a poor, positive statistical significant correlation between grades of Need for parenting and ACCOUNTABILITY(r= 0.280, p value< 0.01). And this shows that the greater the Need for parenting, more infertile couples using ACCOUNTABILITY. With the increase of the need for parenting which lead to identification with the role of parent, and so the essential life goal of the infertile male and female become the parenthood and even their primary life goal and with such increase they start using ACCOUNTABILITY as a coping strategy.

It is founded that, there is a poor, Negative statistical significant correlation between grades of Rejection of lifestyle and SELF CONTROL (r = - 0.209, p value< 0.05). And this shows that the greater the Rejection of lifestyle, the less infertile couples using SELF CONTROL. With the increase of negative view of childfree lifestyle, and when infertile couples look at the future happiness dependent on having a child (or another child) and when they confronted with high difficulty perceiving other roles as satisfying they tend to be less self-control.

It is founded that, there is a poor, Negative statistical significant correlation between grades of SEXUAL CONCERN and SELF CONTROL (r = - 0.309, p value< 0.01). And this shows that the greater the SEXUAL CONCERN, the less infertile couples using SELF CONTROL. The ability of self-control diminished when the infertile couples loss the enjoyment of the sexual relation, and increase the feeling of pressure to schedule sex, and at last the stage of losing the sexual self-esteem.

It is founded that, there is a poor, positive statistical significant correlation between grades of SEXUAL CONCERN and ESCAPE AND TROUBLE (r = 0. 211, p value< 0.01). And this shows that the greater the SEXUAL CONCERN, more infertile couples using ESCAPE AND TRUBLE. when the infertile couples loss the enjoyment of the sexual relation, and increase the feeling of pressure to schedule sex, and at last the stage of losing the sexual self-esteem they tend to use escape as a coping method to alleviate the resulting stress, more sexual strains more the use of a negative escape as a coping.

It is founded that, there is a poor, positive statistical significant correlation between grades of fertility related stress and ESCAPE AND TRUBLE.(r = 0.196, p value< 0.05). And this shows that the greater the fertility related stress, more infertile couples using ESCAPE AND TRUBLE. In general the stress among infertile male and female is avoided and they try to minimize its effect by avoiding the encounter with the stressful situation.

- From the above result we can accept the alternative hypothesis and reject the null
- Most of the above result congruent with the literature and some are not and this is attributed to the significance and uniqueness Palestinian culture in general and the specific character of the sample as high level of education and sex ratio which affect the result directly or indirectly

Fifth hypothesis: There is a significant relationship between the mean number treating doctors and the level of stress.

To verify the validity of the Fifth hypothesis, the researcher founded the correlation coefficient " Pearson" between the grades of Number of treating doctors and Fertility problem inventory. The following table shows the results related to this hypothesis.

Table 5.5: Correlation coefficient (r) between number treating doctors and the level of stress

	Values	Number of treating doctors
Total FPI	Pearson correlation	.197[*]
	P value	.033
	N	117

(Table 5.5) showed the following:
- It is founded that, there is a poor, positive statistical significant correlation between mean number of treating doctors and fertility related stress (r = 0.197, p value< 0.05). And this shows that the greater the number of treating doctors, more couples fertility related stress.
- We reject the null hypothesis and accept the alternative hypothesis.
- The researcher see that with the increase number of failed month and menstrual periods without pregnancy and the orientation of the clients that with progress of age the chance of getting pregnant decreased, they tend to change the doctor and even have follow up with more than one doctor at the same time, so they have more stress related to their fertility.
- Researchers have speculated that perhaps one of the reasons infertility is so difficult for women is because of their biological makeup. For approximately thirty years, the female body is in a continuous cycle of preparing itself for pregnancy through the monthly cycle of menstruation. Thus "women are reminded on a monthly basis of their biological role in procreation" (Deveraux & Hammerman, 1998, p. 66 in Peterson 2003). However, as a woman attempts to conceive, the menstruation period serves as a monthly reminder of her failure to do so. Women commonly report the highest levels of stress and depression with the onset of their menstrual cycle. Women may experience greater emotional distress as their bodies not only remind them of their role in

procreation, but also their failure to accomplish a biological goal. And male as well when they requested for a so called obligatory intercourse which is timed, scheduled, planned, and even should be done in a fix manner and position as doctor ordered and then they tend to change the doctors to avoid unconsciously the orders and answering the call of the relatives to not wait for the result but to change the current doctor and go the best new doctor as they suggested.
- Moreover, this result agrees with the result conducted by Sreshthaputra O., Sreshthaputra R. And Vutyavanich in (2008)

Sixth hypothesis: There is a significant relationship between the psychological counseling for infertility and the level of stress

To verify the validity of the sixth hypothesis, the researcher used T- test (Independent -Sample T-Test) to compare between the average degrees of couple used Psychological counseling and the average degrees of couple did not used Psychological counseling proportion to Fertility Problem inventory dimensions as describes in the following table **5.6**:

Table 5.6: T- test results of comparing between couple who used Psychological counseling and who did not, proportion to Fertility Problem Inventory dimensions

Psychological counseling		N	Mean	Std. Deviation	df	t	P
Total fpi	yes	19	124.0526	15.79548	125	-1.683-	.095
	no	108	135.0185	27.55385	40.479		
social concern	yes	19	23.7895	5.81740	125	-1.191-	.236
	no	108	26.4722	9.49516	24.193		
sexual	yes	19	22.3158	5.49801	125	.593	.554
	no	108	21.2407	7.54038	37.443		
relationship	yes	19	14.3684	5.19840	125	-1.813-	.072
	no	108	16.5000	4.64134	31.307		
rejection of lifestyle	yes	19	30.4211	9.10626	125	-1.905-	.059
	no	108	34.2315	7.84738	23.326		
need for parenting	yes	19	33.1579	9.20304	125	-1.318-	.190
	no	108	36.5741	10.61053	22.945		

(Table 5.6) showed the following:

It hadn't observed any substantial differences with statistical significant between using Psychological counseling and the average degrees of couple did not used Psychological counseling related to the following FPI dimensions (social concern, sexual concerns, relationship, rejection of lifestyle and need for parenting).
We cannot reject the null hypothesis and reject the alternative hypothesis.
But the mean of the stress in the infertile who receives the sessions was lower than those who did not attend the sections.
And the lack of significance due to 96.1% of the sample has less than 4 psychological counseling sessions and so the client level of commitment to the session is low so they did not wait for the psychological therapy to start the effects.
And this result disagree with Abedinia N. et al.,(2009) who give the client 6-8 sessions of psychotherapy before infertility treatment and were given daily Fluoxetin 20- 60 mg

at the same period and his result show that depression decresed with those recive the therapy and the pregnancy rate increased among them; and Mcnaughton-Cassill et al. (2002) used cognitive behavioral techniques (CBT)to help participants process their feelings and cognitions about their infertility. Women who attended group sessions were significantly less anxious after the IVF treatment than they were before the cycle (P<.001). and he found that Men who attended the group sessions were more optimistic than non-group men or the women at the completion of the IVF cycle (P<.001)

Chapter 6

Conclusion and recommendations

Conclusion

Results of the analyses completed on the study participants (N = 129 infertile male and female) yielded the following results:

there is a significant increase in the level of infertility-related stress and most of the sample 93.0 % experience very high stress, *furthermore*, all male participants suffer from very high stress, while, 91.3% of female participants suffers from very high.

There is a positive, and significant relationship between the mean of duration of infertility and relationship concerns, the Couples with University level of education have significantly less sexual concerns than did the couples with Secondary level of education, the Couples with Secondary level of education has significantly more sexual concerns than did the couples with High level of education, high level of education has the highest usage of problem solving styles, high level of education can use Reinterpretation or Positive reappraisal (reframing a situation to see it in a positive light); more than other levels, Higher level of education use Accountability more than other which is due to their full understanding of the current situation.

The secondary type of infertility has accountability more than primary infertility, the nuclear family use problem solving, and reinterpretation, more than extended family, the greater the fertility related stress, the less infertile couples using self control, the greater the need for parenting, more infertile couples using wish and avoidance, the greater the need for parenting, more infertile couples using problem solving; the greater the need for parenting, more infertile couples using reinterpritation, the greater the need for parenting, more infertile couples using affiliation, the greater the need for parenting, more infertile couples using accountability, the greater the rejection of lifestyle, the less infertile couples using self control, the greater the sexual concern, the less infertile couples using self control, the greater the sexual concern, more infertile couples using escape and truble, the greater the fertility related stress, more infertile couples using escape and truble, and finally, the greater the number of treating doctors, more couples fertility related stress

The current study found no significant differences in sex, work, type of infertility related to fertility related stress, and psychological counseling.

Recommendation

This studies that examine the infertile stress and coping processes of men and women would be of great value. These studies could help reveal the complex processes of coping with infertility and could shed additional light on the couple groupings that reported positive outcomes

The researcher recommends the following to alleviate their suffer and improve their well-being:

1. Awareness programs could be developed to educate medical professionals about the importance of their role in the experience of infertility for the couple.

2. Physicians who are able to identify couples who may be at risk for problems with their marital adjustment could then make appropriate referrals to mental or social workers.

3. Inclusion of the mental health in the reproductive Clinics and concurrent therapy may increase the chance of getting pregnant.

4. Developing a health insurance that imply the treatment of clients suffer from such issue.

5. Increase the awareness of the general population about the benefits of the social support and how to deal with such people to prevent further complication for their situation.

6. Develop a support groups for the infertile couples and group therapy to minimize their suffer and promote their health condition.

Future research could include:

1. Longitudinal studies that track changes in infertile couples' coping strategies over time. Longitudinal studies could more fully explore Lazarus and Folkman's hypothesis that stress and coping are situation specific. Coping strategies that appear ineffective at the early stages of treatment may prove to be effective given a new set of circumstances.

2. Cross-sectional designs that replicate this study using infertile populations not pursuing treatment or who recently completed treatments would be valuable. This would allow researchers to more fully understand the relationship between coping and infertility stress, marital adjustment and depression across the various phases of the infertility experience.

3. Studying the effects of larger systems on the couple experiencing infertility may be another beneficial area for future research.

4. Looking at the impact of extended family and other larger social support networks, organizational influences such as Masged, religion, and school, and the larger communities attitudes towards infertility may lead to important knowledge about how these larger systems, and the couple's relationship to these larger systems, effect marital adjustment for couples.

5. Other studies looking at the effect of therapeutic interventions on couples who exhibited the risk factors identified in this study and received treatment would provide a wealth of information about the most beneficial interventions for these couples.

6. Another interesting avenue for future research might be to examine physicians, nurses and other medical personnel who have contact with couples presenting for infertility treatment in regard to their attitudes and behaviors toward these couples.

7. studying the impact and influence of medical professionals on the couple experiencing infertility could be very informative. Physicians specializing in infertility treatment are especially important individuals in the couples lives as they face infertility. These physicians may often be the primary confidants of the couples with regard to their physical and emotional state

8. A study examining the awareness level and attributions of infertility specialists regarding the emotional factors and risks to marital adjustment for these couples may lead to important new information about ways that these medical professionals can better interact with couples seeking infertility treatment.

no.

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PPENDIX A

QUESTIONNAIRES

The following questionnaires were used:

1. Biographical questionnaire
2. The Fertility Problem Inventory (FPI)
3. Way Coping strategies(WCS)

FERTILITY PROBLEM INVENTORY (FPI)

Newton, (1999)

The Fertility Problem Inventory is designed to measure your distress, beliefs, and attitudes related to infertility. Please answer as accurately as possible, according to the following guidelines. (Simply mark your choice for each item with an "X" on the tables provided).

1 = Strongly disagree

2 = Disagree

3 = Disagree somewhat

4 = Agree somewhat

5 = Agree

6 = Strongly agree

THE FERTILITY PROBLEM INVENTORY (FPI) The Fertility Problem Inventory is designed to measure your distress, beliefs, and attitudes related to infertility. Please answer as accurately as possible. Simply mark your choice for each item with an "X".	Strongly Disagree 1	Disagree 2	somewhat Disagree 3	somewhat Agree 4	Agree 5	Strongly agree 6
1 It doesn't bother me when I'm asked questions about children.						
2 Family members don't seem to treat us any differently.						
3 The holidays are especially difficult for me.						
4 Family get-togethers are especially difficult for me.						
5 I can't help comparing myself with friends who have children.						
6 I still have lots in common with friends who have children.						
7 I find it hard to spend time with friends who have young children.						
8 When I see families with children I feel left out.						
9 I feel like friends or family are leaving us behind.						
10 It doesn't bother me when others talk about their children.						
11 I find I've lost enjoyment of sex because of the fertility problem.						
12 I feel just as attractive to my partner as before.						
13 I don't feel any different from other members of my sex.						
14 I feel like I've failed at sex.						
15 During sex, all I can think about is wanting a child (or another child).						

16 Having sex is difficult because I don't want another disappointment.						
17 If we miss a critical day to have sex, I can feel quite angry.						
18 Sometimes I feel so much pressure, that having sex becomes difficult.						
19 I can't show my partner how I feel because it will make him/her feel upset.						
20 My partner doesn't understand the way the fertility problem affects me.						
21 My partner and I work well together handling questions about our infertility.						
22 It bothers me that my partner reacts differently to the problem.						
23 My partner is quite disappointed with me.						
24 My partner and I could talk more openly with each other about our fertility problem.						
25 I couldn't imagine us ever separating because of this.						
26 When we try to talk about our fertility problem, it seems to lead to an argument.						
27 Because of infertility, I worry that my partner and I are drifting apart.						
28 When we talk about our fertility problem, my partner seems comforted by my comments.						
29 Couples without a child are just as happy as those with children.						
30 I could see a number of advantages if we didn't have a child (or another child).						
31 I could visualize a happy life together, without a child (or another child).						
32 At times, I seriously wonder if I want a child (or another child).						
33 Not having a child (or another child) would allow me time to do other satisfying things.						
34 Having a child (or another child) is not necessary for my happiness.						
35 We could have a long, happy relationship without a child (or another child).						

36 There is a certain freedom without children that appeals to me.						
37 Pregnancy and childbirth are the two most important events in a couple's relationship.						
38 For me, being a parent is a more important goal than having a satisfying career.						
39 My marriage needs a child (or another child).						
40 It's hard to feel like a true adult until you have a child.						
41 A future without a child (or another child) would frighten me.						
42 I feel empty because of our fertility problem.						
43 Having a child (or another child) is not the major focus of my life.						
44 I have often felt that I was born to be a parent.						
45 As long as I can remember, I've wanted to be a parent.						
46 I will do just about anything to have a child (or another child).						

The questionnaire in English

S. N.	Question	Not used	Used a little	Used some times	Used a great deal
1	Refused to believe that it happened				
2	Avoided being with people in general				
3	Hoped miracle would happen				
4	Had fantasies about how things might turn out				
5	Took it out on other people				
6	Wished that the situation would go away or somewhat be over with				
7	Tried to forget the whole thing				
8	I know what had to be done, so I doubled my efforts to make things work				
9	Stood my ground and fought for what I wanted				
10	Went on as if nothing had happened				
11	I made a plan of action and followed it				
12	Just concentrated on what I had to do next				
13	Drew on my past experience, when I was at in a difficult position before				
14	Changed or grew as a person in a good way				
15	Talked to somebody who could do something concrete about the problem				
16	Tried to look on the bright side of things				
17	I went over in my mind what I would say or do				
18	Took a big chance, even something very risky				
19	I rediscover what is important in life				
20	Changed something so things would turn out all right				
21	I prayed				
22	Thought that the experience makes me stronger than before				

23	I talked to someone to find out more information				
24	I tried not to act hastily or follow my first hunch				
25	I asked a person I respected for advice				
26	Accepted sympathy and understanding from somebody				
27	I asked for advice				
28	I change something about myself				
29	I apologized or did something to make up				
30	I criticize myself				
31	I promised myself that things would be different next				
32	Realized that I have some responsibility of my problem				
33	I tried to keep my feelings from interfering with other things too much				
34	I thought about how a person I admire would handle the situation				
35	Tried not to burn my bridges, but leave things open				
36	Kept others from knowing how bad things were				
37	I try to forget all disturbing things				
38	I try to keep my feelings to my self				
39	I try to do something, even if not significant, but something				
40	Slept much more than usual				
41	Went along with the fate: I just had bad luck				
42	I tried to feel better by eating, smoking, and using medication				
43	I refused to think about the whole issue				
44	I express anger to the persons I believe who caused the problem				

THE ISLAMIC UNIVERSITY-GAZA.

HIGH STUDIES DEANERY

COLLEGE OF EDUCATION

DEPARTMENT OF PSYCHOLOGY

الجامعة الاسلامية بغزة

عمادة الدراسات العليا

كلية التربية

قسم علم النفس

<hr>

الأخ/ الأخت الفاضل/ ة.... حفظكم الله

السلام عليكم ورحمة الله وبركاته،،،،،

نضع بين أيديكم مجموعة من الأسئلة تمثل استبانة لدراسة بحثية وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في الصحة النفسية ضمن إطار كلية التربية التابع للجامعة الإسلامية، ولهذا الغرض فقد وافقت الجامعة على إجراء الدراسة والمتوقع أن تساعد المعلومات المزمع جمعها في هذه الدراسة مرضى العقم وصناع القرار في تخطي هذه الحالة بحيث يعود بالخير على المجتمع بشكل عام.

نرجو منكم الموافقة على المشاركة في البحث ونقدر ونثمن وقتكم ولذلك فإن المدة التي تستغرقها الإجابة في هذا الاستبيان لا تزيد عن نصف ساعة فقط.

المشاركة في هذا الاستبيان تطوعية، ولك الحق في رفض او قبول المشاركة او الانسحاب وقتما تشاء مع التذكير على سرية اية معلومة يتم الحصول عليها والتنويه على ان استخدامها هو لأغراض العلمية التي تفيد المصلحة العامة.

ولكم مني جزيل الشكر

الباحث/ محمد توفيق اليازوري

1. **الجنس:** O ذكر   O أنثى

2. **العمر:** ....سنة

3. **المحافظة:** O الشمال   O مدينة غزة   O الوسطى   O خانيونس   O رفح

4. **عدد سنوات الزواج:** ....

5. **نوع العائلة:** O نووية   O ممتدة

6. **المؤهل العلمي:** ....

7. **العمل:** ....   **8. الدخل الشهري لأسرتك** ....شيكل

9. **هل لك اطفال من زواجك الحالي:** O نعم   O لا

10. **اذا كان نعم كم عدد الاطفال:**..........

11. **هل لديك اطفال من زواج سابق:** O نعم   O لا

12. **مدة عدم الإنجاب:** ....سنة............شهر

13. **مدة العلاج:**............سنة ....شهر

14 **نوع العلاج:**   هرموني   حقن   انابيب

15 **عدد الاطباء الذين تابعت عندهم:**.......... طبيب

16. **هل قصدت الاستشارة النفسية من قبل لهذه المشكلة:** O نعم   O لا

17. **اذا كان نعم كم عدد المرات التي قصدت بها الاخصائي النفسي:**..........مرة

18. **سبب عدم الانجاب** O الزوج   O الزوجة   O كلاهما   O السبب غير معروف

19. **تكلفة علاج الذي انفقته او ستنفقه لعلاجك الحالي (هذا الشهر):** ....شيكل

20. **ما تكلفت العلاج الكلي منذ بدء العلاج:** ....شيكل

Fertility Problem Inventory (FPI)

الجمل التالية تعبر عن اراء مختلفة بخصوص مشاكل الانجاب. رجاءً وضح الدرجة التي تتوافق مع حالتك, واذا كان لديك اطفال اجب كما تشعر الان بعد انجابك لطفلك

اوافق بشدة	اوافق احيانا	اوفق قليل	ارفض قليل	ارفض احيانا	ارفض بشدة	الجملة	
						الزوجين الذين ليس لديهما اطفال هم تماماً مثل الزوجين الذين لديهم اطفال	1
						الحمل والولادة هما اهم حدثين في الحياة الزوجية وعلاقة الزوجين	2
						لاحظت انني فقدت متعتي بالجماع بسبب مشكلة العقم	3
						اشعر انني جذاب/ة كما في السابق لزوجي/تي	4
						بالنسبة لي ان انجب طفلا افضل من احصل على وظيفة ممتازة	5
						ان حياتي الزوجية بحاجة لطفل	6
						لا اشعر بأي فرق عن اقراني من نفس جنس	7
						من الصعب ان تشعر بأنك امرأة/ رجل الا بعد ان تنجب	8
						لا يزعجني عندما اسأل عن الأطفال	9

اوافق بشدة	اوافق احياناً	اوافق قليلاً	ارفض قليلاً	ارفض احياناً	ارفض بشدة	الجملة	
						يخيفني ان لا يكون لدي اطفال في المستقبل	10
						لا اظهر مشاعري امام زوجتي/ي حتي لا يكتأب/ يحزن	11
						عائلتي لا تعاملنا بشكل مختلف	12
						اشعر بأنني فشلت في حياتي الجنسية	13
						الأعياد والمناسبات صعبة للغاية بالنسبة لي	14
						استطيع ان اجد بعض الفوائد للعقم	15
						لا يستطيع زوجي/تي فهم كيفية تأثير العقم علي	16
						اثناء الجماع كل ما افكر فيه حينها هو انجاب طفل	17
						اتعامل انا وزوجي/تي مع الاسئلة المتعلقة بالعقم بشكل جيد	18
						اشعر بالفراغ بسبب مشكلة العقم لدي	19
						استطيع ان اتنبأ بحياة سعيدة مع شريك حياتي بدون اطفال	20
						يزعجني ان زوجي/تي يتفاعل بشكل مختلف عني	21

اوافق بشدة	اوافق احيانا	اوافق قليلاً	ارفض قليلاً	ارفض احياناً	ارفض بشدة	الجملة	
						الجماع صعب بالنسبة لي وذلك لأني لا اريد خيبة امل اخرى	22
						انجاب طفل لا يمثل هدف اساسي في حياتي	23
						زوجي/تي يشعر بخيبة امل مثلي	24
						احياناً أتساءل اذا ما كنت اريد الإنجاب	25
						اتحدث انا وزوجي/تي بحرية عن العقم	26
						خروج العائلة مع بعضها صعب علي	27
						عدم الانجاب يوفر لي الوقت لقضاء اعمال احبها	28
						اشعر بعض الاحيان اني ولدت لأكون حامل	29
						لا يمكن ان اقارن نفسي بمن لديه اطفال	30
						الانجاب ليس ضرورياً لسعادتي	31
						اشعر بالغضب اذا مر يوم من ايام التبويض دون جماع	32
						لا يمكن ان اتخيل ان يحدث الطلاق بسبب العقم	33

اوافق بشدة	اوافق احياناً	اوفق قليلاً	ارفض قليلاً	ارفض احياناً	ارفض بشدة	الجملة	
						لا طالما اردت ان اكون حاملاً	34
						لدي الكثير من الاشياء المشتركة مثل اصدقائي الذين لديهم اطفال	35
						يحدث جدال عندما نحاول ان نتحدث عن العقم والانجاب	36
						تحول الجماع لحدث صعب يجعلني اشعر بكثير من التوتر	37
						يمكن ان نحظى بحياة سعيدة وطويلة بدون اطفال	38
						من الصعب قضاء وقت الفراغ مع الاصدقاء الذين لهم اطفال صغار	39
						اشعر بالوحدة عند مشاهدتي لعائلات مع اطفالهم	40
						اعتقد ان هناك حرية مؤكدة بدون اطفال	41
						سوف اقوم بالمستحيل لانجاب طفل	42
						اشعر بان الاصدقاء وعائلتي تركتني وحيداً	43
						لا يحزني عندما يتحدث الاخرون عن اطفالهم	44
						انا خائف من ان انفصل تدريجياً عن زوجي/تي بسبب العقم	45

اوافق بشدة	اوافق احيانا	اوافق قليلا	ارفض قليلا	ارفض احيانا	ارفض بشدة	الجملة	
						اشعر ان زوجي/تي يرتاح ويعزى بكلماتي عند الحديث عن العقم	46

Reference: Christopher Newton,1999.

مقياس لازروس (Lazarus)

اقراء العبارات التالية وضع اشارة (X) امام العبارة التي توافق السلوك الذي استخدمته للتعامل مع مشكلتك الحالية:

فعلت ذلك كثيراً (4)	فعلت ذلك أحياناً (3)	فعلت ذلك نادراً (2)	لم افعل ذلك مطلقاً (1)	العبارة	No
				تحدثت لبعض الاشخاص وذلك بغرض معرفة المزيد من المعلومات عن مشكلتي	1
				انتقدت نفسي.	2
				تمنيت ان تنتهي مشكلتي بأي طريقة.	3
				لقد عبرت عن ضيقي للأشخاص الذين سببوا المشكلة.	4
				حاولت ان انظر من جانب المشرق للأمور.	5
				حاولت الاحتفاظ بمشاعري لنفسي.	6
				لقد كنت اعرف ما ينبغي ان افعله ولذلك ضاعفت جهودي كي تسير الأمور.	7
				لقد تغيرت ونموت كشخص يتصرف بشكل افضل.	8
				تحدثت لبعض الاشخاص الين يمكن ان يفعلوا شيئاً ما بشأن مشكلتي.	9
				ادركت بأنني جلبت لنفسي مشكلة.	10

فعلت ذلك كثيراً (4)	فعلت ذلك أحياناً (3)	فعلت ذلك نادراً (2)	لم افعل ذلك مطلقاً (1)	العبارة	No
				تمنيت حدوث معجزة.	11
				وقفت صلباً وناضلت من اجل ما اريد.	12
				حاولت أن انسي كل المور السيئة او المزعجة.	13
				حاولت عدم اخبار الآخرين عن الأمور السيئة.	14
				لقد وضعت خطة عمل واتبعتها.	15
				بدأت اشعر ان الموقف جعلني اقوى مما كنت عليه في السابق.	16
				لقد طلبت النصيحة من بعض الاشخاص الذين اكن لهم الاحترام.	17
				وعدت نفسي ان تكون الامور أفضل في المرة القادمة.	18
				كان عندي بعض التصورات الخيالية والاماني عن كيفية انتهاء الموقف.	19
				انتظرت حدوث فرصة، حتى لو كانت تنطوي على مخاطرة لمواجهة مشكلتي.	20
				حاولت أن أنسى كل ما يتصل بمشكلتي.	21
				حاولت عدم قطع خط الرجعة وان ابقي جميع الخيارات مفتوحة.	22
				لقد ركزت جهودي بما ينبغي ان افعله لاحقاً.	23

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فعلت ذلك كثيراً (4)	فعلت ذلك أحياناً (3)	فعلت ذلك نادراً (2)	لم افعل ذلك مطلقاً (1)	العبارة	No
				لقد تلقيت تعاطفاً وتفهماً من شخص ما.	24
				لقد نمت ساعات طويلة اكثر من المعتاد.	25
				لقد اعتذرت او فعلت شيئاً ما لتصحيح الخطأ.	26
				حاولت ان اكون بوضع احسن بواسطة الاكل او التدخين او استخدام الادوية.	27
				لقد حاولت عمل شيء ما وان لم يكن مجدياً فإنني على الاقل حاولت.	28
				لقد استسلمت لقدري حيث يكون احياناً حظي سيئاً.	29
				حاولت ان لا اكون متهوراً ومتسرعاً خلال التعامل مع مشكلتي.	30
				لقد قمت بتغيير بعض الامور وهكذا بدأت تسير الامور نحو الافضل.	31
				اكتشفت من جديد ما هو الشيء المهم في الحياة.	32
				لقد طلبت المساعدة.	33
				تجنبت الناس بشكل عام.	34
				بدأت افكر كيف يمكن لشخص احترمه واعجب به، كيف يتصرف في مثل هذا الموقف وعملت مثله.	35

فعلت ذلك كثيراً (4)	فعلت ذلك أحياناً (3)	فعلت ذلك نادراً (2)	لم افعل ذلك مطلقاً (1)	العبارة	No
				رفضت ان افكر في مشكلتي ككل.	36
				حاولت ضبط مشاعري قدر الامكان وعدم تحويلها الى تصرفات وأمور أخرى.	37
				اتجهت الى الصلاة والدعاء.	38
				لم اصدق أن المشكلة قد حدثت.	39
				بدأت افكر بما ينبغي أن أفعله أو أقوله.	40
				بدأت أغير بعض الاشياء في نفسي.	41
				ألقيت اللوم على الآخرين.	42
				بدأت استرجاع خبراتي السابقة عندما كنت في موقف مشابه.	43
				مضيت وكأن شيءً لم يحدث.	44

ERTILITY PROBLEM INVENTORY (FPI) SCALES

Scoring: 1.   Positively phrased items* are first re-keyed as follows;

(6=1, 5=2, 4=3, 3=4, 2=5, 1=6)

2.   Subscale scores are derived by summing raw scores for items in each subscale.

3.   Global Stress is calculated by summing all items (or all 5 subscale scores)

1. _Social Concern_ (10 ITEMS)

High Score: Sensitivity to reminders, comments, questions about infertility. Feelings of alienation or isolation from peers, family, finding social activities difficult.

Items   (*9, *12, 14, 27, 30, *35, 39, 40, 43, *44)

2. _Sexual Concern_ (8 ITEMS)

High Score: Loss of enjoyment of sexual relations, feelings of pressure to schedule sex, loss of sexual self-esteem

Items   (3, *4, *7, 13, 17, 22, 32, 37)

3. _Relationship Concern_ (10 ITEMS)

High Score: Problems in communicating openly or constructively about infertility, difficulty accepting gender differences, concerns about the future of the relationship

Items   (11, 16, *18, 21, 24, 26, *33, 36, 45, *46)

4. _Rejection of Childfree Lifestyle_ (8 items)

High Score: Negative view of childfree lifestyle or status quo.

Future happiness dependent on having a child (or another

child) Difficulty perceiving other roles as satisfying/fulfilling

Items   (*1, *15, *20, *25, *28, *31, *38, *41,)

5. _Need For Parenthood_ (10 items)

High Score: Close identification with the role of parent, parenthood primary or essential life goal

Items   (2, 5, 6, 8, 10, 19, *23, 29, 34, 42)

6. _Global Stress_ (All 46 items)

High Score: High level of infertility-related stress, psychological stress in comparison to other same sex individuals dealing with

Raw Scores As Percentiles - Women

	16%ile	50%ile	84	98%lile
Social Concern	15	26	39	50
Sexual Concern	10	17	27	37
Relationship Concern	12	19	31	43
Rej.Childfree Lifestyle	18	26	36	44
Need For Parenthood	28	39	49	56
Global Stress	97	132	167	204

Raw Scores As Percentiles - Men

|	16%ile	50%ile	84%ile	98%ile
Social Concern	12	20	31	44
Sexual Concern	8	13	20	29
Relationship Concern	11	17	27	39
Rej. Childfree Lifestyle	18	25	34	43
Need For Parenthood	23	62	43	54
Global Stress	**87**	**113**	**146**	**181**

High Score: Indicates that the individual is experiencing more psychological stress than the average individual seen for infertility treatment.

Interpretation:

Below 16 % percentile	Low stress
16-84 % percentile	Average stress
85-98 % percentile	Moderately High Stress
Above 98% percentile	Very High stress

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in the article in the journal Fertility and
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Looking forward hearing from you soon

Sincerely

Yazori M.

Master in community mental health

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