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The social support as a mediator between the infertility stress and depression among infertile female in the Gaza Strip.

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Abstract

Aims: The aims of the study were to investigate the mediation of social support between infertility related stress and depression, and to evaluate the level of infertility related stress, depression and social support among infertile females in Gaza strip in relation to income.

Study Design: cross sectional descriptive analytic design was used.

Sample: One hundred and twenty four(124) participants were randomly chosen from the five private fertility Clinics in Gaza Strip.

Tools: Demographic, Beck Depression Inventory, Social support Questionnaire, and Fertility Problem Inventory (FPI) questionnaires were used.

Results: The results shows that there is both a direct and an indirect effect of infertility related stress on the prediction of depression. The indirect effect is mediated by the perceived social support. The level of perceived social support was negatively correlated with FPI score ($r = .21$, $p = .005$) and BDI score ($r = -.35$, $p < .001$).

Conclusion: We can conclude that social support mediates the relationship between infertility related stress and depression which underscores the importance of social support to maintain the mental health of women who suffer from infertility problem, and the importance of psychosocial support programs for this group to protect them from mental illness in general and depression in particular and anxiety.

Keywords: The social support; a mediator; infertility stress; depression; infertile female; Gaza Strip

الدعم الاجتماعي كوسيط بين ضغط العقم والاكتئاب لدى النساء العاقرات في قطاع غزة.

هدفت الدراسة لفحص الدور الوسيط للدعم الاجتماعي، بين ضغط العقم والاكتئاب، وحساب مستوى (الضغط الناجم عن العقم، الاكتئاب، الدعم الاجتماعي) لدى السيدات العاقرات في قطاع غزة، وكذلك في ضوء الدخل. وقد تم استخدام المنهج الوصفي التحليلي، والطريقة العرضية. اختير (124) مشاركة بطريقة عشوائية، من خمسة مراكز طبية خاصة متخصصة في علاج العقم في قطاع غزة، وقامت عينة الدراسة بالاستجابة على أدوات الدراسة ممثلة في (استمارة المعلومات الديمغرافية، وقائمة بيك للاكتئاب، استبيان الدعم الاجتماعي، قائمة مشكلات العقم). وقد أظهرت الدراسة العديد من النتائج منها: وجود أثر مباشر وغير مباشر لضغط العقم على الاكتئاب، التأثير غير المباشر ناجم عن وساطة الدعم الاجتماعي بين المتغيرين، وجود علاقة عكسية دالة احصائياً بين الدعم الاجتماعي وكل من ضغط العقم ($r = .21$, $p = .005$) والاكتئاب ($r = -.35$, $p < .001$).

يمكن الاستنتاج أن متغير الدعم الاجتماعي يمثل وسيطاً بين الاكتئاب والضغط الناجم عن العقم، الأمر الذي يؤكد على أهمية الدعم الاجتماعي للحفاظ على الصحة النفسية للسيدات اللاتي يعانين من مشكلة العقم، وعلى أهمية برامج الدعم النفسي الاجتماعي لهذه الفئة لتوقيها من المرض النفسي عموماً والاكتئاب والقلق تحديداً.

كلمات مفتاحية: الدعم الاجتماعي، الوسيط، ضغط العقم، الاكتئاب، السيدات العاقرات، قطاع غزة.

Introduction and Background:

Infertility is a source of stress for many couples. As reproduction is the only means of sustaining human life, Pregnancy and childbirth typically are associated with positive emotions (Geller, 2004). 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., 2007). 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 et al, 2010). The desire to have a child has many explanations in social, emotional and biological spheres. For most 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 Ö, 2004). When the desires and needs are not fulfilled, it eventually cause stress and even a mental disorder.

There are two types of infertility: couples with primary infertility have never been able to conceive, while, secondary infertility is difficulty conceiving after already having conceived (and either carried the pregnancy to term, or had a miscarriage). The World Health Organization (WHO) defines infertility as the failure of a couple to achieve pregnancy for at least one year of regular intercourse without using any means of birth control (Cooper et al, 2010.). Male and female factors are each believed to account for 40% of cases of infertility; the remaining 60% are either unexplained - so-called idiopathic infertility - or of shared etiology (Fisher, 2005). 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 Ö, 2004). The wish for a child and feeling bad about the absence of a child in the family makes infertility a depressive condition (ÜNER Ö, 2004).

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 et al., 2005). Women are more

involved in the treatment of infertility and tend to believe they are more responsible than men for the problem. Those who choose to receive treatment are exposed to physical and emotionally stressful procedures. Thus women are more prone to the stress related to infertility and its treatment than men (Anderson et al. 2003). Research has shown that women with infertility have the same level of anxiety and depression as do women with cancer, heart disease and HIV (Domar. 2004).

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 (Rojuei M., 1997). Feelings of grief and loss are very common as couples come to terms with the fact that they are not able to conceive. Infertility may result in a decrease in quality of life and an increase in marital discord and sexual dysfunction. The burden of infertility is physical, psychological, emotional and financial (Van den Akker, 2005).

Depression was more common in infertile women than fertile women (Al-Homaidan, 2011). A study done by Chen et. Al (2004) found that 26.8% of the women undergoing Artificial Reproductive Technology (ART) met criteria for a mood disorder, 17% for major depression and 9.8% for dysthymia. With the increasing duration of infertility and its treatment, and especially with repeated failures, stress level spirals and may produce social and mental health problems (Verhaak et al., 2007). After 4-6 years of infertility women had significantly higher levels of depression and anxiety (Ramezanzadeh et al., 2004). Also age and male fertility (the husband has no infertility problem) were associated with increased rate of depression in Japanese women in fertility treatment (Ogawa, 2011).

Perceived social support is an important factor predicting mental health and quality of life (Xiang et al. 2012). Perceived social support includes obtaining and exchanging information, financial help, advise and emotional support from the surrounding social

network (Bal et al. 2003). Social support is fundamental to one's physical and psychological wellbeing, social support can be a critical component of coping in women experiencing the stress of infertility. Most women disclose their infertility to others in their social network (Slade et al, 2007). Researchers have identified the need to investigate the role of social support in mediating and moderating the effects of infertility related stress, and have identified the importance of social support networks in helping women deal with the stress of infertility treatment (Martins MV, 2011). However, studies have also shown that perceived social support is low in infertile women and they experienced more psychological and social distress than fertile women (Mirzayi et al., 2015). Perceived support is consistently linked to good mental health, which is typically explained as resulting from objectively supportive actions that buffer stress, people regulate their affect, thought, and action through ordinary yet affectively consequential conversations and shared activities (Lakey B. et al., 2011)

Studies have found higher probability of experiencing depression among people who have a lack of social support. Subjective perception that support would be available if needed may reduce and prevent depression and unnecessary suffering, self-rated perceived support was significantly associated with Hospital Anxiety and Depression Scale-defined depression (Siv Grav, 2012)

Social support was directly related to distress variables, as well as indirectly related through avoidant coping (Budge S. et al 2013) According to study was done by (Martins MV, 2011). the final model revealed negative effects from perceived partner support relationship, besides a direct negative association with social concern, perceived family support was indirectly and negatively related with all infertility stress domain

Potential moderator between stress and depressive symptoms, perceived stress was associated with higher levels of depressive symptoms, and social support with lower levels of both stress and depression. Social support from different sources

(family, friends, and significant other) indicated that family support played a unique role in buffering the negative effects of stress depression (Raffaelli, M., 2013)

According to **US Census Bureau**, International Data Base, in 2004 the Extrapolated Prevalence of infertility in Gaza strip is about 29,714 patients.

So far, there has not been any studies on infertility related stress, depression and social support in Gaza Strip. Women with infertility problems seem to be vulnerable to social and psychological complications like anxiety and depression. Available data point to the increasing impact of infertility and its treatment on couples in Gaza. We decided to investigate the relationship among infertility related stress, depression and the role of social support.

Aims:

The aims of the study are:

- 1-To evaluate the level of Fertility related Stress and depression.
- 2- To detect the relation between Depression with Fertility related Stress, social support and income
- 3-To assess the predicted relationship between fertility related stress, social support, income and Depression
- 4-To explore the social support mediation between the infertility stress and depression among infertile female in Gaza Strip.

Study Hypothesis:

- 1-There is a high level of stress, depression and moderate level of social support among Gazan infertile females.
- 2-There is a significant relationship between Depression and Fertility related Stress, social support and income
- 3-There are significant predicted relationships between fertility related stress, social support, income and Depression

4-Social support mediates the relationship between Infertility Related Stress and depression.

SIGNEFICANCE OF THE STUDY:

1-Infertility is a critical situation that deserves an in depth study.

2-The study disseminates knowledge about the effect of infertility among Gazan women.

1- The study highlights the mediation role of social support and its significant effect on depression among infertile women.

2- The study can help to developing the mental health services and primary health care to infertile women.

3- This study provides helpful information to clinicians who encounter certain problems of couples seeking mental health and social work intervention as part of their infertility treatment.

4- Hopefully, these results will help health professionals to provide more effective treatment for couples at risk of depression and stress so that couples will feel more understood and able to address certain issues that may concern them during the course of their infertility experience.

5- This research contributes in directing future researches to the importance of further examination of the effects of perception of social support, infertility related stress for the prediction of depression for couples experiencing infertility.

Methodology :

Study Design, Site, and Sampling:

Study Design: cross sectional descriptive analytic design was used in this study to investigate the relationship between infertility related stress and depression and the social support among Gazan female in 5 different fertility clinics in Palestine.

Sampling

A random sampling strategy was used to obtain a sample of infertility patients and the study sample was comprised of married women with a diagnosis of

primary or secondary infertility who were being treated for infertility in one of the five infertility treatment clinics. One hundred and twenty four respondents were recruited from the five private fertility and reproductive endocrinology Clinics in the Gaza Strip. Those participants completed the questionnaire appropriately and analysis performed based on their data.

All the female clients reaching to the five Centers from 1/12/2011 to 15/10/2012 were chosen. Respondents were informed of their rights and confidentiality of the material. Verbal and written consent were obtained. Demographic, Beck Depression Inventory, Social support Questionnaire, and Fertility Problem Inventory (FPI) questionnaires were used.

Sample statistics:

Demographic profile of participants

Variable	N	%
Age Mean(28.2 Y); SD (± 6.5)		
Family monthly income: Mean(1,726 NIS); SD ($\pm 1,707$)		
Education level:		
< 7 yrs.	4	3.5 %
7-9 yrs.	10	8.7 %
10-12 yrs.	26	22.6 %
13-16 yrs.	70	60.9 %
>17	5	4.3 %
Infertility duration Mean(5.21 Y); SD (± 4.1)		

Tools of the study:

Demographic data: Developed by the researchers and includes, educational level, income.

Fertility problem inventory (FPI):

The Fertility Problem Inventory (FPI), is a 46 item questionnaire developed by Christopher Newton of the London Health Sciences Center in Ontario, Canada, was used to measure the level of women infertility related stress. Respondents were asked to indicate their agreement with each question using a six-point Likert scale ranging from “strongly disagree” to “strongly agree” (Newton et al., 1999).

The five domains of the FPI 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).

Mean FPI norms were calculated using the sample. The 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.

Reliability of the FPI in this study was good (Cronbach's Alpha = 0.802). The researcher deleted weak inconvenient items with weak or inverse correlation (1, 4, 11, 12, 18, 21, 23, 25, 30, 33, 36, 46).

Beck depression inventory (BDI):

The BDI, a 13 item questionnaire developed by Aaron Beck which was used to measure the level of depression in a lot of multi-cultural settings (Beck et al., 1988). The Arabic translation by Abd-alfatah, G. (1985) was used. In this study the reliability using alpha was 0.876. Respondents were asked to indicate their agreement with each question using zero to three statements reflecting client mood and Mean BDI norms were calculated using the sample. mean BDI scores of 0-4, 5-7, 8-15 and 16-39 indicated no, low, moderate and severe depression respectively.

Social support Questionnaire (SSQ):

The SSQ, is a 25 item questionnaire developed by Dunn, S. et al (1987). It was used to measure Perceived social support. The questionnaire consists

of three subdomains: peer, family and self-satisfaction. Respondents were asked to indicate their agreement with each question with *always*, *usually* or *rarely* giving 3, 2, and 1 respectively and the total score ranges between 25-75 reflecting the level of perceived social support. In this study the reliability using alpha was 0.808 which indicate a strong reliability. The researcher deleted weak inconvenient items with weak or inverse correlation (6, 12, 20, 25)

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).

This definition operationally used in this study according to the participants response score in Fertility problem inventory.

The researchers define depression as: A disorder that includes physical, mood, and cognitive symptoms

that affects eating, sleeping, feelings about the self, and thinking about things.

This definition operationally used in this study as the participants response score in Beck depression inventory (BDI)

The researchers define Social support as: behaviors leading the person to believe that he is cared for and loved, esteemed, and a member of socially supportive relationships

. This definition operationally used in this study as the participants response score i Social support Questionnaire (SSQ)

Procedures:

The study was approved by the Research Counsel of the Islamic University. Approval was obtained for the procedures in the clinics from the director of the five centers. Permission was obtained from the director of infertility centers in order to gain the support and cooperation. Participants were assured of the confidentiality of the material and received an explanation for the aim and procedures of the study. Participants were asked to provide verbal and written consent for participation.

The study procedures did not entail any harmful effects on participating women. Women were informed that they have the right to withdraw from the study at any time without giving a reason.

Operational Design: The study passed through three phases: The preparatory phase includes having the approval to conduct the study from faculty of education, then preparing the scales to be used by contacting the original author to get permission of use, followed by printing, face validity, and finally training the data collectors.

In the second phase a Pilot study was carried out to evaluate the study instruments and procedures. The reliability of the instruments and the time required to perform the questionnaire were estimated. Depending on results of the pilot study the researchers modified

the questionnaires to improve ease of performance and reliability.

The third phase: Field work consumed about ten months, starting December 2011 through October 2012. Data collection was done on site and by trained data collectors.

Statistical analysis

Data entry and statistical analysis were done using Statistical Packages for Social Science (SPSS). Quality control was done at the stages of coding and data entry. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Demographic variables were compared using T test and Correlation (r) test. Cronbach's α (alpha) is used for test score reliability measure of sample Statistical significance was considered at p-value <0.05 , highly significant difference obtained at $P < 0.01$ and non -significant difference obtained at $P > 0.05$. multiple regression analysis was used to explore the prediction of level of depression by FPI, SSQ and family income.

Results

The sample consisted of 124 women who agreed to participate in the study and completed the questionnaire. The mean age of subjects was 28.2 ± 6.5 years, and thirty percent were below 25 years. Fifty percent of the women were living with the extended family, the other half lived separately. The majority (61%) of women in this sample had more than school education and 20% were employed at the time of the study. The mean monthly income of their family was 1726 ± 1707 NIS.

1- In order to assess the first hypothesis: "There is a high level of stress and depression among Gazan infertile female" frequencies and percentages were calculates as below:

Domain	Category	N	%
Depression (Beck)	Normal	24	19.4
	Mild	17	13.7
	Moderate	56	45.2
	Severe	27	21.8
Global stress (FPI)	Low stress	1	0.8
	Average stress	67	54
	Moderately high	44	35.5
	Very high stress	12	9.7

The depression level on the BDI was high, where 67% of the women in the sample showed moderate to severe depression. The fertility related Stress level on (FPI) where between average and moderate(89.5%) although (9.7%) were very high stress.

2- In order to test the second hypothesis: "There is a significant relationship between Depression and Fertility related Stress, social support and income" Person correlation was calculated as shown:

	Depression	Fertility related Stress	Perceived Social Support
Fertility related Stress	.25**		
Perceived Social Support	-.35**	-.21*	
Income	-.25*	NS	NS
* $p < .05$			
** $p < .01$			

Person correlation was used to measure the association between depression, fertility related stress and social support. The mean of perceived social support was negatively correlated with FPI score ($r = -.21$, $p = .005$) and with BDI score ($r = -.35$, $p < .001$).

The income was negatively correlated with BDI and FPI both ($r = -.25$, $p < .05$)

3- In order to test the third hypothesis: "There are a significant prediction relationships between fertility related stress, social support, income and Depression" a multiple regression analysis was calculated as below:

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	15.566	6.367		2.445	.016
FPI	.050	.021	.229	2.371	.020
SS	-.224	.091	-.239	-2.465	.016
Income	-.001	.000	-.207	-2.145	.035

a. Dependent Variable: dep

Model	df	Mean Square	F	Sig.
Regression	3	253.259	6.785	.000 ^a
Residual	89	37.328		
Total	92			

The analysis indicated that family monthly income, perception of social support, and infertility related stress contributes significantly to the prediction of female depression ($p \leq 0.000$, $F(3,89) = 6.785$; $R^2 = 0.186$).

We can conclude that female level of income, perception of social support, and infertility related stress will contribute to the prediction of depression level. With high levels of infertility related stress contributing to high levels of depression; While low levels of family monthly income and low level of social support contributing to high levels of depression. There is slight discrepancy between in BETA score for the independent variables (family monthly of income, perception of social support, and infertility related stress), which mean that each one has different prediction abilities as 20.7%, 23.9% and 22.9% respectively.

However, there is a correlation between SSQ and both FPI ($-.21, p < .5$) and Depression ($-.35, p < .001$), suggesting a mediation effect of social support between infertility related stress and depression. When controlling the social support, the correlation between FPI and Depression decreases, but does not disappear ($.19, p < .05$).

4-In order to test the fourth hypothesis: "Social support mediates the relationship between Infertility Related Stress and depression: we used the method described by Baron and Kenny (1986) and to measure the indirect effect we used Sobel Test (Sobel, 1982). The next table shows the 4 steps of the Baron & Kelly method:

Step	B (beta), p	Standard Error	F (df1,df2), p
1 Fpi→Dep	1.19 (.25)**	3.363	8.18(1,122) ***
2 Fpi→SOC	-62.5 (- .21)***	3.514	5.28(1,122)*
3 SSP→Dep	-29.5 (- .35)***	4.468	18.1(1,122)***
4 Fpi* SSp→Dep	.04(.18)* -31(- .32)***	.082 .019	11.5(1,122)***

Sobel test indicates that there is a mediation effect of SSQ between FPI and Depression as a dependent variable ($Z=4.23, p < .0001$).

We can conclude that there is both a direct and an indirect effect of infertility related stress on the prediction of depression. The indirect effect is mediated by the perceived social support. We can conclude that social support mediates the relationship between infertility related stress and depression.

Discussion

The present study is aimed to investigate the level of infertility related stress and depression. The result found depression level on the BDI was high, where

67% of the sample showed moderate to severe depression and fertility related Stress level on (FPI) where the participants percentage(89.5%) showed average and moderate (FPI) although (9.7%) showed very high stress. These infertile women have high levels of depression, anxiety and loss of behavioral/emotional control (Kazmi SF et al,2016) the prevalence of depression among infertile women was 68.9%. It was significantly related to primary type of infertility, duration of infertility and treatment (AL-sadi J.N et al, 2015) 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 (Rojuei M., 1997). Feelings of grief and loss are very common as couples come to terms with the fact that they are not able to conceive. Infertility may result in a decrease in quality of life and an increase in marital discord and sexual dysfunction. The burden of infertility is physical, psychological, emotional and financial (Van den Akker, 2005). 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., 2007).

Infertility is a stressful situation for couples especially women who commonly are blamed for the cause of infertility. Women in eastern countries experience negative social consequences such as divorce, abuse, or being threatened by their husbands with another marriage.

The results showed the mean of perceived social support was negatively correlated with FPI score ($r = -.21, p = .005$) and with BDI score ($r = -.35, p < .001$). The income was negatively correlated with BDI and FPI both ($r = -.25, p < .05$) and also found that the family monthly income, perception of social support,

and infertility related stress contributes significantly to the prediction of female depression ($p \leq 0.000$, $F(3,89) = 6.785$; $R^2 = 0.186$.) The result revealed that that there is a mediation effect of SSQ between FPI and Depression as a dependent variable ($Z=4.23$, $p < .0001$).

We can conclude that there are both a direct and an indirect effect of infertility related stress on the prediction of depression. The indirect effect is mediated by the perceived social support. We can conclude that social support mediates the relationship between infertility related stress and depression

Infertility has financial negative effect as it costs so much in IVF repeated procedures which result in more load on couples life, so the increase in the income reduce the burden of the infertility related stress and frustration which lead to depression.

Perceived support is consistently linked to good mental health, results revealed that social support was negatively correlated with depression and fertility specific stress was also found with fertility –specific stress (Martins MV, 2011).) Social support variables were negatively correlated with depression available support on depression to increase social support(Vyavaharkar M. et al,2010) which is typically explained as resulting from objectively supportive actions that buffer stress, people regulate their affect, thought, and action through ordinary yet affectively consequential conversations and shared activities (Lakey B. et al,2011) . Perceived social support is an important factor predicting mental health and quality of life (Xiang et al. 2012). Perceived social support includes obtaining and exchanging information, financial help, advice and emotional support from the surrounding social network (Bal et al. 2003). Social support is fundamental to one's physical and psychological wellbeing, social support can be a critical component of coping in women experiencing the stress of infertility . Most women

disclose their infertility to others in their social network (Slade et al, 2007).

The specific social supports utilized which involves withholding of negative emotions was associated with adverse psychological health for some variables assessed (Sexton M,2015)

The partial effect or mediation of SSP between FPI and DEP. can be understood by the limitation of the study witch is cross sectional, the variation in outcome variables across the infertility treatment cycles could not be explored. The sample is restricted to those women who seek treatment, limiting generalizability to women who do not, or cannot afford to seek treatment. Also the study does not include the male spouse. The study have to determine the effect of communication and different coping strategies on stress level for infertile couple. .(Carolyn and Beth (1986) study found social support appeared to exert its protective function against depression primarily through the mediation of self-efficacy. In a structural equation modeling study done by Martins et al (2012) the results of the final model, presenting the significant relationships between social support, coping and stress dimensions, as well as the direct effects, the findings also indicated a negative relationship between family support and infertility social stress. social network and subjective social support were significant predictors of depressive symptoms. Subjective social support was most strongly associated with major depression; this effect was significantly stronger for middle-aged than older adults(George et al ,1989). A study among Mexican immigrant women the result revealed that A final analysis indicates that when all social network variables, as well as several social and demographic variables are intercorrelated, family emotional support and income are the two best predictors of depression(William et al, 1991).

Conclusion

The results are consistent with previous studies showing elevated levels of distress and depression in women receiving infertility treatment. This study shows that the increase in the level of depression in

these women is related to two factors, namely infertility related stress and income.

When participants mean scores on the independent variables were utilized to predict female depression level, the female mean scores on instruments measuring perception of social support, family monthly income and infertility related stress were found to be significant predictors. These independent variables explained 18.6% of the variance in female depression.

The multiple regression analysis indicated that low levels of female's perception of social support and family monthly income contributes to high levels of female depression. Furthermore, the high levels of female. Infertility related stress contributes to high levels of female depression. This is understandable as the family social support is known to buffer the effect of stress and can be considered a protective factor against developing depression. The role of income as a predictor of depression is also attributed to the high cost of fertility treatment, In light of the study findings, the following are suggested:

1-Investigate factors influencing the gender differences in reactions to infertility with other stressful health situations.

2- Also it is important to use longitudinal and prospective design to investigate emotional adjustment through the infertility treatment cycles.

3-Psychosocial support programs for infertile women should focus on women's perception of social support available to them and improve women's utilization of their social network to reduce the risk of severe distress and depression.

4-Establishment of educational programs to enlighten infertile couples about treatment options and answer their questions and different coping strategies with Failed Assisted Reproductive Technology Trials.

5-Train nurses working in fertility clinics to enable them to provide proper counseling services for the infertile couples.

Limitation of the Study

This study is cross sectional, the variation in outcome variables across the infertility treatment cycles could not be explored. Dependence on self-report may have produced a response bias and affected the respondents' inclination to express suffering. The sample is restricted to those women who seek treatment, limiting generalizability to women who do not, or cannot afford to seek treatment. Also the study does not include the male spouse. Further studies are still needed to determine the effect of communication and different coping strategies on stress level for infertile couple.

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