

Relationship between Exposure to Domestic Violence and Depression among Women with Infertility

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Abstract

Background: Infertile women show a higher level of distress, sense of loss of identity, anxiety, feeling of self-defectiveness, and incompetence due to exposure to domestic violence associated with their inability to bear children which may lead to the development of depression. **Aim:** The current study aimed to examine the relationship between exposure to domestic violence and depression among women with infertility. **Design:** A descriptive-analytical design was used in this study. **Subjects:** A purposive sample consisted of 86 women with infertility who were exposed to domestic violence. **Setting:** The current study was conducted at gynecology outpatient clinics, an In vitro fertilization (IVF) unit, obstetric, and gynecology hospital, affiliated with Ain Shams University hospitals. **Tools of data collection:** The data was collected using; 1) Infertile Women Interviewing Questionnaire, 2) Infertile Women Exposure to Violence Scale (IWEVS) 3) Beck Depression Inventory. **Results:** The current study showed that the highest percentage of infertile women under study subjected to more than one type of violence involve domestic violence, punishment, social pressure, exposure to traditional practice, and social exclusion, representing 37.21 ± 4.69 , 25.26 ± 4.03 , 22.66 ± 3.52 , 11.92 ± 3.00 , and 9.05 ± 2.48 respectively. Also, 40.7% of infertile women who were exposed to domestic violence had a mild level of depression and 30.2% of them had borderline clinical depression. **Conclusions:** Women with infertility experience different types of violence involving domestic violence, punishment, social pressure, exposure to traditional practice, and social exclusion, and more than one-third of them had a mild level of depression. Moreover, there was a highly statistically significant correlation between exposure to domestic violence and levels of depression among infertile women under study. **Recommendations:** This study recommended that a counseling clinic should be established for infertile women and their partners to improve their coping with stressors associated with infertility and apply an educational interventional program for the prevention of domestic violence, and depression among them.

Keywords: Domestic Violence, Depression, Women, Infertility

Introduction:

Infertility remains a significant social problem and a challenge for healthcare systems worldwide. It's leading to marital damage where many infertile women are exposed to domestic violence via social isolation, stigma, humiliation, curious questions, and family pressure (Knox, 2018).

According to the World Health Organization (2020), infertility has been defined as the inability to conceive after 12 months of regular unprotected sexual intercourse. Moreover, Tamrakar & Bastakoti, (2019), defined infertility as the failure to achieve pregnancy after a year of frequent unprotected intercourse. It is prevalent in approximately 10 to 20% of couples and has been reported among 40% of women worldwide, about 10-25% of them might experience depression due to exposure to

domestic violence. Moreover, Warchol-Biedermann, (2019) clarified that infertility is a growing problem across all cultures and societies all over the world. It affects an estimated 10-15% of couples of reproductive ages and leads to marital damage, family breakdown, or domestic violence. Domestic violence is an important public health problem worldwide, regardless of geographical limits, economic development, and educational level. It affects women of all ages. Domestic violence is usually carried out by the spouse and women typically being the recipients (Basar & Demirci, 2018).

Consequences of domestic violence against infertile women were described by Gdańska, et al. (2017), they clarified that domestic violence against women with infertility leadings to many problems including physical injury, impaired mental

health, inn's quality of life, chronic pain, disability, suicidal attempts, drug abuse, nightmares, social isolation, and depression. In addition, **Al-Homaidan, (2011)** mentioned that depressed patients exhibit low mood, loss of interest in pleasure in daily activities, feeling of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration.

From this perspective, **Hasanzadeh, Akbari& Abolghasemi, (2019)**, illustrated that inability to have children is undeniable a very distressing experience in women which can lead to major psychological disorders such as anxiety, frustration, and depression. Depression is said to be a major problem associated with infertility among females, where children are highly valued for sociocultural and economic reasons.

Szkodziak, Krzyżanowski, & Szkodziak, (2020), clarified that depression is a psychological consequence of infertility that play a significant role in the life of infertile women and could affect the mutual relationship between partners. Moreover, **Alhassan, Ziblim, & Muntaka,(2014)** added that childlessness often creates enormous problems for couples, especially for women who are generally blamed for the infertility status of couples. In some communities, the stigma of children is so graphically that infertile women are especially isolated, excluded from participation in decision making, enforced to participate in unsafe traditional practices, abused verbally, sexually, and physically neglected. In addition, **Onat, (2014)** explained that infertile women are often excluded from social events and ceremonious or many even are despaired and perceived as suspicious, moreover infertile women are also exposed to many forms of domestic violence behaviors including physical, economical, emotional, social, and sexual violence. Also, **Saremi, (2017)** noticed that depression associated with domestic violence, may also affect the infertility treatment, follow up and hope for the future. Nurses have a pivotal role in caring for women experiencing domestic violence as the largest healthcare workforce globally. However, their role in this regard has not been researched in some countries (**Guruge, 2012**).

Significance of the Study:

Women trying to conceive often have a higher clinical depression rate due to exposure to domestic violence, emotional threatening, stigmatization, loss of potency, role failure,

reduced self-esteem, feeling of personal inadequacy, sexual dysfunction, hostility that increased marital conflicts, and increase incidence of depression (**Ellsberg, et al. 2015**). In general, domestic violence is often overlooked and most courses and physicians do not routinely screen for domestic violence in infertile women. Routine screening for domestic violence in infertile clinics is necessary to give the affected women an opportunity to access appropriate healthcare and support services (**Selvaraj, 2018**). Hence, it's important to assess the relationship between exposure to domestic violence and depression among women with infertility to help them utilize effective coping to minimize stressors and reduce the possibility of depression which consequently improve the overall health and quality of life among women with infertility, hopefully, that this study generates attention and motivation for further investigations into this topic.

Aim of the Study:

The current study aimed to examine the relationship between exposure to domestic violence and depression among women with infertility.

This aim was achieved by answering the following questions:

- 1) What are the types of violence experienced by women with infertility?
- 2) What is the level of depression among infertile women exposed to domestic violence?
- 3) What is the relationship between exposure to domestic violence and depression among infertile?

Subjects and Methods:

Research design: A descriptive-analytical research design was used to examine the relationship between exposure to domestic violence and depression among women with infertility.

Sample Technique: A purposive sample of 86 out of 101 was obtained from infertile women exposed to domestic violence during the study period based on specific inclusion criteria.

Study Setting:

The present study was conducted in the gynecology outpatient clinics, IVF unit, obstetrics, and gynecology hospital, affiliated to Ain Shams University hospitals from all patients who met the study inclusion criteria. gynecology outpatient clinics was established since 70 years ago, and provide diagnostic, treatment and follow

up services to around two thousands of Egyptian women yearly through daytime examination clinics worked five days per week (Sunday-Thursday), from 8-4 pm that supervised by highly qualified multidisciplinary team from physicians, nurses, and paramedics.

Inclusion criteria:

- Age: 18-45 years
- Able to read and write
- Married for at least one year without bearing a live child.
- Written consent for participation in the study.
- Free from psychiatric illness or substance misuse disorders.
- History of exposure to domestic violence due to infertility at least once.

Data Collection Tools:

The data was collected using a self-administered questionnaire that included two sections as following

1) The first Section: The Infertile women Interviewing Questionnaire: Contains two parts.

- A) Data pertinent by The Infertile women such as age, level of education, monthly income, available social insurance, duration of the marriage, presence of another wife, and place of residency.
- B) Data related to the history of exposure to domestic violence includes frequency of being subjected to domestic violence, the most frequent person carrying out the domestic violence, history of physical injury, fracture, or trauma due to exposure to domestic violence, and history of abortion.

2) The Second Section: Infertile Women Exposure to Violence Scale (IWEVS): It has been developed by Onat, (2014) to assess the types of domestic violence experienced by infertile women in the English language and translated to the Arabic language by researchers

IWEVS consisted of 31 questions including five domains reflect that the types of violent behaviors experienced by infertile women including:

1. Domestic violence domain (11 items).
2. Social Pressure domain (7 items).
3. Punishment domain (6 items).
4. Exposure to traditional practice domain (4 items).

5. Exclusion domain (3 items).

Scoring

IWEVS consisted of 31 questions each answer for each question consists of five responses Never =1, Rarely =2, Sometimes=3, always=4, and all the time =5.

The total score ranged from (31-155) where the higher score indicates exposure to different types of domestic violence. Scale can be completed within 10-15 minutes.

3) The Third Part: Beck Depression

Inventory (BDI): It has been originally developed by Beck, et al. (1961) in many languages including the Arabic language, and validated for assessment of depression among infertile women by Khademi, 2005. BDI has 21 items to describe a specific behavioral manifestation of depression includes; sadness, pessimism, sense of failure, dissatisfaction, guilt experience, punishment, self-dislike, self-accusation, suicidal ideations, crying, irritability, social withdrawal, indecisiveness, body image change, work retardation, insomnia, fatigability, anorexia, weight loss, somatic preoccupation and loss of libido.

The scale rated on 4 points Likert scale ranging from (0-3). The total score ranged from (0-63). Scores of 17 or above indicated a clinically significant depression.

The Classification of depression scores involves:

1. 1-10 (Normal) These ups and downs are considered normal
2. 11-16 (Mild mood disturbance)
3. 17-20 (Borderline clinical depression)
4. 21-30 (Moderate depression)
5. 31-40 (Severe depression over)
6. 40-63 (Extreme depression)

Operational Design

The operational design for this study included the preparatory phase, pilot study, fieldwork, and ethical considerations.

Preparatory phase:

It included reviewing past, current, local, and international related literature, and theoretical knowledge of various aspects of domestic violence and depression among women with infertility. The selected tools were modified by the researchers to be used in this study.

Content validity and reliability

The reliability of IWEVS was ranged from 0.891 to 0.922 and the validity of the scale was 0.91 as rated by infertile women exposed to

domestic violence understudy which is considered significantly high, the coefficient given was 0.912

The reliability of BDI was ranged from 0.910 to 0.914 and **the validity** of the scale was 0.98 as rated by infertile women exposed to domestic violence understudy which is considered significantly high, the coefficient given was 0.912

Pilot Study:

A pilot study was carried out on 8 women with infertility representing around 10% of the total sample before conducting the actual study to ensure clarity of the questions, applicability of data collection tools, and time needed to complete them. All subjects who were involved in the pilot study were excluded from the main study sample. The tool was finalized based on the results of the pilot study.

Fieldwork:

Data has been collected for the current study from June to August 2020. The researchers met each subject's understudy individually and introduced themselves, explained the purpose and nature of the study, and ensured the confidentiality of data. Women were asked for their approval to participate in the study. After that, the questionnaire forms were filled in by the women, and the researchers offered help if they needed it. The questionnaires took about 15-20 minutes. The researchers visited the selected setting 3 days per week from 8 am -to noon to collect the data from infertile women during their follow-up visit to the previously mentioned setting.

Ethical Considerations:

During the initial interview, each patient was informed about the aim and nature of the study, and the participation would be voluntary; hence every patient had the right to participate or refuse to be included in the work, and they were informed about the right to withdraw at any time without giving any reasons, and without any consequences. The consent for participation was taken written. In addition, the confidentiality of any gathered data was assured.

Administrative Design

An official letter was issued from the dean of faculty of nursing, Ain Shams University, to the head of gynecology and obstetrics hospital, affiliated with Ain Shams University hospitals explaining the aim of the study and requesting their permission for data collection.

Statistical Analysis:

Data entry and statistical analysis were done using SPSS 23.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies for qualitative variables and means and standard deviations and medians for quantitative variables. Qualitative categorical variables were compared using the chi-square test. Spearman rank correlation was used for the assessment of the inter-relationships among quantitative variables and ranked ones. Multiple linear regression analysis was used and an analysis of variance for the full regression models was done. Statistical significance was considered at a p-value <0.05.

Results:

Table (1) revealed that the mean age of infertile women exposed to domestic violence understudy was 32.40 ± 5.51 . More than half of them had basic and technical education (51.2%), and many subjects under study were household (74.4%), the highest percentage of them had monthly income less than 3000 L.E representing 41.9% and 41.9% respectively, and most subjects under study had no available social insurance representing (83.7%). The present study also showed that nearly two-thirds of infertile women experience domestic violence understudy from a rural areas (59.3%). The current study results illustrated that more than half of the women understudy had a duration of marriage of more than 10 years (54.7%), and around one-third of them had another wife to their husbands representing 34.9%.

Table (2) revealed that nearly two-thirds of the infertile women understudy always experienced domestic violence (62.8%), mostly from their spouse, mother/fathers in low representing 38.4% and 31.4% respectively. This table also noticed that the majority of infertile women under study had a positive history of physical injury, fracture, or trauma due to exposure to domestic violence representing 76.7%. Moreover, this study showed that more than one-third of women understudy had a history of IVF procedure for at least one time representing 40.7%.

Table (3) illustrated that there was a highly statistically significant relationship between the mean score of violence among infertile women under study ($p < 0.001^{**}$), where the highest percentage of infertile women understudy

subjected to at least more than one type of violence involve: domestic violence, punishment, social pressure, exposure to traditional practice and social exclusion, representing 37.21+4.69, 25.26+4.03, 22.66+3.52, 11.92+3.00, and 9.05+2.48 respectively.

Figure (1) Clarified that more than one-third of infertile women who were exposed to domestic violence understudy had a mild level of depression representing 40.7%, and nearly two-thirds of women understudy had a borderline clinical depression representing (30.2%). Moreover, this figure revealed that a small minority of infertile women experiencing domestic violence understudy had severe levels of depression representing 9.3% compared to 7% of normal subjects representing 7%.

As clarified in **Table (4)**: there was a highly statistically significant correlation between domestic violence domains and levels of depression among infertile women under study ($p < 0.001$).

Table (5) Showed that there was a highly statistically significant relationship between the total level of domestic violence scale among infertile women exposed to domestic violence understudy and their level of education, occupational level, place of residency, duration of the marriage, and presence of another wife to their husband ($p < 0.001$). Meanwhile, there was no statistically significant relationship between the women under study and their age, monthly income, and available social insurance ($P > 0.05$).

Table (6): indicated that there was a highly statistically significant relationship between the total level of depression among infertile women exposed to domestic violence understudy and their monthly income, available social insurance, place of residency, duration of the marriage, and presence of another wife to their husband ($p < 0.001$). While there was no statistically significant relationship between the total level of depression and level of education ($P > 0.05$).

Table (1): Frequency distribution of infertile understudy according to their socio-demographic characteristics (n.=86):

Items	Infertile Women exposed to violence	
	No.	%
Age (years):		
18-<30	28	32.6
30-<40	51	59.3
40-<45	7	8.1
Mean ± SD	32.40±5.51	
Level of education:		
Read & Write	33	38.4
Basic/Technical Education	44	51.2
University Education	8	9.3
Postgraduates	1	1.2
Occupational Level:		
Student	7	8.1
Household	64	74.4
Employed	15	17.4
Monthly income (L. E):		
Less than 1200	36	41.9
1200 - < 3000	36	41.9
3000-<5000	9	10.5
5000 +	5	5.8
Available social insurance:		
yes	14	16.3
No	72	83.7
Place of Residency:		
Urban	35	40.7
Rural	51	59.3
Duration of Marriage:		
1-5 years	9	10.5
5-10 years	30	34.9
More than 10 years	47	54.7
The husband has another wife:		
yes	30	34.9
No	56	65.1

Table (2): Frequency distribution of infertile women under study according to their history of exposure to domestic violence (no. 86):

Items	Infertile Women exposed to violence	
	No.	%
Frequency of being subjected to domestic violence:		
Always	54	62.8
Sometimes	25	29.1
Rarely	7	8.1
The most frequent Person carrying out the Domestic violence:		
Spouse	33	38.4
Mother/father	1	1.2
Mother-in-law/father -in-law	27	31.4
Siblings/other family members	2	2.3
neighbors/other	4	4.7
All of the above	19	22.1
History of Physical injury, fracture, or trauma due to exposure to domestic violence:		
Positive	66	76.7
Negative	20	23.3
The number of IVF procedures:		
None	25	29.1
Once	35	40.7
Twice	19	22.1
Three times or more	7	8.1

Table (3): Frequency distribution of infertile women under study according to the total mean score of violence domains (N=86):

Domains of violence against infertile women	Infertile Women exposed to violence		
	Mean+ SD	t-test	p-value
Domestic violence domain	37.21±4.69	73.603	p<0.001**
Punishment domain	25.26±4.03	58.120	p<0.001**
Social Pressure domain	22.66±3.52	59.762	p<0.001**
Exposure to traditional practices domain	11.92±3.00	36.808	p<0.001**
Exclusion domain	9.05±2.48	33.795	p<0.001**

(*) Statistically significant at $p < 0.05$, (**) Statistically highly significant at $p < 0.001$, non-Significant at $p > 0.05$

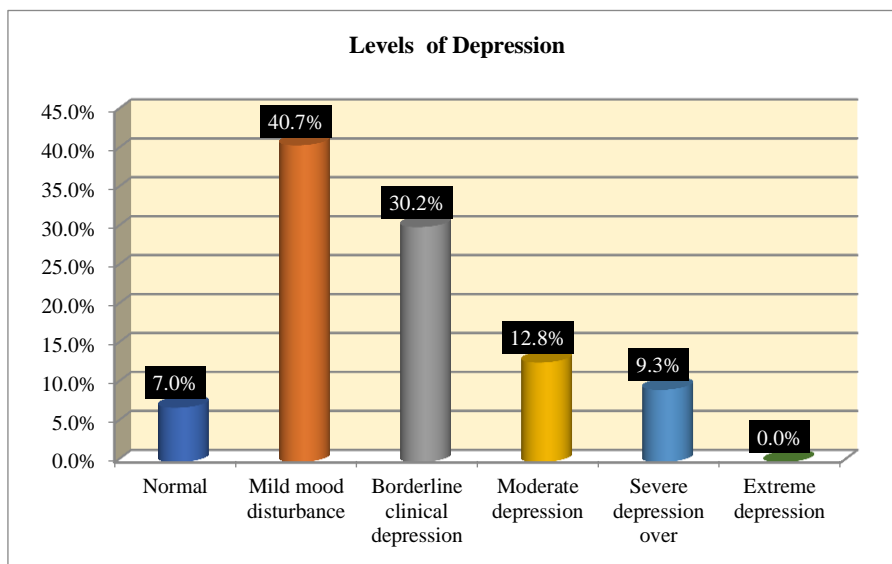
**Figure (1):** Percentage distribution of infertile women under study according to their level of depression (no.86).

Table (4): Correlation between domestic violence domains and levels of depression among infertile women understudy (n=86).

Domains of violence against infertile women	Beck Depression Inventory		
	Mean+ SD	R-value	p-value
Domestic violence domain	17.90+6.26	0.578	p<0.001**
Social Pressure domain	15.31+4.11	0.386	p<0.001**
Punishment domain	13.88+3.21	0.509	p<0.001**
Exposure to traditional practice domain	12.79+3.01	0.405	p<0.001**
Exclusion domain	11.88+2.99	0.463	p<0.001**

(*) Statistically significant at $p < 0.05$, (**) Statistically highly significant at $p < 0.001$, non-Significant at $p > 0.05$

Table (5): Relationship between socio-demographic characteristics of infertile women understudy and domains of violence (n=86):

Socio-demographic characteristics	Total Score of violence Scale among infertile women		p-value
	Mean	SD	
Age (years):			p > 0.05
18-<30	106.50	9.19	
30-<40	106.59	9.33	
40-<45	100.86	8.25	
Level of education:			p < 0.001**
Read & Write	104.61	8.42	
Basic/Technical Education	106.61	9.46	
University Education	108.13	11.46	
Postgraduates	116.00	13.00	
Occupational Level:			p < 0.001**
Student	103.12	6.47	
Household	101.13	9.26	
Employed	106.87	10.58	
Monthly income (L. E) :			p > 0.05
Less than 1200	104.28	8.04	
1200 - < 3000	107.89	9.70	
3000-<5000	103.33	9.45	
5000 +	111.20	11.65	
Place of Residency:			p < 0.001**
Urban	106.60	9.57	
Rural	105.75	9.08	
Available social insurance:			p > 0.05
yes	108.00	9.67	
No	105.72	9.17	
Duration of Marriage:			p < 0.001**
1-5 years	106.22	9.09	
5-10 years	106.70	10.00	
More than 10 years	105.68	9.09	
The husband has another wife:			p < 0.001**
yes	106.60	9.55	
No	105.82	9.14	

(*) Statistically significant at $p < 0.05$, (**) Statistically highly significant at $p < 0.001$, non-Significant at $p > 0.05$

Table (6): Relationship between socio-demographic characteristics of infertile women under study and their total level of depression (n=86).

Socio-demographic Characteristics	Total Level of Depression		p-value
	Mean	SD	
Age (years) :			
18-<30	17.75	5.83	P<0.05*
30-<40	18.45	6.68	
40-<45	14.43	3.60	
Level of education:			
Read & Write	16.85	5.29	P>0.05
Basic/Technical Education	18.18	6.35	
University Education	20.00	9.26	
Postgraduates	23.00	11.33	
Occupational Level:			
Student	16.14	2.54	P<0.05*
Household	17.89	6.31	
Employed	18.73	7.32	
Monthly income (L. E) :			
Less than 1200	16.44	4.49	p<0.001**
1200 - < 3000	19.14	7.08	
3000-<5000	17.00	6.78	
5000 +	21.00	8.83	
Available social insurance:			
yes	19.36	7.08	P<0.05*
No	17.61	6.10	
Place of Residency:			
Urban	18.49	6.96	p<0.001**
Rural	17.49	5.76	
Duration of Marriage:			
1-5 years	17.00	3.57	p<0.001**
5-10 years	18.83	7.75	
More than 10 years	17.47	5.60	
The husband has another wife:			
yes	17.77	5.66	p<0.001**
No	17.96	6.60	

(*) Statistically significant at $p < 0.05$, (**) Statistically highly significant at $p < 0.001$, non-Significant at $p > 0.05$

Discussion:

Infertility is a significant problem for millions of couples worldwide. Recently more attention has been paid to the relationship between women's exposure to domestic violence due to diagnosis of infertility and the presence of mental disturbances, of which anxiety and depression are the most common (Mansour & Mohdy, 2018). This study aimed to examine the relationship between exposure to domestic violence and depression among women with infertility.

The present study found that the mean age of infertile women under study was 32.40 ± 5.51 with the duration of marriage more than 10 years. It could explain the fact that early marriage age is usually associated with a higher level of domestic violence due to partner

immaturity, lack of sense of responsibility, inability to adjust to life stressors, life demands, and social pressure on both partners, that in turn make them more tense, irritable, depressed and aggressive. This study result was supported by Pallikadavath & Bradley, (2019) who found that early marriage age is associated with a higher incidence of domestic violence due to a lack of couple's maturity, social pressure, lack of wisdom, and community stigma against infertility.

The current study revealed that most infertile women under study did not have social insurance for the treatment of infertility. It could be due to the high cost of treatment for infertility, which is usually difficult, time-consuming, and expensive as it's including some physical interventions and need a long

time, in addition to the limited governmental treatment centers for infertility that facilitate free treatment services. This study result was supported by **Ghoneim, et al. 2021**, who found that the majority of infertile women suffer from a lack of insurance coverage due to treatment costs and raised expanses of treatment services.

This study's results showed that nearly two-thirds of the infertile women understudy always experience domestic violence, mostly from their spouse. It may be attributed to the fact that diagnosis with infertility among women leads to the development of tension, strain, or pressure on the women which gradually deteriorates marital adjustment, increased marital conflicts, and domestic violence, particularly with complex treatment procedures and frequent failure of therapeutic techniques to achieve pregnancy. This study result was agreed by **Silwal & Thapa, (2020)** who reported that domestic violence developed among partners due to unwanted childlessness that decreased level of marital dissatisfaction, lack of sexual pleasure, anxiety, and tension, poor communication, frequent conflict, agrees-in-law Sio-in-law n, and violence especially if treatment fails to cause pregnancy.

The current study results illustrated that there was a highly statistically significant relationship between the mean score of domains of violence among infertile women under study, where the highest percentage of infertile women understudy experience all types of violence involving domestic violence, punishment, social pressure, exposure to traditional practice and social exclusion. Regarding domestic violence among infertile women understudy, this study noticed that the highest percentage of infertile women understudy exposed to domestic violence-related to physical, economic, emotional, sexual violence and marital difficulties such as the threat of divorce, consideration of marry a fertile partner, humiliation, and not presenting affection. It might be due to increased psychosocial stressors and social pressure on the husband to engage in another marriage due to the women's inability to be fertile. This study was in a harmony with the study results of **Rahebi, et al. (2019)** who found that marital adjustment was lower among infertile women

and their husbands because of their disability of childbearing that associated with loss of affection, intimacy, and respect, associated with humiliation, sexual violence or frequent threat to get another wife or divorce.

This study reported that infertile women were exposed to punishment in the form of the insistence of sexual intercourse, nicknamed, being subjected to exhausting housework, not being invited to houses of relatives/neighbors, being charged with inability, and being forced to own infertility's cause due to their inability to become a mother that perceived as the essential role of women. This study's results were in a harmony with **Sen& Bolsoy, 2017** results of a study that found that women had got various punishments in their societies due to their infertility and they were also abused by their husband family.

The current study found that more than two-thirds of infertile women understudy exposed to violence in the form of involuntary exposure to traditional practices related to forcing the infertile women to eat some kind of food which is believed to facilitate conception against her will, going to places to reserve a spell, being exposed to curious questions about having a child, making them tell a lie or give an evasive answer. These kinds of practices are quite common in Egyptian culture. This study result was in a harmony with the study of **El-Gazzar, et al. 2020** who found that infertile women enforced to participate in some traditional practices believed to facilitate pregnancy specifically in upper Egypt such as going to special places, drinking or eating foods, practicing some cultural rituals or claiming that she was envied from others.

The exclusion was also reported as a form of violence against infertile women related to being held responsible/ being accused of any random misfortune in life because of being infertile, not being allowed in decision-making mechanisms, and being compared to fertile women all the time. Moreover, this study illustrated that infertile women are exposed to many forms of social pressure such as stigma, isolation, humiliation, gossip, and being made to feel guilty and disabled by the community. In this context, **Karaca & Unsal, (2015)** explained that women are stigmatized in some

communities because of the cultural construction of gender roles linked to reproduction. Hence, the concept of being other and being culturally rejected or forced into isolation is maximized because of infertility.

Regarding depression levels among infertile women exposed to domestic violence, the current study found that more than one-third of infertile women who were exposed to domestic violence understudy, had mild levels of depression, and nearly two-thirds of women understudy had a borderline clinical depression. It may be attributed to the social and domestic violence due to women's inability to bear children and exposure to social stigma, isolation, humiliation, gossip, and being made to feel guilty and disabled by the community. This study's result was in a harmony with the findings of **Lakatos, et al. (2017)** who explained that women become depressed if the treatment fails to cause fertility which in turn will lead to exposure to more partner violence, social exclusion, stigmatization as disabled women. This result was also agreed by **Patel, Sharma, & Kumar, 2018** who proposed that unfulfilled wishes for a child can have negative emotional effects such as anxiety, and loss of self-esteem.

Moreover, **Sexton, Byrd & von Kluge, 2010** added that women with infertility often present symptoms of stress and adaptive disorders, of which depression was the most common. Consequently, stress related to infertility can negatively affect the outcomes of infertility treatment. Infertile women seem to be more affected by stress and depression compared to their male partners, which may be due to their direct involvement in the invasive procedure for infertility treatment, and frequent failure of treatment techniques that influence the development of anxiety and depression, especially with poor infertility treatment outcomes.

The current study results revealed that there was a highly statistically significant relation between the frequent experience of unsuccessful IVF procedures and levels of depression. It can be due to exposure to a high level of anxiety and fear from an inability to develop pregnancy, frustration, the stress associated with partner blaming, and

dissatisfaction after the IVF procedures that are very costly and need a lot of time and complicated procedures. This study result was disagreed with by **Rashidi, et al, (2011)** who explained that women who underwent frequent unsuccessful IVF therapy had a higher risk of depression, regardless of whether they experienced domestic violence or not. furthermore, there was a highly statistically significant relationship between the potential influence of infertility treatment and the risk of depressive disorders. This study result was also in a harmony with the study conducted by **Abd-Elhamed, Mohasib & Hafez, (2018)** showed that women undergoing subsequent IVF procedures presented a higher level of depressive symptoms compared to couples beginning IVF therapy for the first time.

This study revealed that there was a highly statistically significant relationship between exposure to violence and place of residency among infertile women understudy. It can be attributed to the fact that infertile women in agriculture-based society are perceived as disabled, and loss of community support that is associated with economical, psychological, and social values, and gives women eligibility and respect. These study results were agreed by **Mostafa & Elashram, (2020)** who illustrated that childbearing is thought to be important manpower in rural communities and guarantee for future and old age that provides omen with respectability, disability of reproduction is perceived as a shameful inability and creates a community stigma, social isolation, and community exclusion.

The current study indicated that there was a statistically significant relationship between the duration of the marriage and the total level of depression. It can be explained due to increased psychological stress with the lengthening of infertility time. Based on the depression scale, infertility for a long time is related to a high level of depression due to exposure to psychological distress and social stigma that increased with time. This study result was disagreed by **Patel, Sharma, & Kumar, (2018)** who proposed that depression levels decreased with time as depression peaks between the second and third years of infertility and don't return to the normal range until after

six years of infertility. Meanwhile, the current study result was agreed by **Abd Elghany Abd El Hameed & Abd El Aal, (2021)** who found that women with 2-3 years of duration of infertility suffer from depression compared with those who experience less than one year of infertility.

This study elaborated that there was a highly statistically significant relationship between the occupational level of infertile women understudy and their exposure to violence were employed women were less likely to experience domestic violence than household. It can be explained due to the fact that employed women have professional security elicited from their job financial support where they can separate from their husbands and earn their bread without being enforced to accept violence and aggression because of their infertility. This study results in harmony with **Yousefnia, Nekuei & Farajzadegan, (2018)** who proposed that infertile women get more psychological support from workmates than household women who stayed at home and lack social insurance to cover the expenses of infertility treatment.

The current study revealed that nearly one-third of the infertile women understudy had a second wife for their husbands due to their inability to bear children for many years which leads to a lack of marital bond between both partners and makes husbands search for second marriage or divorce. This result was agreed with **Kumar, (2018)** who mentioned that in western culture, family status especially childbearing is very important and valuable as having a child stabilizes the family and increases marital satisfaction. Meanwhile, infertility and the absence of children may cause marital problems such as divorce, separation, or second marriage mostly to avoid social pressure from surroundings involving family, friends, and neighbors.

This study's results showed that there was a highly statistically significant relationship between age and levels of depression among infertile women exposed to domestic violence understudy. It could be due to a lack of self-confidence associated with frequent blaming from others, feeling of grievance, sin, and

disappointment from being unable to get pregnant and satisfy the maternal and paternal instincts of women and their husbands in absence of social support. These study results were supported by **Brahmbhatt, 2019** who found that infertile women aged between 30- and 40 years are at risk of depression and anxiety due to a lack of feminine role satisfaction and loss of self-efficacy as a result of families and social pressure.

Conclusions:

In the light of the current study results, it can be concluded that:

- Women with infertility experience different types of domestic violence involving domestic violence, punishment, social pressure, exposure to traditional practice, and social exclusion.
- More than one-third of infertile women had a mild level of depression and about one-fifth of them had a severe level of depression.
- There was a highly statistically significant correlation between exposure to domestic violence and levels of depression among infertile women under study.

Recommendations:

Based upon the results of the current study, the following recommendations were suggested:

- Establishment of counseling clinics for infertile women and their partners to improve their coping strategies and apply educational interventional programs for the prevention of domestic violence, enhancement of coping with stressors associated with infertility, and prevention of depression.
- Conduct a psychiatric nursing intervention program to decrease depressive symptoms among infertile women and proper referral to get the needed health services and psychosocial counseling.
- Increasing the public awareness about domestic violence and its impact on the women

- Conduct future researches to evaluate the relationship between psychological wellbeing and fertility among women who experience domestic violence.

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