

## Research Article

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## Evaluating the Perception for Psychological and Social Impact of Infertility among Libyans

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### ABSTRACT

**Background:** The infertility is defined as inability to conceive after one year of regular unprotected sexual intercourse which classified into primary or secondary infertility.

Several studies had proven the adverse impacts of psychological and social aspects on infertile couples and the reported prevalence of psychological problems were estimated between 25 to 60%. Thence, emerging the psychological interventions among infertile couples are positively correlated with fewer psychological distress, higher rates of pregnancy and improving marital satisfaction.

**Objective:** To evaluate the perception for psychological and social impact of infertility among Libyans.

**Methods and Materials:** This study was cross-sectional which conducted during July 2022 by using an electronic questionnaire survey. 154 participants had responded during the study period and the collected data had entered, encoded and analyzed by using SPSS version 20 to illustrated the descriptive statistics variables.

**Results:** We studied 154 Libyan participants which respond to electronic survey during July 2022. Majority of participants were females with predominance percentage 92.9% (143) while just 7.1% (11) were males. The most frequent age range were between 34 to 41 years which accounts 35.7% (55) followed by 28.6% (44) for age range between 26 to 33 years. Most of responders had university educational level which scored 77.9% (120). Regarding the marital status, majority of them were married which accounts 81.8% (126) while 16.2% (25) were single and only three (1.9%) were divorced.

Among the married group (126 participants) and divorced group (three participants), 72.1% (93) of them had expressed history of infertility issues and delayed childbearing which almost of them reported to had suffered from psychosocial problems.

On assess the perception of participants regarding the effect of the psychological factor on patients with infertility and delayed childbearing, the minimum percentage was 71.4% while the maximum percentage was 93.5% which considered to be high perception level.

While on determine the perception of participants regarding the impact of the social factor on patients with infertility and delayed childbearing, the minimum percentage was 56.6% while the maximum percentage was 93.5%.

On demonstrate the perception of participants regarding the effect of warfare remnants on infertility, 90.3% had perception to negative effect of warfare to women mental health and 89.6% had perception to negative effect of warfare to men mental health. And both considered to be high perception level. Lastly, on evaluate the perception of participants regarding the psychological effect of Corona pandemic which contributed to delayed childbearing and infertility, 74.7% (115) had expressed relatively to consider high perception.

**Conclusion:** The perception of the participants regarding the impact of the psychological and social factors on infertility and delayed childbearing was considered to be high with positive results reported.

Therefore, maintaining the health education approach is basic and essential pillars for raising health awareness particularly among infertile couples along with providing psychological and social support for that group during the treatment journey are important to accomplish favorable management outcomes.

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**Abbreviations:**

CBT = Cognitive Behavioral Therapy  
 FELICIA = Fertility Life Counseling Assistance Program

**Introduction**

The infertility is defined as inability to conceive after one year of regular unprotected sexual intercourse which classified into primary or secondary infertility [1, 2].

Approximately 1 in 8 couples which accounts 12% worldwide have pregnancy difficulty, this infertility challenge contribute to various psychological effects such as distress, feeling of guilt, anxiety, depression, social stigma and poor life quality [3, 4].

Several studies had proven the adverse impacts of psychological and social aspects on infertile couples and the reported prevalence of psychological problems were estimated between 25 to 60% [5].

Therefore, in July 2018 the World Health Organization had exported a scientific guided book that includes a program called Fertility Life Counseling Assistance (FELICIA) to manage mental illness associated with infertility using strategies based on Cognitive Behavioral Therapy (CBT), and recently in April 2021 had re updated the book again.

FELICIA provides a structured, step-by-step guide to infertility counseling and is designed for use by the general community or hospital health workers rather than specialist psychologists or psychiatrists. This is particularly useful in communities where resources for specialized mental and psychiatric care are limited [6].

Thence, emerging the psychological interventions among infertile couples are positively correlated with fewer psychological distress, higher rates of pregnancy and improving marital satisfaction [7-9].

**Objective**

To evaluate the perception for psychological and social impact of infertility among Libyans.

**Methods and Materials**

This study was cross-sectional which conducted during July 2022 by using an electronic questionnaire survey through Google model design on Arabic translated version targeted female and male infertile patients as well as the general population to assess the perception and disseminate health education regarding the impact of the psychological and social factors and its relationship to infertility.

154 participants had responded during the study period and the collected data had entered, encoded and analyzed by using SPSS version 20 to illustrated the descriptive statistics variables.

**Results**

We studied 154 Libyan participants which respond to electronic survey during July 2022.

Majority of participants were females with predominance percentage 92.9% (143) while just 7.1% (11) were males (Figure 1)

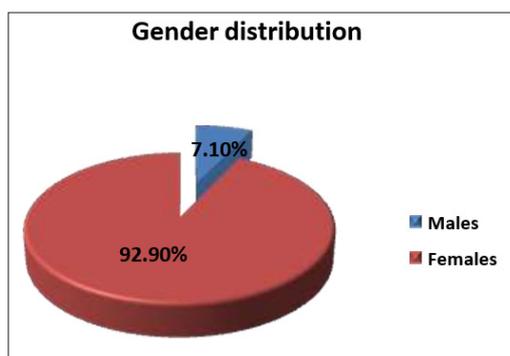


Figure 1: Gender distribution, Libya, 2022

The most frequent age range were between 34 to 41 years which accounts 35.7% (55) followed by 28.6% (44) for age range between 26 to 33 years (Figure 2).

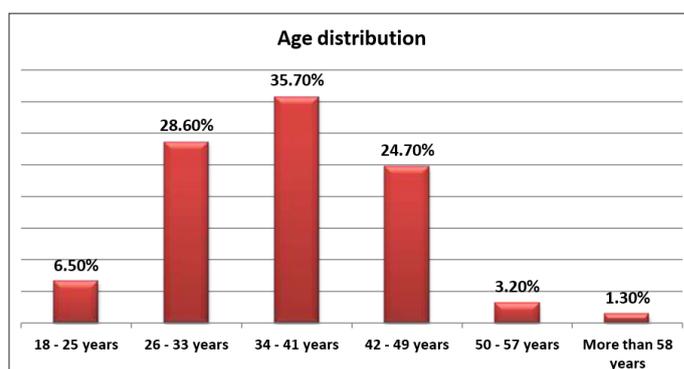


Figure 2: Age Distribution, Libya, 2022

Most of responders had university educational level which scored 77.9% (120) (Table 1)

Table 1: Educational Level Distribution, Libya, 2022

Variables (n = 154)	Frequency	Percentage
University education	120	77.9%
Secondary school education	21	13.6%
Primary school education	6	3.9%
Others	7	4.5%

Regarding the marital status, majority of them were married which accounts 81.8% (126) while 16.2% (25) were single and only three (1.9%) were divorced (Figure 3).

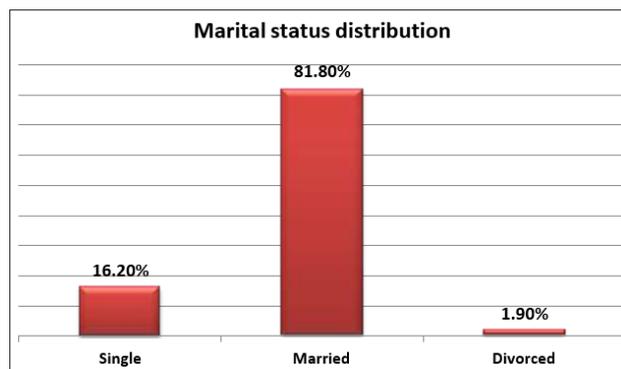


Figure 3: Marital Status Distribution, Libya, 2022

Among the married group (126 participants) and divorced group (three participants), 72.1% (93) of them had expressed history of infertility issues and delayed childbearing which almost of them reported to had suffered from psychosocial problems (Figure 4).

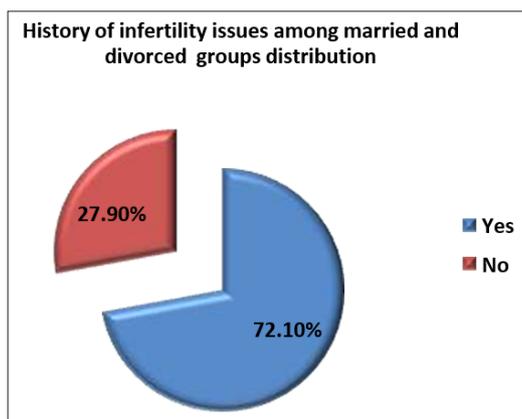


Figure 4: History of infertility issues among married and divorced groups distribution, Libya, 2022.

And 29% (42) of female’s participants had reported to have polycystic ovarian syndrome. On assess the perception of participants regarding the effect of the psychological factor on patients with infertility and delayed childbearing, the minimum percentage was 71.4% while the maximum percentage was 93.5% which considered to be high perception level. (Table 2).

Table 2: Effect of the psychological factor on patients with infertility and delayed childbearing distribution, Libya, 2022

	Yes	No
Did you know that excessive psychological pressure (Stress), sick anxiety (Anxiety) causes a decrease in reproductive ability and pregnancy through hormonal disorders due to activation and defect in the hypothalamic-pituitary axis	81.8% (126)	18.2% (28)
Did you know that the longer on delay in childbearing and infertility treatment for years, the greater the risk of illness anxiety and depression?	87% (134)	13% (20)
Did you know that the presence of psychological stress, anxiety and depression during infertility treatment is considered as a risk factor for reducing the chance of pregnancy?	83.8% (129)	16.2% (25)
Did you know that women who suffer from anxiety and depression and are treated for infertility and delayed childbearing are more likely to have recurrent miscarriages due to psychological disorders?	74% (114)	26% (40)
Did you know that it is a factor of aging, especially in women, that negatively affects reproductive health, causing psychological and social stress for those who are treated for infertility and delayed childbearing?	92.9% (143)	7.1% (11)
Did you know that the nature of work (job) may negatively affect health and reproductive ability?	75.3% (116)	24.7% (38)
Did you know that sleep disturbances during the night negatively affect health and reproductive ability, especially in women who suffer from PCOS (Obstructive sleep apnea)	71.4% (110)	28.6% (44)
Did you know that direct smoking and passive smoking through inhalation by smokers (Active and passive smoking) negatively affect women through the occurrence of hormonal disorders, an increase in the incidence of miscarriages in pregnant women and contribute to the occurrence of early menopause (early menopause)?	87% (134)	13% (20)
Did you know that smoking/consuming alcoholic beverages/taking drugs have a negative effect on sperm and cause infertility and delayed childbearing?	93.5% (144)	6.5% (10)
Did you know that taking psychological counseling or receiving cognitive behavioral therapy (CBT) gives psychological support to couples (both husband and wife) who suffer from infertility and delayed childbearing diseases and contributes to strengthening their chance of pregnancy?	74.7% (115)	25.3% (39)

On determine the perception of participants regarding the impact of the social factor on patients with infertility and delayed childbearing, 56.6% of them had perception for excessive use of mobile phones and addiction to social media for long hours causes depression and that depression is one of the risk factors for infertility and delayed childbearing.

And 93.5% of them had perception that infertility problems and delayed childbearing negatively affect the social status and cause stigma in the spouses and disintegration and family problems that may lead to separation and divorce (Table 3).

**Table 3: Impact of the Social Factor on Patients with Infertility and Delayed Childbearing Distribution, Libya, 2022**

	Yes	No
Did you know that excessive use of mobile phones and addiction to social media for long hours causes depression... and that depression is one of the risk factors for infertility and delayed childbearing?	56.6% (87)	43.5% (67)
Did you know that the problems of infertility and delayed childbearing negatively affect the social status and cause stigma in the spouses and disintegration and family problems that may lead to separation and divorce?	93.5% (144)	6.5% (10)

On demonstrate the perception of participants regarding the effect of warfare remnants on infertility, 90.3% had perception to negative effect of warfare to women mental health and 89.6% had perception to negative effect of warfare to men mental health (Table 4). And both considered to be high perception level.

**Table 4: Effect of Warfare Remnants on Infertility Distribution, Libya, 2022**

	Yes	No
Did you know that wars and the toxic remnants of war negatively affect the mental health of women through the occurrence of hormonal disorders and an imbalance in the menstrual cycle?	90.3% (139)	9.7% (15)
Did you know that wars and toxic remnants of war negatively affect the mental health of men, especially those who have experience using weapons or have been in places of war remnants, which causes a decrease in sperm quality?	89.6% (138)	10.4% (16)

Lastly, on evaluate the perception of participants regarding the psychological effect of Corona pandemic which contributed to delayed childbearing and infertility, 74.7% (115) had expressed relatively to consider high perception. (Figure 5)

to raising social insecurity risk [10, 11].

Also, the association between depression and female infertility reported to be raise 1.4 times chance with estimated percentage reach 35.3% [12].

As the depression considered to be one of most negative emotions correlated with infertility which effect social and cultural context [13, 14].

Therefore, early discovering and determining the psychological effect of infertility particularly among women can provide good evaluation than discrete studies and help to understanding the burden of this problem to build up preventive strategy and improve the health outcomes [13, 14].

In certain cultures like Libya, the infertility concern had negative impact on social life which can lead to social stigma and divorce. This social issue had agreed among 93.5% of responders which supported to Jordan study [15-18].

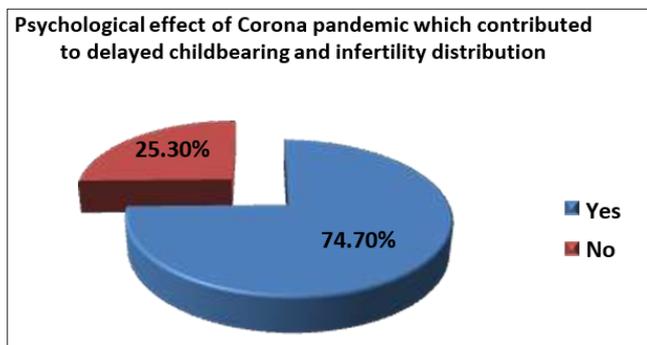
Part of social isolation which had occurred during COVID 19 pandemic that attributed to had negative effect on infertile couples but the real pathological effect on fertility capacity still under evaluation.

As on Esposito V et al study on Italy during COVID 19 pandemic had reported moderate to severe psychological effect among infertile patients [19].

The limitation of current study, short period and electronic designed survey which cannot be reached to all infertile participants while the strength of study was informative overview survey which assess the knowledge and raise the appropriate awareness regarding the lecture.

**Conclusion**

The perception of the participants regarding the impact of the psychological and social factors on infertility and delayed childbearing was considered to be high with positive results reported.



**Figure 5: Psychological Effect of Corona Pandemic which Contributed to Delayed Childbearing and Infertility Distribution, Libya, 2022**

**Discussion**

We evaluated 154 participants regarding the perception for psychological and social impact of infertility among Libyans.

Our study had reported high level of perception which ranged between 71.4% and 93.5% except 56.6% on determine the effect of excessive use of mobile phones and addiction to social media for long hours causes depression and that depression is one of the risk factors for infertility and delayed childbearing.

The high perception could be explained because 77.9% of responders had higher educational level which tends to be more interested to assess or gain additional knowledge related to the lecture in compare to other educational level groups.

On current study, 83.8% of participants were knew about anxiety and related stress events among infertile couples particularly in female, this negative effect of anxiety among infertile couples had illustrated and supported on meta analysis study which reported that the prevalence of anxiety among infertile female reach 36.17% (95% CI 22.47% to 49.87%) and this anxious event can contributes

Therefore, maintaining the health education approach is basic and essential pillars for raising health awareness particularly among infertile couples along with providing psychological and social support for that group during the treatment journey are important to accomplish favorable management outcomes.

Also, integrate local program strategies such as the Fertility Life Counseling Assistance Program (FELICIA) and multidisciplinary team regarding the psychological impacts through infertility management is critical to assure adequate mental health preparation and psychological support.

### Recommendations

1. To create integrated multidisciplinary medical teams consisting of psychiatrist, a gynecologist, infertility treatment, a social worker, and an andrologist to support, prepare and raise the patient mental health before and during various infertility treatments to achieve pregnancy with fewer psychological and social complications.
2. To build up local program strategies such as the Fertility Life Counseling Assistance Program (FELICIA) in our country to support the psychological and social aspects of infertility and delayed childbearing.

**Conflict of Interest:** The authors declare no conflict of interest regarding the publication of this manuscript.

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