



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.5919960>

Available online at: <http://www.iajps.com>

Research Article

**KNOWLEDGE LEVEL AMONG FEMALES REGARDING  
INFERTILITY IN THEIR CHILDBEARING AGE IN  
COMMUNITY ALI RAZAABAD, LAHORE**

<sup>1</sup>Iqra Munir, <sup>2</sup>Miss Zunaira Aziz, <sup>3</sup>Dr. Kabir Ozgi Abdullahi, <sup>4</sup>Muhammad Afzal

<sup>1</sup>Student, Lahore School of Nursing

The University of Lahore, (Natashaawan 032@gmail .com)

(iqramunir488@gmail .com)

<sup>2</sup>Bscn, MSN

<sup>3</sup>Ph.D., Mph, Bscn, Assistant Professor

<sup>4</sup>Ph.D., MSN, Bscn . MBA, Lahore School of Nursing, The University of Lahore

**Article Received:** December 2021    **Accepted:** December 2021    **Published:** January 2022

**ABSTRACT:**

***PURPOSE:** The main purpose of the study is Knowledge level among females in their Childbearing regarding Infertility in community Ali Rezaabad, Lahore of low socio-economic status.*

***Methods Material:** A quantitative cross sectional study design was used to conduct this study to determine the knowledge of community. Data was collected from married in their childbearing ages. This study was conducted from rural community of Ali Razaabad, Lahore. The sample size was 80.*

***Result:** Sample size was 80. In this study 51.25% of females (11-45 years) in community Ali Razaabad, Lahore has poor knowledge about infertility while 42.5% have average knowledge and 1.25% has good knowledge.*

***Conclusion:** The study suggests that some programs should be developed to improve the knowledge of female's population regarding infertility in their childbearing age in community Ali Razaabad, Lahore Result may be oriented with the help of health professional and further their need of individual counseling for the urban and rural females' population.*

***Keywords:** knowledge female's infertility*

**Corresponding author:****Iqra Munir,**

Student, Lahore School of Nursing,

The University of Lahore, (Natashaawan 032@gmail .com)

(iqramunir488@gmail .com)

QR code



Please cite this article in press Iqra Munir et al, Knowledge Level Among Females Regarding Infertility In Their Childbearing Age In Community Ali Razaabad, Lahore., Indo Am. J. P. Sci, 2022; 09(01).

**INTRODUCTION:**

Infertility is described as a sexually active, non-contraceptive couple's inability to conceive naturally within a year (Agarwal et al., 2021). Infertility is regarded as a severe health issue over the world. Infertility has physical, psychological, social, and economic consequence for the person, family, and community (Consortium et al., 2016).

Infertility is a reproductive system condition characterized by a sexually active, non-contraceptive couple's inability to conceive within a year after failing to achieve pregnancy for 12 months or more with frequent unprotected sexual intercourse (Bayu, Egata, Kefale, & Jemere, 2020).

Infertility are divided into two types, primary infertility (In which women unable to conceive and having no history of previous pregnancies) while secondary infertility is define as women having history of previous pregnancies but now she have unable to conceive (Nafees, Khan, Zareen, Imran, & Sher, 2020).

**Men's infertility:** While on the other hands infertility not only present in females also males are infertile due to genetic disorder, hormonal change consumption and alcohol (Yusuf, 2016).

**Women infertility** although females surrounded with many mental and genetic disorder e.g anxiety, depression ovarian and peritoneal disorder which may lead to infertility or main cause of infertility (Lowdermilk, Cashion, Perry, Alden, & Olshansky, 2019).

It is estimated that around 48 million couples and 186 million people worldwide are now experiencing reproductive problems. Infertility can be caused by a variety of factors, with male factor infertility (MFI) accounting for almost half of all cases (Agarwal et al., 2021).

In Pakistan the prevalence rate of infertility was around 22%, the causes of primary infertility is about 4%, on the other hands due to inadequate knowledge and low awareness in low-middle income country have high prevalence rate of infertility.

According to the US Centers for Disease Control and Prevention, 15% couples of reproductive age worldwide infertility (Gerrits et al., 2017).

**Study gap:**

Infertility epidemiological studies assist health policy makers in implementing effective infertility prevention and treatment policies. In Pakistan, there have been few studies on the descriptive and analytical epidemiology of infertility, particularly at the individual level. In Punjab, women's knowledge of infertility and its causes is limited. That's why researcher is interested to work in this area.

**Problem Statement**

Despite the fact that the prevalence of infertility is rising, many people around the world are unaware of the risk factors for infertility. A study to assess infertility awareness among women visiting a tertiary fertility clinic discovered that roughly three-quarters (76 percent) of the women had an inadequate understanding of the fertile period in their menstrual cycle and timely infertility management. Although couples have a basic understanding of the factors that influence fertility, they are unaware of the impact that advancing age has on a woman's fertility. Knowledge regarding infertility and its causes is very important as it may helpful in find out the ways to solve problem of infertility and get appropriate treatment of female 'slack. For this reason is to assess the knowledge level that's why researcher is interested to work in this area.

**1.2 Significance of the study**

The results will be used to recommend to the government and policy makers of community to improve and assist the knowledge of the females of childbearing ages by conducting the seminar to prevent from infertility and its complication. These results will help to provide a picture of knowledge about infertility that will be used to conduct campaigns regarding infertility of awareness and its causes.

The research will serve as a paradigm for researcher's own understanding about the knowledge of females of their reproductive ages regarding infertility of childbearing ages. Hence researcher can improve her own academic knowledge about infertility

### 1.3 Purpose of the study

The main purpose of the study is Knowledge level among females in their Childbearing regarding Infertility in community Ali Razaabad Lahore of low socio economic status.

### 1.4 Research Objectives

Main objectives of this study is

- To determine the knowledge level among females regarding

Infertility in their childbearing ages in community.

### 1.5 Variables

#### Conceptual Definition:

#### Knowledge

Familiarity acquired through experience, education or competency. Knowledge involves the recognition (Oxford dictionary).

#### Operational definition

#### Knowledge

Knowledge is to give awareness, her are 18 item question, score I for correct option and score 0 for incorrect option, total score=  $\geq 16$  out of 18( $\geq 85\%$ ) will be fall in excellent knowledge. 14 to 15(72%-84%) will be fall in good knowledge. 10 to 13 (55%-71%) will be fall in average knowledge.  $<9$ ( $<55\%$ ) will be fall in poor knowledge

### LITERATER REVIEW

Infertility is defined as the absence of pregnancy after a year of unprotected coitus. Potential infertility is regarded as a serious health issue around the world. Infertility has physical, psychological, social, and economic consequences for the individual, family, and community (Consortium et al., 2016).

According to the World Health Organization infertility is to do not have ability to conceive a baby even after the duration of 12 months without using contraceptive devices, with having active intercourse (Medicine, 2020). It is the problem who affects world widely, and it having its high frequency in South Asia (Lowdermilk et al., 2019).

In other statement, who define infertility that a females of childbearing age who has the chance to become pregnant but yet is at failure even more than two years to be sexually active.

According to an ICMR (Indian Council of Medical Research) survey of 37,570 women conducted in 13 districts, the incidence of primary infertility in urban areas is 4% and 3.7 percent in rural regions. This study shows that out of 37,570 participants 4% females were having primary infertility in urban areas and 3.7% were from rural areas.

In 2007 and 2008, in India a district level household facility survey was conducted in that survey 8% female out of their total participants reported for infertility. So it is clearly without any shadow of doubt that infertility has higher frequency in medical concern for today's young generation (Sarkar & Gupta, 2016).

A study was conducted in India by the Dara and Merali in Andhra Pradesh, 70% females were involved in infertility they were punished physically for this disorder.

Another study was also done in Karachi by Hakim et al. to determine the psycho-social results of infertility and they founded that more than two-third (67.7%) of females who could not give birth to baby or the female who could not have son were facing many troubles. Furthermore such females compiled to have divorce alarms (20%) and were forced to go back to their parents (Yusuf, 2016).

In 2014, the normal age at primary birth got higher from 21.4 in 1970 to 26.3 in 2014 whereas percentage of females who we giving birth to their first baby at the age 35 or later increased 1 to 9% forced females to achieve pregnancy (Mathews & Hamilton, 2016).

Another study found that 39 % of 174 were involve in infertility therapy matched the same criteria for highly depressive illness. In California 7352 females and 274 men were examined and diagnoses in infertility clinics that is one of the largest investigation to date (Pasch et al., 2016).

Infertility harms 15% females as well as males of childbearing age globally. A survey was conducted in 2006-2016 National survey of family growth, in which 6% females from age 15 to 44 were included, in United State were declare as infertile, and 12% have impaired fecundity that can be defined as having no ability to

conceive and failure to carry baby. However, in China the frequency of infertility among couple of childbearing ages was 25%. In addition to this infertility belongs to an enhancing chances to develop subsequent serious health problem like it can lead to cardio vascular disease(Zhou et al., 2018).

In 2014, 190,394 cycles for egg retrieval, frozen embryo transfer, and frozen egg thawing were initiated, according to the Society for Assisted Reproductive Technology's National Summary Report. These figures highlight the large number of women who are undergoing fertility treatment(Wilkinson, Roberts, & Vail, 2017).

In many parts of the world, especially in low- and middle-income countries where biological children are highly valued and expected, involuntary infertility can result in stigma, economic deprivation, social isolation and loss of status, public shame and humiliation, and, in some cases, violence(Ezeh et al., 2016).

In Britain, 12.5% of females and 10.1% of males were infertile(Datta et al., 2016).

In Indonesia, a stratified medical strategy has been established, although its use has received little attention. Fortunately, 90 percent of infertility cases have a known reason, and half of them will result in pregnancy if treated properly(Salve, 2017).

In China the frequency of infertility among couple of childbearing ages was 25%. In addition to this infertility belongs to an enhancing chances to develop subsequent serious health problem like it can lead to cardio vascular disease(Zhou et al., 2018)

It is estimated that one in every eight couples (or 12% of married women) struggle to conceive or maintain a pregnancy. Despite the prevalence of infertility, the majority of infertile women do not discuss their situation with family or friends, putting their mental health at risk. Inability to reproduce naturally can lead to feelings of shame, guilt, and low self-esteem. These negative emotions can lead to depression, anxiety, distress, and a decreased quality of life(Rooney & Domar, 2018).

According to World Health Organization, Pakistan has one of the lowest rates of infertility at 3.9 percent. Infertility varies from country to country due to differences in lifestyle and food habits(Golshani, Mirghafourvand, Hasanpour, & Seiedi Biarag, 2020). According to World Health Organization estimates, the overall prevalence of primary infertility in India ranges between 3.9 and 16.8 percent infertile women in developing countries face the additional disadvantage of being severely restricted in their participation in societal activities(Patel, Sharma, Kumar, & Binu, 2018).

It is estimated that up to 48.5 million couples are affected worldwide. Female infertility can be caused by a number of factors, including age, which is a major determining factor, physiological dysfunction (which is also a factor in male or couple infertility), lifestyle (e.g. obesity, low body weight, smoking), and other unknown causes(Kitchen, Aldhouse, Trigg, Palencia, & Mitchell, 2017).

Infertility affects millions of people worldwide, with estimates ranging from 3.5 to 18.9 percent of married couples suffering from infertility. According to various studies, the incidence of infertility ranges from 6.9 percent to 9.3 percent in resource-constrained countries. Pakistan has one of the lowest rates of infertility in the world, at 3.9 percent, according to the WHO. Infertility varies by country due to differences in lifestyle and eating habits(Behboudi-Gandevani, Yarandi, Dovom, Azizi, & Tehrani, 2021)

## **METHODOLOGY:**

This chapter provided the information about the study design, study settings, sample size, study tools and the inclusion and exclusion criteria of the research.

### **3.1 Study Design**

A quantitative cross sectional study design was used to conduct this study to determine the knowledge of community.

### **3.2 Study site**

Data was collected from females in their childbearing ages.

### **3.3 Study setting**

This study was conducted from rural community of Ali Razaabad, Lahore.

### 3.4 Study population

Study population consist of that population from where research gathered all information which was relevant to research, this study population consist among females in their childbearing of community.

### 3.5 Sample size

Solving's formula was used to calculate the sample size for research

$$n = N / 1 + (E)^2$$

Where n= number of sample, N= number of total population, e= Error margin of 0.05 when confidence interval is 95%

$$\text{Let } N = 150, e = 0.05$$

So, according to the formula,

$$n = N / (1 + Ne^2)$$

$$n = 100 / 1 + 100(0.05)^2$$

$$n = 100 / 1 + 100(0.0025)$$

$$n = 100 / 1 + 0.25$$

$$n = 100 / 1.25$$

$$n = 80$$

Henceforth, n = 80

The sample size was 80.

### 3.6 Sample strategy

Purposive sampling strategy was used in the study

### Demographic Data:

Factors	Frequency	Percentage%
<b>Age</b>		
11-20 years	24	30.0%
21-30 years	25	31.3%
31-40 years	18	22.5%
41-49 years	13	16.3%

### 3.7 Inclusion criteria and Exclusion criteria

#### Inclusion criteria

Married females in their childbearing were involved in Inclusion criteria.

#### Exclusion criteria

Those participants who refuse to take part in the research and were not interested and feel she to give personal data was excluded from the study.

### 3.8 Study period

The study was took approximately 4 months to complete.

### 3.9 Data analysis

Data was analyzed using SPSS version 21.0

### 3.10 Data collection plan

Participants of the study were from community Ali Razaabad, all the questionnaire of the knowledge was used collect data from willing participants.

### 3.11 Ethical Consideration

Ethical consideration was followed, while performing research.

**Veracity:** Complete information was given to community people also informed the people about the purpose of study.

**Confidentiality:** Personal information of community people for example phone number, name and address was not mentioned they kept in confidentiality.

**Non maleficence:** open opportunity was given to all females; no one was forced to participate.

**Autonomy:** Informed consent was signed by all participants.

### RESULT:

#### Descriptive Date Analysis

This chapter includes the descriptive statistics of demographic data, factors and will represent the mean, mode, median, frequencies, percentage etc.

<b>Educational Status</b>		
Matric	23	28.8%
Intermediate	18	22.5%
Graduation	17	21.3%
Illiterate	22	27.5%
<b>Occupation</b>		
Government Employee	18	22.5%
Private Employee	19	23.8%
Student	16	20.0%
House Wife	27	33.8%
<b>Total</b>	80	100%

Table no.1; Show the demographic data of the participants. According to the table no.1. It shows the total population of the participants was 80. The age group of 21-30 years had high score of percentage of about 31.3%. The second highest age group was of 11-20 years 30.0% and the least high group was of 31-40 years 22.5% and 41-49 years with 16.3% respectively. As the table is representing majority (28.8%) of the participants were matric and intermediate (22.5%) and graduation (21.3%) and illiterate (27.5%). Table shows the occupation of the participants. Majority (33.8%) of the participant were house wife. Other (23.8%) private employee and (22.5%) government employee and (20.0%) student were participants.

#### Questionnaires Data

**Table no.2 (A), Show the questionnaires data of the participants**

<b>Sr#</b>	<b>Tools</b>	<b>Frequency</b>	<b>Percentage</b>
1	<b>Do you know about infertility?</b>	Yes(30) No(50)	Yes (36.6%) No (61.0%)
2	<b>Psychological stress can cause infertility?</b>	Yes(23) No(57)	Yes (28.0%) No(69.5)
3	<b>Having abnormal menses can cause infertility?</b>	Yes(26) No(54)	Yes (31.7%) No (65.9%)
4	<b>Previous use of the intrauterine device by female contributes to infertility?</b>	Yes(14) No(66)	Yes (17.1%) No (80.5%)
5	<b>Do you think infertility is a disease?</b>	Yes(20) No(60)	Yes (24.4%) No (73.2%)
6	<b>Do you think infertility should be treated medically?</b>	Yes(17) No(63)	Yes(20.7) No (76.8%)
7	<b>An equal proportion of male and female factors contribute to infertility?</b>	Yes(20) No(60)	Yes (24.4%) No (73.2%)
8	<b>Having unhealthy lifestyle makes you infertile?</b>	Yes(24) No(56)	Yes (29.3%) No (68.3%)
9	<b>People who have a sexually transmitted disease are likely to have increased infertility?</b>	Yes(16) No(64)	Yes (19.5%) No (78.0%)
10	<b>In females, having blocked tubes (fallopian tubes) can cause infertility?</b>	Yes(9) No(71)	Yes (11.0%) No (86.6%)
11	<b>Previous use of contraceptive pills by females can contribute to infertility?</b>	Yes(17) No(63)	Yes (20.7%) No (76.8%)

12	If a woman is overweight by more than 13 kg, then she may not be able to get pregnant?	Yes(30) No(49)	Yes (36.6%) No (59.8%)
13	Mumps after puberty can cause infertility problems in women?	Yes(19) No(61)	Yes (23.2%) No (74.4%)
14	Do you think that regular exercise is the cause of infertility?	Yes(13) No(67)	Yes (15.9%) No (81.7%)
15	History of genital tract infections such as PID Pelvic inflammatory disease in females can cause infertility?	Yes(28) No(54)	Yes (34.1%) No (65.9%)
16	Jinn's/supernatural phenomenon cause infertility?	Yes(19) No(61)	Yes (23.2%) No (74.4%)
17	Do you hard about infertility?	Yes(20) No(60)	Yes (24.4%) No (73.2%)
18	Do you want to get further information about infertility?	Yes(26) No(54)	Yes (31.7%) No (65.9%)

Table no.2 (B), Show the questionnaires  
Data of the participants

Sr	Tools	Mean	Median	Mode	Std. Deviation
1	Do you know about infertility?	38	00	0	487
2	Psychological stress can cause infertility?	29	00	0	455
3	Having abnormal menses can cause infertility?	33	00	0	471
4	Previous use of the intrauterine device by female contributes to infertility?	18	00	0	382
5	Do you think infertility is a disease?	25	00	0	436
6	Do you think infertility should be treated medically?	21	00	0	412
7	An equal proportion of male and female factors contribute to infertility?	25	00	0	436
8	Having unhealthy lifestyle makes you infertile?	30	00	0	461
9	People who have a sexually transmitted disease are likely to have increased infertility?	20	00	0	403
10	In females, having blocked tubes (fallopian tubes) can cause infertility?	11	00	0	318

11	Previous use of contraceptive pills by females can contribute to infertility?	21	00	0	412
12	If a woman is overweight by more than 13 kg, then she may not be able to get pregnant?	38	00	0	488
13	Mumps after puberty can cause infertility problems in women?	24	00	0	428
14	Do you think that regular exercise is the cause of infertility?	16	00	0	371
15	History of genital tract infections such as PID Pelvic inflammatory disease in females can cause infertility?	34	00	0	477
16	Jinn's/supernatural phenomenon cause infertility?	24	00	0	428
17=	Do you hard about infertility?	25	00	0	436
18	Do you want to get further information about infertility?	33	00	0	471

**Table no.2 (C), Show the total scoring of the questionnaire of the participants**

Excellent knowledge	1.25%
Good knowledge	3.75%
Average Knowledge	42.5%
Poor knowledge	51.25%

### DISCUSSION:

The purpose of the study was to determine the Knowledge Level among females in their childbearing age regarding infertility in Lahore Community Ali Razaabad. The results of this survey showed a poor level of knowledge of infertility in the studied population of reproductive age women.

This study showed that 36.6% of the participants have poor knowledge about infertility on the other hand the study conducted in 2019 shows that females have 39% of the participants have poor knowledge about infertility.

The poor knowledge of infertility among females are inadequate because females have the misconceptions or myths and females feel shy to talk about this to anyone.

This study showed that 31.7% of the participants have poor knowledge about abnormal menses can cause infertility on other hand the study conducted in Daniluk and Koert, 2013 measured in a Canadian show that females have 60.5% of the participants poor knowledge about infertility.

It was also apparent that people were unaware of the biological aspects of conception including the effect of abnormal menses and the steep decline in fertility potential after the age of 34-35 years.

The study showed that 19.5% of the participant's people who have a sexually transmitted disease are likely to have increased infertility on other hand the study conducted in rural Ghana which revealed that less than 2% of participants referred to sexually transmitted disease (STIs) as a cause of infertility.

Although sexually transmitted infections (STIs) are significant contributors to tubal damage and infertility, it was surprising to observe that only a small proportion (37%) could recognize STIs as a cause of childlessness

The study population considered Jinn's/supernatural powers to be responsible for infertility. These findings could be attributed to the cultural beliefs and values of the wide variety of socio-cultural and ethnic groups in Pakistan.

The beliefs in evil forces and supernatural powers as a cause of infertility are still prevalent in many parts of the world. Women who are unable to conceive are considered to be possessed by evil spirits with infertility being a punishment from God.

Additionally, our study showed no such significant relation of gender difference and knowledge of infertility indicating that both men and women lack knowledge about the effects of smoking, exercise, psychological stress, and other lifestyle factors on fertility potential.

In this study 51.25% of females (11-45 years) in community Ali Razaabad, Lahore have poor knowledge about infertility while 42.5% have average knowledge and 1.25% have good knowledge.

### CONCLUSION:

The study suggests that some programs should be developed to improve the knowledge of females population regarding infertility in their childbearing age in community Ali Razaabad, Lahore Result may be oriented with the help of health professional and further their need of individual counseling for the urban and rural females population. The program in this regard could be taken at government hospitals were best counseling could be parted with. Electronic media can also play a vital role in the development of knowledge-practice gap of infertility among females. This study also revealed there is need of research which could further help in making the policies and programs by the government authorities in the field of infertility.

### LIMITATION

The study found many limitations

- Time duration was too short.
- This study was focus only on rural community.
- Likert scale questionnaire has been used in this study.
- Data collection was faced lot of issues.
- The respondent of the study have very careless attitude regarding infertility filling questionnaire
- Participants of the study have no idea about importance of the filling questionnaire sincerely.

### RECOMMENDATION

- Institute can develop strategies to enhance the knowledge related to infertility by conducting awareness session, seminar programmer and educational programmers
- Government and policy makers should make policies to enhance the trend of health education for females in their childbearing age.

### ACKNOWLEDGEMENT

- This research was biggest step for me and that was not possible without the guidance and enlightenment blessed by God. So I thank to God for the blessings.
- I would like to thank my research supervisor Miss Zunaira Aziz and co- supervisor Sir DR. Kabir Ozigi Abudullahi for his/her for this support and guidance throughout the course of this research and for providing an excellent role model for novice research.
- I am highly pleased to express my cordial to my parents and sister Hina kanwal for this support.

### REFERENCES:

1. Agarwal, A., Baskaran, S., Parekh, N., Cho, C.-L., Henkel, R., Vij, S., . . . Shah, R. (2021). Male infertility. *The lancet*, 397(10271), 319-333.
2. Bayu, D., Egata, G., Kefale, B., & Jemere, T. (2020). Determinants of Infertility among Married Women Attending Dessie Referral Hospital and Dr. Misganaw Gynecology and Obstetrics Clinic, Dessie, Ethiopia. *International journal of reproductive medicine*, 2020.
3. Behboudi-Gandevani, S., Yarandi, R. B., Dovom, M. R., Azizi, F., & Tehrani, F. R. (2021). The Association Between Male Infertility and Cardiometabolic Disturbances: A Population-Based Study. *International Journal of Endocrinology and Metabolism*, 19(2).

- Consortium, E. I.-M., Reproduction, E. S. o. H., Embryology, Kupka, M., D'Hooghe, T., Ferraretti, A., . . . De Geyter, C. (2016). Assisted reproductive technology in Europe, 2011: results generated from European registers by ESHRE. *Human reproduction*, 31(2), 233-248.
4. Datta, J., Palmer, M., Tanton, C., Gibson, L., Jones, K., Macdowall, W., . . . Mercer, C. (2016). Prevalence of infertility and help seeking among 15 000 women and men. *Human Reproduction*, 31(9), 2108-2118.
  5. Ezeh, A., Bankole, A., Cleland, J., García-Moreno, C., Temmerman, M., & Ziraba, A. K. (2016). Burden of reproductive ill health. *Reproductive, Maternal, Newborn, and Child Health*, 25.
  6. Gerrits, T., Van Rooij, F., Esho, T., Ndegwa, W., Goossens, J., Bilajbegovic, A., . . . Migiro, S. K. (2017). Infertility in the Global South: Raising awareness and generating insights for policy and practice. *Facts, views & vision in ObGyn*, 9(1), 39.
  7. Golshani, F., Mirghafourvand, M., Hasanpour, S., & Seiedi Biarag, L. (2020). The effect of cognitive behavioral therapy on anxiety and depression in Iranian infertile women: a systematic and meta-analytical review. *Iranian journal of psychiatry and behavioral sciences*, 14(1).
  8. Kitchen, H., Aldhouse, N., Trigg, A., Palencia, R., & Mitchell, S. (2017). A review of patient-reported outcome measures to assess female infertility-related quality of life. *Health and quality of life outcomes*, 15(1), 1-12.
  9. Lowdermilk, D. L., Cashion, M. C., Perry, S. E., Alden, K. R., & Olshansky, E. (2019). *Maternity and Women's Health Care E-Book*: Elsevier Health Sciences.
  10. Mathews, T. J., & Hamilton, B. E. (2016). Mean age of mothers is on the rise: United States, 2000-2014. *NCHS data brief*(232), 1-8.
  11. Medicine, P. C. o. t. A. S. f. R. (2020). Definitions of infertility and recurrent pregnancy loss: a committee opinion. *Fertility and sterility*, 113(3), 533-535.
  12. Nafees, R., Khan, H. L., Zareen, H., Imran, Z., & Sher, S. J. (2020). Myths & Controversies in Assisted Reproductive Techniques–Gynecologists' Perspective. *Biomedica*, 36(3), 301.
  13. Pasch, L. A., Holley, S. R., Bleil, M. E., Shehab, D., Katz, P. P., & Adler, N. E. (2016). Addressing the needs of fertility treatment patients and their partners: are they informed of and do they receive mental health services? *Fertility and sterility*, 106(1), 209-215. e202.
  14. Patel, A., Sharma, P., Kumar, P., & Binu, V. (2018). Sociocultural determinants of infertility stress in patients undergoing fertility treatments. *Journal of human reproductive sciences*, 11(2), 172.
  15. Rooney, K. L., & Domar, A. D. (2018). The relationship between stress and infertility. *Dialogues in clinical neuroscience*, 20(1), 41.
  16. Salve, V. (2017). Coeliaco-mesenteric trunk: a rare case report. *Journal of Morphological Sciences*, 29(4), 0-0.
  17. Sarkar, S., & Gupta, P. (2016). Socio-demographic correlates of women's infertility and treatment seeking behavior in India. *Journal of reproduction & infertility*, 17(2), 123.
  18. Wilkinson, J., Roberts, S. A., & Vail, A. (2017). Developments in IVF warrant the adoption of new performance indicators for ART clinics, but do not justify the abandonment of patient-centred measures. *Human Reproduction*, 32(6), 1155-1159.
  19. Yusuf, L. (2016). Depression, anxiety and stress among female patients of infertility; A case control study. *Pakistan journal of medical sciences*, 32(6), 1340.
  20. Zhou, Z., Zheng, D., Wu, H., Li, R., Xu, S., Kang, Y., . . . Xu, S. (2018). Epidemiology of infertility in China: a population-based study. *BJOG: An International Journal of Obstetrics & Gynaecology*, 125(4), 432-441.