

## HEALTH CARE SEEKING AND INFERTILITY: A CROSS SECTIONAL COMPARATIVE STUDY AMONGST FEMALES OF DYAL VILLAGE LAHORE

Rozina Shahadat Khan,<sup>1</sup> Samina Waseem,<sup>2</sup> Romaisa Siddique,<sup>3</sup> Rohma Saqib,<sup>4</sup> Hafiz Umar Farooq<sup>1</sup>

### Abstract

**Background:** Female infertility ends up in long term health implications especially in Pakistan where combined family system and social set-up pressurizes the newlywed couples for child bearing age. But proper diagnosis and effective management is only possible through health care seeking.

**Objective:** To assess the actual magnitude of different types of infertility and its associated health care seeking amongst females of Dyal Village Lahore.

**Methods:** This cross sectional comparative study was conducted in rural female population of Dyal Village Lahore. The sample size was 118 and data collection was done through Simple Random Sampling. Data was gathered using Personal Self-Concept Questionnaire containing information related to socio demographic, economic, female medical, family, gynecological and Health Care seeking history.

**Results:** Out of 118 only 42 (35.59%) had Primary infertility. only 24.58% had Menorrhagia, 40.68% had Oligomenorrhea and 22.88% experienced Dysmenorrhea. Only 7% reported male factor. Majority females had ovulatory problems (38.3 %) and 11.8 % with tubal blockage 9.7 % reported uterine problems. Only 68(57.63%) visited hospitals, 67 (56.78%) sought medical treatment and 48(40.68 %) had both medical and surgical interventions. Surprisingly 29(24.58%) had received Instrumentation and medication by Dai and 10 (8.47) had medication following relatives advice. Study has also shown a significant relation with higher educational and economical status.

**Conclusion:** The higher Primary infertility levels and trends of seeking health care services other than professional experts especially from Dai is alarming. Future research study can be focused for determining the predictors of such health care services for infertility.

**Key Words:** Infertility, Primary Infertility, Secondary infertility and Health Care Seeking,

**How to cite:** Khan RS, Waseem S, Siddique R, Saqib R, Farooq HU. Health Care Seeking and Infertility-A Cross Sectional Comparative Study Amongst Females of Dyal Village Lahore. 2023 JAIMC; 21(2): 74-79

The ability of a couple to conceive or to reproduce a child is Fertility,<sup>1</sup> while inability of conception or a clinical pregnancy in a natural way after 12 months regular and unprotected sexual intercourse is infertility and it may be Primary or secondary.<sup>2</sup> A couple who

has never been able to conceive is Primary infertility while failure to conceive following a previous pregnancy is secondary pregnancy.<sup>3</sup> This can be due to health issue with one or both partners. Study has shown both partners having issues in 35% cases with male factors responsible for 8% of cases.<sup>4</sup> Ejaculation and testicular dysfunction, varicocele, cancer, unhealthy dietary habits, smoking, use of alcohol, steroids, recreational drugs, improper functioning of the pituitary gland or hypothalamus, production of excessive prolactin levels and genetic conditions can potentially reduce the sperm count.<sup>5</sup> Female issues related to infertility could be due to problems with ovaries, uterus,

1, 5: PGMI/AMC/LGH

2. S ZMC, RYK.

3. LSE, Lahore, Pakistan

4. KMSMC, Sialkot

### Correspondence:

Rozina Shahadat Khan, PGMI/AMC/LGH,

Email: dr.rozinakhan@live.com

Submission Date: 13-04-23

1st Revision Date: 02-05-23

Acceptance Date: 28-06-23

and fallopian tubes or any factor that can cause irregular cycle. Progesterone level on 21<sup>st</sup> day of cycle, ovulation prediction kit, follicle-stimulating hormone levels on the 3<sup>rd</sup> to 5<sup>th</sup> day of the cycle, antral follicle count through a transvaginal ultrasound and anti-müllerian hormone levels are the tests used for the diagnosis.<sup>6</sup> Inability to ovulate or anovulation<sup>7</sup> can be due to Polycystic Ovarian Syndrome, Diminished ovarian reserve external icon, Functional hypothalamic amenorrhea, hypothalamic and pituitary glands dysfunction and premature ovarian insufficiency.<sup>8</sup> History of appendicitis, chlamydial or gonorrheal infections can affect the patency of the fallopian tube and can cause obstruction. Hysterosalpingogram, diagnostic laparoscopy and chromopertubation used to check the patency of the fallopian tube. Transvaginal ultrasound, hysteroscopy, and sonohystogram are used to diagnose Uterus fibroids and malignancy.<sup>19</sup> Other factors triggering Female infertility includes smoking, excessive weight loss or gain, increasing age ,alcohol consumption<sup>10</sup> emotional stress,<sup>11</sup> and physical stress.<sup>12</sup> Infertility is rapidly rising global health issue of 21<sup>st</sup> century<sup>13</sup> affecting approximately 10-15% of couples.<sup>14</sup> in developing countries The estimated prevalence of infertility in reproductive age (15-49 years) group females remained one in every four couples while one in every seven couples in the western world and upto 30% in certain regions including South Asia<sup>1</sup> and 12% in the United States between 2015 and 2017.<sup>15</sup> Study has shown decreasing trends of Primary infertility in high income countries, -9.3 % and -11.6 % amongst male and female respectively. Decreasing trends of secondary infertility observed amongst Central Asian, Central Europe, Eastern Europe and high-income countries females. Rise in trends of primary infertility seen with highest in south Asian women and men of the Middle East and North Africa with change of 40.9 % and 19.0 % respectively. Likewise rising trends have been observed in Middle East, North African, and South Asians.<sup>16</sup> According to a study conducted in Dhaka City has shown 81% cases of Primary infertility and 18.9% secondary infertility of the total infertility and ovulation failure in 35.1%.<sup>17</sup> Infertility

Reported from Pakistan was 22% out of which 4% was primary<sup>2</sup> and more common in females than male and ovulatory failure is the most common cause of female infertility. Another study has reported only 7% total infertility out of which 20.96% was due to male, 23.11% had ovulatory failure, 5.37% had sexual dysfunction, 1.61% due to mucus hostility, 15.08% was due to blockage of tubes, 1.07% were having tubo-ovarian masses and 6.98% had endometriosi.<sup>9</sup> Higher infertility rate but lesser health care seeking trends were seen in general public.<sup>18</sup> Incidence of primary infertility diagnosis has increased from 1980 to 1999. From 1980-1985 to 1995-1999 the rise was 14 to 20 per 10,000 person years respectively. Ovulatory dysfunction and unexplained infertility remained the most common causes of primary infertility. The most extensively used fertility medication was Clomiphene along with in vitro fertilization with rise of 1.8% to 26.0% from 1980-1985 to 1995-1999 respectively.<sup>19</sup> Another study has shown that higher infertility is associated with higher socioeconomic status, later cohabitation with partner, and older age planning for second child. Health seeking prevalence was 57.3% among females and 53.2% among males. Health care seekers who had a child and planned for second child at older age were more educated and had higher occupation status.<sup>20</sup> The reason for not seeking medical treatment is not clear so far. A wide range of medical techniques are available for infertility in industrialized societies. One of such technique is medically assisted reproduction (MAR) which includes assisted reproductive technology treatments (ART) like in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), preimplantation genetic testing (PGT), cryopreservation of embryos and gametes, assisted insemination for infertility. MAR is on rise since birth of the first “test-tube baby” in 1978 in UK. (Wyns et al.2020). Ovulation induction or stimulation through Hormonal treatments is also available for infertility.(Zegers-Hochschild et al., 2017). Another study has shown that health care seeking in men in 25-44 years remained 9%.<sup>4</sup> Female infertility ends up in long term health implications<sup>21,12</sup> especially in Pakistan where combi-

ned family system and social set-up pressurizes the newly married couple newlywed couples for child bearing. But proper diagnosis and effective management is only possible through health care seeking. So this study is designed to know the actual magnitude of different types of infertility and its associated health care seeking amongst females of Dyal Village Lahore.

## METHODS

**Sampling technique:** In Stage one complete enumeration of 5646 population of 814 household units with 1650 reproductive age group females has been done to list the married females with infertility. In Stage two simple Random sampling of infertile females for health care seeking with proportion rate of 57.3 %<sup>20</sup> and 5% margin of error.

**Sample size:** For the population of 159 infertile married females with proportion rate of 57.3 % and 5% margin of error, sample size was 112 and 118 considering 5% non response.

**Data collection procedure:** Out of 5546 population with 814 household units with 1650 reproductive age group females, 767 were married. Out of these 159 females facing infertility identified per inclusion criterion, 118 selected through simple random sampling. A Personal Self-Concept Questionnaire used for data collection. The questionnaire developed in English and translated into Urdu taking into consideration the ease of respondents. The population based trained local health workers helped for the mapping and data collection according to selection criteria. Married females who gave consent and fulfilled the inclusion criterion interviewed to gather required information. Females with morbidities other than reproductive system, severe illness and marriage duration less than one year, unable to bear child due to hysterectomy, history of chemotherapy excluded. The Personal Self-Concept Questionnaire contained information related socio demographic, economic, female medical, family and gynecological history. Female reproductive health assessed like pattern of menses, menstrual cycle and last menstrual history. Primary infertility is interpreted as the couple's inability to conceive after one year of

unprotected intercourse. Secondary infertility considered as failing to get pregnancy after one year of previous pregnancy following unprotected intimacy or those who had repeated spontaneous miscarriage, pregnancy ending up in a stillbirth. Those who previously had pregnancy a previous ability to do so but again had failed to carry a pregnancy to a live birth.

**Health care seeking for infertility:** In the present study the health care seeking associated with infertility assessed on points; Whether health care sought or not and if sought then at what place and what type of treatment (hospital/clinic/ home, medical/surgical, Allopathic, homeopathic) and from whom (Doctor, Hakeem, Nurse, Lady health worker, Untrained birth attendant Dai).

**Statistical analysis:** Version 23 of statistical package for social studies (SPSS) has been used for data entry and analysis. Tables and graphs used for data presentation. Continues variable such as age, height and weight summarized into mean and standard deviation. Chi Squared Test of Significance applied to check the significance between two health care seeking and different types of infertility, age, educational status as well as socioeconomic group. The p value  $\leq 0.05$  considered statistically significant.

## RESULTS

This Cross sectional comparative study was conducted amongst 118 infertile females with mean age of 21.8 at the time of first marriage and 28.71 of their partner. The majority of these females were Illiterate (35.59%) house wives (79.66%) from Lower middle class (36.44%) Majority (82.20%) had first marriage with only ((15.25%) having second marriage (Table 01) Out of 118 only 42 (35.59%) had Primary infertility. (Table 02) Risk Factors like Diabetes, Hypertension, and Smoking were present in 16.01%, 33.90% and 16.95% females respectively (Figure 01) only 24.58% had Menorrhagia, 40.68% had Oligomenorrhoea and 22.88% experienced Dysmenorrhoea. (Table 03) only 60% infertility cases had baseline investigations, Laproscopic and dye test was done only in 6.3 % As far as hormonal profile is concerned majority 67 % had no

## HEALTH CARE SEEKING AND INFERTILITY-A CROSS SECTIONAL COMPARATIVE STUDY AMONGST FEMALES

levels assessed and out of tested FSH and LH levels were assessed in 8.2 % 21.4 % lost their test records. Only 7% reported Male factor, 27% never had tests for the male Partner as they were not willing. Majority females had ovulatory problems 38.3 % and 11.8 % with tubal blockage, 9.7 % reported uterine problems. Only 68(57.63%) visited hospitals, 67 (56.78%) sought the Medical treatment and 48(40.68) had both medical and surgical interventions. Surprisingly 29 (24.58%) had received Instrumentation and medication by Dai and 10(8.47) had medication following relatives advice. (Table 04) Study has also shown a significant relation with higher educational and economical status.

### DISCUSSION

Current study has shown 42/118 (35.59%) cases

**Table 1:** Socio-demographic Factors of Respondents

Characteristics		Frequency (%)
Socio Economic Status	High class	10 (8.47%)
	Upper middle class	35(29.66%)
	Lower middle class	43(36.44%)
	Poor	30(25.42%)
Profession of female	House wife	94(79.66%)
	Working lady	24(20.33%)
Education status	PG	01(0.85%)
	Graduate	04(3.39%)
	Intermediate	15(12.71%)
	Matric	22(18.64%)
	Middle	18(15.25%)
	Primary	16(13.56%)
Marital status	Illiterate	42(35.59%)
	1 <sup>st</sup> Marriage	97(82.20%)
	2 <sup>nd</sup> Marriage	18((15.25%)
Female age at marriage	Separated	03(2.54%)
	15-20	88(75.58%)
	21-25	23(19.49%)
Husband age at Marriage	26-30	07(5.93%)
	15-20	34(28.81%)
	21-25	73(61.86%)
	26-30	06(5.08%)
	31-35	03(2.54%)
>35	02(1.69%)	

of Primary infertility. While another study has shown that one in every four (25%) (14.29%) Couples in developing countries, one in every seven couples in

**Table 2:** Obstetrical / Infertility history

Variables	Frequency (%)	
Total number of pregnancies	0	42 (35.59)
	1	52(44.07)
	2	18(15.25)
	3	6(5.08)
Number of living children	0	48(40.67)
	1	56(47.46)
Abortion	0	78(66.10)
	1	34(28.81)
	2	06(5.8)
Primary infertility	42 (35.59)	
Secondary infertility	76 (64.41)	

**Table 3:** Gynecological History

Variables	Frequency (%)	
Menorrhagia	29 (24.58)	
Oligomenorrhea	48(40.68)	
Dysmenorrhea	27(22.88)	
Pain during Coitus	39 (33.05)	
Medicine for Dyspareunia	27(22.88)	
Acne problem	46(38.98)	
Excessive hair on face and body	29 (24.58)	
Any medicine to start periods	33 (27.97)	
Ever used any method of contraception	47(39.83)	
Type of contraceptive	IUCD	07 (5.93)
	Pills	23 (19.49)
	Condoms	17 (14.41)
Infection of uterus or tubes	29 (24.58)	

**Table 4:** Health Care Seeking for Infertility

Variables		Frequency (%)
Place of Infertility Treatment	Hospital	68(57.63)
	Clinic	26(22.03)
	Home	09(07.63)
	Hakeem place	13(11.02)
	Others	02(01.69)
Type of Care for Infertility	Medical T/M by Doctor	67 (56.78)
	Medication by Hakeem	25(21.19)
	Both Medical & Surgical T/M by Doctor	48(40.68)
	Instrumentation and medication by Dai	29( 24.58)
	Self-medication	10 (8.47)

the western world and up to 30% in certain regions including South Asia<sup>1</sup> faced this issue. While from Pakistan primary infertility accounts for 4% out of 22% cases of total fertility.<sup>2</sup> Study has shown both partners having issues in 35% cases out of which male factors were responsible for 08% of cases<sup>4</sup> in accordance with the current study findings of 7% reported male factor. According to a study conducted in Dhaka City has shown 81% cases of Primary infertility and 18.9% secondary infertility of the total infertility and ovulation failure in 35.1%.<sup>17</sup> A study conducted in Pakistan has shown that female infertility is more common than male infertility and ovulatory failure as the most common cause of female infertility. Total infertility was 7% out of which 20.96% was due to male, 23.11% had ovulatory failure, 15.08% had tubal blockage, 6.98% had endometriosis.<sup>9</sup> Current study has shown that Majority females 38.3 % had ovulatory problems while 11.8% had tubal blockage and 9.7 % reported uterine problems. Higher infertility rate but lesser health care seeking trends were seen in general public.<sup>18</sup> Another study has shown 57.3% Health seeking among females and 53.2% among males<sup>20</sup> in accordance with the current study findings that has shown only 68(57.63%) females visiting hospitals. Clomiphene remains the most extensively used fertility medication with increase in Rates of in vitro fertilization (IVF) from 1.8% during 1980-1985 to 26.0% during 1995-1999.<sup>19</sup> Current study has shown 67(56.78%) sought medical treatment alone and 48(40.68%) had both medical and surgical interventions. Surprisingly 29(24.58%) had received Instrumentation and medication by Dai and 10 (8.47%) had medication following advice of relatives.

## CONCLUSION

The higher Primary infertility levels and trends of seeking health care services other than professional experts especially from Dai are alarming. Future research study can be focused for determining the predictors of such health care services for infertility.

**Conflict of Interest:** *None*

**Funding Sources:** *None*

## REFERENCES

1. Vander Borgh M, Wyns C. Fertility and infertility: Definition and epidemiology. *Clinical biochemistry*. 2018;62:2-10.
2. Ahmed HM, Khan M, Yasmin F, Jawaaid H, Khalid H, Shigri A, et al. Awareness regarding causes of infertility among out-patients at a tertiary care hospital in Karachi, Pakistan. *Cureus*. 2020;12(4).
3. Sarkar S, Gupta P. Socio-demographic correlates of women's infertility and treatment seeking behavior in India. *Journal of reproduction & infertility*. 2016; 17(2):123.
4. Bai S, Li Y, Hu MH, Wu L, Shui LJ, Wang XH, et al. Association of sexually transmitted infection with semen quality in men from couples with primary and secondary infertility. *Asian journal of andrology*. 2022; 24(3):317-22.
5. Patel AS, Leong JY, Ramasamy R. Prediction of male infertility by the World Health Organization laboratory manual for assessment of semen analysis: a systematic review. *Arab journal of urology*. 2018;16(1):96-102.
6. Kazi AM, Ahsan N, Khan A, Jamal S, Kalimuddin H, Ghulamhussain N, et al. Personalized Text Messages and Automated Calls for Improving Vaccine Coverage Among Children in Pakistan: Protocol for a Community-Based Cluster Randomized Clinical Trial. *JMIR research protocols*. 2019;8(5):e12851.
7. Zhou J, Wang M, Hu J, Li Z, Zhu L, Jin L. A novel heterozygous variant in PANX1 causes primary infertility due to oocyte death. *Journal of assisted reproduction and genetics*. 2023;40(1):65-73.
8. Klarman MB, Flaherty KE, Chi X, Cajusma Y, Capois AC, Vladimir Dofine MD, et al. Implementation of a Pediatric Telemedicine and Medication Delivery Service in a Resource-limited Setting: A Pilot Study for Clinical Safety and Feasibility. *The Journal of pediatrics*. 2022.
9. Jawaaid S, Mastoi SW, Jahan E, Khalid S, Jabeen A, Mahajan N. Prevalence of infertility and its causes in the population of Pakistan: A cross-sectional study. *Annals of the Romanian Society for Cell Biology*. 2022; 26(01):129-33.
10. Unisa S, Negi K, Pujari S, Chaurasia V. Do dietary patterns and morbidities have a relationship with primary infertility among women? A study from NFHS-4 (2015-16), India. *Journal of biosocial science*. 2022; 54(4):682-97.
11. Borowczak M, Rotoli S. A Qualitative Exploration of Social Support in Males and Females Experiencing Issues With Infertility. *Cureus*. 2022;14(9):e29763.
12. Kang X, Fang M, Li G, Huang Y, Li Y, Li P, et al. Family resilience is a protective buffer in the relationship

- between infertility-related stress and psychological distress among females preparing for their first in vitro fertilization-embryo transfer. *Psychology, health & medicine*. 2022;27(4):823-37.
13. Skliute G, Bausyte R, Ramasauskaite D, Navakauskiene R. Characterization of Epigenetic and Molecular Factors in Endometrium of Females with Infertility. *Biomedicines*. 2022;10(6).
  14. Avsar O, Derinoz N, Yilmaz F, Yilmaz M, Gorkem U. Association between dopamine transporter gene (DAT1/SLC6A3) variants and infertility in the Turkish females. *Gynecological endocrinology : the official journal of the International Society of Gynecological Endocrinology*. 2022;38(7):573-6.
  15. Dongarwar D, Salihu HM. Risk of stillbirth after infertility treatment in the United States: 2014-2017. *International Journal of Maternal and Child Health and AIDS*. 2020;9(1):149.
  16. Borumandnia N, Alavi Majd H, Khadembashi N, Alaii H. Worldwide trend analysis of primary and secondary infertility rates over past decades: A cross-sectional study. *Int J Reprod Biomed*. 2022;20(1):37-46.
  17. Magdum M, Chowdhury MAT, Begum N, Riya S. Types of Infertility and Its Risk Factors among Infertile Women: A Prospective Study in Dhaka City. *Journal of Biosciences and Medicines*. 2022;10(4):158-68.
  18. Stevenson E, Tanabe P, Knisely M, Masese R, Bulgin D, Preiss L, et al. Infertility and treatment-seeking practices among females and males with sickle cell disease in the Sickle Cell Disease Implementation Consortium registry. *Pediatric blood & cancer*. 2023;70(7):e30356.
  19. Sadecki E, Weaver A, Zhao Y, Stewart EA, Ainsworth AJ. Fertility trends and comparisons in a historical cohort of US women with primary infertility. *Reproductive health*. 2022;19(1):13.
  20. Datta J, Palmer M, Tanton C, Gibson L, Jones K, Macdowall W, et al. Prevalence of infertility and help seeking among 15 000 women and men. *Human reproduction*. 2016;31(9):2108-18.
  21. Hanson B, Johnstone E, Dorais J, Silver B, Peterson CM, Hotaling J. Female infertility, infertility-associated diagnoses, and comorbidities: a review. *Journal of assisted reproduction and genetics*. 2017;34:167-77.