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Review Article

Comparison Study of Infertility Issues in Rural and Urban Areas

Sapna Daud[1*], Syeda Khadija[2], Faiza Jabeen[1]

[1]Medical Imaging Doctor, University Institute of Radiological Sciences and Medical Imaging Technologies (UIRSMIT), the University of Lahore, Pakistan
[2]Assistant Professor Department of Allied Health Sciences the University of Lahore, Pakistan

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***Corresponding Author:** Sapna Daud
Medical Imaging Doctor, University Institute of Radiological Sciences and Medical Imaging Technologies (UIRSMIT), the University of Lahore, Pakistan

Abstract

Objective: The purpose of this study was to investigate the causes of infertility in both urban and rural regions. ***Materials and method***: In this systematic review data published by Medline, PubMed, the science straightforward and Obs gyne online library were asked about studies published between 2000 and 2021 using specific MeSH terms. We provided data on 15 phase 6 studies undertaken at a tertiary care facility in rural and urban training locations. ***Results*:** In this study, we examined the causes of infertility variability in all habitats. Our revised study shows that fertility rates are very high in small towns and rural areas and very low in the capital, as expected. The study included 7100 married people between the ages of 15 and 49 when 2600 were infertile. The reason for infertility in a couple is assigned on the basis of history and test results. Most women in rural areas are educated. There was a substantial difference between the amount of education and occupation of the site of residence for infertile women. In both rural and urban regions, couples experiencing infertility for less than 5 years were 46 percent and 42 percent, respectively. Women with a familial history of infertility were nearly comparable. In rural places, the history of marriage is common. Female characteristics, male characteristics, and associated features have been claimed to be responsible for infertility in 40percent, 40percent and 20percent of cases, respectively. ***Conclusion:*** The poor state of education in rural areas is a major obstacle to encouraging couples to access health care in rural areas. Though PCOS is still a major issue, diseases are still a significant factor in tubal factor infertility, and smoking and liquor enhance the male factor. Most women in rural areas are illiterates. Thus our revised research shows that fertility rates are much higher in small towns and rural areas and compared with the capital due to lack of information and medical services.

Keywords: Infertility, urban areas, rural areas, mental disorders, primary infertility.

INTRODUCTION

Infertility is defined as the inability to achieve pregnancy after at least 1 year of unprotected sex [1]. Fertility or the capability to have offspring is the beginnings of the success of reproduction and reproductive reproduction, and vice versa, infertility through fertility. Disorders are also sometimes treatable and sometimes irreversible and have been causing various unintended consequences for couples [2]. Infertility is one of the most serious health issues, and adultery rates fourth among life's devastating traumas, behind the deaths of the mother, father, and wife [3]. Infertility is a condition that affects one's body, work, behavior, and thinking, as well as their emotions [4].

Infertility is thought to be caused by a female component in 25-40percent of instances and a male factor in 40-55 percent of cases. Unexpected births account for 10percent of all births. Male qualities such as sperm problems, female characteristics such as ovulation dysfunction and tubal diseases, male and female traits, and unexplained infertility are the most prevalent causes of infertility.

The prevalence of infertility rises as people's lifestyles evolve throughout time. Increased nicotine and alcohol usage, population ageing, difficult living standards, sadness, anxiety, low self-esteem, and decreased weight growth owing to exercise are all factors that contribute to the rise in infertility [5].

Almost 10-18% of married couples worldwide suffer from infertility and, approximately 72.4 million couples are infertile. Thus, 1 out of every 6 couples of the age group suffers from infertility in the world [6] Some reports indicate that it occurs in as many as 5 to 50 percent of the world's population. State of health, standard of living, and relationship damage are all factors that contribute to divorce, loss of self-esteem, melancholy, anxiety, despair, guilt, and frustration, emotional tension, and marriage issues and desertion. This might lead to feelings of melancholy, worry, or guilt [8].

Infertility has far more serious consequences in developing countries than in Western societies [9]. Several studies have reported on the negative impact of infertility on women who are infertile in both places. The general standard of living of these individuals and the wider population. According to one report, sexual dysfunction is a result of infertility, and 50 to 60 percent of couples have very poor sexual satisfaction during infertility [11]. Infertility can be caused by a variety of factors, including the couple's age, the couple's age at marriage, difficult living standards, anxiety, and weight loss caused by physical exercise. Although PCOS remains a prominent cause of tubal factor infertility, illnesses are also a major cause, and alcohol and cigarettes enhance the male factor. A third of the incidents have yet to be reported. After accomplishing other health objectives such as work and financial security, many women have married or formed stable relationships, lessening their desire to have children. In most Western world nations, the average age of women with their first birth has risen in recent years, reaching 28-29 years in the previous decade. Many women are attempting to conceive their first baby in this condition when the birth pains begin to fade and the chance of infertility rises [12].

DISCUSSION

Adetoro OO *et al*., (2011) conducted a study on “the increasing prevalence of childlessness in rural Nigeria. In this regard he concluded that the increase in infertility in rural Nigeria is determined by a random sample of people. The average rate was 30.3%, giving 9.2% indications of infertility and 21.1% of secondary infertility. Primary infertility is uncommon after the age of 30 and the found causes of infertility cause a high prevalence. Genital infections (after abortion and childbirth) are major factors contributing to the high rate of infertility in rural areas. Free abortion laws, improved socio-economic conditions, and the eradication of harmful cultural beliefs and practices can reduce the risk of infertility in developing countries [13].

Papreen, Nahar *et al*., (2000) conducted a study entitled "Life and Infertility: experiences among people in urban areas in Bangladesh". The researchers looked into the underlying reasons of infertility, as well as seeking treatment for infertility, particularly among women, among the Islamic community, particularly in Dhaka's shanty towns. At the International Center for Disease Research in Bangladesh, in-depth interviews were held with 60 women and 60 men who were randomly chosen from the City Surveillance Network data. Three traditional doctors were contacted as important informants in a case study of 20 women who regarded themselves parents and had engaged in a research on the spread of sexually transmitted illnesses and other sexual diseases. Infertility was attributed to bad spirits and physical limitations in women and issues with sexual conduct and physical infirmity in males by both responders. Women's therapies include traditional healers, while men's therapies include remarriage, traditional healers, and traditional healers. Childlessness has been linked to impulsive, social, and emotional failings in both men and women, as well as societal shame for couples, particularly women. Women are at danger of family and social marginalisation as a result of infertility. The brunt of infertility falls on them. In order for infertility programmes in Bangladesh to be successful, they must include both implementing effective alternative treatments at the community level, as well as society interventions to look at the cause of infertility, so that people understand why childbirth occurs in both men and women and where they might seek healthcare [14].

N. Dhont *et al*., (2011) conducted a study on “Mother and Father nothing”: living and infertility among urban dwellers in Kigali, Rwanda”. The goal of this study was to see how male and female infertility affected men and women in the city. The researchers employed both measuring and quality control approaches. At the Kigali University Teaching Clinic, couples have female and/or male infertility issues (n = 312), as well as fertile new maternal controls (n = 312), conducted a survey on domestic violence, current and past relationships and sexual function. In addition, five focus groups with a sample of research participants who may have been identified with female or male offspring or their spouses were convened. There are couples who are fertile. Infertile couples in Rwanda face the same emotional and societal effects as childless couples in other poor nations. Male infertility has major effects, especially at the communal level, despite the fact that women are disproportionately taxed. The sort of mental and sociological effects endured depended on whether fertility was triggered by a feminine factor or a masculine feature. Infertility is a major source of hardship in Rwanda, as it is in other poor nations. Infertility must be recognized as a serious reproductive health issue, and infertility care must be integrated into the public health system [15].

Patil, Vidya V *et al*., (2019) conducted a study on the "Consequences of Infertility among the Rural and Urban People in Vijayapura, Karnataka". Studies are conducted to assess the psychological and social

consequences of infertility among rural and urban dwellers. Between March 2015 and February 2016, a cross-sectional survey was undertaken in rural and urban locations. To identify all qualified couples who have been pregnant but do not have children, a complete registration of all homes is completed. A validated "inventory problem problem" scale was used to assess the psychological and social outcomes of infertility and the impact identified at four levels namely, personal, sexual, social and marital. Conflicts between marriage were high (average 61.5 points), followed by declining sexual relationships (average 51.4 points), social impact (average 41.3 points) and personal impact (mean score 38). The difference in median points was significant between infertility participants, both men and women. The results revealed that couples were in poor health at all levels. There is a need for increased awareness and counseling [16].

Akhondi MM *et al*., (2010) conducted a study on “Prevalence of Primary Infertility in Iran” The purpose of this study was to determine the cause of infertility in developed areas in this study in 2011. In total, 1011 collections were randomly selected in accordance with postal codes, in proportion to the population of the province. We have examined reproductive history as a basis for data collection. Accordingly, we have compiled a list of questions. After that, we hired and trained midwives and obstetricians to ask married women to fill out a questionnaire. Primary infertility occurs when a couple is unable to conceive after one year of unprotected intercourse. We examined 17187 women in 1011 groups for this study. At the time of their marriage, the average age of women was 20.1, while the average age of their husbands was 25.4. Women were 21.1 years old on average when they became pregnant for the first time. According to the report, fundamental infertility affects 20.2 percent of Iranian couples. Iran appears to have a greater rate of infertility than the rest of the world. As a result, it's critical to assist a big number of couples who are dealing with this issue [17].

Katole A *et al*., (2019) conducted a study entitled "Prevalence of Primary Infertility and its Associated Risk Factors in Urban Population of Central India: A Community-based Cross-Sectional Study". All married women in urban pubs between the ages of 15 and 49 were included in a community-based survey. Face-to-face interviews to collect data, which were aided with pre-designed and audited questions. The majority of women (39.3%) were between the ages of 25 and 29. Infertility was shown to be prevalent in 8.9% of women of reproductive age (51/570). Years of marriage over 25 years ($P<0.05$), traditional family ($P<0.05$), higher education level ($P = 0.04$), employed women ($P<0.05$), higher cultural status ($P = 0.01$), and family background of infertility ($P<0.05$) were social factors with significant statistically related infertility. Obesity ($P = 0.03$), menstrual age beyond 14 years ($P <0.05$), and irregular menstrual pattern ($P <0.05$) were all physiological characteristics that exhibited a significant statistical link with infertility. Depression ($P = 0.01$) and depression ($P <0.05$) were found to be strong predictors of infertility. The primary incidence rate among Central Indian urban dwellers was lower than previously documented childless patterns from poor nations. Knowledge of many elements of infertility can assist health care practitioners and policymakers in the development and implementation of a number of programmes [18].

Ms. Nooreen Begum *et al*., (2009) conducted a study on "psychological problems among women with infertility: a comparative study." The goal of this research was to see if there were any changes in anxiety and despair between barren and fertile women. The research, which took place in 2009, included both pregnant and infertile women. Infertile women were recruited from Liaquat National Hospital, Patel Hospital, Infertility Concept, and Zainub Hospital, all of which are located in Karachi's metropolitan neighbourhoods, whereas fertile women were recruited from a vast population in the city. All of the subjects had at least ten years of schooling and were between the ages of 20 and 35. Working and jobless women were similarly separated from the two categories. The Depression and Anxiety measures from the Institute for Personality and Ability Testing were used to assess depression and anxiety. The data was analysed with SPSS 14.0. These two groups had 60 (50%) each in 120 studies. Fertile women were 27.48 ± 160.75 years old, whereas infertile women were 27.36 ± 160.75 years old. Anxiety was 21.85 ± 10.98 among pregnant women compared to 32.01 ± 12.49 among infertile women. The anxiety levels were 24.45 ± 9.63 and 36.20 ± 12.51, respectively. There was a considerable difference. The psychological impact of barren women was severe [19].

Udgiri R *et al*., (2019) conducted a study on "Comparative Research to find out the Spread and Social and Cultural Practices of Infertility in Rural and Urban Exercise at Tertiary 9Care Hospital." Multiple researches in rural and urban regions of practise in a tertiary hospital were done. To identify couples with first or second infertility, a full inventory of all dwellings was done to list all eligible couples residing in the region; among them, those at risk of conception were identified. SPSS software version 16 was used to evaluate and analyse the data. The results were expressed as a percentage, and Fisher's direct assessment was used where appropriate. Many of them think that infertility is a result of past sins and that they are pursuing unscientific ways to overcome this problem [20].

Lansakara N *et al*., (2011) conducted a study on "Feeling the blues of infertility in the South Asian context: psychological well-being and related factors among Sri Lankan women with primary infertility." To

examine if there was a difference in psychological well-being between infertile and fertile women, 177 infertile women were compared to 177 fertile women who were matched for age and marriage time. From August 2005 to February 2006, they worked on a diffusion study in the Colombo area of Sri Lanka. The Mental Health sub-components of the Short Form-36 (SF-36) and the General Health Questionnaire-30 (GHQ-30) were used to assess mental health. Furthermore, childless women with and without psychological anguish are compared in order to determine the social, marital, medical, and demographic aspects linked to depression. In comparison to obese women (18.6 percent; 95 percent CI 13.2-25.2 percent; P< 0.001), the largest proportion of women with primary infertility (66.1 percent; 95 percent CI 58.6-73.0 percent) experienced depression (66.1 percent; 95 percent CI 58.6-73.0 percent). Infertile women who were mentally sad were less educated (OR = 55.3; 95 percent CI 15.2-201.0), had less communication in marriage (OR = 3.5; 95 percent CI 1.3-9.8), and were more likely to come first after adjustment for confounding variables. Compared to infertile women without depression, infertility (OR = 4.2; 95 percent CI 1.3-13.8), and infertility therapy has long been studied. When compared to pregnant women, women with main disabilities reported more depression. Poor education, early / present maltreatment / abuse, emphasis of reproduction, and poor communication in marriage were all linked to depression in infertile women. The need of psychological therapies in clinics and community centres for infertile women is emphasized [21].

Fido A *et al*., (2004) conducted a study on the “emotional distress of infertile women in Kuwait”. The attitudes of 120 barren Kuwaiti women were assessed using the Arabic version of the Anxiety and Depression Scale (HADS), which was compared to the age of 125 pregnant females as a control group. Infertile women had greater psychopathology across all HADS borders in terms of severity, aggression, stress, sadness, self-esteem, and suicide ideation as compared to age-related pregnant control samples. The ignorant group felt that magical abilities such as bad spirits, sorcery, and divine vengeance were to blame for their infertility, whereas the educational group suspected that infertility was caused by factors such as diet, wedding, and sexual relations. For illiterate women, months of faith and traditional healers were the first line treatment, while educated women sought treatment at a fertility doctor. Infertility was stigmatised as a result of childlessness, and there was a risk of catastrophic social and emotional effects. The high incidence and severity of anxiety in this group of infertile Kuwaiti women supports the idea of referring them for psychiatric evaluation. In order to build effective initiatives to address infertility in Kuwait, a society intervention must be developed to educate individuals about infertility and give treatment instructions [22].

Deshpande PS *et al*., (2019) conducted a study on "Causes and Spread of Causes of Reproductive Health in a Public Health Center." These separate, observational studies were conducted at the infertility clinic at a medical college and a public hospital. A total of 120 couples participated in the trial, who were tested and treated. On the basis of a couple's history and test findings, the cause of infertility is determined. Each cause's frequency was examined. The intensity of each component was computed after the findings were examined. SPSS 16.0 was used to conduct the income analysis. Primary infertility was more prevalent than secondary infertility (57.5 percent) (42.5 percent). Female factors were responsible for 46.6 percent of cases, with polycystic ovarian syndrome (PCOS) being the most common cause (46 percent). Infertility was seen in both slim and overweight PCOS patients. Tubal factor infertility was substantially linked to infectious causes such as pelvic inflammatory illness and TB (P = 0.001). As the years of marriage passed, the causes of infertility varied. PCOS was a key reason in married couples who had been married for less than five years, and afterwards, nonspecific male and female infertility were the most prevalent causes discovered. Both smoking and alcohol were substantially related with abnormal sperm reports (P = 0.001), and the male component accounting for 20percent of infertility cases. Infertility reasons differ based on the couple's age and the age of marriage. Although PCOS remained a prominent cause of tubal factor infertility, illnesses are also a major cause, and cigarettes and alcohol enhance the male factor. A third of the incidents have yet to be reported [23].

Harzif, A. K, *et al*., (2019) conducted a study on "Differences in Infertility Awareness and Attitude towards Treatment Options: the Indonesian and Rural Areas". This cross-sectional study used a conventional questionnaire to interview 272 persons who were divided into two groups: urban and rural residents in Jakarta and Sumba, respectively. Outpatients over the age of 18 who attended health care institutions between February and June 2017 were included in the study. Information on biology and infertility risk factors was comparable across groups in Jakarta and Sumba. Sumba folks, on the other hand, are astounded by the metaphysical reasons of infertility. In both populations, there is a frequent misperception about contraception being a risk factor for infertility. In both categories, some respondents believe infertility is a sickness. In Jakarta, 93.4 percent of respondents believe both men and women should be evaluated for infertility; in Sumba, just 55.4 percent agree, and 33.1 percent believe only women should be investigated. Infertility is cited by 41.3 percent of Sumba respondents as an acceptable cause for polygamy, with 34.7 percent blaming the mother's side for the lack of children. The census revealed an unfavourable attitude on infertility [24].

Ho, J. R *et al*., (2017) conducted a study on "Statistical analysis of low-income, multicultural urban communities that present childless care in a U.S. public hospital". Our study is an integrated analysis of women presenting infertility tests at a regional hospital that provides low-cost, socially diverse immigrant populations compared to infertile women from a wealthy, high-service delivery center. We used surveys to assess population and social and economic parameters and data quoted from medical records to diagnose infertility. The influence of social and cultural variables as predictors of the occurrence of untreated infertility patients was studied using regression analysis. A total of 87 ladies were enrolled in our study. The average age at the district hospital / primary care clinic (LR) was 32.9 years ± 4.9 vs 36.4 ± 6.3 at the highest paid service / service (HR) clinic. Infertility time was observed to be 3.4 ± 3.0 vs 2.3 ± 1.5 years for LR and HR patients, respectively. In comparison to 5.4 percent of HR patients, 70percent of LR patients spoke a single language other than English. LR patients report having an annual household income of less than $ 25,000, and 70percent do not have a college diploma. 81.1 percent of HR patients had a household income of above $100,000, and 81.1 percent have completed college or graduate school. The elimination of anovulation (38%) and tubal factor (28%) were the most prevalent diagnoses of infertility in LR, compared to decreased ovarian retention (37.8%) and male pattern (51.4%) in HR. After adjusting for years at the start of the pregnancy attempt, low levels of education, poor income, and immigrant status were found to be highly linked to a protracted duration of infertility. Despite being young, she has had a long time of infertility. Low levels of education, poverty, and immigrant status are all identified as obstacles to care in this research [25].

Anshu Mittal *et al*., (2015) conducted a study "On an epidemiological study of infertility among people in the cities of Ambala, Haryana." This is a different research that took place in the MM Institute of Medical Sciences & Research's urban practise centre from January to December 2013. The WHO door-to-door survey was used to identify infertile couples, who were then questioned to determine a number of epidemiologic correlations, such as human traits, causation, and therapy if taken similarly. There were 4456 couples that were eligible, and 534 of them were found to be infertile for the first or second time. According to studies, infertility increased by 6.1 percent among eligible couples, while second infertility increased by 5.7 percent. Primary male traits accounted for 49 (17.95percent), female characteristics accounted for 86 (31.5percent), and both spouses accounted for 66 (22.34percent), whereas the reason of infertility was not specified in 77 (28.21percent) couples. Ovulation factor was the most prevalent cause of original infertility, but tubal obstruction and pelvic inflammatory disease (PID) were equally involved in subsequent infertility. This research has yielded useful information about the frequency of infertility in our area, as well as identifying numerous socioeconomic and etiological variables linked to infertility [26].

Pal, Moumita *et al*., (2016) conducted a study "on the prevalence and social profile of infertile couples in the practice area of a higher education care center, Amritsar, Punjab, India." Current community-based research was conducted at the SGRD field practice center, Amritsar. The social profile of the tested infertile couple was taken by completing a pre-tested proforma. Data were statistically analyzed using the SPSS (20.0 versions) IBM Chicago with a valid conclusion [27].

RESULTS

The total number of infertile couples was 291 making the prevalence of infertility 4.57% [N = 6373] and primary and secondary infertility at 1.95% and 2.62% respectively The prevalence of infertility in the study was 4.57% and primary infertility was 1.95 % and the second was 2.62%. Of the childless women 115 (39.5%) are urban and 176 (60.5%) are from rural areas. Infertility rates were higher for women from urban and rural areas.

METHOD

Search Strategy

In this systematic review data published by Medline, PubMed, direct science and Obsgyne online Libraries interviewed for published publications between 2000 and 2021 using a specific MeSH terms.

Study Selection

In this revised article we have published data on a 15-phase study conducted in rural and urban areas trained in higher education care. The study was composed of 7100 couples between the ages of 15 and 49 when 2600 were infertile.

RESULTS

In this study, we examined the causes of infertility variability in all habitats. Our revised research shows that fertility rates are much higher in small towns and rural areas and much lower in the capital, as expected. In this revised article we have published data on a 15-phase study conducted in rural and urban areas trained in higher education care. The study was composed of 7100 couples between the ages of 15 and 49 when 2600 were infertile. The cause of marital infertility was set by history and test results. Most women in rural areas are illiterate. There was a substantial difference between the amount of education and occupation of the site of residence for infertility. In rural and urban regions, couples experiencing infertility for less than 5 years were 46 percent and 42 percent, respectively. In both rural and urban locations, women with a family history of infertility were nearly comparable. In rural places, the history of marriage is

common. Female qualities have been claimed to be responsible for infertility in 40percent of instances, male traits in 40percent of cases, and associated elements in 20percent of cases. The socio-economic factors of women and special migration account for only a small fraction of reproductive diversity in all habitats. Our study described the impact of infertility on a variety of psychological variables and found that most of the effect was reflected in marital relationships followed by sexual relationships, depression and social stigma. Urban dwellers showed higher scores on marriage and social scales compared to rural ones.

CONCLUSION

Infertility is not only a common medical problem for the couple involved but it is also greatly influenced by social and psychological factors. The poor state of education in rural areas is a major obstacle to encouraging couples to access health care in rural areas. Though PCOS remains a prominent cause of tubal factor infertility, illnesses are also a major cause, and cigarettes and alcohol enhance the male factor. Most women in rural areas are educated. Thus our revised research shows that fertility rates are much higher in small towns and rural areas and compared with the capital due to lack of information and medical services.

RECOMMENDATION

Infertility is already a major health problem in urban and rural areas. Field research should be supported in order to better understand the impact of infertility and its repercussions. It is necessary to include health education as part of infertility management in reproductive health care systems. There should be facilities for early diagnosis and equivalent treatment in rural and urban slums, as well as efforts to promote knowledge of the reasons of infertility. Depression can act in two ways when stress affects fertility and infertility leads to depression thus creating a vicious cycle. Yet women are considered to be the cause of infertility. It should therefore be noted that both couples are equally responsible and therefore men should also be encouraged to seek treatment. Women's literacy and counseling help them to overcome psychological violence, bring confidence and may help them to overcome prejudice. Official acquisitions should be made famous.

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