Original Article

Sociocultural Determinants of Infertility Stress in Patients Undergoing Fertility Treatments

Ansha Patel, P. S. V. N. Sharma, Pratap Kumar[1,2], V. S. Binu[3]

Department of Psychiatry, Kasturba Medical College, Manipal University, [1]Department of Obstetrics and Gynaecology, The Manipal Assisted Reproduction Centre, Manipal University, [2]The Manipal Assisted Reproduction Centre, Kasturba Medical College, Manipal University, Manipal, [3]Department of Biostatistics, Dr. M.V. Govindasamy Centre, National Institute of Mental Health and Neuro Sciences, Bengaluru, Karnataka, India

Abstract

Introduction: Involuntary childlessness is a distressing condition that has considerable social implications in developing nations. **Aim:** The present study aims to investigate the less known sociocultural determinants of infertility stress in patients undergoing assisted conception and reproductive treatments. **Methods:** This cross-sectional research was conducted on 300 men and women with primary infertility. The profile of sociodemographic variables, clinical variables, and sociocultural variables was collected using a locally devised questionnaire. Infertility stress was assessed using the psychological evaluation test. **Statistical Analysis:** Research data were analyzed using SPSS 15. Chi-square test is used for univariate analysis. Multiple logistic regression with enter method is used to examine the association between infertility stress and sociocultural variables. **Results:** The findings suggest that in both men and women, low spousal support, financial constraints, and social coercion in early years of marriage predicts infertility distress. Peer-support neither predicts nor protects against distress. **Discussion:** Family acceptance and social security for infertility is low. Stigma, concealment, and discrimination among men are reported to be high. Distress is three times greater in women with overinvolved family members who had unrealistic expectations from treatments. Taking continuous cycles of fertility treatments seems unaffordable for most patients. Subfertile individuals were socially perceived to be deprived, blemished, incomplete, and sexually incompetent. **Conclusion:** Data from this investigation, provides a glimpse into sociocultural aspects of infertility. The findings may be useful for identifying targets for individual and family-focused psychological interventions for distress reduction in infertility.

Keywords: *Economic, family, infertility, men, predictors, sociocultural, stigma, stress, support, women*

Introduction

The sociocultural construction of fertility stems from the importance that individuals and societies ascribe to procreation. Parenthood is often encouraged by social learning whereby members of one's social network reinforce expectations, intentions, thrills, and challenges of having a child.[1] In many cultures, childbearing is promoted by one's family, neighbors, siblings, and peers. Children born within one's social network instigate the need to start a family.[2] In addition to this, parental attitudes and values also influence fertility behavior and orientations.[3] When conception is delayed, all the later sources can serve as important agents of social pressure, distress, and frustration. Notions such as "the ticking biological and social clocks," "depleting stamina and physical vigor" and "diminishing vitality regarding lowering ovarian and semen reserves" pose a threat of being sterile.[4] Pronatalist societies are known to elevate

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Address for correspondence: Ms. Ansha Patel, Room, Number 33, 3rd Floor, Main OPD Building, Department of Psychiatry, Kasturba Medical College, Manipal - 576 104, Karnataka, India.
E-mail: ansha_patel@yahoo.co.in

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emotional distress in childless couples.[5,6] This is so, as infertility is a perceived to be a serious social problem that leads to stigma, social exclusion, loss of entitled role within the family for those who fall out of the usual norm of family building**.** Literature cites that in most cultures, "being childless" is an undesired social role and infertility is an "unexpected life transition."[7]

In tandem with the low social acceptance of involuntary childlessness in certain societies, the tag of "infertility" is a painful experience and the reason that most couples resist this label.[8] The later study also suggests that infertility experience in developing countries differs remarkably from that in developed countries. In developing countries, irrespective of the cause of infertility, the tag of childlessness carries higher societal blame for women due to patriarchal family structures. Childlessness may be experienced as a hazard to personal worth, social security, status, gender identity, family lineage, blocks caregiving traditions, and may also cause legal disputes.[9] In addition, the later research also suggests that social ostracism is commonly faced by those with involuntary childlessness and is a reason why infertility also disrupts social ties.

A common feature of societies within the developing nations is the favorable milieu toward marriage and childbearing.[10-17] In patriarchal, patrilocal and patrilineal societies, procreation is highly valued as children are symbols of life-accomplishment as well as fundamental sources of happiness, support, resource, labor, and personal security for elders in the family.[17] Moreover, sociocultural values and norms are mostly oriented toward higher fertility**.** In such a milieu, childlessness is perceived as something which deviates from "normal way of living" and "the traditional concepts of biological inheritance." Childlessness or even lack of male child at times invites prejudice and ill-will.[18] The religious context of feminism too is associated with beauty, grace, power, and fertility. In societies that over-emphasizes the roles of "motherhood," "homemaker," "family inheritance," fertility is deemed as a fundamental characteristic and role-defining feature of young women. The fulfillment of this role strengthens their personal importance, confidence, strengthens marital bonds and provides them certain freedom, power, and worth within their family structures and kinship ties. Invariably, when couples fail to conceive or miscarry, the women are outrageously blamed for it.[19,20] Compared to the male counterparts, subfertile women from the pronatalistic societies often pay a higher cost for childlessness, which in turn contributes to a personal loss of self-esteem and physical, emotional, marital, economic insecurity in them.[17] Furthermore, there is also exists a strong link between masculinity, femininity, and fertility. Childlessness is also equated with sexual incompetence and subjected to greater social ridicule.[21]

As a resolution to subfertility, the literature on treatment-seeking behavior offers a new angle. In developing countries, the willingness to opt for allopathic treatments for infertility is limited due to stigma, religious beliefs, cultural issues, and other socioeconomic aspects.[8] Treatment denial, disappointment, frustration, resignation from assisted conception, and reproductive treatments are far more common, and most couples prefer to opt for milder cures such as homeopathic, ayurvedic, and magicoreligious treatment for subfertility.[17]

Research on the emotional and behavioral correlates of infertility in South Asia is limited.[22-24] Nevertheless, it is well known that infertility is linked to marital disruption and domestic violence in these regions.[20] In addition, nearly 5%–10% infertile women below 29 years of age get divorced or separated or deserted.[20] Lack of family support and domestic violence are reported by 23% of such women.[20] Infertile women are more at a risk of abandonment, emotional harassment, grief, and feelings of failure.[13,22,25] In addition, in general, the social attitudes are often unfavorable for couples with infertility and nearly 27%–30% face interpersonal disharmony within their families and societies.[26] The review suggests that elevated socioculture strains often create a negative psychological well-being and are agents of longitudinal stressors that impact the lives of couples.[17]

In a systematic exploration of the above issues, and in line with the popular research trends enumerating the social constructions of infertility,[8] this study aims to examine the sociocultural determinants of infertility stress in men and women undergoing fertility treatments in a developing nation.

The objectives of this study were as follows:

1. To find the association between social support (spousal, family, and peer) and stress in infertile men and women
2. To find an association between infertility distress and other stressors (treatment-related, sociocultural, family-related, and financial) among men and women.

Methods

Study participants

This is a part of a previous investigation on predictors of distress in men and women undergoing fertility treatment.[23,24] The sample of the present study

comprised of 300 consenting men and women diagnosed with primary infertility. The study excluded those who were diagnosed with secondary infertility and met criteria for major psychiatric morbidity (assessed using the Mini International Neuropsychiatric Interview 5.0 English version).

Data collection

The consenting patients were interviewed on sociodemographic variables,[27] clinical variables, and psychological variables (social support and stressors) using a semi-structured questionnaire prepared by the principal investigator. Subsequently, participants were assessed for the presence of infertility-specific stress, using the "Psychological Evaluation Test for infertility[28]" the ethical clearance from the concerned authorities was taken before the conducting this work.

Statistical analysis

The data were entered and analyzed using SPSS (SPSS for Windows, version 15, September 2007, SPSS Inc., Chicago, IL, USA). The results were summarized using means, medians, percentages, odds ratio, and 95% confidence intervals. Chi-square test is used for univariate analysis. Multiple logistic regression with enter method is used to examine the association between infertility specific stress and the study variables. Those variables with $P < 0.1$ in univariate analysis were considered for inclusion in multiple logistic regression models. For all the above analysis, $P < 0.05$ was considered as statistically significant.

Results

The descriptive data of the sample characteristics have been given in Table 1. The table shows that the mean age of men who participated in the study was 36 years and that of women was 29 years. Most of the individuals were from lower middle/middle socioeconomic status, rural background, and joint family setups. Median for marital years was 4, and the participants of the study usually began treatments (such as ovulation induction and intrauterine inseminations) within 1–2 years of diagnosis of infertility. The most common factors accounting for infertility in women who participated in the study were genital tract infections, low ovarian reserve, poor endometrial growth, and polycystic ovarian disease. Whereas for men the common causes for infertility were low semen counts.

Table 2 depict the univariate regression analysis infertility-specific stress and various sociocultural variables. The data from this table suggest that the predictors of infertility stress in women and men were low spousal support, sociocultural pressures for conception and financial limitations due to which a

Table 1: Description of the sample characteristics of this study

Variables	Males (*n*=300)	Females (*n*=300)
Mean (standard deviation) age (years)	36 (5)	29 (5)
Occupation*		
Homemaker	0	63
Semi-skilled worker	11	3
Skilled worker	27	4
Clerk/farmer/shopkeeper	27	28
Large-scale businessman/professional	35	2
Education*		
Primary	3	8
Secondary	27	29
Senior secondary	44	43
Graduate	20	16
Postgraduate	6	4
Socioeconomic status*		
Lower/upper lower	15	13
Middle/lower middle	50	55
Upper middle	29	20
Upper	6	12
Language*		
Kannada only	84	85
Kannada, Hindi, English	16	15
Residence*		
Rural	62	55
Suburban	20	24
Urban	18	21
Family setup*		
Nuclear	45	49
Joint	55	51
Number of years of married life (years)**	4 (2,6)	5 (3,6)
Duration of infertility (years)*		
1 year	64	56
2 years	36	41
Duration of fertility treatments (years) (Ovulation induction, intrauterine insemination, *in vitro* fertilization)*		
1 year	78	80
2 years	18	12
3 years	3	5
4 years	1	3
Infertility type*		
Single defect: Identified in patient	30	29
Combined factor: Identified in patient and spouse	30	35
Unexplained: No defect identified in patient and spouse	40	36
Diagnosis of females*		
No abnormality		19
PCOS		27
Chocolate cyst		6
Fibroid		4
Endometriosis		8

Contd...

Table 1: Contd...

Variables	Males (*n*=300)	Females (*n*=300)
Congenital uterine anomaly		6
Tubal abnormality		5
Adenomyosis		1
Others such as infections, low ovarian reserve, poor endometrial growth		24
Semen defects in men		
Normospermia	45	
Mild oligospermia	5	
Moderate oligospermia	16	
Severe oligospermia	18	
Azoospermia	9	
Aspermia	2	
Varicocele	4	
Hydrocele	1	

*Percentages presented, **Medians presented with (1st and 3rd quartile) as data are skewed

majority of patients could not afford continuous cycles of itrauterine insemination or *in vitro* fertilization treatments. In addition to this, in men specifically, the infertility-associated stigma and discrimination were another distressing factor. Likewise, in women, high family involvement was perceived to be an added stressor. The multivariate regression analysis in Table 3 confirms stronger associations between distress and financial stressors for men and women. Table 3 also shows that spousal support predicts infertility distress in women.

Discussion

Infertility in developing countries may be experienced as a demeaning social reality.[29] This investigation attempts to explore some of the sociocultural factors that predict infertility distress in men and women seeking fertility treatments.

The results of this study suggest that in both men and women, low spousal support predicts infertility stress. In women, this association was stronger. Women with unsupportive spouses are known to experience greater marital stress. Such women experienced four times greater distress in comparison to women whose husbands supported them in their fertility-related struggles and who had congenial marital relations. On the contrary, in men with unsupportive spouses, the magnitude of infertility distress was double than those with supportive spouses. The probable causes for the association between distress and marital issues could be that infertility is perceived to be a barrier for personal growth and prosperity. In addition, the women participants in this study experienced greater self and social blame for infertility. Similar results have also been reported by other studies.[26,30-33] Partner support has also been recognized as an important predictor of adjustment in infertility particularly in infertile men.[34] In interviews with patients during this research, it was revealed the inability to experience parenthood often made them feel empty and dejected regarding their marital and family life. Contrary to this, evidence also suggests that infertility leads to increased couple bonding, communication, and marital benefit.[35-37]

Data from this study also suggests that financial constraints significantly predict stress in men and women taking fertility treatment. Our clinic-based data reveals that a typical cycle of intrauterine insemination treatment costs 10,000–15,000 rupees, with a success rate of barely 10%–15% per cycle. Whereas, a typical *in vitro* fertilization cycle costs between 1.5 and 2.5 lakhs, with a higher success rate of 30%–40% per cycle. Moreover, the treatment cost per cycle was beyond the affordability of most middle-class patients as their family income was around 15–25,000 rupees/month. Thus, taking continuous cycles of treatment was difficult, and the monetary and psychosocial support provided by patient's family for repeated allopathic treatments was low. Other studies also suggest similar results and state that due to low social acceptance, stigma, and affordability issues most patients in developing countries tend to a drop-out from assisted conception and reproductive treatments.[14,38]

Sociocultural pressures for conception soon after marriage were also seen as an additional cause of worry for participants of the study, irrespective of their gender. Data from this study suggest that both men and women face social coercion for pregnancy and childbirth. These pressures play a large role in escalating infertility distress. Findings from other studies in this area suggest that there is a thin line between "social encouragement and social pressures" from family, siblings, and cousins.[8] Further inquiry using ethnographic methods is required in this area, to develop and holistic understanding of the way social relationships impact parenting ambitions.

This study also reveals some interesting findings. One of these was that family stigma and discrimination faced by infertile men predicts distress in them. Distress was nearly twice as much in men who faced social stigma and exclusion due to being subfertile than in men who did not experience this. These results were also supported by another study.[39] In interviews at our clinic, while conducting this research, patients reported that they are often tormented by the loss of social status due being infertile. Participants reported of "being perceived as incomplete or their lives being stagnant by others." Society perceived them as "blemished, disadvantaged

Table 2: Univariate binary logistic regression analysis for predictors of stress in infertile women and men

Variable	Infertility specific stress (%)		Odds ratio (95% CI)	*P*
	No (61)	Yes (239)		
a. Predictors of stress in women				
Spousal support				
Strong support from spouse and cordial marital relations irrespective of subfertility (*n*=225)	56 (25)	169 (75)	1	
Fairly to low spousal support with significant marital distress, more often due to infertility (*n*=75)	5 (7)	70 (93)	4.63 (1.78-12.07)	0.002
Family stigma and discrimination due to infertility				
No (*n*=244)	54 (22)	190 (78)	1	0.112
Yes (*n*=56)	7 (13)	49 (88)	1.98 (0.85-4.64)	
Family involvement				
Low (*n*=99)	24 (24)	75 (76)	1	
Moderate (*n*=168)	34 (20)	134 (80)	1.26 (0.69-2.28)	0.44
High (*n*=33)	3 (9)	30 (91)	3.20 (0.89-11.42)	0.07
Family support for allopathic fertility treatments and assistance during treatment cycles				
Low (*n*=113)	30 (27)	83 (73)	1	0.03
High (*n*=187)	31 (17)	156 (84)	1.81 (1.03-3.21)	
Peer support				
Low (*n*=38)	9 (24)	29 (76)	1	0.58
High (*n*=262)	52 (20)	210 (80)	1.25 (0.55-2.80)	
Sociocultural pressures for conception				
No (*n*=162)	44 (27)	118 (73)	1	0.002
Yes (*n*=138)	17 (12)	121 (88)	2.65 (1.43-4.90)	
Financial stressors for fertility treatments				
Not present (*n*=167)	44 (26)	123 (74)	1	0.004
Present (*n*=133)	17 (13)	116 (87)	2.44 (1.32-4.51)	
b. Predictors of stress in men				
Strong support from spouse and cordial marital relations irrespective of subfertility (*n*=233)	72 (31)	161 (69)	1	
Fairly to low spousal support with significant marital distress, more often due to infertility (*n*=67)	11 (16)	56 (84)	2.27 (1.12-4.60)	0.02
Family stigma and discrimination due to infertility				
No (*n*=244)	75 (31)	169 (69)	1	0.01
Yes (*n*=56)	8 (14)	48 (86)	2.66 (1.20-5.90)	
Family involvement				
Low (*n*=99)	30 (30)	69 (70)	1	
Moderate (*n*=168)	46 (28)	122 (73)	1.15 (0.66-1.99)	0.60
High (*n*=33)	7 (21)	26 (79)	1.16 (0.63-4.12)	0.31
Family support for allopathic fertility treatments and assistance during treatment cycles				
Low (*n*=113)	36 (32)	77 (68)	1	
High (*n*=187)	47 (25)	140 (75)	1.39 (0.83-2.33)	0.20
Peer support				
Low (*n*=38)	10 (26)	28 (74)	1.08 (0.50-2.33)	0.84
High (*n*=262)	73 (28)	189 (72)	1	
Sociocultural pressures for conception				
No (*n*=162)	55 (34)	107 (66)	1	0.009
Yes (*n*=138)	28 (20)	110 (80)	2.01 (1.19-3.42)	
Financial stressors for fertility treatments				
Not present (*n*=167)	60 (36)	107 (64)	1	
Present (*n*=133)	23 (17)	110 (83)	2.68 (1.54-4.64)	<0.001

and perhaps sexually incompetent." A majority of the participants of this study reported that instead of being treated emphatically, they often faced the blame of involuntary childlessness as if, "they actually want to

Table 3: Multiple binary logistic regression analysis for predictor of stress in women and men

Variables	Presence of Infertility specific stress odds ratio (95% CI)	*P*
a. Predictors of stress in women		
Spousal support		
Strong support from spouse and cordial marital relations irrespective of sub-fertility	1	
Fair to low spousal support with significant marital distress, more often due to infertility	3.86 (1.40-10.67)	0.009
Sociocultural pressures for conception		
No	1	0.23
Yes	1.63 (0.73-3.50)	
Financial stressors for fertility treatments		
Not present	1	0.08
Present	1.94 (0.92-4.11)	
Family Stigma and discrimination due to infertility		
No	1	0.52
Yes	0.71 (0.26-1.96)	
b. Predictors of stress in men		
Spousal support		
Strong support from spouse and cordial marital relations irrespective of subfertility	1	
Fairly to low spousal support with significant marital distress, more often due to infertility	1.77 (0.85-3.69)	0.12
Sociocultural pressures for conception		
No	1	
Yes	1.07 (0.55-2.07)	0.83
Financial stressors for fertility treatments		
Not present	1	
Present	2.17 (1.13-4.15)	0.01
Family stigma and discrimination due to infertility		
No	1	
Yes	1.68 (0.69-4.07)	0.24

be childless." Moreover, patients often hid the fact that they are seeking treatments (from friends, colleagues at work-circle and even family members) as frank disclosure would lead to intrusive questions and a violation of their privacy. The later results were also reported by a other similar investigations.[40] Overall, the findings of this study are analogous to other researchers,[10-17] revealing that developing nations offer low support and social security for couples with involuntary childlessness.

Another fascinating finding of this research was that in women facing fertility problems, family overinvolvement raises distress. Distress was three times greater in women whose family members were over-involved and had unrealistic expectations from ongoing treatment cycles in comparison to women who did not disclose treatment-related details to their family. In women who had intrusive family members, the success of the treatment cycles and the chances of live birth were likely to be overestimated. This factor particularly led to dejection in situations when these patients experienced repeated treatment failures. Distress was twice as much in women whose family members accompanied them during treatment cycles than in women whom only the husband accompanied them in treatment cycles. Intriguingly, the data from this study revealed that peer support neither predicts nor protects against infertility distress experienced by men and women.

There are certain limitations of this study as well. This investigation explored a few, selected sociocultural aspects of infertility and assessed these using minimally standardized, semi-structured questionnaires, and quantitative method. The data collected in this study is likely to be contaminated due to the biases of subjective reporting by patients and investigators. In future, an ethnographic inquiry would be more suitable for investigating the experiences of subfertile patients as it would capture a wider view of the social phenomenon. In addition, studies comparing the psychological sociocultural profiles of the community-based population and the clinic-based population are required to understand the motivations behind seeking treatments and ways in which infertility distress is experienced, affected, and managed by those who do not seek treatment.

Despite the above-mentioned limitations of the present study, this work can serve as a guideline to conduct further investigations on sociocultural determinants of infertility stress in patients undergoing fertility treatments. This work can also help in identifying targets for individual and family focussed psychosocial interventions for distress reduction in infertility. Moreover, since this study provides a glimpse into the social concerns and issues in seeking medically assisted reproductive treatments, its findings can help in reducing dropouts from same.

Conclusion

Data from this study is in line with other researchers that suggest that in developing nations, infertility is a social problem with serious sociocultural consequences and social solutions. For a majority of patients undergoing treatments, it is an embarrassing, stigmatizing, and shame-laden experience. Infertile men and women are perceived to be defective, socially inapt and negative social attitudes contribute to their distress. In both men and women factors such as low spousal support, financial constraints, and social coercion in early years of marriage predict infertility-related distress. Peer-support neither predicts nor protects against distress probably as most of the patients maintain high concealment and secrecy while undergoing infertility evaluation and treatments. Family stigma and discrimination perceived by men are higher than women. Distress was three times greater in women whose family is overinvolved and had unrealistic expectations from treatment. Distress was twice as much in women whose family members accompanied them during treatment cycles than in those women who were accompanied by their husbands during treatments. Overinvolved family members tended to overestimate the success of the treatments and the chances of live birth. This factor particularly predicts distress and contributes to dejection in situations when treatment failures. Discontinuation from treatments is likely to be high due to same. In addition, data suggests that taking continuous cycles of assisted conception and reproductive treatments appear to be financially unfeasible for most patients due to a multitude of psychosocial and economic factors.

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Conflicts of interest

There are no conflicts of interest.

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