Research Article

Psychosocial Issues in Women with Primary Infertility: A Psychometric Study

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Abstract

To highlight the cultural-specific experience and expression of psychosocial issues of infertility in females in a collectivistic culture and use them to develop an assessment measure.

Methods:

The mixed method research design was used. The research was carried out during August- December, 2019 and data was collected from different government and private hospitals and clinics of city Lahore. Purposive sampling technique was used to collect the data from participants. Initially, 21 women with primary infertility were interviewed to generate the items related to psychosocial issues of infertility. During the main study phase a sample of 142 women with the age range of 19 - 41years; diagnosed with primary infertility were given self-administered questionnaires of Psychosocial Issues Scale (PIS), Depression Anxiety Stress Scale (DASS) and a demographic form.

Results:

Exploratory Factor analysis revealed three distinct factors of Psychosocial Issues Scale namely Feelings of Apprehension, Depressive Mood and Feelings of Rejection. No of items in each subscale ranged from 8 to 12 items. The Cronbach's alpha of the scale was found to be .94 and concurrent validity was .85. Logistic regression revealed increased marriage years to be significant predictors of these issues ($p < 0.05$).

Conclusion:

As a result of this study a 31-item self-report measure of psychosocial issues of women with primary infertility, having sound psychometric properties was developed.

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Key Words: Psychosocial issues, culture, Scale development, Psychometric properties, women, Pakistan.

Introduction

Infertility is one of the growing concern worldwide and is defined as an inability to conceive after one year of unprotected intercourse and 20% of couples with the age range of 18-44 years around the world are suffering from infertility with highest prevalence in developing countries[1], Primary infertility refers to either inability to conceive or carry a pregnancy to live birth and secondary infertility is referred to as an inability to conceive a child after having the first child[2]. There are number of possible physical factors

associated with infertility including cyst formation in ovaries, tubal blockage, male sexual problems and infections like tuberculosis[3].

Increasing prevalence of infertility has attained a great deal of attention from researchers and it was identified that infertility was also associated with anxiety, depression, poor quality of life, couple's dissatisfaction sexual dysfunction, low self-esteem and marital conflicts[4,5]. Studies also found association be-tween gender, age, education, years of marriage, years of treatment and mental health problems in infertile couples[6].

Although, infertility is among the most private and individualized health concern but it is associated with complex social dynamics as well and socioemotional consequences for female are much greater than men[7]. In traditional collectivistic cultures, woman's gender role is defined in terms of marriage and motherhood[8] therefore, when women is unable to meet the social and traditional role's expectations of being mother, they are subjected to criticism, societal pressures and stigmatization with the constant fear of getting a divorce or a threat of second marriage of husband[9].

Pakistan is a developing country, where health conditions are not very satisfactory and people generally lack awareness about physical and mental health problems[10]. The estimated prevalence of both primary and secondary infertility among women is about 22% [11]. Moreover, being an agricultural and traditional society, a married woman gets a higher social status by giving birth to a male child [12].

Research studies also suggests that women across the world most often undergo medical treatment for infertility than men and experience greater psychological distress in terms of rejection, isolation and criticism. Few systematic attempts have been made to identify psychosocial correlates of psychological distress in Pakistani women while using the western measures [13,14]. Infertility and associated psychosocial issues have been studied all over the world yet provide incomplete information of using specific measures to assess mental health functioning e.g. Depression, Anxiety Stress Scale[15], Beck Depression Inventory[16] and Hospital Anxiety and Depression Scale [17] are commonly used scales for this purpose. More specifically, these studies fall short as they used scales which measure anxiety and depression developed specifically either for clinical or general population but not with the people with physical ailments. Secondly these measures are not only out dated but also based on the Western presentation of symptommatology[18]. Therefore, the current research is a first yet an important step towards the understanding of the culturalspecific psychological consequences of infertility.

The aim of the current research is to develop a valid and culturally appropriate, reliable scale for assessing the type of the psychosocial problems related to infertility in married females.

Methodology:

This study including mixed method research design (including both qualitative and quantitative approach) was carried out over a period of 6 months (August - December, 2019). Before conducting the study, the Institutional ethical committee approved the project according to various ethical dimensions suggested by APA. The participants were selected from the Infertility Centers of the Government hospitals of city Lahore after taking their informed consent. A sample of 21 participants diagnosed with primary infertility with the age range of 18-41 (M 27.01, SD 3.66) was recruited with the help of nursing staff using purposive sampling technique. In the first phase of exploring phenomenology; the psychosocial issues of women with infertility were explored through open-ended interviews. All the participants were asked to explain and express any thought, behavior or idea that comes to their mind after being diagnosed with infertility and that eventually disrupts their normal functioning. All interviews were recorded in verbatim. Content analysis was carried out for the analysis of the data. After close examination, all repetitions and ambiguous items were excluded.

Content analysis of these interviews resulted in a list of 31 psychosocial issues which was converted into a self-report measure with likert type response options 0-3; (0) never, (1) sometimes, (2) often and (3) most of the time. In the pilot study phase PIS was

given to 10 women to determine the user-friendliness and appropriateness of the layout of the items in which participants reported no ambiguity.

During the main study phase, a sample of 142 participants was selected through purposive sampling technique with the age range of 19-41 (M 28.61, SD 4.46). The inclusion criteria comprised women with minimum one year of marriage, diagnosed with primary infertility and seeking medical treatment in Government hospitals of Lahore The measures of study included demographic sheet, Psychosocial Issues Scale comprised of 31 items, and Depression Anxiety Stress Scale (DASS) 15 - a 21 item scale measuring physical and mental state of individual at the time of having negative emotions or feelings in the form of depression, stress and anxiety stress on a 4 (0 - 3) point scale Never, Sometimes, Often and Almost Always. All participants were assured about the confidentiality, anonymity of research data and right to withdraw during testing process. A debriefing session was also carried out for queries and questions.

Results:

In the sample of the study most of the participants were having education up to matriculation level (25%), and lived in joint family system (89%). There are more women who have more than five years of marriage and four years or more for treatment duration.

Factor Analysis of the Psychosocial Issues Scale

Exploratory factor analysis (EFA) was carried out to explore the factorial structure of the Psychosocial Issues Scale. The EFA was carried out in 146 participants and Varimax Rotation was used to obtain a clear factor structure. The Bartlett test of sphericity was found significant ($p < 0.001$) with the KMO Index was .92. Scree plot was used to extract number of factors and a 3 factor model was emerged with 29 items, two items were excluded because item loading was less than.[30]. The commonality value ranges from .49-.62. These factors were named as Feelings of Apprehension, Depressive mood and Feeling of Rejection.

Figure 1: *Pictorial Description of the number of Items extracted from Phenomenology*

Table I: *Factorial Structure Analysis of Psychosocial Scale of Infertility*

S. No	Item No	F1	F2	F3
	1	.45		
	2	.64		
	3	.61		
	4	.69		
	7	.53		
	8	49		
	9	.54		
	14	.38		
	19	.51		
	25	.58		
	26	.47		
	27	.73		
	5		.52	
	12		.59	
	16		.54	
	17		.45	
	20		.38	
	22		.51	
	23		.63	
	28		.45	
	6			.67
	11			.68
	13			.51
	18			.48
	21			.41
	24			.44
	29			.75
	30			.56
	31			.37
Eign Values		5.38	5.16	4.86
% of Variance		17.37	16.69	15.66
Cumulative %		17.37	34.06	49.74
Cronbach Alpha		.91	.88	.84

Note: Item loadings >.30 is mentioned in the table

The factor loadings from EFA are shown in Table I along with Cronbach alpha. The Factor 1 comprised 12 items denoted to a deep sense of insecurity and preoccupation with negative thoughts related to self and future, therefore given the label as Feelings of Apprehension. Factor 2 comprised 8 items denotes to low mood, agitation, inability to express emotions and self -blame hence labelled as Depressive Mood. The factor 3 consist of items comprised of a deep sense of rejection from significant others labelled as Feelings of Rejection.

Table II: *Summary of Interrelations, Means and Standard Deviation of Psychosocial Scale (PIS) and DASS*

Scale	PIS-T	Depre-ssion	Anxiety	Stress	DASST
PIS-T	---	.83***	.75***	.85***	.87***
Depres-sion	---	---	.78***	.85***	.95***
Anxiety	---	---	---	.78***	.91***
Stress	---	---	---	---	.94***
DASST	---	---	---	---	---
M	65.53	14.15	13.39	16.04	43.59
SD	14.38	4.18	3.53	3.43	10.39

d.f 141, p<0 .001***, M (mean), SD (standard deviation)

Table II indicates a high positive correlation between PIS and DASS indicating that women who experience more psychosocial issues tend to have higher mental health problems. Table II also represents higher concurrent validity of PIS.

Table III: *Logistic Regression Analysis on Year of Marriage and Psychosocial Problem Score as measured by PSI of Infertile Females (N=130)*

Variable	B	SE B	Wald $\chi 2$	p	OR	95%CL OR
Year of marriage	1.29	.54	4.93	.026*	3.38	(1.15, 9.92)
Year of Treatment	0.34	0.62	0.31	0.57	1.41	(0.41, 4.81)

Note: *B* = Beta, *SEB*= Standard error of Beta, *p* = significance level, *OR* = Odd ratios, *CL* = Confidence interval, $p > 0.05$,* $p < 0.05$

A score > 34 was used to categorize women with infertility as less distressed and more distressed on PIS. Women experienced three times more distress with an increase of each year of their marriage (M = 6.87, SD = 4.79). Participant's years of treatment (M = 4.78, SD = 3.83) were found to be non-significant factor for the experience of psychosocial issues in infertile females.

Discussion

The present study attempted to identify cultural-specific experience and expression of psychosocial issues in women with primary infertility. In the current study, women with primary infertility were selected as the target population because of two reasons, firstly literature revealed that women experience more psychological distress and mental health problems as compared to men diagnosed with infertility, secondly, we were unable to reach men in infertility centers who would be going through any medical examination or treatment for infertility as in our culture, it is usually a forgone conclusion that women are responsible for infertility.

The findings of factor analysis revealed that first factor emerged as a Feelings of Apprehension which is a result of a constant threat and a feeling of insecurity a woman experience as a result of infertility. Since, she is not fulfilling the expected gender role, her marriage is at stake and she is having a constant fear and pressure of the second marriage of her husband 19,9. Pakistan like other traditional collectivistic cultures is bond by a strong sense of family cohesion and conformity to social values14,20, having agricultural context, the real purpose of marriage is having children especially the male child who eventually can further the family name8. Similarly, the stability of a marriage and the status of a woman in the family and society at large is based on the number of children she has especially the male child. This is also discussed earlier that though infertility is a serious health concern which is supposed to be a private and personal yet it becomes the social concern for the survival of a marriage and usually women get all the blame of being infertile that increases their psychological burden and make them apprehensive about their future 16.

Second factor denotes to Depressive Mood, which is an indication of disapproval, deep sense of isolation, low mood and agitation. This factor particularly reflect the internalized intense nature of emotional experience that is silently killing the self-image that perpetuate depression. Since the person is feeling alone, unable to share the feeling of loss and her failure to fulfill the traditional role of motherhood leading to a sense of guilt, embarrassment, self-criticism and withdrawing from social situations consequently deepens the experience of distress.

The last factor comprise of items that reflect Feelings of being Rejected by the husband, family and friends. Being a part of collectivistic cultures, where majority lives in joint and extended family system and family is primarily involved in almost all decision making, family support and approval becomes the important ingredient of an individual functioning. In this scenario of collectivism, if an individual perceive disapproval, rejection and isolation tend to experience dysfunctional in all aspects of life and go through great psychological distress. With reference to infertility, if a woman is unable to reproduce she might lose her status in the family and stigmatized[15,21,22].

Previous studies established the protective role of social support in adjustment and active coping with the burden of infertility[13,14,23]. As far as the demographics are concerned, year of marriage was found to be very stressful factor in experiencing psychosocial issues in women with infertility.in other words, as the marriage period gets longer, more and more pressure a woman experience in terms of child bearing which consequently leads to higher treat of getting divorce[24,25]. Moreover, modern clinical psychology is concerned with the prevention rather than intervention, in this regard this research will not only lead to the assessment of problems but also at later stage a effective tailor made counselling and psycho- education plan for the individual, family and at the community level.

Conclusion:

The current study has developed a valid and reliable measure consisting of three factors based that focus on the cultural-specific expression of psychosocial issues of women with primary infertility.

Recommendation:

Future research recommended to include sub strata differences by adding rural sample and identify the risk and protective factors for psychological distress of infertility. Moreover, longitudinal research can be carried out to determine the comorbid conditions of psychological burden of infertility.

References

1. Kazmi SF,Jadoon A, Rehman A. Impact of Infertility Duration on Mental Health of Infertile Women J. Soc. Obstet. Gynaecol. Pak. 2016; Vol 6(2):83-88.
2. Muhammad D, Begum N. Health and social issues of infertile women in Pakistan. AAHS [Internet].24Sep.2019;4(2):31-2. Available from:https://aahs.kmu.edu.pk/index.php/aahs/article/view/74
3. Baghianimoghadam MH, Aminian AH, Baghianimoghadam B, Ghasemi N, Abdoli AM, Seighal Ardakani N, et al., Mental health status of infertile couples based on treatment outcome. Iran J Reprod Med. 2013 Jun;11(6):503-10.
4. Jordan CB, Ferguson RJ. Infertility-related concerns in two family practices. Fam Syst Health. 2006; 24(1): 28-32.
5. Rooney KL, Domar AD. The relationship between stress and infertility. Dialogues Clin Neurosci. 2018 Mar;20(1):41-47.
6. Bakhtiyar K, Beiranvand R, Ardalan A, Changaee F, Almasian M, Badrizadeh A et al, An investigation of the effects of infertility on Women's quality of life: a case-control study. BMC Womens Health. 2019 Sep 4;19(1):114.
7. Khadim R, Naeem F, Saleem S, Mahmood, Z . Perceived social support and mental health problems in infertile women: A comparative study. RMJ. 2019; 44 (3): 584-87
8. Pacheco Palha A, Lourenço MF. Psychological and cross-cultural aspects of infertility and human sexuality. Adv Psychosom. 2011;31:164-83
9. Doyle M, Carballedo A. Infertility and mental health. Adv Psychiatr Treat. 2014;20(5):297-303.
10. van Balen F, Bos HM. The social and cultural consequences of being childless in poor-resource areas. Facts Views Vis Obgyn. 2009; 1(2) :106-21.

11. Miles LM, Keitel M, Jackson M, Harris A, Licciardi, F. Predictors of distress in women being treated for infertility. J Reprod Infant Psychol. 2009; 27(3): 238-57
12. Sami N, Ali TS. Psycho-social consequences of secondary infertility in Karachi. J Pak Med Assoc. 2006 Jan;56(1):19-22.
13. Qadir F, Khalid A, Medhin G. Social support, marital adjustment, and psychological distress among women with primary infertility in Pakistan. Women Health. 2015;55(4):432-46.
14. Saleem, S., Mahmood, Z. &Daud, S. Perceived parenting styles in Pakistani adolescents: A validation study. PJPR. 2017;32(2): 487-509
15. Qadir F, Khan MM, Medhin G, Prince M. Male gender preference, female gender disadvantage as risk factors for psychological morbidity in Pakistani women of childbearing age - a life course perspective. BMC Public Health. 2011 Sep 29;11:1-13
16. Brown TA, Chorpita BF, Korotitsch W, Barlow DH. Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. Behav Res Ther. 1997 Jan;35(1):79-89
17. Joe S, Woolley ME, Brown GK, Ghahramanlou-Holloway M, Beck AT. Psychometric properties of the Beck Depression Inventory-II in low-income, African American suicide attempters. J Pers Assess. 2008 Sep;90(5):521-3.
18. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983 Jun;67(6):361-70.
19. Lakatos E, Szigeti JF, Ujma PP, Sexty R, Balog P. Anxiety and depression among infertile women: a cross-sectional survey from Hungary. BMC Womens Health. 2017 Jul 24;17(1):48-53
20. Fallahzadeh H, Zareei Mahmood Abadi H, Momayyezi M, Malaki Moghadam H, Keyghobadi N. The comparison of depression and anxiety between fertile and infertile couples: A meta-analysis study. Int J Reprod Biomed. 2019 May 5;17(3):153-62.
21. Ombelet W, Cooke I, Dyer S, Serour G, Devroey P. Infertility and the provision of infertility medical services in developing countries. Hum Reprod Update. 2008 Nov-Dec;14(6):605-21.
22. Suna KK, Ilay G, Aysenur A, Han GK, Ulku UE. Effects of infertility etiology and depression on female sexual function. J Sex Marital Ther, 2016;42(1):27-35.
23. Peterson-Post KM, Rhoades GK, Stanley SM, Markman HJ. Perceived criticism and marital adjustment predict depressive symptoms in a community sample. Behav Ther. 2014 Jul;45 (4):564-575.
24. Fledderjohann J, Johnson DR. Impaired fertility and perceived difficulties conceiving in ghana: Measurement problems and prospects. J Biosoc Sci. 2016 Aug;48(4):431-56
25. Lechner L, Bolman C, van Dalen A. Definite involuntary childlessness: associations between coping, social support and psychological distress. Hum Reprod. 2007 Jan;22(1):288-94.