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Emotional Distress, Hope and Quality of Life in Couples experiencing Primary and Secondary Infertility

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Abstract

Objective: The compare the level of emotional distress, hope and quality of life in couples experiencing primary and secondary infertility. It also focused on the predictors of quality of life. **Study Design:** Cross sectional study design was used. **Material and Method:** A purposive sample of 30 couples with primary infertility between the age ranges of 25-50 years (M=32.5, SD=6.0) and 30 couples with secondary infertility between the age ranges of 25-50 years (M=34.7, SD=5.8) was taken from different infertility clinics and hospitals. Perceived Emotional Distress Inventory (EDI) for emotional distress, Trait Hope Scale for hope (THS) and Quality of Life scale (QOL-BREF) for measuring quality of life were used. These scales were translated in Urdu language and Chronbach's alpha coefficients were computed to determine the reliability which was ($\alpha=.92$, $\alpha=.90$, $\alpha=.94$) for Perceived Emotional Distress Inventory, Trait Hope Scale, and Quality of Life Scale respectively. **Results:** The results indicated that emotional distress was negatively correlate to the hope and quality of life. The results also showed that hope and quality of life were positively associated to each other. Emotional distress and demographic variables were found to be the significant predictor of the quality of life. Finally, results also showed significant group and gender differences. **Conclusion:** Emotional distress, hope and quality of life significantly related to each other and hypotheses were approved. Moreover, emotional distress and hope found to be the significant predictors of quality of life.

Key words: Emotional Distress, Hope, Quality of Life, Infertile couples

INTRODUCTION

Infertility is defined as an inability to conceive pregnancy to live birth after a year or more of regular intercourse without contraceptives.(1) It is one of the serious problem that a couple ever experience. In the life of a couple having a child along with creating a family considered as the greatest accomplishments. In every 8 couple the 1 is infertile.(2) The world wide prevalence of infertility is 9 to 12.5%.(3) The prevalence of infertility in Pakistan is reported as 22%, with primary infertility accounting 4 % and secondary infertility accounting 18% of the total cases.(4) In our research, we are delving into the intricate realm of emotional distress, hope, and quality of life within couples who are grappling with the challenges of infertility, both primary and

secondary. Primary infertility characterizes couples who have not experienced successful conception, while secondary infertility pertains to those who, after having previously enjoyed one or more successful pregnancies, now face difficulties in conceiving.(5) Emotional distress encompasses a spectrum of negative emotional responses, which includes depression, anxiety, hopelessness, mood swings and irritability. These responses are closely tied to the complexities of dealing with the expression and suppression of emotions during the journey of infertility. (3)

Hope, on the other hand, represents a positive and motivational state, hinging on the interplay between goal-directed energy (often termed as a sense of agency) and the strategic planning of pathways to achieve these goals. In the context of infertility, hope can be a driving force that empowers couples to navigate the intricate challenges and decision-making processes associated with fertility treatments and family planning.(6) Quality of life, a paramount aspect of our study, is defined as an individual's overall sense of well-being, stemming from the satisfaction or dissatisfaction across various dimensions of life. (7) These dimensions include physical and mental health, occupational fulfillment, environmental conditions, educational opportunities, safety and security, a sense of social belonging, and the freedom to make choices. In the specific context of couples experiencing infertility, assessing and understanding their quality of life becomes imperative as societal norms often place significant emphasis on their ability to bear children. (8,9)

In many societies, there is a pronounced emphasis on a couple's ability to conceive, with marriage often seen as primarily geared toward parenthood.(10) Infertility can place considerable strain on marital relationships, leading to discord when natural conception remains elusive. When the root cause of infertility is identified, be it in the male or female partner, it can be a profoundly shocking revelation. This is especially true for women, who often grapple with feelings of shame and guilt when confronting their parents, relatives, and friends about their infertility.(11)

The significance of this research lies in its endeavor to delve into the intricate interplay of emotional distress, hope, and quality of life in the context of infertility. It's vital to grasp these emotional experiences, considering the cultural reverence placed upon motherhood in traditional societies, where a woman's role as a mother is highly esteemed. In regions like Pakistan, strong cultural norms create a stigma around childlessness, frequently attributing the issue to women due to a lack of awareness.

For couples enduring both primary and secondary infertility, the relationship between psychological outcomes is undeniably complex and interactive. Existing research underscores the correlation between the quality of life and the distress experienced by couples dealing with primary and secondary infertility. Furthermore, this study offers a unique contribution to the field of infertility research by shedding light on variables that are linked to positive adjustments within this challenging context.

MATERIAL AND METHODS

Cross sectional correlational research design was used to find out relationship and comparison of emotional distress, quality of life and hope in couples experiencing primary and secondary

infertility. Non probability purposive sampling strategy was used to select the research participants. The sample comprised of 60 couples (n=120) with primary infertility (n =30) and secondary infertility (n= 30). Age range of participants was between 25 to 50 years. Participants were taken from the nine hospitals and infertility clinics (5 Government and 4 private) of the Lahore, Pakistan.

MEASURES

PERCEIVED EMOTIONAL DISTRESS INVENTORY (PEDI)

Emotional distress was measured by using the translated version of the perceived emotional distress inventory. It comprised of 15 items. Responding to each item, subjects reported to what extent they had experienced each emotional distress related symptoms during their past two weeks including today by rating themselves on a 3–point scale, (0) not at all to (3) very much so. The scores for this inventory ranged from 0 to 45 points. Reliability of the original scale was .91 and it was .92 for the sample of the current study.(12)

TRAIT HOPE SCALE (THS)

Translated Urdu version of Trait Hope Scale was used to assess hope in infertile couples. It has 12 items included two separate subscales including agency and pathways in addition to a total Hope Scale score. Four items measure agency, 4 items measure pathways, and 4 items serve as fillers. Each item is rated on an 8-point likert-type scale, with responses ranging from definitely false to definitely true. The scores on the 4filler items are discarded. Total scores can range from a low of 8 to a high of 64, and higher scores signify higher levels of hope. In terms of reliability for the Hope Scale, Cronbach’s alphas of the original version ranging from .74 to .84 for the overall scale and it was .79 to .90 for the sample of the current study. (13)

WORLD HEALTH ORGANIZATION QUALITY OF LIFE (WHOQOL)-BREF

The quality of Life was measured with World Health Organization Quality of Life scale. It has 30 items. Responding to each item of the WHOQOL the subjects reported that how they feel about their quality of life, health, or other areas of their life during the past four weeks including today and rated themselves on a 5 –point scale. It has four subscales included physical, psychological, social and environment. Seven items (3, 4, 10, 15, 16, 17, & 18) measures physical health, six items (5, 6, 7, 11, 19 & 26) measures psychological, three items (20, 21, 22) measures social relationships and eight items (8, 9, 12, 13, 14, 23, 24, 25) measures environment. Total score can range from 26 to 130 for whole 26 items. In term of reliability for the physical, psychological, social, environment and total quality of life scale, Cronbach’s alpha was .88, .72, .68, .88 and .94 respectively for the sample of current study. (14)

INFORMED CONSENT FORM

Consent form was used to take permission from the research participants to know about their willingness to participate in the current study before data collection.

DEMOGRAPHIC AND INFERTILITY RELATED QUESTIONNAIRE

The demographic and infertility related questionnaire was developed during the course of present study on the basis of the literature review. Demographic questionnaire included information about participants’ age, education, income, family background and family system.

The information related to infertility was also probed including duration of marriage, number of family members, type of marriage, duration of diagnosis of infertility, treatment, time after which treatment started, number of children before infertility, treatment type, prior infertility case in family and support from in-laws or family.

PROCEDURE

Initially the permission and written consent was taken from concerned authorities of different infertility clinics and hospitals of Lahore. Before starting data collection, a schedule was set with the concerned authorities of hospitals with relevance to availability of infertile couples. Participants were then assigned by the hospital authorities. Consent was taken from participants and confidentiality was ensured to them. Necessary instructions related to the research protocol were given to the participants. Each participant completed three questionnaires which assess their emotional distress, hope and quality of life. The administration was based on the availability of the couples. Sometimes questionnaires were administered in group in case of availability of multiple couples at a time. Some females need counseling and at the end of their completion of the questionnaires counseling was provided to them.

ETHICAL CONSIDERATIONS

In order to conduct this research ethical consideration were strictly followed. First of all Permission was taken from the authors for the use of the tool. Permission was taken from the concerned authorities of the hospitals and clinic prior to data collection. Informed consent was taken from participants who showed their willingness to participate in the research and they were allowed to withdraw at any time from research. Anonymity and confidentiality was assured. Dignity of the participants was maintained. Participants were thanked before leaving for their cooperation. Accurate reporting of the results was done.

RESULTS

To analyze the data Statistical Package for Social Sciences (SPSS) was used. First of all descriptive analysis of the demographics was done. Then reliability analysis of all three scales and subscales was carried out. Chronbach alpha ranged from .63 to .94. Following are results to test the hypotheses of the study.

TABLE 1: RELATIONSHIP BETWEEN EMOTIONAL DISTRESS AND HOPE AND QUALITY OF LIFE IN COUPLES WITH PRIMARY AND SECONDARY INFERTILITY (N=120)

Variables	1	2	3	4	5	6	7	8	9
1 Emotional Distress	1	-.60**	-.56**	-.62**	-.63**	-.64**	-.38**	-.52**	-.64**
2 Agency	-.60**	1	.78**	.94**	.75**	.76**	.57**	.65**	.78**
3 Pathway	-.56**	.78**	1	-.92**	.76**	.65**	.57**	.64**	.75**
4 Total Hope	-.62**	.94**	-.92**	1	.80**	.75**	.61**	.69**	.81**
5 Physical	-.63**	.75**	.76**	.80**	1	.78**	.70**	.80**	.94**
6 Psychological	-.64**	.76**	.65**	.75**	.78**	1	.65**	.72**	.88**
7 Social	-.38**	.57**	.57**	.61**	.70**	.65**	1	.66**	.78**
8 Environmental	-.52**	.65**	.64**	.69**	.80**	.72**	.66**	1	.92**
9 Total Quality of Life	-.64**	.78**	.75**	.81**	.94**	.88**	.78**	.92**	1

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1 showed that emotional distress has statistically significant negative relationship with Agency, pathway and total Hope $r = -.60, -.56, -.61, p < .01$. The results also revealed that emotional distress has statistically significant negative relationship with physical, psychological, social, environment and total quality of life, $r = -.63, -.62, -.37, -.52, -.64, p < .01$. Results indicated statistically significant positive relationship of hope subscales (agency and pathway) and total hope with quality of life subscales (physical, psychological, social and environment) and overall quality of life.

TABLE 2: HIERARCHICAL MULTIPLE REGRESSION ANALYSIS FOR PREDICTION OF QUALITY OF LIFE

Model	Quality of Life									
	Physical		Psychological		Social		Environment		Total QOL	
	ΔR^2	<i>B</i>	ΔR^2	<i>b</i>	ΔR^2	<i>B</i>	ΔR^2	<i>B</i>	ΔR^2	<i>b</i>
Step 1	.28*		.42***		.25		.29*		.33**	
Education		.27*		.38**		.22		.39**		.36**
Profession		.11		.25*		.15		.19		.17
Treatment of Infertility		.11		.25*		.00		.07		.15
Duration of treatment		-.10		.27*		-.19		-.18		-.19
Step 2	.19**		.15***		.07**		.15***		.19***	
Emotional distress		-.57***		-.49***		-.33**		-.50***		-.57***
Step 3	.22**		.19***		.19***		.16***		.23***	
Agency		.30**		.53***		.30*		.35**		.41***
Pathway		.42***		.13		.37**		.26*		.33**
Total Hope										.32*
Total R ²		.71***		.74***		.51***		.59***		.75***
N		120		120		120		120		120

Note. * $p < 0.05$, ** $p < .01$, *** $p < 0.001$

According to table 2 education was statistically significant predictor of the quality of life ($t=2.91$, $p<.01$) and its subscales physical ($t= 2.11$, $p< .05$), psychological ($t=3.31$, $p< .01$) and environmental ($t= 3.04$, $p<.01$). Results also revealed that profession ($t=2.29$, $p<.05$), treatment ($t=2.16$, $p<.05$) and duration of treatment ($t=2.39$, $p<.05$) are significant predictors of the psychological quality of life. It was also indicated emotional distress acted statistically significant negative predictor of the physical health ($t=-5.93$, $p<.001$), psychological ($t=-5.60$, $p<.001$), social relationships ($t=-3.09$, $p<.01$), environment ($t=-5.05$, $p<.001$) and total quality of life ($t=-6.30$, $p<.001$). Agency subscale of hope was predictor of physical ($t=2.80$, $p<.01$), psychological ($t=5.30$, $p<.001$), social ($t=2.17$, $p<.05$), environment ($t=2.76$, $p<.01$) and total quality of life ($t=4.14$, $p<.001$) and pathway subscale also emerged as statistically significant positive predictors of physical ($t=4.19$, $p<.001$), social ($t=2.80$, $p<.01$), environment ($t=2.21$, $p<.05$) and total QOL ($t=3.52$, $p<.01$).

TABLE 3: MEAN DIFFERENCES IN EMOTIONAL DISTRESS, HOPE AND QUALITY OF LIFE IN COUPLES WITH PRIMARY AND SECONDARY INFERTILITY (N=120)

	Primary infertility		Secondary infertility		<i>t</i>	<i>P</i>	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
ED	16.05	9.32	18.90	11.06	-1.56	.130	-6.55	.847	0.28
AGE	22.90	7.39	19.22	5.85	3.02	.003	1.27	6.09	0.55
PTH	23.77	7.36	20.72	5.99	2.45	.014	.62	5.48	0.45
TH	46.67	13.90	39.94	11.05	2.94	.004	2.19	11.2	0.54
PHY	23.28	5.42	25.88	5.45	2.62	.010	.63	4.57	0.48
PSY	19.08	4.28	20.80	3.58	2.38	.019	.28	3.14	0.44
SOC	11.27	2.28	12.08	2.02	2.07	.040	.03	1.59	0.38
ENV	28.63	5.69	26.93	5.71	1.63	.105	-.36	3.76	0.30
TQOL	87.80	17.73	94.15	16.50	2.36	.020	1.16	13.4	0.43

Note. ED=Emotional distress; AGE= Agency, PTH= Path way, TH= Total hope; PHY= Physical, PSY= Psychological, SOC= Social, ENV= Environment, TQOL Total quality of life

Table 3 indicated statistically significant differences on agency ($M= 22.90$, 19.22 , $SE= .75$, $.95$) pathway ($M= 23.77$, 20.72 , $SE= .77$, $.95$) and total hope ($M= 46.67$, 39.94 , $SE= 1.4$, 1.8) in couples with primary and secondary infertility respectively. Mean values showed that couples with primary infertility had higher scores on hope than couples with secondary infertility. This difference was statistically significant $t(118) = 3.02, 2.45, 2.94$ $p < .01, .05$. Results also revealed

statistically significant differences on Physical (M= 23.28, 25.88, SE= .70, .70,) psychological (M= 19.08, 20.80, SE= .55, .46), social (M= 11.27, 12.08, SE= .29, .26) and total quality of life (M= 87.50, 94.80, SE= 2.2, 2.0) in couples with primary and secondary infertility respectively. The difference was statistically significant $t(118) = 2.62, 2.38, 1.63, 2.36$ $p < .01, .05$; it represents small size effect.

Table 4: *Gender Differences in Emotional Distress, Hope and Quality of Life in Infertile Couples (N=120)*

	Males		Females		T	P	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
ED	14.48	8.72	20.46	10.91	-4.07	.00	-8.92	-3.04	0.60
AGE	21.88	6.35	20.23	7.36	1.89	.06	-.09	3.39	0.24
PTH	22.75	6.21	21.73	7.45	1.12	.26	-.80	2.83	0.15
TH	44.63	12.05	41.97	13.78	1.75	.86	-.39	5.73	0.20
PHY	25.18	5.19	23.98	5.91	1.71	.09	-.20	2.60	0.22
PSY	20.58	3.62	19.30	4.33	2.44	.01	.23	2.44	0.32
SOC	11.81	1.95	11.53	2.39	.94	.34	-.32	.88	0.12
ENV	27.48	5.74	28.08	5.78	-.91	.36	-1.92	.72	0.10
TQOL	92.53	15.86	89.77	18.62	1.39	.16	-1.20	6.74	0.16

Note. ED=Emotional distress; AGE= Agency, PTH= Path way, TH= Total hope; PHY= Physical, PSY= Psychological, SOC= Social, ENV= Environment, TQOL= Total quality of life

In table 4 the results revealed that on average, female participants have high level of emotional distress (M= 20.46, SE= 1.4) than the male participants (M= 14.48, SE= 1.1). This difference not statistically significant $t = -4.07$, $p < .001$; it represented the large size effect at the end. There was statistically significant gender difference on the score of one subscale of quality of life that is psychological. Results showed that males have high psychological quality of life (M=20.58, SE=.46) than females (M= 19.30, SE= .55). This difference was statistically significant $t= 2.4$, $p<.05$; however, it represent small size effect at the end.

DISCUSSION

The current study lends substantial support to all the results from Indigenous and International literature. In present study negative relationship between emotional distress and hope in couples with primary and secondary infertility was found. Snyder⁽¹¹⁾ theorized that higher levels of hope facilitate those facing obstacles to their goals experience less distress than those with

lower levels of hope because hope helps the individual to reappraise obstacles as challenges requiring alternate pathways rather than as permanent blockages to their goals. ^(15, 16)

Emotional distress and quality of life along with the subscales were found to be significantly negative correlated with each other in the current study. A research showed that emotional distress was directly associated with negative outcomes and poor quality of life. The possible explanation for the current study findings is that infertile couples faced pressures by the families for not having children. When the couples experiencing high level of emotional distress their quality of life automatically lowered down.^(4, 17) Significant positive correlation between hope and quality of life was found. It was conjectures that higher hope is associated to higher quality of life and positive affect for both samples of couples, indicating that hope theory is applicable to the positive functioning of this population of couples.^(6, 18)

The results showed that there is significant group differences in hope and quality of life between primary and secondary infertile couples. It was found in different national and international researches that Women without prior child among a sample of infertility patients reported higher levels of depression in comparison to women with prior children. It was described that those who were mothers had higher quality of life than those who were not mothers.^(15, 19, 20, 21)

Gender differences were found in couples experiencing primary and secondary infertility. The finding were in line with the findings of an indigenous research of Yusuf, who reported that women, who continually face the disappointment of not conceiving month after month, showed more frequent signs of depression, grief and anxiety than men.^(22, 23)

Different researches carried out in Pakistan on infertility. A research on experiences and perceptions of women in Karachi regarding the infertility was done. It resulted that unhappiness, depression and dejection are more prevalent among the infertile females. The infertile females agreed to be anxious and depressed for lack of support from families/husbands, childbearing and society's negative attitude make the females to thoughts for committing suicide.⁽²⁴⁾

CONCLUSION

In conclusion, the findings of correlational analysis elucidated that emotional distress was negatively significantly correlated with hope and quality of life and relationship of hope and quality of life was found to be positively significant, reinforcing the past literature related to their relationship, in cross-cultural settings. According to mean differences it was inferred that there was difference between couples with different infertility type and their emotional distress, hope and quality of life. It was also concluded that males and females have differences in their emotional distress, hope and quality of life in couples experiencing primary and secondary infertility.

Conflict of interest: None

REFERENCES

1. Vander Borgh M, Wyns C. Fertility and infertility: Definition and epidemiology. Clinical biochemistry. 2018 Dec 1;62:2-10.

2. Panahi S, Bahadoran P, Pirhadi M. Evaluation the relationship between social health and stress of assisted reproductive techniques in infertile women. *Journal of Education and Health Promotion*. 2022;11.
3. Leslie C, Hutchinson AD. Emotional distress when studying sensitive topics in psychology, and its relationship with hardiness and mental health. *Higher Education Research & Development*. 2018 Apr 16;37(3):549-64.
4. Ahmed HM, Khan M, Yasmin F, Jawaaid H, Khalid H, Shigri A, Nawaz F, Hasan CA. Awareness regarding causes of infertility among out-patients at a tertiary care hospital in Karachi, Pakistan. *Cureus*. 2020 Apr 16; 12(4).
5. Qadir M, Iqbal Mz. Marital Adjustment, Mental Health and Perceived Social Support–A Comparative Study of Fertile and Infertile Women in Kashmir.
6. Masjedi-Arani A, Yoosefee S, Hejazi S, Jahangirzade M, Jamshidi MA, Heidari M, Farhoush M. effectiveness of an Islamic approach to Hope therapy on Hope, depression, and anxiety in comparison with conventional Hope therapy in patients with coronary heart disease. *Journal of Advances in Medical and Biomedical Research*. 2020;28(127):82-9.
7. Heidari M, Ghodusi M, Rezaei P, Abyaneh SK, Sureshjani EH, Sheikhi RA. Sexual function and factors affecting menopause: a systematic review. *Journal of menopausal medicine*. 2019 Apr 1;25(1):15-27.
8. Sharifi K, Tagharrobi Z, Sooki Z. Quality of life among iranian postmenopausal women: A systematic review and meta-analysis. *Galen Medical Journal*. 2020;9:e1649.
9. Dutta D, Dasgupta A, Roy S, Taklikar CS, Ghosh D, Paul B. Does infertility affect the quality of life of infertile women? A study in a gynecology outpatient department of a tertiary care hospital of Kolkata. *Medical Journal of Dr. DY Patil Vidyapeeth*. 2021 Nov 1;14(6):685.
10. Wachira J, Kamanda A, Embleton L, Naanyu V, Ayuku D, Braitstein P. 'Pregnancy has its advantages': the voices of street connected children and youth in Eldoret, Kenya. *PloS one*. 2016 Mar 4;11(3):e0150814.
11. El-sharkawy NS, Nour Eldin SA, Sarhan AM. Impact of Educational Program on the Success Rate of Intracytoplasmic Sperm Injection. *Zagazig Nursing Journal*. 2021 Jan 1;17(1):39-54.
12. Moscoso MS. Chronic stress and the measurement of perceived emotional distress in medicine & health psychology. *Liberabit*. 2011;17(1):67-76.
13. Snyder CR, Harris C, Anderson JR, Holleran SA, Irving LM, Sigmon ST, Yoshinobu L, Gibb J, Langelle C, Harney P. The will and the ways: development and validation of an individual-differences measure of hope. *Journal of personality and social psychology*. 1991 Apr;60(4):570.
14. Whoqol Group. The World Health Organization quality of life assessment (WHOQOL): position paper from the World Health Organization. *Social science & medicine*. 1995 Nov 1;41(10):1403-9.
15. Ghazavi Z, Khaledi-Sardashti F, Kajbaf MB, Esmaielzadeh M. Effect of hope therapy on the hope of diabetic patients. *Iranian journal of nursing and midwifery research*. 2015 Jan;20(1):75.

16. Farhadi M, Reisi-Dehkordi N, Kalantari M, Zargham-Boroujeni A. Efficacy of group meaning centered hope therapy of patients and their families on patients' quality of life. *Iranian journal of nursing and midwifery research*. 2014 May;19(3):290.
17. Dural O, Yasa C, Keyif B, Celiksoy H, Demiral I, Yuksel Ozgor B, Gungor Ugurlucan F, Bastu E. Effect of infertility on quality of life of women: a validation study of the Turkish FertiQoL. *Human Fertility*. 2016 Jul 2;19(3):186-91.
18. Mosalanejad L, Parandavar N, Gholami M, Abdollahifard S. Increasing and decreasing factors of hope in infertile women with failure in infertility treatment: A phenomenology study. *Iranian journal of reproductive medicine*. 2014 Feb;12(2):117.
19. McQuillan J, Torres Stone RA, Greil AL. Infertility and life satisfaction among women. *Journal of Family Issues*. 2017 Jul;28(7):955-81.
20. Shoukat J. Relationship between self-compassion and positive psychological functioning in primary and secondary infertile women (Unpublished Master's Thesis). Department of Applied Psychology: University of the Punjab, Lahore. 2013.
21. Sormunen T. Communication, coping and social networking regarding infertility. Karolinska Institutet (Sweden); 2021.
22. Aysel K, Gul U. Psychosocial problems and coping strategies among Turkish women with infertility. *Asian Nursing Research*. 2015;9(3):243-50.
23. Yusuf L. Depression, anxiety and stress among female patients of infertility; A case control study. *Pakistan journal of medical sciences*. 2016 Nov;32(6):1340.
24. Sami N, Saeed Ali T. Perceptions and experiences of women in Karachi, Pakistan regarding secondary infertility: results from a community-based qualitative study. *Obstetrics and gynecology international*. 2012 Jan 1;2012.