

## HOPE AND HEALING: EXPLORING SPIRITUALITY, COPING STRATEGIES, AND PSYCHOLOGICAL WELL-BEING IN WOMEN FACING PRIMARY AND SECONDARY INFERTILITY

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### Abstract

The present study investigated the relationship between spirituality, coping strategies and psychological well-being in primary and secondary infertile women. A sample of 120 infertile women (60 primary and 60 secondary) with the age range 18-45 years M (SD)= 1.39 (0.49). The sample was taken from different hospitals and clinics of Lahore and Peshawar. Spirituality was measured by Spirituality Assessment Inventory (SAI) (Hall & Edward, 1996), coping in individuals was measured by Brief COPE (Akhter, 2005), and Psychological well-being was measured by Psychological well-being scale (Jabeen, 2012). Translation and adaptation of Spirituality Assessment Inventory was done in the present study and the translated version (Urdu) of other two questionnaires were used in the study. Psychometric properties of the measures were also determined like reliability analysis and the Cronbach's Alpha of SAI is  $\alpha = .87$  and PWB is  $\alpha = .60$  and Brief COPE is  $\alpha = .50$  which is considered to be satisfactory reliable for the current study. The results of inter correlation matrix showed that spirituality has significant positive correlation with psychological well-being and psychological well-being also has positive relationship with coping strategies. t-test indicated significant mean differences in term of education and age of infertile women on their psychological well-being. Results of ANOVA indicated that socio economic status has significant impact on the level of psychological well-being of infertile women ( $p < .05$ ). The results of regression analysis indicated that spirituality and socio economic status are significant predictors ( $**p < .001$ ,  $*p < .05$ ) of psychological well-being among primary and secondary infertile women. Coping strategies and its subscales explain non-significant moderating effect on spirituality and psychological well-being among infertile women. Results are discussed to explain the findings with reference to Pakistani culture and previous empirical evidence.

### INTRODUCTION

Being born a human being is considered a blessing and being able to reproduce a baby is double blessing.

In our part of the world to be unable to bear a child becomes an intolerable and unacceptable miseries

for people. In order to understand the term infertility and also the incidents regarding infertility the operational definition is required. Naturally both infertility and fertility are closely related. As to define fertility, for a woman it is the ability to conceive and produce a live baby while for a man it is the ability to make a woman pregnant (Menning, 1977). On the other hand infertility is the inability to achieve a successful pregnancy or to carry a pregnancy till a live birth. It is the inability to conceive after one year of marriage by having regular unprotected intercourse (Berger, Goldstein, & Furerst, 1990). Fertility is reversed in all cultures and the ability to reproduce is perceived as a successful milestone in later life as in adult development. According to Taymore, the ability to give a live birth of baby is taken for granted and individuals who want parenthood they often experience internal and external pressure and hardships to become parents (Taymore, 1978). Mostly the infertility issues comes as a shock for the People and it is labelled as the "Crisis of infertility".

**Infertility**

Infertility for a woman is defined as the inability to conceive or turn pregnant after one year of marriage having insecure intercourse (Cwikel, Gidron, & Sheiner, 2004). In medicinal term infertility is the incapability to carry a successful pregnancy till live birth and its conclusion resulting in miscarriages (Simons, 1998). It is natural it is the wish of every married couple to have their own children which is their ultimate first dream of married life. But for an infertile couple this dream may became a nightmare and they always living in a space of suspended animation and waiting for a baby (Inhorn, 1996). It is the stressful event in their lives and causes psychological trauma for most of the couples. It also cause mental health issues in females that has a great impact on their ability to cope with treatment, achieving complete pregnancy and parenting.

Infertility can be broken down into two further types like primary and secondary infertility. Primary infertility signifies to problems with first pregnancy while secondary infertility is the failure to conceive resulting one or more childbirths (Leuersen & Bouchez, 1992). Primary infertility is the inability to conceive or attain a positive pregnancy after 12 months of unguarded intercourse. It is viewed as the inability to conceive after one year of properly timed

sexual interaction without using any safety and precaution. While Secondary infertility is the disappointment to regard having previously experienced a successful pregnancy. As women having secondary infertility may already have a child but they are unable to give a live birth of second or third child (Simons, 1998).

**Spirituality**

Spirituality, is understood as a basic requirement, sometimes even as the most important aspect of mental health. In fact, various models of wellness or general well-being, consider spirituality to be the central point of focus (Chandler, Holden & Kolander, 1992; Witmer & Sweeney, 1992). In these replicas, the focal point interacts with and provides the drive and stimulation, along with the purpose and consequences for another dimension; for example, the bright person, work-related, physical, passionate and societal. Spirituality has a vital influence on psychic variation, encountering worth and motive in life (Myres, 1999).

Several professionals, including Jung, Allport and Maslow stipulate that spirituality needs to be taken into consideration, with a specific end goal in mind, in order to understand the whole individual (Hill, Pargament, Hood, Mccullough, Swyers & Larson, 2003). According to Bergin's (1991) findings, 68% of mental health experts granted that for an optimistic and mentally strong way of life, spiritual understanding is vital. While 41% established, that for several clients, spirituality was important in guiding and evaluating psychotherapeutic treatments. Likewise, 44% of advisors agree that sincerely participating in a religious association is also highly significant for mental health. In the West, various schools of thought, including the reasoning and logical, medicinal, philosophical and mental are till now studying the portrayal of human about which Carl Jaspers says "it is out of attaining above judgment and move from investigational inquiry." Man is habitually ready to utilise the features of resolve, self-confidence and trust in God in order to be healed from a multitude of illnesses and abnormalities (Abboud, 2003). Investigations incorporated late in medicine verify, in support of the mystical procedures to the handling of mental concerns, including resolve, meditation, faith and obedience to God (Abboud, 2003).

#### 1.14. Coping Strategies

Coping strategies denotes to both cognitive and behavioral efforts that mostly people hire to master, lessen and diminish the stressful actions. Furthermore coping is something that you in fact do rather what you, could, would or should do. It is your own particular response to any specific condition or incident. It is active and interactional process and recurrent pattern to cope in specific situations becomes your coping style (Schafer, 1992). Infertility is a big stressor for couples and it causes many personal and relational problems so in return coping strategies are the natural extension of that experience by those individuals (Peterson, Pirritonal, Christensen, & Schmidt, 2008).

According to Lazarus, coping is interactive and goal oriented process in which individual pays both cognitive and behavioral attention towards the solution of s stressful event and to manage emotional experiences (as cited in Compas, Connor-Smith, Satzman, Thomson, & Wadsworth, 2001). For the accomplishment of situations these strategies are used where there is contradiction between traumatic strains and presented resources for the situation (Maes, Laventha, & De Ridder, 1996). Over the past few decades it was observed that coping with infertility make the researchers, physicians and mental health consultants attentive towards that specific topic (Peterson, Newton, Rosen, & Skaggs, 2006; Schmidt, Holstein, & Christensen, 2005). According to Peterson the response of couples to these stressors has greater inferences on both individual and couple (Peterson et al., 2009).

#### 1.17. Psychological Well-Being

Psychological well-being can be defined as the personal evaluation of any individual's existing position in the world. Furthermore, over all well-being comprises one's experience of happiness and gratitude of his or her life's rewards (Synder & Lopez, 2007). According to Diener, well-being is the amalgamation of productive factors and overall life fulfilment and he use the word subjective well-being as a substitute of happiness (Domar, 2000).

Psychological well-being focuses on the individual' report of their life experiences and face value give us this subjective report. This tactic to happiness refers that people from different ethnic groups feels relaxed in focusing attention on individual's evaluation of

their life satisfaction (Domar, 2000). Moreover psychological well-being essentially focus on ethical vision that is repeatedly culture specific. Psychological well-being is the state of mental serenity, pleasure and ease (Corsini, 2002). According to current situation, there is little consideration given to psychological well-being as well as its theoretical viewpoint as compared to psychotherapy. Many well-known researchers explain the importance of psychological well-being and its meaning in life (Ratni & Rastogi, 2007). According to Ryff (1989), construct of meaning in life in the basic contributor to the psychological well-being of the individual.

"Positive psychology" gain a great fame as a new approach, Ryff explains that it emphasizes on the individual's involvements of knowledge, pleasure, resilience, physical, social and psychological well-being (Ryff & Singer, 2004).

According to literature approximately 10% of US couples are affected due to life stressors like infertility. A study was conducted to check the infertility experiences like depression, helplessness, and marital strain in both men and women. For this purpose 185 infertile couples and 90 fertile couples were taken. Results showed that infertile wives perceived there infertility related issues more painful than their husbands, and they used more problem-focused coping. Results also showed that both infertile and presumed fertile women experienced more depression, difficulty in sexual relations, and low self-esteem than their husbands (Abbey, Halman & Andrews, 1991).

Indigenous researches showed that the coping strategies used by infertile couple and also its relation with psychological distress. It also showed the impact of different coping strategies on the psychological well-being of infertile couple. The present study will help to predict the impact of spirituality and coping strategies on the psychological well-being of infertile women. Infertility cause psychological distress that affects the psychological well-being of infertile couple so it is very necessary to explore this phenomenon.

The objectives of research are as follows;

- To explore the relationship between spirituality, coping strategies and psychological well-being among infertile women.

- To assess the psychological well-being of primary and secondary infertile women.
- To investigate the predictability of spirituality and coping strategies on psychological well-being of primary and secondary infertile women.
- To investigate the coping strategies as a moderator for spirituality and psychological well-being.

**Method**

**Research design and Participants**

Comparative cross sectional research design was used in the study and sample was selected with purposive sampling technique. The sample of the study consisted of 120 participants including 50% primary and 50% secondary infertile women falling with in the age of 18-45 years. Maximum of the participants of the sample belonged to early adults (n= 73) with the age range of 18-28 years while remaining participants were belonged to middle adults (n= 47) with the age range of 29-45 years (Berk, 1999). Participants were selected from different socio economic status groups that were divided in four categories like lower (<20,000), lower middle (20,000-49,000), upper middle (50,000-79,000) and upper (80,000 and above). Data for the present study was gathered from different private and government hospitals of Lahore and Peshawar namely Fatima Memorial Hospital Lahore, Lady Walington Hospital Lahore, Family Welfare Maternity Hospital Lahore, Tareen incompetency and infertility center Peshawar, Khaiber Teaching Hospital Peshawar, and Mercy Teaching Hospital Peshawar. The inclusion criteria for the present research was the duration of infertility i.e. inability to conceive after 1 year of insecure sexual intercourse after marriage for primary infertile women and for secondary infertility, when a women is unable to bear a child either due to inability to become pregnant or incapability to carry successful pregnancy. These women may have already a child. Exclusion criteria for the present research included infertile women with other physical and psychological problems. Divorced and women with second marriage would not include in the research.

**Measures**

In the study three questionnaires were used to gather data on the particular variables. The scales included Spirituality Assessment Inventory (SAI), Brief Cope and Psychological well-being scale.

**Phase I: Translation and Adaptation**

Spirituality Assessment Inventory (SAI) was translated and adapted to assess the level of spirituality in infertile women. This assessment tool was developed by Hall & Edwards in 1996. The scale was translated from its source language i.e. English to the target language i.e. Urdu version. It had 54 items that used to measure both the spiritual and psychological features of spiritual maturity. And it measure this in the framework of one’s experienced connection with God. It comprised of 6 factors like awareness, realistic acceptance, disappointment instability, grandiosity and impression management. Awareness included items 1, 3, 6, 9, 11, 15, 17, 19, 21, 23, 25, 28, 30, 31, 34, 36, 40, 42, and 44. Realistic acceptance consisted of 7 items i.e. 2.2, 8.2, 12.2, 18.2, 27.2, 33.2, 47.2. Disappointment factor had also 7 items like item 2.1, 8.1, 12.1, 18.1, 27.1, 33.1, and 47.1.

Instability had items 4, 10, 16, 22, 35, 39, 41, 43, and 46. Grandiosity included item 5, 13, 20, 26, 29, 37, and 45 while the last factor impression management consisted of 5 items i.e. item 7, 14, 24, 32, and 38. The Cronbach’s Coefficient alpha reliability of the factors including awareness of God was (.90), disappointment in relationship with God (.91), realistic acceptance of God (.76), grandiosity in relationship with God (.52), instability in relationship with God (.88) and impression management (.83). It had strong degree of internal reliability as well as construct validity. The responses of the scale was rated on five point rating scale ranging from “not at all true - very true”. The translated scale alpha reliability is .70 which is considered good reliability. This translated version was then used in the present study.

**Steps in translation and adaptation**

The Spirituality Assessment Inventory scale was translated according to the given guidelines of MAPI. For forward translation i.e. from English to Urdu language, the scale was given to three professionals (2 educationist and 1 MS trainee clinical psychologist). They were asked to translate the inventory from its original language English to target language Urdu version. To make one final forward translation the three Urdu translated versions were reconciled. The translated versions were again hand over to other two professionals for backward translation i.e. into

English language. Urdu final translated version was then used in try out phase to check the reliability.

#### **Pilot study and Validation**

To check the comprehensibility of the translated scale, the scale was used as a pilot study in the target population before carrying out the main study. Both English and Urdu translated scales of Spirituality Assessment Inventory (SAI) were administered on normal population with the gap of one week in between. At first Urdu translated version was administered on the population and after duration of one week the English original version was administered. Population reported little difficulty in understanding both English and Urdu items of the scale. The correlation of the translation version of the scale ranged from .3 to .1.

#### **Phase II: Main study**

**2.4.1. Brief COPE.** The original form of brief cope was developed by Carver in 1997 and translated in Urdu language by Akhtar in 2005. This was used to assess the coping strategies used by infertile individuals. This brief cope was the shorter version of original COPE inventory (Carver, 1989). Brief version was consisted of 28 items including 14 subscales (two-item scales): Self-distraction, Active coping, Denial, Substance use, Use of emotional support, Use of instrumental support, Behavioral disengagement, Venting, Positive reframing, Planning, Humor, Acceptance, Religion, and Self-blame. It was 4 point likert format 1=never, 2=very less, 3=sometimes, and 4=a lot. Author reported four subscales for the brief cope like active avoidance, positive coping, problem-focused coping, and religious/denial coping.

Active avoidance coping included all the items of the original COPE subscales from Behavioral disengagement, venting of emotions, Substance use, self-blame and one item from Self-distraction subscale. This subscale included items no 4, 6, 9, 11, 13, 16, 19, 21, and 26. These items showed active avoidance of the stressors and chronback alpha of this subscale is .78.

Problem-focused coping included all items of the original COPE scale like Active coping, Planning, Use of instrumental support, and one item from seeking emotional support. Items included in this subscale are 2, 5, 7, 10, 14, 23, and 25. Chronback alpha reliability for this scale is .82. Positive coping

contain items from the subscales of brief COPE like positive reframing, use of humor and one item from each factor i.e. acceptance and emotional social support scale. Included items are 1, 12, 15, 17, 18, 20, 24, 28 and chronback alpha is .68.

Religious/ denial coping included all the COPE items for denial and religious coping that consisted of items 3, 8, 22, and 27. The chronback alpha reliability for this subscale is .73. Each subscale is summed separately to calculate the total score on the scale. High score of every subscale indicated more use of that particular coping strategy while low scores indicated less use of that coping strategy. The alpha reliability coefficient of the Urdu translated version of the subscales active avoidance coping, problem focused coping, positive coping and religious/denial coping is .81, .78, .75 and .82 respectively.

#### **Psychological wellbeing scale**

Carol Ryff has developed psychological wellbeing scale in 1995 which is 42 items scale comprised of six dimensions: autonomy, environmental mastery, positive relations with others, personal growth, purpose in life, and self-acceptance. Each dimension consisted of seven items. Autonomy included items 1, 7, 13, 19, 25, 31, and 37. Environmental mastery consisted of seven items like 2, 8, 14, 20, 32, 38, and 26 while the dimension positive relations to others included item 4, 10, 16, 22, 28, 34, and 40. Personal growth had items 3, 9, 15, 21, 33, 39, and 27 while purpose in life consisted of items 5, 11, 17, 23, 29, 35, and 41. The last dimension self-acceptance included items 6, 12, 18, 24, 30, 36, and 42. This is translated by Jabeen in 2012. It is 6-point Likert scale ranged from 1= strongly disagree to 6=completely agree. Negative items of the scale are 3, 5, 10, 13, 14, 15, 16, 17, 18, 19, 23, 26, 27, 30, 31, 32, 34, 36, 39, and 4. Higher scores of the individuals indicated greater psychological wellbeing and low scores indicated lower psychological well-being. Alpha for Psychological Wellbeing Scale is .82 to .91. Urdu translated version of the Ryff's psychological wellbeing scale was used in the study and reliability of Urdu translation of psychological Wellbeing scale is .84 (Jabeen, 2012).

#### **Procedure**

In order to collect data for the present study, official permissions were taken from the medical director of private and government hospitals of Lahore and

Peshawar. After getting permission from MD, the head of the Gynaecology departments of those hospitals were contacted to get permission to collect data of patients from their departments. After obtaining official permissions from authority figures of hospitals, patients were selected. Participants were brief about the purpose of the research project and they were asked to willingly participate in the research. Participants were confirm that information given by them will be remain confidential and just will be used for the purpose of research. After taking the informed consent from the infertile women, questionnaires were administered on them. Those women who were not able to read the items, the researcher had to read the items loudly in front of the participants and they were asked to give best responses. To avoid the fatigue factor the participants were asked to relax for a while and then forms were completed after few minutes gap. At the end, they were acknowledged for their participation and collaboration in the study.

**Results**

Cross sectional research design was used for the present study. For the analysis of data SPSS, version

19 was used. For phase 1, validation of the translated measure was calculated by using inter item correlation of English and standard scale, internal consistency of the scale was determined by using Cronbach’s alpha. For the main study, initially the demographic characteristics of the research participants including their Means, Standard deviations, frequencies and alpha reliabilities of the study variables were computed. Correlation matrix of the subscales of spirituality and all the main variables of the study were computed using Pearson Product Correlation. The second part of the results detailed out the exploration of demographic variables through t-test and one way Anova. t-test was computed to see the gender differences across different measures. One way analysis of variance was used to compare the participants’ means with main variables of the study followed by Post Hoc test. Step wise Regression and Hierarchical regression was also carried out to see the predictors of psychological well-being. Finally Moderation was used to check the moderating role of coping strategies between spirituality and psychological well-being.

**Table 1**

*Descriptive characteristics, Frequencies and Percentages on Demographic Variables (N=120).*

Variables	M (SD)	f (%)	M (SD)	f (%)	Total (%)
	Primary (N=60)	Secondary (N=60)	Primary (N=60)	Secondary (N=60)	
Age (In years)	1.33(.48)	1.45(.50)			
Early adulthood	40 (66.7)	33 (55.0)			73 (60.8)
Middle adulthood	20 (33.3)	27 (45.0)			47 (39.2)
Education	1.35(.49)	1.98(3.71)			
Educated	38 (63.1)	29 (48.3)			67 (55.8)
Uneducated	22 (36.7)	30 (50.0)			52 (43.3)
Occupation	1.87(.34)	1.97(.18)			
Employed	8 (13.3)	2 (3.3)			10 (8.3)
Unemployed	52 (86.7)	58 (96.7)			110 (91.7)
Family system	1.82(.39)	1.82(.39)			
Nuclear	11 (18.3)	11 (18.3)			22 (18.3)
Joint	49 (81.7)	49 (81.7)			98 (81.7)
Socio economic status	2.05(.93)	1.90(.86)			
Lower (< 20,000)	19 (31.7)	20 (33.3)			39 (32.5)
Lower middle (21,000-49,000)	24 (40.0)	31 (51.7)			55 (45.8)
Upper middle (50000-79000)					

Upper (>80,000)	12 (20.0)	4 (6.7)	16 (13.3)
Infertility status	5 (8.3)	5 (8.3)	10 (8.3)
Primary infertile	1.50(.50)	1.50(.50)	
Secondary infertile			60 (50)
			60 (50)

Note. *f* = frequencies, *M* = Mean, *SD* = Standard Deviation

Table 1 shows the Mean, Standard Deviation and frequencies of the demographic variables of the sample. Sample was divided into two groups like primary and secondary infertile women. The means and standard deviations of primary and secondary infertile women were 1.33(.48) and 1.45(.50) respectively. Sample included 73 % early adults and 47 % middle adults that included 66.7 % primary infertile early adult women and 55 % middle adults' women while remaining sample included 33.3 % secondary infertile early adults and 45 % secondary infertile middle adult women. According to the sample of the present study the means and standard deviations of education of both primary and secondary infertile women were 1.35(.49) and 1.98(3.71) respectively. In total data 67 participants were educated while 52 participants were uneducated including 63.1 % primary infertile and 48.3 % secondary infertile women while there were 36.7 % secondary infertile educated women and 50 % secondary infertile educated women. Mean and standard deviation of the occupation of both primary and secondary infertile women was 1.87(.34) and 1.97(.18) respectively. Sample consisted of total 10 employed and 110 unemployed infertile women in which 13.3 % were primary infertile employed women while 3.3 % were secondary employed infertile women. Remaining sample included 86.7 %

primary infertile unemployed women while 96.7 % were secondary infertile unemployed women. Mean and standard deviation of family systems of primary and secondary infertile women were 1.82(.39) and 1.82(.39) respectively that included 22 participants from nuclear family system and 98 from joint family system. In family systems of the sample 18.3 % were primary infertile women from nuclear family system while 18.3 5 were secondary infertile women from nuclear family system while 81.7 % participant were from joint family system in both primary and secondary groups. Socio Economic Status was divided into four categories like lower (<20,000), lower middle (21,000-49,000), upper middle (50,000-79,000) and upper (>80,000) and total number of participants were 39, 55, 16 and 10 respectively from each group. 31.7 % primary infertile participants were from lower group while 40%, 20% and 8.3% were from lower middle, upper middle and upper class. According to data 32.5% secondary infertile participants were from lower group while 45.8%, 13.3% and 8.3% were from lower middle, upper middle and upper class. Total data was consisted of 120 participants included 50% primary infertile women and 50% secondary infertile women. Mean and standard deviation of both infertile groups were 1.50(.50) and 1.50(.50) respectively.

**Table 2**

*Inter-correlation Matrix, Mean and Standard deviation of Spirituality Assessment Inventory and its Sub Scales (N=120).*

Variables	1	2	3	4	5	6	7
Awareness	-	.23*	.64**	.33**	.38**	.47**	.71**
Disappointment		-	-.02	-.01	.71**	-.03	.74**
Realistic acceptance			-	.27**	.22*	.68**	.49**
Grandiosity				-	.02	.33**	.37**
Instability					-	.06	.83**
Impression management						-	.38**
Total spirituality							-

M	90.64	18.07	34.35	23.04	32.80	23.40	222.31
SD	4.82	7.13	2.21	3.73	7.49	1.87	18.08

\*\*p<.001

Table 2 shows the inter-correlation matrix between Spirituality Assessment Inventory and its sub scales. The results indicated that all the six subscales of spirituality assessment scales like awareness, disappointment, realistic acceptance, grandiosity, instability, and impression management correlated significantly with the total spirituality inventory (p<.01). Moreover all the subscales are also positively correlated with each other expect disappointment. Disappointment has negative non-significant relationship with realistic acceptance, disappointment and impression management (r = .02,

-.01, -.03, p>.05 respectively). It showed that as the disappointment will increase the realistic acceptance will be decreased. Same with the case in term of impression management, as the increase in disappointment will decrease the impression management in participants. Moreover, grandiosity has positive non-significant relationship with instability (r = .02, p>.05), similarly the instability sub scale oh SAI has also non-significant positive relationship with impression management (r = .06, p>.05).

**Table 3**

Correlation matrix, Mean and Standard deviation of Spirituality Assessment Inventory, Psychological Wellbeing and Brief COPE (N=120).

Variables	1	2	3
Spirituality	-	.47**	.38**
Psychological well-being		-	.14
Brief COPE			-
M	222.31	214.44	87.80
SD	18.08	7.92	4.39

\*\*p<.001

Table 3 shows the inter-correlation matrix between the study variables like spirituality inventory, psychological well-being and brief COPE. Results indicated that spirituality has significant positive relationship with psychological well-being and coping (r = .47, .38, p<.001 respectively) as the inclination

towards spirituality will make the psychological well-being of infertile women high. On the other hand psychological well-being has positive non-significant relationship with coping of the individuals (r = .14, p>.05).

**Table 4**

Mean, Standard Deviation and t-Value for Scores of Two Age Groups on Psychological Well-Being Scale (N=120).

Variable	Early adults (n=73)		Middle adults (n=47)		T	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
	Psychological well-being	216.22	7.10	211.68			8.39	3.18	
SAI	226.11	12.99	216.40	22.87	2.96	.00	3.22	16.19	0.53
Brief COPE	88.08	4.53	87.36	4.18	.88	.3	-.91	2.35	0.16

Note. CI = Confidence interval, LL = Lower limit, UL = Upper limits, df = 118.

The above table 4 shows the mean differences between two age groups of infertile women. Results indicated that there are significant mean differences between two age groups like early adults and middle adults on psychological well-being. Results showed that early adults scored high on psychological well-being than middle adults ( $M = 216.22, SD = 7.10, t(118) = 3.18, p < .001$ ). Results also showed

significant mean differences on spirituality in term of two age groups as it shows that early adults scored high on spirituality inventory that middle adults ( $M = 226.11, SD = 12.99, t(118) = 2.96, p < .001$ ). Moreover results indicated that there was no significant differences on brief COPE in term of age groups. Effect size range from .16 to .58.

**Table 5**  
Mean, Standard Deviation and t-Value for Scores of infertility status on Psychological Well-Being Scale (N=120).

Variable	Pri infertile (n=60)		Sec infertile (n=60)		T	P	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Psychological well-being	215.10	9.09	213.78	6.54	.91	.36	-1.55	4.18	0.16

Note. CI = Confidence interval, LL = Lower limit, UL = Upper limits,  $df = 118$ .

Table 5 shows the results of independent sample t-test on psychological well-being in term of infertility status. Findings indicated non-significant mean differences between primary and secondary infertile

women on psychological well-being. It showed that there is no variance in the psychological well-being of both primary and secondary infertile women.

**Table 6**  
One-Way Analysis of Variance between Socio Economic Status groups on Psychological well-being (N=120).

Descriptive Groups	N	M	SD	Std.Err or	95% CI for Mean		Min	Max
					UB	LB		
Lower (<20,000)	39	213.51	7.16	1.15	211.19	215.83	199.00	230.00
Lower middle (21,000-49,000)	55	213.16	6.82	0.92	211.32	215.01	198.00	231.00
Upper middle (50,000-79,000)	16	218.31	11.19	2.79	212.34	224.28	186.00	234.00
Upper (>80,000)	10	218.90	7.87	2.49	213.27	224.53	207.00	230.00
Total	120	214.44	7.92	0.72	213.01	215.87	188.00	234.00

Note= UB = Upper Bound, LB = Lower Bound  
Descriptive in table 6 illustrate the mean differences among the four socio economic status groups, the mean psychological well-being score is higher in upper middle ( $M = 218.31, SD = 11.19$ ) and upper class ( $M = 218.90, SD = 7.87$ ) than lower ( $M = 213.51,$

$SD = 7.16$ ) and lower middle social class ( $M = 213.16, SD = 6.82$ ). Results indicated that upper middle and upper social class have high psychological well-being as compared to lower middle and lower SES group.

ANOVA

	S.S	df	M.S	F	p
Between group	374.87	1	374.87	6.30*	.01
Within group	6897.61	116	59.46		
Total	7459.59	119			

Note. SS = Sum of Square, df = Degree of Freedom, MS = Mean Square, p = Significance value \*(p <.05). Above table showed the mean differences between socio economic status group and it is found that participants of upper middle and upper class have high psychological well-being F(1, 116) = 6.30, p< .05, as compared of lower and lower middle class.

**Post Hoc Test**

(I) Group	(J) Group	MD (I-J)	Std. Error	p	95% Confidence Interval	
					Lower Bound	Upper Bound
Lower	Lower middle	.35	1.61	.99	-3.86	4.56
	Upper middle	-4.79	2.29	.16	-10.76	1.17
	Upper	-5.39	2.73	.20	-12.51	1.74
Lower middle	Lower	-.35	1.61	.99	-4.56	3.86
	Upper middle	-5.15	2.19	.05	-10.86	.56
	Upper	-5.74	2.65	.14	-12.65	1.17
Upper middle	Lower	4.79	2.29	.16	-1.17	10.77
	Lower middle	5.15	2.19	.05	-.56	10.86
	Upper	-.59	3.11	.99	-8.69	7.52
Upper	Lower	5.39	2.73	.20	-1.74	12.51
	Lower middle	5.74	2.65	.14	-1.17	12.65
	Upper middle	.59	3.11	.99	-7.52	8.69

Note. MD= Mean Differences, (P> .05) Above table indicated that the mean differences are higher in lower socio economic status group as compared to upper middle and upper class. This showed that the psychological well-being of lower middle class is poor as compared to other two classes like upper middle and upper class participants.

**Table 7**

Multiple Regression Analysis through Step Wise Method Showing spirituality as a predictor of Psychological Well-being (N=120).

Variables	B	S.E	B
Constant	168.27	7.92	
Spirituality	.21	.04	.47
R <sup>2</sup>	.23		
F	34.25		
▲R <sup>2</sup>	.22		

Note. ▲R<sup>2</sup> = Adjusted R Square, df =118, \*\*P<.001.

Table 7 shows multiple regression analysis between spirituality, coping strategies and psychological well-being. Regression analysis was used to check predictors of psychological well-being through step wise method. Results indicated 23% variance in dependent variable which is psychological well-being

i.e. spirituality explain 21% variance ( $\beta = .47$ ,  $p < .001$ ) in psychological well-being of the individuals while remaining 2% is explained by other secondary independent variables. Results of the multiple regression analysis are statistically significant ( $R^2 = .23$ ,  $F(118) = 34.25$ ,  $P < .001$ ).

Table 8

Summary of Hierarchical Regression Analysis for Demographic Variables Predicting Psychological Well-Being (N=120).

Predictors	Model 1		Model 2			Model 3			
	B	SE B	B	B	SE B	$\beta$	B	SE B	$\beta$
Constant	210.54	1.72		209.68	5.85		209.63	5.20	
Socio Economic Status	1.97	.79	.22**	1.94	.81	.22	1.94	1.86	.22
Family system				.51	1.85	.03*	.57	.00	-.08
Duration of marriage							-.00	.00	-.08
R <sup>2</sup>		.05**			.05*			.06	
▲ R <sup>2</sup>		.05			.00			.01	

Note= \* $p < .05$ , \*\* $p = .01$

Table 8 shows hierarchical regression analysis pertaining to psychological well-being of infertile women as an outcome variable which was accomplished in three steps. This analysis was used to check the significant predictors of psychological well-being through enter method. In model 1 the psychological well-being was assessed with the demographic variable Socio Economic Status. Model 1 explained 5% variance in psychological well-being i.e. socio economic status ( $\beta = .22$ ,  $p = .01$ ) has 5 % contribution in psychological well-being ( $R^2 = .05$ ,  $F(118) = 6.15$ ,  $P = .01$ ). Model 2 also explain 5 % variance in the dependent variable it shows that family system ( $\beta = .03$ ,  $p < .05$ ) contributed 5 % in psychological well-being ( $R^2 = .05$ ,  $F(118) = 3.09$ ,  $P < .05$ ), similarly the model 3 explain 6 % in the dependent variable i.e. apart from other variables duration of marriage ( $\beta = -.08$ ,  $p > .05$ ) has very little non-significant contribution in explaining psychological well-being ( $R^2 = .06$ ,  $F(118) = 2.30$ ,  $P > .05$ ).

**Discussion**

The present research assessed the spirituality, coping strategies and psychological well-being among primary and secondary infertile women. Main objective of the research was to investigate the

relationship between spirituality, coping strategies and psychological well-being in infertile women. Other major objective was to check the predictability and to check moderating role of coping strategies between spirituality and psychological well-being among infertile women. Analysis were done to examine the education and age differences on spirituality, coping strategies and psychological well-being in primary and secondary infertile women. For further analysis, major and demographic variables were also explored that might have predict the psychological well-being.

The analysis of inter-correlation matrix among spirituality assessment inventory and its subscales showed that all the six subscales like awareness, disappointment, realistic acceptance, grandiosity, and instability and impression management have significant positive correlation with the total spirituality. It showed that with the increase in any subscale of spirituality will increase the inclination towards the total spirituality of infertile women. Disappointment has negative non-significant relationship with realistic acceptance and impression management. Grandiosity has positive relationship with instability and instability has also non-

significant positive relationship with impression management.

Inter-correlation matrix of spirituality, coping strategies and psychological well-being indicated that spirituality has significant positive correlation with psychological well-being as the inclination towards spirituality will be increase the psychological well-being will also be high. Past research showed that spirituality can be an important aspect of one's psychological well-being. It showed that nature exposure and connectedness to nature were positively associated with psychological well-being and greater reported spirituality (Kamitsis, Jndrew, & Francis, 2013). Moreover the brief COPE has non-significant positive relationship with psychological well-being it indicated that there is no effect of coping strategies on the psychological well-being of infertile women. Research showed relationship between coping strategies and psychological well-being. Results indicated that coping strategies like approach oriented and avoidant emotion-focused is associated with positive scores for psychological well-being. As these are the beneficial to overcome psychological distress (Carnicer & Calderson, 2013).

The current study lends substantial support to maximum hypotheses that is age of the participants will have significant mean differences on psychological well-being of infertile women. Results indicated that early adult's infertile women scored high on psychological well-being and spirituality than middle adults while on coping strategies there is no differences in the scores of early and middle adult's infertile women. Study showed that moderation was found of the relationship between age and psychological well-being. It showed that with increasing age the coping stamina will get poor and ultimately the psychological well-being will also be effected. These results extend previous research that include intervention for adults to improve psychological well-being (Eckhardt, 2011).

Next hypothesis was to check the effect of infertility status on psychological well-being of infertile women. Findings of the present study was not consistent with the previous researches as literature showed that primary infertile women have poor psychological well-being as compared to secondary infertile women. Result of the current study showed that there are no mean differences in the scores of psychological well-

being of both primary and secondary infertile women. These findings are not contradicted with the past researches. Result of a study showed that there is no major difference in the psychological well-being of primary and secondary infertile women while primary infertile group showed marked differences on variables like narcissism, dimension of attachment styles and uses of defense mechanisms (Poddars, Sanyal & Mukherjee, 2014). Another reason of the findings incompatibility with prior studies is cultural differences as maximum data was taken from Peshawar where the concept of religiosity and spirituality was high in infertile women as compared to women of Lahore. During data collection it was observed that the infertile women of Lahore were very emotionally disturbed as compare to infertile women of Peshawar.

It was hypothesized that participants of lower socio economic status will have poor psychological well-being as compared to middle and upper socio economic status group. Results also indicated that lower and lower middle group infertile women have poor psychological well-being as compared to upper middle and upper class participants. ANOVA results indicated that there is significant mean differences between socio economic statuses of infertile women. The findings of existing research are consistent with the findings of current research. The possible explanation for the current study findings is that infertile women faced pressure by families and society for not having children. Females especially tested and taunted by their in laws that leads towards high level of emotional disturbance that ultimately affect their psychological well-being.

Results of multiple regression analysis approves the hypothesis that inclination towards spirituality will predict high psychological well-being in infertile women. Multiple regression analysis was run through step wise method and it was identified that independent variables like spirituality and brief COPE that explains 23% variance in dependent variable i.e. psychological well-being. It is found that spirituality has 21% contribution in the psychological well-being of infertile women while the remaining 2% is explained by other secondary independent variable. Results of the multiple regression analysis was statistical significant and these findings are according with same of existing

researches. Findings showed that spirituality is highly associated with psychological well-being of infertile women as spirituality is effecting the overall psychological well-being of infertile women. Previous research indicated that higher religion-spirituality and attachment security with God/Higher power will predict psychological well-being in individuals. It explained 37% variance in the total psychological well-being. The significant predictors were negative attachment anxiety, negative collaborative community coping and positive spiritual awareness. Another hypothesis that demographic variable like socio economic status will highly predict the psychological well-being of infertile women as compared to other independent variables. Hierarchical regression analysis was run through enter method to check the significant predictors of psychological well-being in infertile women. Results indicated that socio economic status and family system each have 5% contribution in psychological well-being of infertile women whereas the demographic variable i.e. duration of marriage has 6% contribution in the psychological well-being. Overall models showed that these three independent variables explain 16% variance in the dependent variable which is psychological well-being. Results of a research showed that socio economic status is a significant predictor of subjective type of psychological well-being of infertile women. Results indicated that socio economic status explained 18% variance in the psychological well-being of infertile women (Hoffman, 2010). Results showed statistical significant results on socio economic status and family system while on duration of marriage there was a non-significant finding.

**Implications of the study**

The current study will increase our knowledge of how the experience of infertility is related to their coping and psychological well-being. The research results will be used for the betterment of psychological well-being of infertile women and how spirituality can affect the psychological well-being in two groups like primary and secondary infertile women. The research results will also be beneficial to know about the type of coping strategy that can help

in dealing with stressful situation like infertility. It will help to identify the relationship of spirituality and coping strategies and also their impact on the psychological well-being of infertile women. On the basis of research we can provide intervention strategies to infertile women to overcome their psychological distress and link those interventions to the gynae services to overcome this problem. Husbands could also be counsel that how to cope with this kind of stressful situation.

**Limitations of the study**

There may be certain issues that contribute to the weaknesses of the study. As the data was collected exclusively through self-report method without the inclusion of multiple sources. Consequently the relationship between our study variables may have been inflated due to response bias. The cross sectional nature of the study hinders us to infer the causality. The most common and prevalent issue like most other researches is the issue of the sample size as purposive convenient sampling technique was used and sample was small that effect the generalizability of the findings. A general reservation and discrete attitude was evident due to stigma attached with discussion of infertility. Therefore, the socially desirable responses were inevitable that might have limited the assessment of true responses.

**Suggestions for future research**

Keeping in view the current issues containing the present research, it is recommended that to overcome the issue of method variance, future researchers use multiple sources for data collection along with self-report measures. Large sample size is recommended to enhance the generalizability of findings that may be taken through random sampling technique. Qualitative studies like interviews by different individuals from same participants are recommended which will give more in-depth information and will mitigate the effect of single source biasness. For further research a national sample may be included in the study it will help particularly to establish norms, concurrent validity, and reliabilities of the scales. The sample for further studies must careful be determined to ensure the homogeneity factors.

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