Social Support Intervention to Improve Resilience and Quality of Life of Women Living in Urban Karachi, Pakistan: A Randomized Controlled Trial

by

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Abstract

Although the World Health Organization has declared that there is "no health without mental health", mental health still does not receive its due recognition by stakeholders and health care systems around the world. The rising global burden of mental health disorders among women is a serious concern because of its impact on their children and families. This situation is more critical in developing countries. Various socioeconomic factors such as poverty, illiteracy, unemployment, male dominance, domestic violence and low social support are associated with poor mental health of women. Pakistan's scarce and inaccessible resources to most of its population, calls our attention for a paradigm shift from symptom reduction to improving mental well-being by implementing low cost, feasible, and gender sensitive interventions that can be applied at the primary health care level. Social support is a robust intervention that improves health outcomes but has not been tested to improve resilience (a positive determinant of mental health) in the Pakistani context.

The aim of this dissertation was to develop and test a 6-week social support intervention to improve women's resilience and quality of life. This dissertation is based on three papers. Paper one is a conceptual paper that explains the phenomenon of resilience using a gender lens. The next paper is the main research paper that presents a randomized controlled trial that was conducted with 120 community dwelling women living in a low socioeconomic area of Karachi, Pakistan and tested the effects of a 6-week social support intervention on women's resilience and quality of life. Paper three compares the Urdu version of two different resilience scales (The Resilience Scale-14 [RS-14], and the Resilience Scale for Adults [RSA]) that were used in this study.

The study demonstrated that there is an intersection between gender and resilience that must be considered when addressing interventions in primary care. Furthermore, women in a social support intervention group reported statistically significant improvements in resilience as measured by RS-14 and the structured style domain of RSA (measures ability to see life goals and plan to achieve them) compared to women in the control group.

Results of this study identified that it is possible to integrate an economical and feasible social support intervention into primary health care setting in order to promote the mental health of women living in socioeconomically disadvantaged urban settings of Karachi, Pakistan.

Preface

This dissertation is an original work by Saima Hirani. The research study reported in chapter 3 was approved by the University of Alberta Research Ethics Board (study ID Pro00056361) on June 1, 2015 and by the Aga Khan University Hospital, Karachi, Pakistan Ethics Review Committee(study ID no 3731-SON-ERC-15) on November 2, 2015.

Chapter 2 of this dissertation has been published as Hirani S., Lasiuk G., and Hegadoren K., "The Intersection of Gender and Resilience," *Journal of Psychiatric and Mental Health Nursing*, vol. 23, issue 6-7, 455-467. This discussion paper was produced as a result of concept analysis of resilience. I was responsible for manuscript writing, and corresponding with co-authors to seek their feedback. G. Lasiuk and K. Hegadoren contributed to the manuscript conceptualization, reviewed and provided critical feedback. This paper is copy righted by Wiley publication presented as: JPMHN © 2016 John Wiley & Sons Ltd

Chapter 3 of the dissertation has been submitted for publication as Hirani S., Norris C.M., Van Vliet, K.J., van Zanten S.V., Karmaliani R., and Lasiuk G., "Social Support Intervention to Promote Resilience and Quality of Life in Women Living in Karachi, Pakistan: A Randomized Controlled Trial" to the *International Journal of Public Health.* I was responsible for the study conceptualization, intervention development, data collectors' training, field work supervision, analysis, manuscript writing, and correspondence with co-authors to seek their feedback. G. Lasiuk and C. Norris, as my co-supervisors, facilitated the study conceptualization, intervention development, measurements' selection, analysis, and reviewed and provided essential feedback on the manuscript. Other co-authors also provided substantive feedback on the paper.

Chapter 4 of this dissertation is in preparation for publication as "Comparison of Urdu

Versions of The Resilience Scale-14 (RS-14) and the Resilience Scale for Adults (RSA)". I was responsible for analysis and manuscript writing. C. Norris supported the analysis and provided critical review on the paper. G. Lasiuk also reviewed manuscript's drafts and provided valuable feedback.

Dedication

I dedicate this dissertation to my beloved husband and son, my affectionate parents, and my loving family and friends, whose guidance, encouragement, assistance, support, and prayers facilitated the achievement of this significant milestone in my academic journey.

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Chapter 1

Introduction

Mental health is an essential component of health that cannot be separated from the overall state of well-being. Defined as the ability to live productively, adapt effectively, and involve actively in community endeavours (World Health Organization [WHO], 2014a), mental health complements physical health and directs our approaches to address life's limitations. The significance of mental health remains the same at every developmental stage across the life span. WHO's (2007) proposition that there is 'no health without mental health', recognizes that mental health is a necessary condition for overall health as it supports physical and social wellbeing and improves quality of life. Mental health greatly affects the functioning of individuals, families, and societies, regardless of gender, culture and geographical distribution. A variety of biopsychosocial elements influence mental health including genetic predisposition, gender, socioeconomic status, education, social support, work-related factors, and the presence of illness/disease (WHO, 2005).

In recent years, the healthcare paradigm has shifted away from a focus on disease toward health promotion and disease prevention. Mental health promotion initiatives aim to build resources and enhance the well-being of individuals, communities, and societies by developing evidence-based programmes to address the social determinants of mental health (Jane´- Llopis, Barry, Hosman, & Patel, 2005). Resilience is a psychological construct associated with maintaining well-being in times of crisis and adversity (Masten, Best & Garmezy, 1990; Luthar, Cicchetti, & Becker, 2000). This phenomenon has been widely studied and research demonstrates a significant correlation between resilience and better mental health (Canadian Mental Health Association, 2013; Davydov, Stewart, Ritchie, & Chaudieu, 2010; Haddadi &

Besharat, 2010; Herrman, 2012; Hourani, et al, 2012; Richardson & Waite, 2002; Smith, 2009). Enhancing resilience is one of the mandates of mental health promotion model (Jane´-Llopis et al., 2005).

Another positive indicator of mental health is quality of life (QOL). WHO (1997) defines QOL as an "individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (p. 1). QOL is also strongly associated with positive mental health and there is evidence affirming that better QOL predicts better mental health (Svavarsdottir, Lindqvist & Juliusdottir, 2014; Yaqoob & Naz, 2014).

The Burden of Mental Health Disorders

The disability and morbidity associated with mental health disorders is significant and these disorders are major contributors to the global burden of disease (GBD). The GBD uses the time-based metric *disability-adjusted-life-year* (DALY) to quantify years of life lost because of mortality and disability from major diseases, injuries, and risk factors (WHO, 2004a; 2014b). In the first GBD study conducted in 1990, the contribution of mental health disorders to the GBD was second only to cardiovascular problems (World Economic Forum, 2011). A GBD study conducted in 2010, reported that 400 million people suffer from depression (a major contributor of burden), 272 million from anxiety, 59 million from bipolar disorder, 24 million from psychotic disorders, and 80 million from childhood behavioural disorders that accounted for 7.4% of total DALYS (Whiteford et al., 2013). The study also reported a 37.6% rise in the burden of mental health disorders between 1990 and 2010 (Whiteford et al., 2013); this burden is expected to increase by an additional 15% by 2020 (Murray & Lopez, 1996). Despite having a

serious impact on health, mental health services are a low priority and often a neglected domain in many countries, especially in low-income countries (WHO, 2014c).

Implications of Mental Health Disorders in the Developing World

In developing countries, mental health disorders are the third leading cause of DALYS (WHO, 2004b) and a greater than 90% of treatment gap associated with low income countries (Wang et al., 2007). The term 'treatment gap' refers to the number of people who need treatment but do not get it (Kale, 2002). A review of thirty-seven epidemiological studies on mental health revealed that a treatment gap significantly contributes to making mental health a more pressing and complex public health concern (Kohn, Saxena, Levav, & Saraceno, 2004). The *Lancet* (2007) series on global mental health identified the following barriers to improving mental health services in low-income and middle-income countries: insufficient funding, lack of priority to peripheral areas, inability to integrate mental health services into primary care services, few trained professionals, and lack of leadership (Saraceno et al., 2007; Saxena, Thornicroft, Knapp, & Whiteford, 2007). Among these factors, poverty is a central element that makes mental health a lower concern in low-income countries. In 2010, World Bank's global poverty indicators reported that 1,215 million people live below the poverty line and exist on approximately $1.25 per day.

Introduction to Pakistan

Pakistan is the sixth most populated country in the world and is located in South Asia, bordering the Arabian Sea, between India on the east, Iran and Afghanistan on the west and China in the north. In 2013, the population of Pakistan was approximately 180 million (WHO, 2014d), with men making up 51.24% of the total population (93,572,561) and women representing 48.50% (88,570,033) of the balance of the population (Country Economy, n.d.;

World Bank, 2014a). Despite a recent reduction in country's poverty status, Pakistan still faces significant economic challenges (World Bank, 2014b). Global poverty indicators in 2011 reported that 12.7% of the Pakistani population lives below the poverty line (i.e. $1.25 per day; World Bank, 2014c). A more recent survey conducted in 2013-2014 estimated that 60% of the Pakistani population earns $2 per day (Kakakhel, 2014). Being a low-income country, Pakistan has inadequate infrastructure for mental health services and a scarcity of mental health professionals (Saxena et al., 2007). Only 0.4% of the country's total health budget is allocated for mental health (Gadit, 2007) and there are only 0.4 psychiatrists per 100,000 population (Naqvi, 2010). Due to stigma, lack of awareness, affordability, and accessibility, most of the people with mental health disorders are non-adherent to their treatment and experience high relapse rate (Taj & Khan, 2002). These indicators suggest limitations of resources for most of the people in Pakistan that significantly contribute in increasing the risk of developing mental health issues.

Women's Mental Health

Stress is one of the strongest risk factors for poor mental health in women (Hasanvandi, Valizade, Honarmand, & Mohammadesmaeel, 2013; Sackey & Sanda, 2009). Several studies from different sociodemographic settings including low socioeconomic countries report that women report higher levels of stress than do men (Almeida & Kessler, 1998; Bartone & Priest n.d.; McDonough & Walters, 2001), including both chronic stress and day-to-day life stress (Matud 2004; McDonough & Walters, 2001). It is important to note here that women perceive family related matters, health concerns and issues related to gender roles as stressful events whereas, men list finance, relationship and work related factors as stress (Jang, 2007; Matud, 2004). Among the low-income populations, more women suffer from mental health problems

than do men (WHO, 2008a). Poor mental health is not only the most common occurring condition among women but also the most significant disorder experienced by women worldwide.

The most common mental health problem experienced by women is depression. Twice as many women are affected by depression worldwide than are men (Kuehner, 2003; Seedat et al., 2009; WHO, 2007, 2008b). WHO (2013a) reports that women also exhibit more symptoms and intense patterns of mood, anxiety, and somatic disorders and may experience more related disability than do men.

Women's mental health is particularly significant because of their close association with their children and families. There is evidence of the intergenerational effects of poor maternal mental health and many studies conclude that children of depressed mothers exhibit speech, cognitive, emotional, behavioural and social development problems (WHO, 2013b). A review of studies conducted in low and middle-income countries by Wachs, Black, and Engle (2009) concluded that poor maternal mental health contributes to temperament problems, cognitive and motor interruption, childhood depression, and poor academic performance in children. Poor maternal mental health also influences a child's physical health via low birth weight (Patel & Prince, 2006), malnutrition (Harpham, Huttly, De Silva, & Abramsky, 2005; Rahman, Iqbal, Bunn, Lovel, & Harrington, 2004), and diarrhea (Rahman, Bunn, Lovel, & Creed, 2007).

Women's mental health in Pakistan. As in many developing countries, mental health disorders are common in the Pakistani population. Prevalence studies conducted in almost all Pakistani provinces report higher rates of depression and anxiety disorders among Pakistani women than in men. The estimated prevalence rates of depression among Pakistani women range from 15% to 66% (Ali, Rahbar, Tareen, Gui, & Samad, 2002; Donani & Zuberi, 2000; Hussain,

Chaudhry, Afridi, Tomenson, & Creed, 2007; Mumford, Minhas, Akhtar, Akhter, & Mubbashar, 2000) depending on how depression is defined and measured.

Pakistani women are socially and economically disadvantaged, making them vulnerable and at high risk for mental health problems (Elliot, 2001; Kuehner, 2003). In addition to genetic and biological factors, several psychosocial factors increase women's vulnerability to developing mental and emotional problems that lead to a poor quality of life (Waerden, Hoefnagels, & Hosman, 2011). Along with major life crisis, women often experience day-to-day stressors associated with their multiple gender roles and the imbalance in gender associated power; poor housing; financial constraints; unemployment; lack of autonomy; domestic violence including intimate partner violence; inadequate social support; reproductive and other physical health issues; and child health concerns (Fisher et al., 2012; Wachs et al., 2009; WHO, 2013b). Several studies conducted in Pakistan and other South Asian countries also report illiteracy, lack of accessibility to health facilities, and androcentric society as significant contributors to mental health problems in women (Hussain, Gater, Tomenson, & Creed, 2004; Mirza & Jenkins, 2004; Patel & Kleinman, 2003; Rabbani, Qureshi, & Rizvi, 2008; Thara & Patel, 2006). Evidence from these national and regional studies strongly underline the risk for mental health issues among Pakistani women and indicate the need for effective interventions to address these issues. Improving women's mental health can have a direct impact on the attainment of the Millennium Development Goals of gender equality, women's empowerment, and improvement in maternal and child health (Prince et al., 2007).

Resilience: A Positive Determinant of Mental Health

Resilience is an evolving construct that has been explored by variety of disciplines like psychology, psychiatry, ecology, sociology, history, administration, and political science. Over

the years, resilience has been defined as a personality trait (Rutter, 1979); as behaviour that demonstrates positivity towards life (Rutter, 1985); as a positive outcome (Werner, 1995; Masten, 2001); and as a composite of internal and external factors (Garmezy, 1987; Rutter, 1987; Werner & Smith, 1982, 1992). The current understanding of resilience elucidates it as a capacity and a dynamic process that assists a person to adapt to stressful situations and retain functionality (Rutter 2012; 2013; Southwick & Charney, 2012). This process encompasses the sub-processes of 'adaptability', 'recovery' and 'sustainability' (Rutten et al., 2013; Smith-Osborne & Bolton, 2013). Adaptability is defined as an ability to identify and utilize resources that can contribute to productive responses to stress (Pike, Dawley, & Tomaney, 2010). Recovery refers to the ability to return to one's usual level of function level (Rutter, 1987; Masten, 2001) and sustainability is explained as the ability to sustain that functionality despite stressful life situations (Zautra, 2009). Ryan and Deci (2001) associate this sustainability stage with the personal satisfaction and contentment.

The definition of resilience that guided this work is rooted in the pioneering work of Werner and Smith (1982; 1992), Garmezy (1987) and Rutter (1987; 1993), who reconceptualised resilience in terms of its close association with individuals' social context. Culture has been recognised as one of the essential determinants of resilience, which is influenced by 'access to material resources', 'relationships', 'identity', 'cohesion', 'power and control', 'social justice', and 'cultural adherence' (Ungar et al., 2007; Liebenberg & Ungar, 2009). Masten (2014) also supported this notion by considering individual's interaction with his or her social environment as one of the major determinants of resilience. A comprehensive definition of resilience by Ungar (2008) explicitly explains resilience employing both a cultural

and contextual lens and has also directed me to understand resilience from contextual perspective. The definition is as follows:

> *In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity of individuals to navigate their way to health-sustaining resources, including opportunities to experience feelings of well-being, and a condition of the individual's family, community and culture to provide these health resources and experiences in culturally meaningful ways (p. 225).*

An extensive review by Olsson, Bond, Burns, Vella-Brodrick, and Sawyer (2003) advance this understanding and list a combination of intrinsic and extrinsic factors that contribute to resilience. The authors contend that positive temperament, healthy neurobiological grounding, positive interpersonal relationships, intelligence, effective communication skills, self-efficacy, self-esteem, positive sense of self and reflection, sense of humor, hope, and flexibility, positive parenting, trusting relationships, respect and caring attitude, and social elements consisting of financial resources, academic influences, peer support, and positive social support as core constituents of resilience.

Resilience has been studied to date within two broad contexts. Several studies have explored resilience in the context of serious adversities like socioeconomic disadvantages (Garmezy 1993; Luthar 1999; Rutter 1979; Werner & Smith 1982; 1992), community violence (Richters & Martinez, 1993), maltreatment (Cicchetti & Rogosch, 1997), catastrophic life events (O' Dougherty- Wright, Masten, Northwood, & Hubbard, 1997) parental mental illness (Masten & Coatsworth, 1998) and natural disasters (Klein, Nicholls, & Thomalla, 2003). More recent research however started viewing resilience in the context of day-to-day life stressors such as work related stress, meeting deadlines, or family arguments (Almeida 2005; Diehl & Hay 2010; Lazarus 1999; Zautra 2003).

Scientific research of resilience has occurred in four evolving waves of investigation (Daskalakis, Bagot, Parker, Vinkers, & de Kloet, 2013; Lee, Cheung, & Kwong, 2012; Masten, 2007; Masten & Obradovic, 2006; O'Dougherty, Masten, & Narayan, 2013). The first wave focused on significant traits that enabled individuals to retain functionality despite experiencing crisis. The second wave examined actual and potential characteristics that facilitate adaptation and boost resilience. The third wave of scientific inquiries aimed to promote resilience in vulnerable populations by testing interventions. The fourth wave is an emerging movement focused on understanding the complex associations of brain development, genes, neurobiological processes, sociocultural, and psychological parameters of cognitive and behavioral expressions.

Although the topic has received some attention to date, a full understanding of resilience will elude us if we do not also consider the contributions of gender. Several empirical studies have highlighted sex differences in resilience. In most of these studies, women reported low resilience and poorer coping compared to men (Boardman, Blalock, Button, 2008; Leadbeater, Kuperminc, Hertzog, & Blatt, 1999; Matud, 2004; Morano 2010; Stratta et al., 2013). Along with biological explanation of these differences, it is also crucial to recognize that there are socially grounded factors that may contribute to these observed gender-based differences in resilience (Fisher & Herrman, 2009; Herrman, 2012). These gendered factors affect women's exposure to stress, the way they perceive and appraise stress, and their responses to stressful situations. Despite this, limited attention has been given to developing gendered conceptualizations of resilience and gender-sensitive approaches to empirically measuring it.

The existing literature reveals many studies, where resilience has been measured in populations of children and older adults. However, there are comparatively few studies of women and resilience. Within last 10 years, resilience has been studied among women with

reproductive issues (Chedraui et al., 2012; Harville, Xiong, Buekens, Pridjian, & Elkind-Hirsch, 2010; Kaye et al., 2014; Sexton, Byrd, & Kluge, 2010; Yu et al., 2014), HIV (Arrivillaga, Arroyave, & Salcedo, 2014; Spies & Seedat, 2014); physical problems (Loprinzi, Prasad, Schroeder, & Sood, 2011; Moser, Silliman, Stuck, & Clough-Gorr, 2012; Ramirez- Maestre & Esteve, 2014; Smith & Zautra, 2008); psychological issues (Anderson, Renner, & Danis, 2012; Breno & Galupo, 2007; Gagnon & Stewart, 2014; Hayas et al., 2014; Wingo, Ressler, & Bradely, 2014; Zauszniewski, Bekhet, & Suresky, 2009; Zraly & Nyirazinyoye, 2010); disaster experience (Ajibade, McBean, & Bezner-Kerr, 2013; Suarez, 2013); and old age (Felten, 2000; Felten & Hall, 2001; Janssen, Abma, & Regenmortel, 2012; Lamond et al., 2009; Moxley, Washington, & Calligan, 2012). Most of these studies have recommended the need for effective measures to promote women's resilience. A very few studies report low resilience and an inverse relationship between resilience and mental health in Pakistani and South Asian men and women, especially in the context of natural disaster (Aslam & Tsariq, 2010; Haeri, 2007; Khan, Ghafoor, Iftikhar, & Malik, 2011; Malik, 2010; Mental Health Foundation, 2011; Niaz, 2006). Another study from Pakistan comparing resilience and mental health problems among internally displaced women and men, reported women experienced more stress, anxiety, and depression, and less resilience than did men (Mujeeb & Zubair, 2012).

Quality of Life

Quality of life (QOL) is another important element of mental health and reflects the individual's contentment with their lives. QOL is a multifaceted concept encompassing physical, psychological, social, and environmental domains. The concept of QOL is originated in the field of sociology, but is frequently employed in health research (Auquier et al., 2003; Hawthorne, Richardson, & Osborne, 1999; Hays & Woolley, 2000). QOL has been described as 'perceived

global satisfaction' (Diener & Suh, 1997; Hörnquist, 1990), functional status, sense of well-being, an ability to access resources to maintain functional status (Economou, Kokkosis, Triantafillou, & Christodoulou, 2001) and a natural capacity and life satisfaction (Moons, Budts, & De Geest, 2012). Cummins (1997) explained QOL as a composition of seven life domains that include emotions, health, intimacy, material, productivity, safety, and community.

Many studies have found QOL to be correlated with economic resources, social associations (Chan & Yu, 2004), housing, education (Lee, 2002), physiological health, old age, alteration in mental health (Blane, Netuveli, & Montgomery, 2008; Mottus, Gale, Starr, & Deary, 2012; Netuveli & Blane, 2008), cognitive ability, socio-economic class, occupation, personality attributes (Cheng, Green, Wolpert, Deighton, Furnham, 2014), self-perception, control, and hope (Connell, O'Cathain, & Brazier, 2014). Women living in poverty have reported poorer QOL than women who are economically stable (Buvinic, 1998), a finding that also exists among Pakistani women (Durrani, Usman, Malik, & Ahmad, 2011). A number of studies conducted in variety of contexts report a significant association between QOL and mental health outcomes (Blane et al., 2008; Connell et al., 2014). Depression has been reported as a strong predictor of poor QOL among women (Begovic-Juhant, Chmielewski, Iwuagwu, & Chapman, 2012; Couto et al., 2009; Ho, So, Leung, Lai, & Chan, 2013; Kugler et al., 2014; Li et al., 2012; Lin, Yen, Chen, & Chen, 2014; Saarni et al., 2010).

Similar to resilience, QOL is not a static phenomenon, but a process (McClimans & Browne, 2012) that changes over time, is contingent on life circumstances (Carr, Gibson, & Robinson, 2001) and encompasses both objective and subjective factors (Cummins, 2000; Moons et al., 2012; Sirgy et al., 2006). Numerous studies report a positive association between resilience and QOL and note that resilience enhances QOL leading to overall well-being (Fauci,

Bonciani, & Guerra, 2012; Lawford & Eiser, 2001; Lee, Kwong, Cheung, Ungar, & Cheung, 2010; Mautner et al., 2013; Xu & Ou, 2014).

Social Support

Social support is a context specific phenomenon that is defined as resources provided by others, it is also known as 'social integration', 'social ties', and 'social networks' (Berkman, Glass, Brissette, & Seeman, 2000). Lin, Simeone, Ensel, and Kuo, (1979) define social support as 'accessible support' to individuals and communities through social links. Social support is understood as having two traits – a structural domain that involves the size of the supportive network and the other is the functional aspect, which represents quality of support ranging from tangible support to emotional support (Charney, 2004; Southwick, Vythilingam, & Charney, 2005). Social support is a bidirectional and context-based mechanism that affects health (Agadjanian, 2002) and has been considered as a robust intervention to improve physical health, lower morbidity and mortality, and promote quality of life and mental health outcomes (Canadian Institute for Health Information [CIHI], 2012; Dennis et al., 2009; Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011). Lack or absence of social support is related to poor treatment response and high relapse rate of various mental health disorders (Michalak, Wilkinson, Hood, Dowrick, & Wilkinson, 2003; Mohr, Classen, & Barrera, 2004; Oxman & Hull, 2001). Strong support has been found to increase patients' functional level, recovery (Sayal et al., 2002; Travis, Lyness, Shields, King, & Cox, 2004), social functioning (Gater, et al., 2010) and resilience and QOL (Xu & Ou, 2014). Furthermore, a recent meta-analysis revealed increased life satisfaction, quality of life, and positive mental health as major outcomes of social support engagement activities in older adults (Forsman, Nordmyr, & Wahlbeck, 2011). Social support has also been reported as a consistent and a strong protective factor for vulnerable

distressed women (CIHI, 2012; Ozbay et al., 2007) by improving their cognitive appraisal and reducing negative behaviours (Kawachi & Berkman, 2001; Rozanski, Blumenthal, & Kaplan, 1999).

In summary, the literature points to a role for social support in improving resilience and preventing mental health problems in high risk populations by moderating neurobiological pathways, environmental vulnerabilities (Kaufman et al., 2006; Ozbay et al., 2007) and emotional regulation (Marroquin, 2011).

Study Rationale/Significance

Low income and a general lack of resources render the majority of Pakistani women vulnerable to developing mental health problems. Given the personal, family, and societal burden of mental health problems, it is essential to develop low cost (Marcus, Yasamy, Ommeren, Chisholm, & Sexena, 2012; Rahman, Malik, Sikander, Roberts, Creed, 2008) gender sensitive mental health promotion interventions. Literature from high and low income countries describe the use of expensive psychotherapeutic approaches (e.g., cognitive behavioural therapy, counseling, and problem solving) to promote mental health. (Ali, et al., 2003; Churchill, Hunot, & Corney, 2001; Patel, Araya, & Chatterjee, 2007; Rahman, et al., 2008; Rojas, Fritsch, & Solis, 2007). However, these interventions are not accessible nor affordable for majority of the people in Pakistan. According to Hogan (2003) and the mental health and disability department of health (United Kingdom, 2011), mental health care is shifting away from symptom reduction toward a more comprehensive approach that considers well-being and QOL. Despite strong scientific evidence maintaining that social support promotes mental health, no study in the Pakistani context has tested a community-placed social support intervention with socioeconomically disadvantaged women to improve their resilience, QOL, and mental health.

Study Aim and Hypothesis

The aim of this research was to develop, deliver, and evaluate a community-based social support intervention to improve resilience and QOL in a sample of women living in low socioeconomic urban areas of Karachi Pakistan. The null hypothesis for this study was that there are no differences in measures of resilience and QOL between women who receive the intervention and those who do not. Therefore, the study claims that women who receive the 6-week social support intervention will report better scores on measures of resilience and QOL compared with women who will not receive this intervention.

Theory of Change

Carol Hirschon Weiss introduced the term "theory of change" to describe the underlying assumptions that explain the incremental steps that lead to a long-term goal and the links between program activities and outcomes that occur at each step of the way (Weiss, 1995). Weiss encouraged those who develop community-based initiatives to describe the theory of change that guides their work as a way to improve their evaluation plan and strengthen their claims that the demonstrated outcomes were predicted by their theory. In Weiss's approach, a program developer describes the sequence of outcomes that are expected to occur as the result of an intervention and plans their evaluation to determine if the expected outcomes are actually produced.

Weiss's work on the theory of change is rooted in theories of development that emerged in 1970s, however its use as a tool in program evaluation is contemporary (James, 2011). The major aim of the theory of change is to guide the planning and evaluation of a program intended to bring about a change (Treasury Board of Canada Secretariat, 2012). The theory of change is predominantly used in community development and program evaluation; however, it may also

have positive utility in health promotion research. In the 1990s, Weiss argued for the use of the theory of change in complex community programmes initiatives because of its capability to evaluate complex systems, partnerships, and context. The theory of change helps program developers to identify long-term goals, map preconditions, identify the contextual underpinnings, describe the intervention or initiative, and develop outcome measurement indicators, and provide a written narrative that explains the logic of initiative (Taplin & Clark, 2012).

Some of the elements of the theory of change that are integrated in this study have been addressed earlier, such as the study's aim to improve the mental health of vulnerable Pakistani women. The contextual underpinnings and the preconditions to achieve this goal are discussed above and include the high rates of mental health problems, particularly among poor women in developing countries. These preconditions also justify a need for low cost, accessible, and gender sensitive mental health promotion interventions that can be delivered in primary health care settings by Community Health Workers (CHWs). In the developing world, the use of trained and supervised CHWs has proven to be an effective approach to delivering community-based health services. The following sections of this chapter discuss some other components of the theory of change that are development of the social support intervention and the use of outcome measurements.

Social Support Intervention

The social support intervention developed for this study is intended to improve women's resilience and their QOL by providing them opportunities to come together, to share their feelings and experiences, and to learn from each other in a safe and welcoming environment. The logic of the proposed intervention draws theoretical support from work that explains the relationship of social support with health and well-being. These theoretical perspectives are

stress and coping, social–cognitive, and social control perspective (Cohen, Underwood, & Gottlieb, 2000). All three theoretical stances explicate ways that social support may improve mental health outcomes by altering appraisal of a perceived stressor (stress and coping theory), emotional responses to a perceived stressor (social control theory), and/or behavioural responses to a perceived stressor approaches.

Stress and Coping Theory

Stress and coping theory draws on the work of Folkman and Moskowitz (2004) and Lazarus and Folkman (1984). According to this theory, social support plays a protective role in reducing stress and promoting health (Lakey & Cohen, 2000) by altering an individual's appraisal of stressful life events, modifying coping patterns, altering self-perceptions, and improving self-efficacy and self-esteem (Cohen & Wills, 1985). Cohen and Wills also found that social support offers emotional, informational, and instrumental social resources that can buffer the effects of stress by utilizing communication and social companionship platforms where experiences can be shared and ventilated and esteems can be supported. Social support is also a mechanism through which information is shared and buffers stress by exchanging guidance and advices to define and understand stress and coping. Instrumental resources reduce stress by focusing on receiving problem solving approaches and tangible support.

Social Cognitive Theory

This theoretical perspective draws on social cognitive theories of personality (Lakey & Cohen, 2000), which rests on the belief that perceived social support is achieved by mediating thoughts and emotions. The social cognitive perspective differentiates *perceived support* and *actual support* provided (Lakey, Ross, Butler, & Bentley, 1996) and views individuals as strong and able to adapt stress, when they possess both positive perceptions of themselves and

supportive resources (Lakey & Cassady, 1990; Mankowski & Wyer, 1997). This perspective augments perception of social support and helps to buffer against stress by helping individuals to reframe negative thoughts, making positive thoughts accessible, thereby improving self-evaluation and influencing well-being (Lakey & Cohen, 2000).

Social Control Perspective

This theoretical perspective draws on tenets of behaviourism and 'symbolic interactionism' (Thoits, 1985) and views social support as a product of social interaction. From this perspective, social support has both direct (received support) and indirect (perceived support) mechanisms through which individuals develop and maintain their identity by positively modifying their behaviour in response to others (Umberson, 1987). The key premise of symbolic interactionism with respect to social support is that well-being is attained through regularization of social interaction that is deeply rooted in self- evaluation, self- criticism and roles that individuals perform in their social contexts (Lakey & Cohen, 2000).

Figure 1.1 illustrates the role of social support in buffering stress and improving health by using these three theoretical perspectives. As discussed above, these theoretical perspectives provide mechanisms to bring influence of social support on health and well-being. The social support intervention tested in this study drew on bodies of literature that endorse the hypothesis that social support may improve mental health outcomes by altering the cognitive appraisal of a perceived stressor (stress and coping theory); helping women to develop self-control and reduce ineffective/unhealthy responses to stress (social control theory); and/or learn new cognitive and behavioural responses to a perceived stressor (social cognitive theory). The intervention developed for this study is not an education or a training based intervention but was designed to bring small groups (7 – 10) of women together in a familiar and safe environment. The group,

facilitated by a trained CHW, met for 1 – 1½ hours every week for six weeks to learn about and discuss stress and its impact on their lives, share their feelings and experiences, and give/receive support to/from each other. In light of the theoretical viewpoints, women were provided opportunities to receive and offer emotional, informational and instrumental support to /and from each other that could buffer stress. They were also able to evaluate their own resources and learned from each other to replace their negative thoughts with positive ones. This intervention also offered them a platform to reflect on their social roles and how these social ties modify their behavior to improve their mental health.

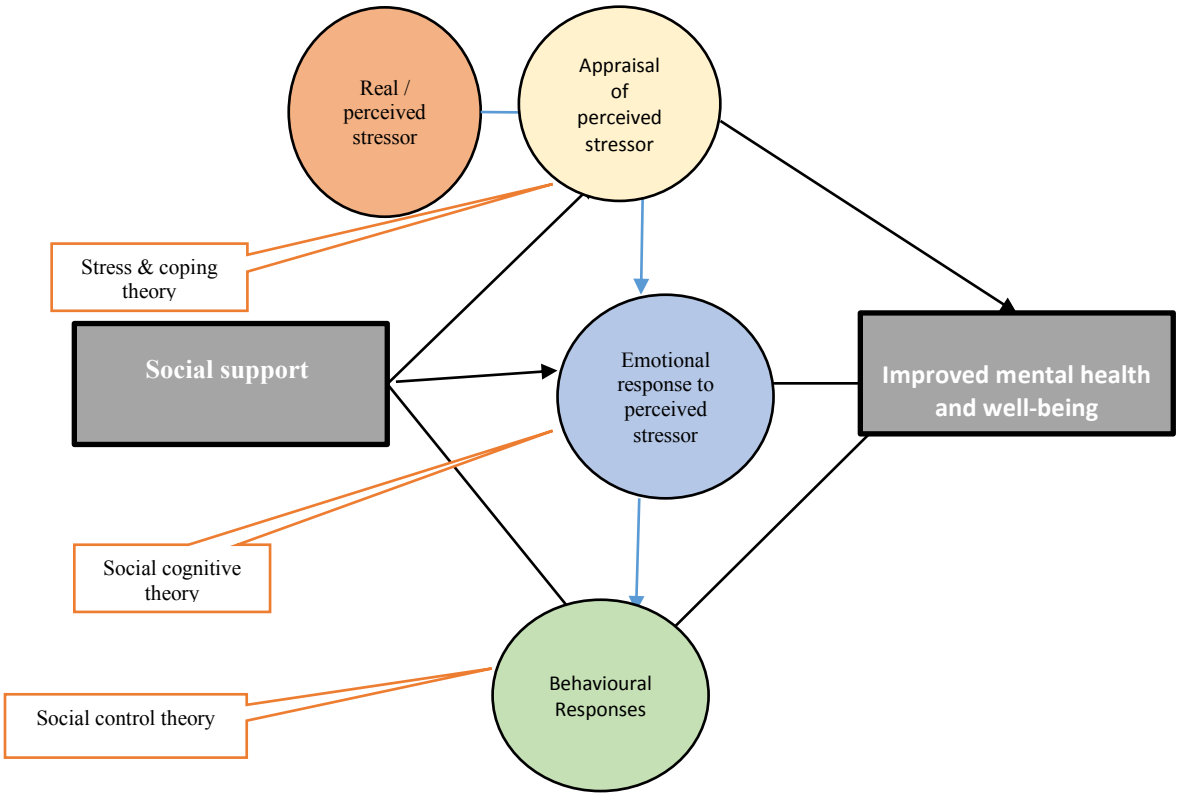

Figure 1.1. The role of social support in buffering stress thereby improving mental health.

Philosophical Framework

The tenets of the post-positivist paradigm are reflected in the present study. Post-positivism supports the notion of objective truth. While never complete, this truth can be tested through scientific methods (Besford & Slevin, 2003). Along with objectivity, the post-positivist paradigm calls for well-defined concepts, outcome variables, controlled conditions, precise measurement, and empirical testing (Guba & Lincoln, 1994). The post-positivist paradigm does not endorse a linear relationship in knowing reality but acknowledges context and associates probability with hypothesis testing. The major ontological assumption of post-positivism lies in the theory of critical realism that guides discovery of the right method for a question (Yeung, 1997). Critical realism views reality as independent of the human mind, as complex, and as something that can never be completely known. This means that our knowledge of reality has always some chances of being wrong (House, 1991; Jefferies, 2011; Somerville, 2012). This philosophical position purports that any study must consider context, have an understanding of complex outcomes, and attempt to optimize interventions through objective means (Clark, Lissel, & Davis, 2008).

The post-positivist approach guides the current study to measure resilience, which may not have direct observable characteristics, yet can be approximated through objective measurements (Kolar, 2011) such as the *Resilience Scale-14* (Wagnild, 2009), and the *Resilience Scale for Adults* (Friborg, Hjemdal, Rosenvinge, Martinussen, 2003). Following the tenets of post-positivism, this project has well defined conceptual and operational definitions of variables (resilience and QOL). The study tested the social support intervention (by controlling confounders) and measured the outcomes through relevant, contextual, and precise objective measurements with strong psychometric properties.

This study also follows the principles of feminist empiricism, which share some ontological orientations of post-positivism. Feminist empiricism also believes that reality is 'out there', objective, and cannot be completely understood (Campbell and Wasco, 2000). It also discourages the assumption of 'androcentric biases' of traditional science which often overlook the feminine experience (Routledge, 2007). Integrating feminist empiricism into the present study allowed the exploration of resilience through a gender lens and enabled the development of knowledge that is specific to women. This approach also directed me to choose measurement tools that possess strong psychometric properties and are capable of measuring the wholeness of resilience (including gender and social elements). Eventually, the knowledge generated through this research has potential to bring critical insight into the existing body of knowledge of resilience.

Study Design

The study has employed a randomized controlled trial (RCT) to evaluate the effectiveness of a social support intervention on women's resilience and quality of life (QOL). The RCT is a powerful technique for testing hypotheses and generating evidence in controlled conditions (Friedman, Furberg, & DeMets, 2010; Stolberg, Norman, & Trop, 2004). This methodology is not only limited to drug and clinical trials, but is also used to test community-based psychosocial interventions for health promotion (Chambless & Ollendick, 2001; Mohr, et al., 2009; Solomon, Cavanaugh, & Draine, 2009). The purpose of this trial is to compare selected outcomes from a social support intervention group with those of a control group, who will receive a single, sham intervention on a topic related to mental health. Sham interventions are dummy interventions that act as placebos and do not have any harmful effect on study participants. Many researchers agree to use sham after maintaining vigilant analysis of its risk and benefit case by case (Emanuel &

Miller, 2001; Horng & Miller, 2002; Vawter, Gervais, & Freeman, 2003; Weijer, 2002). Control groups receiving sham intervention as also referred as attention control groups. Data was collected at baseline and post-intervention to assess difference between the groups.

Because this was a community-based RCT of a psychosocial intervention, I anticipated some potential risks to the study's internal validity due to the complex study context, challenges associated with concealment / blinding, and the retention of control group participants. To minimize bias and maximize the rigour, the following measures were employed (Bellg, et al, 2004; Hulley, Cummings, Browner, Grady, & Newman, 2007; Karanicolas, et al, 2010; Sackett, 2001; Schulz & Grimes, 2002; Spillane, 2007):

Blinding

Considering the nature of the intervention, this trial could not be blinded at the intervention level. However, the outcome measures were collected by a blinded data collector. This data collector was different from the baseline assessor. The blinding of assessor potentially minimized the information bias that could affect outcome measurement.

Treatment Fidelity Plan

The aim of a treatment fidelity is to monitor the quality of the execution of intervention. With this in mind, the following measure were taken for intervention monitoring.

Use of standardize intervention. A standardized, theoretical based, relevant, and context specific social support intervention was established. The study intervention's manual was developed to avoid within treatment differences. The manual included: the number of group meetings (i.e., intervention dose), explicit instructions for the CHW's role to facilitate the group meetings, frequency and duration of the support meetings.

Standardize training. The intervention facilitator received comprehensive training (10 to 15 hours) for the intervention by me. This training included practice sessions in I demonstrated important facilitation skills and the CHW demonstrated those skills back to me.

Intervention's supervision. All intervention sessions were observed by me to evaluate the adequate implementation. Feedback was provided to the CHW each week regarding what went well, what did not go well, and to strategize about managing the next group. The CHW was encouraged to ask questions and to raise concerns related to the intervention implementation with me.

Sham intervention for the control group. The control group was offered a single, one-hour sham intervention.

Trained Data Collector

Eligible CHWs were recruited and trained for pre- and post-intervention data collection.

Assuring Compliance

- Intervention compliance was increased by scheduling the intervention sessions at times that were convenient for participants.
- An attendance record was maintained for the intervention arm to measure participant compliance.
- Regular contacts were made with the control group participants to assure their continuity.
- Reminders and follow-ups were made with both the study groups.

Completeness of Data

- Objective, reliable and validated tools were used to minimize bias
- Accuracy of scrutiny was maintained between both the groups
- Intent to treat analysis was performed

Dissertation Overview

This dissertation is comprised of three interdependent papers. The first paper is a discussion paper that highlights the gender gap in the literature on resilience and argues for the need to consider gender while defining and measuring resilience. The second paper presents the findings of the RCT, which tested the effects of social support intervention on women's resilience and QOL. The third paper compares the two resilience scales that were used in this study to measure resilience as a primary outcome. Following is the brief overview of each paper.

Paper I: The Intersection of Gender and Resilience

The aim of this paper is to present a gendered understanding of resilience, identify a gender sensitivity gap in elucidating resilience and emphasize the importance of considering gender and social expectations while conceptualizing and measuring resilience. Based on an intensive literature review of resilience and related psychological constructs, we maintain that understanding resilience under the light of gender may result in developing better, relevant and effective interventions to promote an individual's well-being.

This paper provided a foundation for my research by creating a strong conceptual base from which to understand resilience from women's perspectives and develop a pertinent and effective intervention of social support to improve their resilience.

Paper II: Social Support Intervention to Promote Resilience and Quality of Life among Poor Women in Karachi, Pakistan: A Randomized Controlled Trial

This paper presents the findings of my research that tested the effectiveness of a 6- week social support intervention to promote women's resilience and QOL in a low socioeconomic community setting. The study used an RCT design and tested the above-mentioned hypothesis on

120 women living in Karachi, Pakistan. The study outcomes of resilience and QOL variables were measured as indicators of better mental health.

This paper is the soul of this dissertation and reflects the conceptual and operational understanding of my study area and its context.

Paper III: Comparison of The Resilience Scale (RS-14) and Resilience Scale for Adults (RSA) used among women living in low socioeconomic area of Karachi, Pakistan

The main purpose of this paper is to compare two resilience scales (the *Resilience Scale* [RS-14] and the *Resilience Scale for Adults* [RSA]) that were used in measure resilience in my study. This paper again is rooted in my first paper where it is highlighted that there are methodological complexities associated with the resilience construct, and that to measure resilience, instruments should not only have strong psychometric properties but also have detailed conceptual grounding that also consider gender and social dynamics.

The reason I chose to use two different resilience scales is because the RS-14 was already translated and tested in the Pakistani context however, it focuses on personal competence and internal strength (Wagnild & Young, 1993). In contrast, the RSA along with personal traits also includes a social domain (which is hypothesized to be a critical contributor to resilience among women). More than 50% (19 out of 33 items) of the RSA items measure social competence, family cohesion, and social resources. (Friborg et al., 2003; Hjemdal et al., 2011; Jowkar, Friborg, & Hjemdal, 2010,) but it is not tested in the Pakistani context. For this study, RSA was translated, back translated and used along with the RS-14.

Dissertation Summary

In order to promote mental health of women in low socioeconomic areas of Karachi Pakistan, this dissertation attempted to develop and test a low cost, relevant, and a community based feasible intervention of social support. Chapter 2 to 4 (three papers) reveal the building blocks of this dissertation explaining from its conceptual development to operational execution and conclusion. The last chapter (chapter 5) of this dissertation will draw our attention to the strengths, limitations and implications of this work.

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Chapter 2. Paper 1- Intersection of Gender and Resilience

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Introduction

A gendered understanding of resilience is vital to the development of gender sensitive research tools and effective practices to optimize opportunities to promote mental health and well-being. This paper reviews the evolution of the conceptualization of resilience and similar psychological constructs and argues that current measures of resilience are not gender sensitive. We also argue that women typically score lower on measures of resilience compared to men because existing conceptualizations of resilience do not reflect the ways that gender roles, social expectations, perceptions and environmental factors interact to differentially shape women's and men's experiences and their responses to adversity. We conclude with a discussion of the importance of incorporating gender into the conceptualization and measurement of resilience and offer strategies to improve gender sensitivity into characterizations of resilience and its measurement to generate relevant evidence-informed interventions to promote men's and women's well-being.

From the Latin word resilientia, resilience refers to the 'action of rebounding' or 'the power of resuming an original shape or position after compression' (Oxford English Dictionary, 2015). In the social science literature, resilience has variously been defined as good developmental outcomes despite high risk status; sustained competence under stress; and recovery from trauma (Werner, 1995). Although resilience has been studied in diverse disciplines including ecology (Holling, 1973), economics (Levin, Barrett, Aniyar, & Baumol, 1998), developmental psychology (Werner & Smith, 1982; 1992; 2001; Masten, 1994), addictions (Johnson & Wiechelt, 2004) and psychiatry (Rutter, 1987; 2013) for most of a century, there is still debate concerning its nature and measurement.

Beginning in the early 1970s, studies of resilience evolved in four waves (Masten & Obradovic, 2006; Masten, 2007, Lee, Cheung, & Kwong, 2012; Daskalakis, Bagot, Parker, Vinkers, & de Kloet, 2013; O'Dougherty-Wright, Masten, Narayan, 2013). The first wave focused on identifying individual traits or characteristics of so-called invulnerable (Anthony, 1974; Garmezy, 1974) or invincible (Werner & Smith, 1982) children and adolescents who remained well despite exposure to significant risks. Employing a systems perspective, the next wave of studies examined potential mediating and moderating processes of adaptation to stress that purportedly give rise to resilience (Masten & Coatsworth, 1998; Wyman et al., 1999; Luthar & Cicchetti, 2000; Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003; Yates, Egeland, & Sroufe, 2003). The third wave of resilience research sought ways to prevent untoward outcomes through targeted interventions to promote resilience among individuals deemed to be at risk (Wait & Richardson, 2004; Steinhardt & Dolbier, 2008; Loprinzi, Prasad, Schroeder, & Sood, 2011). Finally, the fourth and current wave of resilience research focuses on multi-level processes linking gene expression, neurobiological adaptation, brain development, behaviour and context (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004; Russo, Murrough, Han, Charney, & Nestler, 2012; Rutten et al., 2013).

More recently, the construct of resilience has broadened to include health and well-being across the lifespan (Zautra, Hall, & Murray, 2010a) and research has established positive associations between resilience with health. Nurse researchers have studied resilience in various contexts, including physical illness (West, Usher, & Foster, 2011; Edward, 2013; Yang, Wang, Zhang, Zeng, & Ma, 2014); mental illness (Edward, 2005; Edward, Welch, & Chater, 2009; Zauszniewski & Bekhet, 2010; Bekhet, Johnson, & Zauszniewski, 2012; Mealer et al., 2012); nursing education (Jackson et al., 2011; Taylor & Reyes, 2012; Thomas, Jack, & Jinks, 2012;

Stephens, 2013); and workplace and organizational settings (Gillespie, Chaboyer, Wallis, & Grimbeek, 2007; Jackson, Firtko, & Edenborough, 2007; Manzano Garcıa & Ayala Calvo, 2012; McDonald, Jackson, Wilkes, & Vickers, 2013; Zander, Hutton, & King, 2013).

Despite its ongoing evolution as a construct, resilience does not yet have a singular theoretical base, which poses significant methodological challenges when it is the focus of studies in human populations. One major challenge is the lack of conceptual clarity which led some clinicians and researchers in various disciplines to develop alternate constructs [e.g. hardiness, post-traumatic growth (PTG)]. It is not clear if and how these constructs are similar or different. Another challenge is that multiple tools have been developed to measure resilience and other constructs in various populations and contexts, making it difficult to compare results or perform meta-analyses. A third issue, and the focus of this paper, is the lack of consideration given to gender. Taken together, these issues have led some to call for a reappraisal of the construct (Polk, 1997; Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O'Flaherty, 2013).

There have been global efforts to increase awareness of the importance of gender in health and health outcomes such as the United Nations 1995 World Conferences on Women, which began in 1975 and are held every 5 years hence. In addition, organizations around the world have published guidelines to help researchers to incorporate gender and gender-based analyses into research designs and methods (e.g. Health Canada, 2003; United Nations International Research and Training Institute for the Advancement of Women [UN-INSTRAW], 2007; European Commission, 2009; Canadian Institutes of Health Research [CIHR], Institute of Gender and Health, 2015). Despite these resources, gender differences in resilience research are typically limited to sex differences.

Supporting literature for this paper was retrieved via electronic searches of CINAHL, MEDLINE, Science Direct and PsycINFO, and ancestry searches of the reference lists of selected articles and books. The search included peer-reviewed articles published in the English language between 1974 and 2015. Search terms used were as follows: ‘resilience’, ‘resilience scales’, ‘adaptability’, ‘psychological constructs similar to resilience’, ‘women’, ‘gender’ and ‘gender-based analysis’. In addition to articles in the nursing literature, those from disciplines such as psychiatry, psychology, human ecology were also included. Data were extracted in chronological order to understand the construct of resilience across time. The search also included grey literature that highlight the significance of integrating gender in health policy, service and research. The search was also expanded by entering the names of common resilience scales into search engines. Papers were excluded if they were not written in the English language and if the full-text was not available online.

The Evolution of Resilience and Related Constructs

The term resilience made its way into the human science literature in the early 1970s. Initially, resilience was viewed as a personality trait (Rutter, 1979) associated with hardiness. Later, Rutter (1985) posited that resilience reflected high self-esteem and a positive approach towards life. Others (e.g. Werner & Smith, 1982; Garmezy & Masten, 1986) abandoned the notion of resilience as a fixed characteristic and in favour of the view that it involves interactions among the child, their family and the wider social environments. This marked a reconceptualization of resilience from a solely individual phenomenon to one that recognized the influence of contextual factors (Werner & Smith, 1982; 1992; Garmezy, 1987; Rutter, 1987; 1993).

Researchers began to focus on protective factors that enhance resilience. A review by Olsson et al. (2003) concluded that individual, family and societal factors interact to influence resilience. Individual factors included positive temperament, healthy neurobiological grounding, positive interpersonal relationships, intelligence, effective communication skills and personal characteristics such as self-efficacy, self-esteem, positive sense of self and reflection, sense of humour, hope and flexibility. Family factors included positive parenting, trusting relationships, respect and caring attitudes and social elements consisting of financial resources, academic influences, peer support and positive social support. Societal factors that affect resilience include gender equality with respect to human rights, income, education, power and decision making (World Health Organization [WHO], 2013a).

In recent years, there has been growing interest in the potential for remediation in the wake of adversity and the suggestion that resilience is a capacity and a dynamic process that maintains normal functioning in spite of stressful situations (Rutter, 2012; Southwick & Charney, 2012). This dynamic process involves the processes of adaptability, recovery and sustainability (Rutten et al., 2013; Smith-Osborne & Bolton, 2013). Adaptability refers to constructive and positive responses to stress. Pike, Dawley, and Tomaney (2010) defined adaptability as an ability to discover and influence resources that can support responses to challenges. Folke et al. (2010) also associated adaptability with resilience and refer to it as a 'capacity to adjust responses to changing external drivers and internal processes and thereby allow for development along the current trajectory' (p. 1). From a Freudian perspective and considering ego psychology, Anthony and Cohler (as cited in Fine, 1991) described adaptability as the effective use of defence mechanisms to cope with adversity.

Resilience has also been associated with optimistically moving forward in life despite adversity. This characteristic of bouncing back from adversities is referred as recovery (Rutter, 1987; Masten, 2001), another vital ingredient of resilience. It is important to note that psychological recovery, unlike physiological recovery, involves both individual elements and complex social processes. In addition to adaptation and recovery, resilience also includes the capacity for sustainability. Recovery is often viewed as the return to normal functioning, while sustainability is the maintenance of a functional state in the face of chronic stress (Zautra, 2009). Zautra contended that appraisal, planning and appropriate action while dealing with adversity are the prerequisites of sustainability. The ultimate benefit of sustainability is that it brings meaning and a sense of contentment to the lives of people (Ryan & Deci, 2001). In summary, resilience enables people to lead a positive and goal directed life in spite of exposure to adversities and stressful experiences (Zautra, Arewasikporn, & Davis, 2010b). This conceptualization of the resilience as a process that includes adaptability, recovery and sustainability is non-unidirectional, non-sequential and dynamic.

Another dimension in the conceptualization of resilience focuses on stimuli that evoke resilience processes. There are two predominant views in literature. Historically, resilience was associated with exposure to extreme stressors or crises. Numerous studies explored resilience in relation to a variety of adversities such as socioeconomic disadvantage and its related risk factors (Rutter, 1979; Werner & Smith, 1982; 1992; Garmezy, 1993; Luthar, 1999), community violence (Richters & Martinez, 1993), maltreatment (Cicchetti & Rogosch, 1997), catastrophic life events (O'Dougherty-Wright, Masten, Northwood, & Hubbard, 1997), parental mental illness (Masten & Coatsworth, 1998), and natural disasters (Klein, Nicholls, & Thomalla, 2003). More recently, psychologists began to view resilience as effective day-to-day functioning in the context of

everyday life stressors, such as work related stress, deadlines or family arguments (Lazarus, 1999; Zautra, 2003; Almeida, 2005; Clinton, 2008; Diehl & Hay, 2010).

The examination of individual differences in response to adversity generated a variety of related constructs. The construct of hardiness was reported in the literature until the late 1980s. It is a constellation of personality characteristics that distinguishes individuals who remained healthy despite significant life stress (Kobasa, 1979). Hardy personalities are associated with high degrees of commitment, control and challenge, which buffer against stressors. Commitment was defined as involving oneself in life and having a genuine interest in activities, things and other people. Control referred to the disposition to believe and act as if one has some influence over events in one's life. Finally, challenge is the belief that change (rather than stability) is a part of life and brings with it opportunities for personal growth (rather than threats to security) (Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982). These dispositions have shown positive association with performance, coping, social support and protective factors of personality (Eschleman, Bowling, & Alarcon, 2010). A critical finding related to gender is that several studies report that women score lower on measures of hardiness than do men (Holahan & Moos, 1985; Lambert & Lambert, 1987). Inconsistencies in the interpretation of hardiness and the use of negative indicators limited the widespread acceptance of hardiness (Funk & Houston, 1987; Low, 1996).

Another construct that emerged to explain observed responses to adversity or trauma is PTG. PTG occurs as the result of a person's efforts to adapt in the aftermath of trauma. PTG is distinguished from other similar constructs in that it only develops in response to a major crisis, not to day-to-day stressors (Westphal & Bonanno, 2007). Individuals who achieve PTG demonstrate a greater appreciation of life; changed sense of priorities; warmer, more intimate

relationships; greater sense of personal strength and recognition of new possibilities or paths for one's life and spiritual development (Tedeschi & Calhoun, 1996; 2004). Two personality characteristics associated with PTG are extraversion and openness to experience (Costa & McCrae, 1992). PTG has been studied in children, adolescence and adults (both men and women) and in the context of short-term and long term exposure to trauma.

Research findings regarding PTG and gender have been equivocal. A meta-analysis by Tolin and Foa (2006) report that women met diagnostic criteria for post-traumatic stress disorder more frequently than did men. A review by Olff, Langeland, Draijer, and Gersons (2007) concluded that women appraise and perceive threats differently than men. However, a recent meta-analysis of 70 studies concluded that women report more PTG than men (Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010). Major criticisms of this construct comes from the research methods used in PTG studies (e.g. retrospective approaches, self-reports and using cross-sectional designs) (Westphal & Bonanno, 2007).

Thriving is yet another psychological construct associated with positivity following hardship and crisis (Carver, 1998; Ickovics & Park, 1998). Thriving is a dynamic process of adaptation involving both individual and social factors. It develops and changes over the course of a person's life and is evident in behavioural, cognitive, and/or affective domains (O'Leary & Ickovics, 1995). Carver later clarified thriving as a reaction to challenge that emerges from a threat. Thriving and PTG may appear similar, yet they differ in terms of type and nature of stress. PTG is associated with a major trauma and crisis, whereas thriving can also arise as a result of day-to-day life stressors. O'Leary and Ickovics specifically addressed gender in their notion of thriving by shifting the paradigm to view women's vulnerability as an opportunity to grow. However, Blankenship (1998) argues that in most literature thriving has been operationalized in

terms of psychological measurements, which overlook the sociological dynamics of things like race, class and gender that strongly influence the conceptualization and measurement of thriving.

Lastly, sense of coherence (SOC) is a well-known construct related to adversity. It refers to integration of comprehensibility, manageability and meaningfulness pertinent to any gender, culture, socio-economic class and religion (Antonovsky, 1993). SOC calls for the mobilization of intrinsic and extrinsic resources to support coping at a time of adversity. SOC has also been reported as an associated factor in personal well-being (Cohen & Dekel, 2000; Pallant & Lae, 2002), family well-being and family quality of life (Antonovsky & Sourani, 1988; Retzlaff, Hornig, Muller, Gitta, & Pietz, 2006; Ngai & Ngu, 2012), as a buffering factor (Jorgensen, Frankowski, & Carey, 1999; Zhang et al., 2001; Richardson & Ratner, 2005), and as a factor that improves coping by influencing appraisal skills (Antonovsky, 1993). As with other measures, use of the SOC Scale (Antonovsky, 1993) has yielded equivocal results regarding gender differences (Nilson, Holmgren, & Westman, 2000; Eriksson & Lindstrom, 2005; Chen, 2009; Volanen, 2011).

The Intersection of Gender, Stress and Resilience

Men and women differ in almost all aspects of health and well-being. These differences are not only based on sex or biological factors, but are shaped by social forces. When we consider the social determinants of health, we see how differences in income, education, ethnicity, gender, status, sociopolitical environment and access to healthcare have pervasive impacts on health (Lynam, 2005).

The WHO (2013b; c) defines gender as ‘socially and culturally constructed roles, behaviours, activities and attributes that are considered appropriate for men and women in a given society’. This definition makes clear that gender goes beyond biological distinctions and

includes differences in beliefs, behaviours and attitudes of men and women that impact health, well-being and healthcare outcomes. We will limit our discussion of gender to differences between men and women, but acknowledge the debates around gender as a fluid construct that also includes lesbian, gay, transgendered and bisexual persons. We also acknowledge that recent data from epigenetic studies make it more difficult to clearly separate sex and gender influences on health (Reynolds, 2013; Rodgers, Morgan, Bronson, Revello, & Bale, 2013; Rodgers & Bale, 2015).

Not surprisingly, gender differences in responses to stressful events have been observed. Epidemiological data provide evidence that women are more vulnerable to develop stress disorders after serious stressors or trauma (Hegadoren, Lasiuk, & Coupland, 2006; Donner & Lowry, 2013; Bangasser & Valentino, 2014). These data also highlight that boys and men and girls and women experience different types of serious stressors and adversity, resulting in differing impacts across the lifespan (Walsh et al., 2007; Fuller-Thomson, Filippelli, & Lue-Crisostomo, 2013; MacMillan, Tanaka, Duku, Vaillancourt, & Boyle, 2013; Sweeney, Air, Zannettino, & Galletly, 2015). Gender-based theories based on physiological differences have also been advanced to explain behavioural differences (Taylor, 2000; 2006; Seng, 2010). Numerous scientific studies have also recognized the importance of considering gender in the sphere of health practice and research (WHO, 2001; Doyal, 2003; Klinge, 2007; Lagro-Janssen, 2007; Verdonk, Benschop, de Haes, & Lagro-Janssen, 2009). It is believed that overlooking gender in research may produce ineffective outcomes (Krieger, 2003; Fremont, Correa-de-Araujo, & Hayes, 2007). Indeed, a systematic review by Celik, Lagro-Janssen, Widdershoven, and Abma (2011) highlights that improved gender sensitivity at individual and social levels is the key to implementing effective health interventions.

Several lines of evidence highlight differences in resilience and coping between men and women. Various studies have observed that women report experiencing more stress than do men (Almeida & Kessler, 1998; McDonough & Walters, 2001), both in response to chronic stressors (McDonough & Walters 2001, Matud 2004) and day-to-day life stressors (Matud, 2004). However, studies focusing specifically on stress appraisal have not found significant differences (Ptacek, Smith, & Zanas, 1992; Ptacek, Smith, & Dodge, 1994). Gender role differences help explain why women report family related matters, health concerns and issues related to gender roles as stressful events whereas, men list finance, relationship and work- related factors as stressful (Matud, 2004; Jang, 2007).

Women have been observed to score lower on measures of resilience (Stratta et al., 2013), higher rates of exposure to stressful events (Greenglass, 2001) including partner and non-partner violence (WHO, 2013b; c), and more often employ emotion- based coping (in contrast to men who demonstrate more action oriented coping strategies) (Leadbeater, Kuperminc, Hertzog, & Blatt, 1999; Matud, 2004; Boardman et al., 2008; Morano, 2010; Stratta et al., 2013). Emotion-based coping strategies have historically been considered maladaptive by some (e.g. Stanton, Danoff-Burg, Cameron, & Ellis, 1994; Ireland, Brown, & Ballarini, 2006). Another consistent theme in the literature is that women are more likely to report using social support as a stress reduction and protective factor (Holahan & Moos, 1985; Ptacek et al., 1994) compared to men (Leadbeater et al., 1999).

These differences in responses to stressful events and the degree of resilience reflect multiple physiological processes. Because resilience is now being associated with day-to-day stressors, as well as specific events, it is important to reiterate the potentially stress

inducing influence of gender roles. The stress-related burden associated with women's social roles is different than men across most cultures (WHO, 2013b; c). Traditionally, women are responsible not only for themselves but for their spouses, children and family and for the majority of daily household chores, whereas men's roles are predominantly linked to external work and decision making. Women who work outside of the home often carry both home and family related responsibilities, as well as those associated with paid work. In addition, gender-specific life course circumstances such as early marriage, pregnancy, childbirth, mothering, menopausal changes and elderly parent care may also increase women's stress burden.

Women's willingness to report stress is also highly gendered. Women tend to talk about their stressors, vent their emotions and seek social support from other women, which in some contexts is perceived as weakness, dependency and vulnerability (Werner, 1989; Feingold, 1994; Chaplin, Hong, Bergquist, & Sinha, 2008). In contrast, traditional male roles that emphasize individuality, strength, independence and invincibility encourage men to deny stress symptoms and internalize negative emotions, which can lead to negative health behaviours, such as substance abuse and aggression (Brown, 2012; Javidi & Yadollahie, 2012).

Measurement of Resilience

Along with conceptual convolutions, the construct of resilience also possesses some operational inconsistencies (Luthar et al., 2000). Several instruments have been developed to measure resilience in various populations (Windle, Bennett, & Noyes, 2011). Three of the most commonly used scales – the Connor-Davidson Resilience Scale (CD-RISC), the Resilience Scale for Adults (RSA) and the Brief Resilience Scale (BRS)

have superior psychometric properties as compared to other existing scales (Windle et al., 2011). Social support and social connectedness are both associated with women's health and well-being and are viewed as supportive factors that women employ to manage stress (Holahan & Moos, 1985; Ptacek et al., 1994; Leadbeater et al., 1999). A low number or lack of items related to the social domain within this review of measures will be considered a proxy for lack of gender sensitivity.

The Connor-Davidson Resilience Scale

The CD-RISC is a self-report, 25-item scale, in which responses are assessed on a five-point scale (0–4) ranging from 0 (rarely true) to 4 (true nearly all of the time). Scores on the items are added and higher total scores suggest greater resilience. The prime objective of this scale is to assess resilience as an outcome measure in response to treatment (Connor & Davidson, 2003). However, in addition to clinical studies, it has also been used with multiple community populations, professional groups and students (Lamond et al., 2008; Shen & Zeng, 2010; Singh & Yu, 2010; Scali et al., 2012; Serano- Parra et al., 2013).

The psychometrics of the CD-RISC are positive, with Cronbach's alpha being above 0.8 (Connor & Davidson, 2003). Original factor analysis of the CD-RISC, based on total scores from a sample of 577 adults from the general population, yielded the following five factors: personal competence, trust and strengthening effects of stress, positive acceptance of change and secure relationship, control and spiritual influences (Connor & Davidson, 2003). However, inconsistencies have been reported in factor analyses performed on different samples in different language groups (Campbell- Sills, Cohan, & Stein, 2006; Yu & Zhang, 2007, Jorgensen & Seedat, 2008; Karaırmak, 2010; Singh & Yu, 2010; Notario-Pacheco et al., 2011; Manzano Garc'ıa & Ayala Calvo, 2012).

Most of the items in the CD-RISC represent individual and personality factors; only one item assesses close and secure relationships (social domain). Regarding the gender sensitivity of the CD-RISC, some studies found no differences in the scores between men and women (Ahmad et al., 2010; Karaırmak, 2010), whereas others reported significant differences (Campbell-Sills, Forde, & Stein, 2009; Connor & Davidson, 2003; Netuveli et al., 2008). It is difficult to perform a gendered analysis of these results due to the limited attention to the social domain.

The Brief Resilience Scale

The BRS scale was developed by Smith et al. (2008) to specifically assess an individual's ability to 'bounce back' from adversity. This 6-item scale measures resilience on a five-point Likert scale (1 = strongly disagree and 5 = strongly agree). The odd numbered items are positively worded, whereas even numbered items are negatively worded. The analysis of BRS supported one factor (i.e. the ability to bounce back) and had strong Cronbach's alphas ranging from 0.67 to 0.91 for individual items measured with four different samples; two student samples and two patient samples (Smith et al., 2008). This scale also lacks gender sensitivity as all items of the BRS measure individual factors and do not address social domains.

The Resilience Scale for Adults

The original RSA had 45-items, each of which was measured on a seven-point Likert Scale. It was subsequently modified to 37 items and presently consists of 33 items. The factor analysis of the original scale revealed five dimensions – personal competence, social competence, family coherence, social support and personal structure. These five dimensions are regarded as subscales of the RSA (Hjemdal, Friborg, Martinussen, & Rosenvinge, 2001; Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003; Friborg, Barlaug, Martinussen, Rosenvinge, &

Hjemdal, 2005; Friborg, Martinussen, & Rosenvinge, 2006). Based on a sample of 217 adults, moderate to high reliability of these subscales was achieved, with Cronbach's alphas ranging from 0.67 to 0.94 (Friborg et al., 2003).

Of the three scales, the RSA comprehensively operationalizes the complex construct of resilience by incorporating items that represent a gendered perspective and measure family coherence, social competence and social support. Data from studies that have used the RSA are more likely to reflect gender-based differences. For example studies that have used the RSA to measure resilience report significantly higher levels of social support in women and personal competence in men (Friborg et al., 2003; 2006; Jowkar et al., 2010; Hjemdal et al., 2013).

The findings from this comparison of three well-recognized measurement tools call to our attention the need to further explore how to incorporate gendered aspects of resilience into measuring resilience. Failure to do so perpetuates societal beliefs about men's superior ability to manage stress and defaults to hormonal and psychological explanations for women's vulnerability. These traditional views blind us as individuals and health care professionals to opportunities to develop strategies that boost resilience in a gender sensitive or specific manner in the face of day to day and specific serious stressors.

Discussion

The conceptualization of resilience has evolved in four waves from a wholly individual-based personality trait to a more ecological view, which considers the individual within a family, community and societal context. Notions of resilience have changed from a stable, all-or-none trait to a dynamic process; from being associated with overwhelming and rare traumatic events to every day challenges; and from a unilateral phenomenon to a pattern of interdependent processes such as adaptability, recovery and sustainability in the face of adversity.

Despite these evolutionary advances and the increasing recognition of the role of gender in the types of stressors that individuals may experience, the interpretation of these stressful events and the subsequent behavioural responses, gender is not well integrated into conceptualizations of resilience. Factors that contribute to this lack of gender sensitivity include traditional views of gender roles and dominant societal views about what is strength, expected behaviours in the face of adversity, displays of emotions and social norms. The increased awareness of the strong links between resilience and health and well-being and the increased pressure within healthcare systems for personalized care provides a strong impetus to address this oversight.

It is clear that the social domains associated with resilience in women are largely absent in most current measures of resilience. This lack of gender sensitivity has led to equivocal results across studies and an overall belief that women are less resilient than men. Further development of the available measurement tools is urgently needed. In addition to more items related to social domains, it might be important to consider gender-specific issues during psychometric testing. For example test results may be influenced by psychosocial and contextual factors, as well as specific sex-related factors, such as reproductive status and menstrual cycle. This may be particularly important when examining or measuring responses to day-to-day hassles and stressors. Several organizations around the globe have created guides to increase gender sensitivity and to advance the rigour and quality of research, policies, decision making and programmes (e.g. UN- INSTRAW, 2007; European Commission, 2009; CIHR; Institute of Gender and Health, 2015). The CIHR, Institute of Gender and Health (2015) guidelines explicitly encourage researchers to integrate a gender-based approach from the conception of research ideas to its execution. The guide encourages researchers to consider gender while formulating research questions and hypotheses and cites relevant studies that support the

significance of the topic as it relates to gender. Research methods including appropriate sampling, data collection methods and data analysis techniques should also integrate gender-based factors to generate gender sensitive knowledge. While there is growing evidence of uptake of this approach (Aulakh & Anand, 2007; Rosenberg & Allard, 2008; Sullivan, Bottorff, & Reid, 2011; Chakravartty, Wiseman, & Cole, 2014) many authors still use the terms sex and gender interchangeably and proceed as if sub-grouping data into groups of men and women at the data analysis stage appropriately addresses gender (Shanmugasegaram, Russell, Kovacs, Stewart, & Grace, 2012). As the body of knowledge regarding resilience continues to grow, it is imperative that these gender- based approaches become the dominant method to address the current definitional, methodological and measurement inconsistencies.

Implications for Practice

Despite the strong links between resilience and health and well-being of men and women, many health researchers including nurses do not fully consider gender (beyond sex) in their published work. Incorporating gender sensitivity and even gender specificity and other contextual factors into the conceptualization of resilience, the requirement of multi-faceted assessment and the development of more targeted interventions to support resilience is critical to nursing scholarship and practice. The accurate and detailed understanding of this phenomenon will enable nurses to define resilience within a gendered lens and develop and use rigorous methods of measurement that are gender sensitive. Perhaps, the next evolutionary wave of research to define this construct will result in multiple gender specific models and theories to be tested.

These considerations will also guide researchers to develop and test gender specific and relevant resilience enhancing interventions to support men and women in their day-to-day struggles or in times of severe stress. Knowledge uptake of such research findings into nursing

practice and education would also enable mental health nurses to recognize gen- der as one of the core determinants of health and well-being and will facilitate quality nursing care to promote resilience in its broadest terms.

Conclusion

The findings of this review demonstrate a significant lack of gender sensitivity in theoretical and methodological approaches that have been used to define resilience. This gap influences the generalizability of the current body of knowledge and its practical implications for health and well-being of men and women. We have highlighted some of the influences that have contributed to published reports that women have lower levels of resilience, poorer choices of coping strategies and lower possibility for successful adaptation. These data inadequately include consideration of women's unique biological and social environments. There is an urgent need to re-examine the existing body of knowledge using a more gendered lens. We suggest that integrating gender into research to explore resilience could give rise to gender specific models and theories. This next wave of work on this construct would form a solid foundation from which to develop and test interventions to improve resilience and overall well-being of men and women at individual, family, community and societal levels.

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Chapter 3. Paper 2- Social Support Intervention to Promote Resilience and Quality of Life in Women Living in Karachi, Pakistan: A Randomized Controlled Trial

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Introduction

Mental health disorders are a major public health concern around the globe and a leading cause of disease burden as measured by disability life years (DALYS; World Health Organization [WHO], 2004). A recent meta-analysis of 174 large-scale population-based mental health surveys across 63 countries conducted by Steel et al. (2014) reported that 1 in 5 respondents met criteria for a mental disorder in the previous 12-months and 29.2% reported a chronic mental disorder. In developing countries like Pakistan, the rising burden of disease related to mental health disorders occurs not only because of the high prevalence of disease but also because of the growing treatment gap which refers to individuals who remain untreated due to various socioeconomic reasons (Wang et al., 2007).

The mental health of women is of particular importance because of its close association with the health of children and families. There is evidence of the intergenerational effects of poor maternal mental health on children's physical health as well as their speech, cognitive, emotional, behavioural, academic and social development (Wachs, Black, & Engle, 2009). Worldwide, the most common mental health problems experienced by women are mood (4.0-7.3%) and anxiety disorders (4.3-8.7%, Steel et al., 2014) and women's rates of depression are twice that of men (WHO, 2008; Seedat et al., 2009). In Pakistan, the estimated prevalence range of depression is 15% to 66% (Ali, Rahbar, Tareen, Gui, & Samad, 2002; Hussain, Chaudary, Afridi, Tomenson, & Creed, 2007) depending on how it is defined and measured.

Socioeconomic disadvantages render Pakistani women vulnerable to and at high risk for mental health problems that lead to a poor quality of life (QOL). Existing research from Pakistan and other South Asian countries report that the following factors significantly contribute to

mental health problems: day-to-day stressors associated with women's multiple gender roles, inadequate social support, illiteracy, lack of accessibility to health facilities, and androcentric society (Thara & Patel, 2006; Rabbani, Qureshi, & Rizvi, 2008). This evidence points to the need for effective interventions that promote and support women's mental health. The literature from high and low income countries describes the use of expensive psychotherapeutic approaches (e.g., cognitive behavioural therapy, interpersonal therapy, and family focused therapy) to promote mental health (Patel, Araya, & Chatterjee, 2007; Rahman, Malik, Sikander, Roberts, & Creed, 2008). However, these interventions are neither accessible nor affordable for the majority of the people living in Pakistan. Given the personal, family, and societal burden of mental health problems, it is essential to initiate health promotion interventions that are accessible, low cost, and gender sensitive.

Resilience and QOL are multifaceted non-static phenomena that are also significant determinants of mental health. The current understanding of resilience elucidates it as both an individual capacity and a dynamic process that enables a person to adapt to stressful situations and retain functionality (Rutter, 2012). QOL has been described as perceived global satisfaction (Diener & Suh, 1997), functional status, sense of well-being, and the ability to access resources to maintain functional status (Economou, Kokkosis, Triantafillou, & Christodoulou, 2001). Several studies have established a positive association among resilience, QOL, and mental health (Mujeeb & Zubair, 2012; Xu & Ou, 2014).

Social support is a non- unidirectional, context-specific phenomenon that includes resources provided by others. It has also been described as 'social integration', 'social ties', and 'social networks' that include both structural (the size of the supportive network) and functional domains (quality of support ranging from tangible support to emotional support (Southwick,

Vythilingam, & Charney, 2005). Existing evidence upholds social support as a robust intervention to improve physical health, lower morbidity and mortality, which promotes QOL and mental health (Dennis et al., 2009; Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011). Despite strong scientific evidence indicating that social support promotes mental health, no study in the Pakistani context has tested a community-placed social support intervention of socioeconomically disadvantaged women to improve their resilience, QOL, and mental health. This study was conducted to test the efficacy of a 6-week social support program to enhance resilience and QOL among women living in a low socioeconomic area of the city Karachi, Pakistan.

Methods

Study Design

This randomized controlled trial was conducted between November 2015 and February 2016 in Karachi, Pakistan. A Family Health Centre (FHC) in an urban community, was selected as a study site. The centre is operated by Aga Khan Health Services Pakistan (AKHSP), a non-profit health agency that works to improve population health in developing countries.

Social Support Intervention

The social support intervention developed for and tested in this study is theoretically rooted in the work that elucidates the relationship of stress and coping, social-cognitive and social control perspective with well-being (Cohen, Underwood, & Gottlieb, 2000). These perspectives hold that improvements to health can be achieved by modifying cognitive, emotional and behavioral appraisals and responses to stress (Lakey & Cohen, 2000). In this study, social support is operationally defined as a participation in a 6-week (1-1.5 hour per week)

manualized support group for women facilitated by a trained Community Health Worker (CHW) in a community setting. The manual, developed specifically for this study, identified a topic for each weekly session along with learning objectives, information about the topic, and suggested exercises to encourage interaction and discussion. The primary emphasis of the intervention was to provide participants a safe environment in which they could learn about and discuss the concept of stress and its impact on their lives; share their feelings and experiences; and give/receive support from each other. Table 3.1 provides an outline of the topics addressed in the 6-week intervention. The intervention was offered to six unique groups and each group was comprised of a maximum of 10 participants (total 60 women). The CHW followed the manual's instructions, shared information about the topic of the week, and facilitated group activities, discussion and interaction. The discussion portion of the group centered on members' personal needs and priorities. Participants were encouraged by the CHW to attend all of the sessions and to support and assist each other.

Women in the control group participated in a sham intervention involving a single didactic information session on the significance of mental health. The session was conducted by a nurse (not related to the study) and included a definition of mental health, a discussion of its significance, and identification of factors that contribute to or detract from poor mental health.

Participants

Young adult women (20 to 45 years of age) were recruited through the FHC and were eligible to participate in the study if they spoke Urdu language, did not have a diagnosed mental health disorder, and resided within the centre's catchment area. Women who did not speak Urdu or had an active plan of migration away from the study site were excluded.

Sample size was calculated to achieve sufficient power (1- β) of 0.8, α = 0.05 and a moderate effect size of 0.59 estimated as a pooled standard mean differences [(δ/σ) = SMD] based on a meta-analysis by Pfeiffer et al. (2011). The total sample size calculated for this study was 90, with n= 45 per group. Anticipating a 30% attrition, we adjusted the sample size upward to 120 (n=60 per group) to avoid threats to internal validity.

Randomization and Allocation

All women were randomly assigned to either the intervention (n=60) or the control group (n=60) using a computer random number generator program. The random numbers were generated prior to recruitment and placed in consecutively numbered, sealed, opaque envelopes by the first author and given to the CHW. To minimize the risk of bias, the first author was not involved in participant recruitment or allocation to group.

Three local female CHWs were hired; two were responsible to carry out data collection each for baseline and post- intervention and one for delivery of the intervention. The CHWs were at least 18 years of age, had a minimum of grade 10 education, could speak and write Urdu, and had good communication skills. They received 10-15 hours of one-to-one training from the principal author (SH) on topics related to the study's purpose and methods; ethical responsibilities for respect, privacy, and confidentiality, and the content of the intervention modules. The CHWs responsible for data collection were blinded and did not know the participants' group allocation. They received direct supervision from the first author throughout the study.

The CHW responsible for recruitment and baseline data collection introduced the study to potential participants who visited the FHC. Interested women who met inclusion criteria were given a copy of the participant information letter; the CHW read the information letter to women

who could not read or write. Those who wished to participate were asked to sign or to put their thumb impression on the consent form. All participants were given the opportunity to ask questions before agreeing to participate.

The study received ethical approval from the University of Alberta Health Research Ethics Board (HREB) and from the Ethics Review Committee, Aga Khan University Karachi, Pakistan. Letters of support and operational approval were obtained from the Strategic Planning Committee of AKHSP.

Outcome Measures

Data was collected at two points - at baseline and 6 weeks post-intervention by two trained blinded CHWs (one for each measurement) in a private room at the FHC or at participants' houses. Demographic variables assessed at baseline included information regarding age, education, language, relationship marital status, children, employment, monthly household income, and history of mental illness.

The Resilience Scale (RS-14). The primary outcome variable of this study was resilience as measured by the RS-14 (Wagnild, 2009). This scale has been used to measure resilience among individuals of various ages (i.e., adolescents to older adults) from diverse socioeconomic and cultural backgrounds (Wagnild, 2009). The scale assesses five major concepts believed to be essential to resilience: a purposeful life (three items); perseverance (two items); self-reliance (five items); equanimity (two items); and existential aloneness (two items) (Wagnild & Young, 1993). Higher scores on the RS-14 scale indicate better resilience. The RS-14 possesses strong psychometric properties, with a Cronbach's Alpha of 0.93 among adult and old age populations (Wagnild, 2009). Bhamani, Pasha, Karmaliani, Asad, and Azam (2015) validated the Urdu version of RS-14 and reported it as a good option for measuring resilience in a sample of

community-dwelling women in Pakistan (Cronbach's alpha = 0.763). The minimal clinical important difference (MCID) of RS-14 is not yet established, however Jaeschke, Singer, and Guyatt (1989) propose that a change of 0.5 score per item on a Likert-type scale is the MCID. RS-14 has 14 items, therefore, according to Jaeschke et al principle, a change in score of 7 between baseline and post-intervention would indicate the MCID.

Resilience Scale for Adults (RSA). Although the RS-14 scale was previously tested in the Pakistani context, we also employed the RSA because more than 50% of its items measure family and social domains of resilience, which we deemed to be more gender sensitive. The RSA is a 33-item, five-point semantic differential scale (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003) that contains factors related to perception of self (six items); planned future (four items); social competence (six items); structured style (four items related to life goal, its planning and organization to achieve them); family cohesion (six items); and social resources (seven items). Likewise, RS-14, the higher scores on the RSA scale indicate better resilience. The scale's Cronbach's alpha varies from 0.67 to 0.94. The MCID for this scale is not specified. The RSA was translated into Urdu and back translated and reviewed by two experts who were not part of the research team to validate linguistic and conceptual similarity.

World Health Organization Quality of Life Scale (WHOQOL-BREF). The secondary outcome variable for this study was QOL, measured with the WHOQOL-BREF (WHO, 1996), a well-known 26- item scale whose items employ a 5- point Likert scale. This scale measures the following four major domains of QOL: physical health (seven items); psychological health (six items); social relationships (three items); and environment (eight items). An additional two questions focus on overall QOL and health-related QOL. The Cronbach's alpha reported for this scale is 0.7 to 0.87 (Skevington, Lotfy, & O'Connell, 2004). In this scale too, the higher scores

reflects the better QOL. As well, the instrument's validity has been tested in 30 languages, including Urdu. The Urdu version of WHO-QOL BREF was translated, back translated, pre-tested, and evaluated for the scale's linguistic, conceptual, and scale equivalence (Ahmer, Faruqui, & Aijaz, 2007). Den Oudsten, Zijlstra, and De Vries, (2012) established the MCID for the WHOQOL in women with early stage breast cancer. In that study, the MCID was a change of 1 score on the WHOQOL. The same MCID was set for the current study.

All of the measures in Urdu language were pilot tested with 12 women (i.e., 10% of the total sample), who did not participate in the full study. Pilot testing did not result in any modification in the scales.

Data Analysis

Data was analysed using SPSS Statistics 24 (IBM Corporation, 2016). Demographic data was compared using chi square and analysis of variance (ANOVA). Cronbach's alpha for all the three scales was calculated at baseline and after 6 weeks. Change scores were calculated by subtracting post-intervention scores from pre-intervention measures. Differences in scores between groups of resilience and QOL were calculated using the t-test for two independent samples. The sample estimates from this analysis were confirmed with boot strapping technique. Multivariable linear regression modeling was used to identify significant predictors of the resilience scores after intervention. Cohen's d was calculated to determine the effect size. All analysis were performed based on intent -to-treat and using 95% CI (level of significance at 0.05).

Results

One hundred and thirty two women were approached to partake in this study; 12 women declined to participate because of lack of interest or due to lack of spousal permission. After providing written informed consent and demographic data, 120 were entered into the study. Seven women in the intervention group were unable to attend all of the sessions due to conflicts with paid work hours, illness, a wedding, and child's sickness. However, these seven women completed all post intervention measures and their data was included in the analysis.

Demographic Variables

There were no statistically significant differences in the demographic characteristics of participants in the intervention and control groups (Table 3.2). The mean age of the women in the intervention and control groups was 31years and 32 years, respectively. Eighty-eight percent of women in the intervention group and 96.7% of women in the control group were married. Eighty-five percent of women in the intervention group and 77% of women in the control group had formal schooling, with majority having secondary education (grade 6 to 10). More than 50% of the women in both groups reported a total family monthly income between 10,000 and 24,000 rupees ($150.00 to $360.00 USD per month), where 22% of women in the intervention group and 20% of women in the control group were working.

Reliability Statistics of Outcome Measures

Cronbach's alpha for the all three scales (RS-14, RSA, and WHOQOL) was calculated and ranged from 0.679 to 0.832 at baseline and 0.722 to 0.789 six weeks post-intervention (Table 3.3).

Changes in Resilience

Table 3.4 shows difference between the intervention and control group when 6 week scores were compared to the baseline scores for each group. Findings revealed significant differences (p value< .05) in the mean change scores of RS-14 (mean= -3.05, SD=11.6 for the intervention group, mean= -7.29, SD=11.3 for the control group, p=< .05) and structured style subscale of RSA (mean=-.82, SD=3.0 for the intervention group, mean= -2.1, SD=3.8 for the control group, p< .05). Figure 3.1 illustrates the distribution of pre and post scores of RS-14 and the structured style domain of RSA in both study groups. Cohen's d also showed a medium effect of the intervention on the structured style subscale of RSA (d=0.6, p=.001, 95% C.I=.62874, 2.57126) and small effects on RS-14 and other subscales of RSA (Table 3.5). In the intervention group, mean total RSA score increased by 5.0 (SD=18.5) score points and higher change mean scores were also noted for the remaining subscales of RSA (except perception of future subscale) but there were no statistically significant differences compared to the control group.

Changes in QOL

The mean change score for overall QOL increased in the intervention group (mean=2.91, SD=17.2), compared to the control group (mean=1.66, SD=18.9) indicating clinical improvement as per MCID suggested by (Den Oudsten et al., 2012). But the difference was not statistically significant. Similar results were found when the same analysis was conducted (for both resilience and QOL) using boot strapping technique.

Multiple linear regression analysis was performed at baseline and at 6 weeks post-intervention. There were no significant associations between outcome variables of resilience and QOL scores and the demographic variables of participants (age, education, employment, and

income). However, the post-intervention regression analysis indicated that study groups (β = -.289, p = .001) and baseline total RSA scores (β = .212, p = .01) explain 12.8% of the variance (R^2=0.128, F=8.57, p= 0.000) in structured style scores in the RSA scale supporting the effect of intervention on this domain of the RSA.

Discussion

This study tested the hypothesis that participation in a 6-week social support intervention would improve resilience and QOL in women who received the intervention as compared to women who did not. There is growing empirical support for a positive association between social support and health, however, to date no study has examined the effect of a community-based social support intervention on women's resilience and QOL in Pakistan. The intervention produced statistically significant differences in women's resilience measured by RS-14 and their structured style domain of resilience (i.e. their ability to organize themselves and effectively plan to achieve their goals) as measured by the RSA. There were no statistically significant between group differences in QOL scores. These findings resonate with existing evidence that endorses social support as a significant contributor to distress reduction in women (Canadian Institute for Health Information, 2012) and providing strong protection for vulnerable distressed women (Ozbay et al., 2007) and it is associated with improved mental well-being in community population (Kessler & McLeod, 1985).

Improved resilience scores in the intervention group may have been mediated by a variety of factors. Women experienced a safe and trustworthy environment to talk, reflect, and learn. After the third meeting in almost every group, women openly shared their feelings and experiences. The constant reminders about the importance of maintaining privacy and confidentiality may also have given them confidence to freely participate. In each intervention

group, there was at least one woman who was emotionally strong and who shared her experiences of effectively dealing with stressful life events. These women became *de facto* peer-leaders and were recognised as knowledgeable and reliable sources of advice and support by the other women (Hinton, Downey, Lisovicz, Mayfield-Johnson, & White-Johnson, 2004). These women inspired other women and enabled them to recognize their own strengths. Overall this intervention was able to raise awareness among women regarding their own potential and ability to improve their lives.

Improvements in women's structured style scores of RSA is an encouraging finding that women were able to see themselves having a meaningful approach towards life, where they could plan to achieve their life goals and handle stressful life events wisely. This characteristic is one of the essential determinants of mental health (WHO, 2014) It may assist women to make effective decisions in life not only for themselves but also for their children and families. This was evident during discussions in intervention groups, where most of the women's priorities were their children and families. They talked about desires for a better family life and better futures and sought suggestions from their peers. These findings are consistent with the tend-and-befriend (Taylor et al., 2000) behavioral response among women. When dealing with life stressors, women do not only worry about themselves but also think about their children and families by building and sustaining social ties that facilitate this process. This befriending response in women profoundly correlates with better mental health (Tamres, Janicki, & Helgeson, 2002; Taylor, 2006).

Women in the control group also showed slight improvements in their post intervention mean scores of resilience and QOL measures. It is possible that the single session on mental health awareness offered to the control group provided the women with an opportunity to meet

with other women and to talk about issues affecting their mental health. This finding also supports the previous work of the primary author in Pakistan where women in the control group have also showed self-improvement when they had the opportunity to attend adult literacy classes (Karmaliani et al., 2011). It is possible that in the context of developing countries like Pakistan, where resources are limited and the burden of mental health issues is higher, at least one session of this kind has the potential to positively influence women's mental health. However, this single session's effect observed in the control group could be short-lived. It is possible that more sessions will be required to have significant and sustainable effects.

The intervention in this study was designed considering the contextual realities of a resource poor setting. Generally, women living in Pakistani context, especially those who live in low socioeconomic and androcentric families have few opportunities to talk openly about their needs, priorities and goals in life. They typically have little say in decision making, in matters that affect them, their children, or their family, which contributes to feelings of frustration and distress. Despite having no formal obligation to attend the social support intervention, 88% of participants attended all sessions. Those who missed some sessions had genuine reasons for doing so, which clearly suggests that women enjoyed the sessions and found them to be helpful.

The small to medium effect size on resilience in the intervention group holds the promise of positively influencing women's mental health over the long term. This finding echoes the findings of a meta-analysis of 69 preventive programs to improve mental health where the effect size was also small i.e. 0.22 (Jane´-Llopis, Hosman, Jenkins, & Anderson, 2003). However, in view of public health strategies, prevention interventions are likely to bring large benefits to people even if there is only a small effect size on individuals (Rose, 2008). Evidence also indicates that social support intervention is the most cost effective approach for improving health

outcomes (Pfeiffer et al., 2011; Roux, 2008) and has a strong impact when integrated with health services. (Canadian Institute for Health Information, 2012)

While planning this study, we tried our best to anticipate common pitfalls of conducting RCT in a community setting in order to maintain its rigour. Despite these efforts, the study has some limitations, such as the unavailability of a validated version of RSA in Urdu language. However, we went through the process of translation and, back translation and pilot tested the RSA prior to data collection to ensure its integrity. Another potential limitation was the lack of long term follow-up, which would have allowed us to determine the long-term effects of this social support intervention. However, we believe that the 6-week social support intervention identified an approach to the process of enhancing the resilience in the women who participated. We also believe that this study has also established the possibility of integrating this intervention at community health care setting. Larger trials with longer duration of follow-up are needed to evaluate the effect of this intervention on women's resilience and QOL.

Conclusion

Worldwide, the burden of mental health problems calls for health care professionals to intervene. Developing countries like Pakistan have a large treatment gap and are unable to provide equitable access to mental health services to large segments of their population. The findings of this study lends support to the use of community based programs to promote resilience in primary health care settings, thereby reducing the burden of mental health disorders among socially and economically disadvantaged persons. Making such interventions part of public health programs particularly in communities with limited resources may contribute to improving the mental health of women and will also promote the development of healthy families and societies.

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Table 3.1

Weekly Outline of the Social Support Intervention

Week	Meeting activities
1	- Establish group norms - Begin building positive rapport among women and between women and the CHW - Define social support and discuss its importance to health - Check-out
2 & 3	- Review group norms - Check-in - Define 'stress' and identify common sources of stress in their life - Identify the influence of stress on the body, the mind, relationships, and health - Homework: (1) identify a situation that you experience as stressful; (2) how did it affect you? - Check-out
4 & 5	- Review group norms - Check-in – share homework - Identify effective strategies for managing life challenges - Homework: identify a situation in which you successfully managed a life challenge - Check-out
6	- Review group norms - Check-in - Identify 3 sources of social support - Wrap up – (1) reflect on group sessions; (2) identify one thing that you have learned

Table 3.2

Baseline Demographic of Participants

	Intervention Group (n=60) %	Control Group (n=60) %	P-value*
Age Mean (SD)	30.63 (5.67)	32.25 (6.64)	.154
Marital Status			
Married	88.3	96.7	.358
Single	5	1.7	
Separated	1.7	0	
Widow	5	1.7	
Formal Schooling	85	76.7	.371
Primary (1-5 years)	8.33	10	
Secondary (6-10 years)	48.33	40	
Higher than grade 10	28.33	26.7	
Preferred Language Urdu	100	98.3	.315
# of people in family			
Less than 2 people	13.3	5	.324
3 to 5 people	53.3	50	
6 to 9 people	28.3	36.7	
More than 10 people	5	8.3	
Husbands Employed	90	91.7	.082
Total Monthly Income			
Less than 10 thousand Rupees	3.33	1.7	.100
10 to 24 thousand Rupees	66.7	55	
25 to 40 thousand Rupees	25	26.7	
Children	81.7	93.3	.091
Pregnancy	8.3	8.3	.214
Currently Working	21.7	20	.822
Family History of Mental Illness	6.7	10	.509

Table 3.3

Reliability Statistics of Outcome Measures (n=120)

Scales	Items	Cronbach's Alpha (Baseline)	Cronbach's Alpha (After 6 Weeks)
RS-14	14	.750	.774
RSA	33	.832	.722
WHOQOL-BREF	26	.679	.789

Table 3.4

Comparison of Change Scores for Resilience and QOL in the Study Groups

	Intervention (n = 60)			Control Group (n=60)			
	Baseline Mean (SD)	Post Mean (SD)	Change Score* Mean(SD)	Baseline Mean (SD)	Post Mean (SD)	Change Score* Mean(SD)	P-value
RS-14	85.92(8.97)	82.87(10.32)	-3.05(11.6)	87.87(7.71)	79.95(9.98)	-7.92(11.3)	.022*
RSA	133.86(16.88)	138.86(13.43)	5.0(18.5)	134.05(15.29)	135.66(13.85)	1.61(14.9)	.275
Personal Strength/ Perception of Self	24.03(4.10)	25.65(3.37)	1.62(4.5)	24.26(3.55)	25.02(3.36)	.75(4.6)	.304
Personal Strength/ Perception of Future	14.36(2.99)	15.98(2.98)	1.62(3.6)	14.33(3.36)	16.87(2.25)	2.53(3.8)	.183
Structured Style	17.90(2.87)	17.08(2.72)	-.82 (3.0)	17.58(3.13)	15.48(2.64)	-2.1(3.8)	.043*
Social Competence	24.93(4.42)	25.67(3.90)	.73(4.8)	25.21(4.37)	24.45(5.43)	-.77(4.3)	.075
Family Cohesion	23.58(4.72)	25.15(5.58)	1.57(6.8)	23.88(4.99)	25.12(5.58)	1.23(5.7)	.773
Social Resources	29.05(4.89)	29.33(5.08)	.28(6.1)	28.76(3.88)	28.73(4.98)	-.03(5.4)	.765
WHOQOL							
Overall QOL	74.58(14.18)	77.50(14.33)	2.91(17.2)	72.91(19.14)	74.58(14.18)	1.66(18.9)	.706
QOL r/t General Health	71.66(18.10)	77.08(11.54)	5.41(17.8)	66.66(18.79)	74.58(15.60)	7.90(21.8)	.494
Physical Health	62.67(7.39)	61.78(8.32)	-.89(10.9)	63.33(8.74)	60.53(9.89)	-2.79(14.3)	.415
Psychological	68.40(10.49)	62.63(7.97)	-5.76(12.0)	66.11(9.15)	62.91(11.05)	-3.19(15.2)	.307
Social Relationships	69.79(17.18)	71.38(12.18)	1.59(18.5)	66.11(16.51)	70.06(12.66)	3.95(16.3)	.461
Environment	62.50(11.23)	58.38(11.01)	-4.1(13.8)	63.12(9.46)	59.58(11.85)	-3.5 (12.7)	.814

Change score = Post scores - Pre scores

Table 3.5

Effect Size (Cohen's d) on RS-14 and the Structured Style Subscale of the RSA

	Intervention Group (n=60)	Control Group (n=60)				
	Mean (SD)	Mean (SD)	Cohen's d	Effect size r	95% C.I	
					Lower	Upper
RS-14	82.87(10.32)	79.95(9.98)	0.287	0.142	-.74663	6.59663
RSA Structured Style Domain	17.08 (2.72)	15.48(2.64)	0.596	0.286	.62874	2.57126

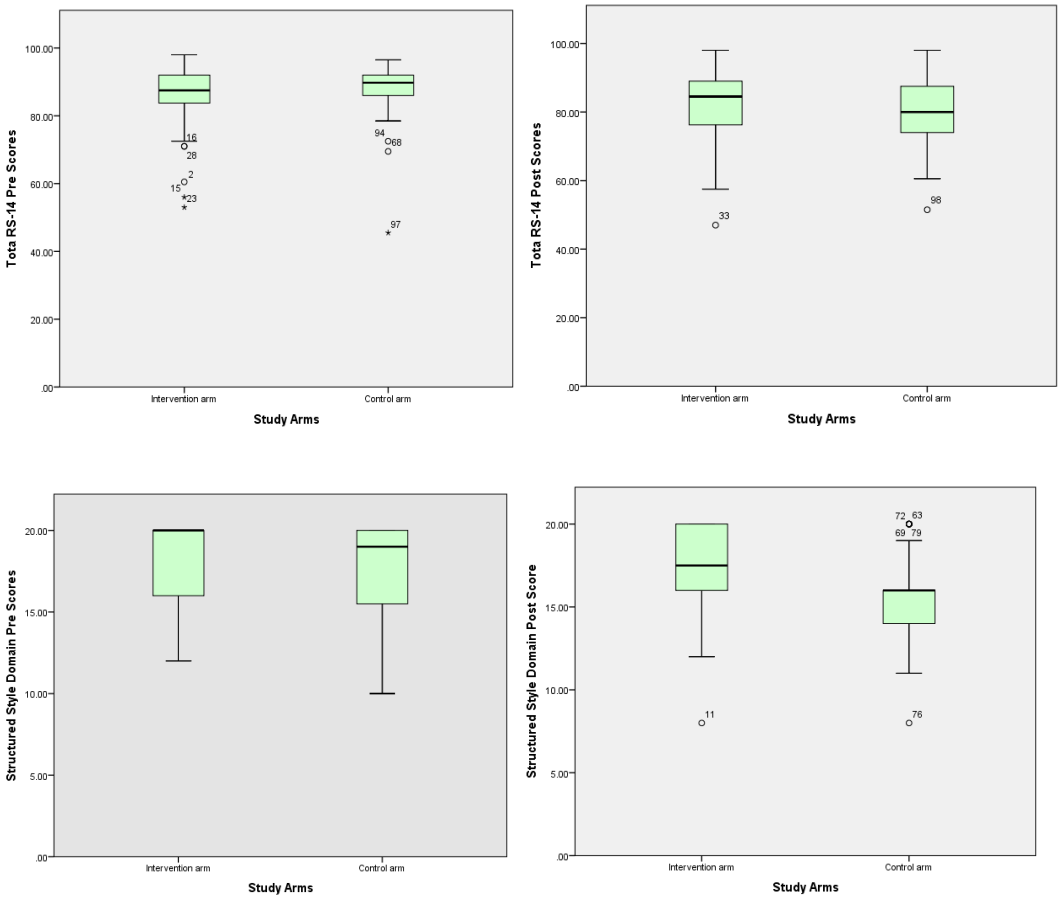

Figure 3.1 Box plot for baseline and post intervention scores for total RS-14 score and structured style domain of the RSA.

Chapter 4. Paper 3- Comparison of Urdu Versions of the Resilience Scale (RS-14) and the Resilience Scale for Adults (RSA)

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Introduction

Resilience is not a novel construct but rather has been the focus of researchers' attention for at least the past 40 years. This evolving construct has been explored in numerous disciplines with various theoretical complexities and methodological challenges (Luthar, Cicchetti, & Becker, 2000; Masten, 2007). Resilience has many definitions including those that describe it as a personality trait (Rutter, 1979); as a behaviour that demonstrates positivity towards life (Rutter, 1985); as a positive outcome (Masten, 2001;Werner, 1995); as a composite of internal and external factors (Garmezy, 1987; Rutter, 1987; Werner & Smith, 1982, 1992); and as a process that contributes to adapting to life adversities and challenges (Rutter 2012a; 2012b; Southwick & Charney, 2012). Within last 10 years, resilience has been studied among women with reproductive issues (Chedraui et al., 2012; Harville, Xiong, Buekens, Pridjian, & Elkind-Hirsch, 2010; Kaye et al., 2014; Sexton, Byrd, & Kluge, 2010; Yu et al., 2014), HIV (Arrivillaga, Arroyave, & Salcedo, 2014; Spies & Seedat, 2014); physical problems (Loprinzi, Prasad, Schroeder, & Sood, 2011; Moser, Silliman, Stuck, & Clough-Gorr, 2012; Ramirez- Maestre & Esteve, 2014); psychological issues (Anderson, Renner, & Danis, 2012; Breno & Galupo, 2007; Gagnon & Stewart, 2014; Hayas et al., 2014; Wingo, Ressler, & Bradely, 2014; Zauszniewski, Bekhet, & Suresky, 2009; Zraly & Nyirazinyoye, 2010); disaster experience (Ajibade, McBean, & Bezner-Kerr, 2013; Suarez, 2013); and old age (Felten, 2000; Felten & Hall, 2001; Janssen, Abma, & Regenmortel, 2012; Lamond et al., 2009; Moxley, Washington, & Calligan, 2012).

In light of the growing prevalence of mental health problems over the past three decades, women's mental health is a global concern (Steel et al., 2014). Common mental health problems like depression, anxiety, somatic problems and the disabilities associated with them, affect 2 to 3 times more women than men (World Health organization [WHO], 2016). This scenario is of

particular concern in developing countries where mental health disorders are the third leading cause of disability (WHO 2004). The known links between women's mental health issues and the poor physical and mental health of children only increases the severity of this concern (Harpham, Huttly, De Silva, & Abramsky, 2005; Patel & Prince, 2006; Rahman, Bunn, Lovel, & Creed, 2007; Rahman, Iqbal, Bunn, Lovel, & Harrington, 2004; Wachs, Black, & Engle, 2009). Consequently, the responsibility of health care professionals is not only to reduce the existing burden of mental health disorders but also to prevent pathology in vulnerable populations.

The association of resilience and mental health has been widely studied and a significant positive relationship has been established (Canadian Mental Health Association, 2013; Davydov, Stewart, Ritchie, & Chaudieu, 2010; Haddadi & Besharat, 2010; Herrman, 2012; Hourani et al., 2012; Richardson & Waite, 2002; Smith, 2009). Women have been observed to report lower levels of resilience, ineffective coping (Leadbeater, Kuperminc, Hertzog, & Blatt, 1999; Stratta et al., 2013), and worse mental health (Boardman, Blalock, Button, 2008; Matud, 2004; Morano 2010; Stratta et al.) compared to men. Since resilience is an important determinant of mental health, it is essential to adequately measure resilience among vulnerable women and develop gender sensitive and relevant interventions accordingly.

Founded upon differing conceptual groundings, several instruments that aim to assess resilience have been developed for use with various populations and developmental ages, and have been tested in a number of cultural contexts. In terms of a methodological understanding of resilience, it is extremely important to have measurement tools that have adequate validity and reliability. Furthermore, to inform effective practice and policies for improving resilience, such measures must be robust and have detailed conceptual underpinnings. Windle, Bennett, and Noyes (2011) conducted a methodological review of 15 resilience scales and concluded that

there is no gold standard amongst these measures and that only three scales, the Connor-Davidson Resilience Scale ([CD-RISC], Connor & Davidson, 2003), the Resilience Scale for Adults ([RSA], Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003) and the Brief Resilience Scale ([BRS], Smith et al., 2008) have demonstrated strong psychometric properties. In Pakistan, a few studies have measured women's resilience in the context of major adversity such as natural disaster (Aslam & Tariq, 2010; Haeri, 2007; Khan, Ghafoor, Iftikhar, & Malik, 2011; Malik, 2010; Mental Health Foundation, 2011; Niaz, 2006) and internal displacement (Mujeeb & Zubair, 2012). A recent study by Bhamani, Pasha, Karmaliani, Asad, and Azam (2015) employed a sample of 636 community-dwelling women to validate an Urdu version of the Resilience Scale (RS). The study compared the 25-item RS with the 14-item RS and concluded that both the scales are interchangeable and are good options for measuring resilience in a community sample.

As part of a larger study on resilience, our earlier work highlighted that lack of attention to the social domain may contribute to a lack of gender sensitivity in many of the existing definitions and measures of resilience. We argued that women's resilience cannot be explained without consideration of psychosocial factors (Hirani, Lasiuk, & Hegadoren, 2016). In this paper, we compare Urdu versions of the RS-14 and RSA for their construct validity, reliability, and responsiveness in a sample of community women living in Karachi, Pakistan. The data used for this study is derived from a recent randomized controlled trial in which we used the RSA and the Urdu version of the RS-14 to test a 6-week social support intervention to improve women's resilience. There are about 100 million people around the world who speak Urdu (British Broadcasting Corporation, 2014); it is the national language of Pakistan and is spoken by the majority of the Pakistani population. The comparison of Urdu version of the resilience scales

will add value to this knowledge and will help scholars to choose a contextually relevant scale for measuring resilience in women.

Methods

A randomized controlled trial (RCT) was conducted between November 2015 and February 2016 in Karachi, Pakistan. The aim was to test the efficacy of a 6-week social support intervention to enhance resilience and quality of life (QOL) among women living in a low socioeconomic neighbourhood in the city. Three local female Community Health Workers (CHWs) worked with the first author (SH) to recruit participants, collect data, and facilitate the intervention.

One hundred and twenty women were enrolled in the trial through a family health centre operated by Aga Khan Health Services Pakistan (AKHSP), a non-profit health agency whose mandate is to improve population health in developing countries. Women were eligible to participate if they were between 20 and 45 years of age, spoke Urdu, did not have any diagnosed mental illness, and provided voluntary informed consent. Sample size was calculated to achieve 80% study power, $\alpha = 0.05$ on the basis of medium effect size of 0.59 derived from a meta-analysis by Pfeiffer et al. (2011). The response rate of the participants was 100%.

The study received ethical oversight from the University of Alberta, Health Research Ethics Board and the Ethics Review Committee, Aga Khan University Karachi, Pakistan. Letters of support and operational approval were also obtained from the Strategic Planning Committee of AKHSP.

Instruments

The Resilience Scale (RS-14). The RS-14 ([RS-14], was derived from the Resilience Scale (RS), a 50-item tool developed by Wagnild and Young (1990). After initial analysis, the number of items on the RS was reduced to 25 because of high inter-item correlations to the resilience Scale-25 ([RS-25], Wagnild, 2009a; Wagnild & Young, 1993). The scale was further reduced to 14 items, RS-14. (Wagnild). The RS-14 has shown strong reliability and strong correlation with the RS-25 (Damásio, Borsa, & da Silva, 2011) and both the RS-25 and RS-14 are used for measuring resilience in various age groups from adolescents to older adults and in people from diverse socioeconomic and cultural backgrounds (Wagnild). The items in the RS-14 employ a 7-point Likert-type scale from 1= *strongly disagree* to 7= *strongly agree,* with higher scores indicating higher resilience. The scale assesses five major essential characteristics of resilience: *a purposeful life* (three items), *perseverance* (two items), *self-reliance* (five items), *equanimity* (two items), and *existential aloneness* (two items) (Wagnild & Young). In a sample of 690 middle aged and older adults, the psychometric properties of the RS-14 demonstrated a Cronbach's alpha of .93 and strong correlation (r=.97) with the RS-25 (Wagnild, 2009b). The RS-14 is also available in Urdu language and has been used in Pakistani context (Khan et al., 2011; Malik, 2010). A recent study of 636 young adult married community-dwelling women in Pakistan compared the Urdu versions of the RS-25 and the RS-14 (Bhamani et al., 2015). The RS-14 was found to have an internal consistency of 0.763, which was similar to the RS-25 (0.748). This led Bhamani and her colleagues to conclude that the RS-25 and RS-14 are interchangeable and are both good options for measuring resilience in a community sample.

Resilience Scale for Adults (RSA). The Resilience Scale for Adults ([RSA], Friborg et al., 2003) is a five-point semantic differential scale that originally contained 45 items and was

subsequently modified to 37 items and then to 33 items. A series of studies using factor analyses confirmed the RSA's factors: *perception of self* (six items), *planned future* (four items) *social competence* (six items), *structured style* (four items) *family cohesion* (six items) and *social resources* (seven items) (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005; Friborg, Martinussen, & Rosenvinge, 2006; Hjemdal et al., 2011; Hjemdal, Friborg, Martinussen, & Rosenvinge, 2001). Friborg et al. evaluated the reliability of these subscales with 217 adults attending outpatient clinic in Norway and found them to have Cronbach's alphas of .67 to .94.

For the current study, the RSA was translated into the Urdu language and back translated by the first author. The translated scale was reviewed for face validity two experts in the field and no modifications were made. The scale was also pilot tested with five women with backgrounds similar to the study sample; however, these women did not participate in the RCT.

Data Analysis

Data was analysed using SPSS statistics 24 (IBM Corporation, 2016). All statistical analyses were conducted at a significance level of 0.05. Negative items of the RSA were recoded and in both the scales, higher scores indicated higher levels of resilience. Demographic data was analysed using descriptive statistics. Internal consistency for each scale was assessed by computing Cronbach's alpha. Floor and ceiling effects were determined by calculating percentages associated with the low and high scores of the measures. Construct validity was tested using Pearson's correlation coefficient at 95% confidence interval. The correlations were obtained by comparing items of RS-14 with the subscales of RSA. Item to item comparison was conducted manually between the RS-14 and the RSA to determine similarities and differences between the scales. Cohen's d was also calculated to determine and compare the effect size measured by both scales between the intervention (n=60) and control groups (n=60).

Results

Demographic Characteristics

Participants' ages ranged from 20 to 45 years with the mean age of 31.44 years (*SD*=6.2). Most of the women (92.5%) were married and 88% had children. Most of the participants (81%) had some education and 44.16% of them reported an education level between grade 6 and 10. About 21% of the women in this study were employed outside their home and 61% had total monthly family income between 10 and 24 thousand rupees (95US$ to 228 US$). Fifty two percent of the participants had three to five people in their family. Table 4.1 presents the complete demographic profile of the study participants.

Score Distribution of Resilience Scales

Table 4.2 presents the score distribution for both the scales. The mean score for RSA and RS-14 were reported as 133.95$\pm$16.04 versus 86.90$\pm$8.39 respectively. None to very low floor and ceiling effects (0.8 %) were noted for both the scales, whereas, the RS-14 showed a slight higher ceiling score than the RSA (1.7% vs 0.8%).

Reliability of Scales

Analyses indicated that both the scales had a Cronbach's alpha of at least 0.7, however, the RSA showed a higher Cronbach's Alpha (0.83) compared to the RS-14 (0.75). The deletion of any item from both the scales did not affect their internal consistency (Table 4.2).

Construct Validity

The total score of the RS-14 showed significant positive correlations with all six subscales of the RSA ($0.22 \leq r \leq 0.44$; $p < .005$) and with the total score of the RSA (r=0.51)

(Table 3). The Pearson correlation coefficient was also computed to compare each item of the RS-14 with the RSA subscale scores. A significant difference was observed among the correlation coefficient of RS-14 items with the RSA subscales (see Table 4). Perception of self ($0.18 \leq r \leq 0.34$; $p < .005$) and perception of future subscales showed significant correlation ($0.18 \leq r \leq 0.27$; $p < .005$) with nine items of the RS-14. Structured style ($0.21 \leq r \leq 0.41$; $p < .005$) and social competence ($0.19 \leq r \leq 0.37$; $p < .005$) subscales were significantly associated with eight items of the RS-14. The social resources subscale of the RSA was found to be significantly associated with five items of the RS-14 ($0.20 \leq r \leq 0.33$; $p < .005$). The family cohesion subscale of the RSA indicated significant but low correlation with three items of the RS-14 ($0.18 \leq r \leq 0.22$, $p < .005$) as compared to other RSA subscales. The RS-14 item that was found to be significantly correlated with all subscales of the RSA ($0.20 \leq r \leq 0.36$, $p < .005$) was *'My life has meaning'*. There were two items of RS-14 that did not demonstrate any significant correlation with any of the RSA subscales; they were '*I feel proud that I have accomplished things in life'* and *'My belief in myself gets me through hard times'*.

Twelve of the fourteen items on the RS-14 maintained association with at least one subscale of the RSA. Manual comparison of both the scales revealed that the RS-14 did not have any item that aligned with RSA items #16 (flexibility in social settings), #17 (making new friendships), #18(meeting new people), and #20 (thinking of good topics for conversation) of the social competence subscale, and all items of the family cohesion and the social resources subscales.

Responsiveness

As part of the RCT, all participants completed measurements of resilience at baseline and post-intervention after 6 weeks. Data obtained at both time points were used to calculate

responsiveness of the scales. Out of 120 participants, 60 participants were randomly assigned to a 6-week social support intervention program. Comparison of means in the intervention group from baseline to post intervention revealed improved mean score measured by the RSA (baseline: 133.86±16.88/ post intervention: 138.86±13.43) as compared to the RS-14 (baseline: 85.92±8.97 / post intervention: 82.87±10.32). Effect size comparison for both the scales is illustrated in figure 1. The RS-14 showed a small effect size (d=0.287, 95% C.I.=-.74663, 6.59663), while the value of Cohen's d for the subscales of RSA ranged from none to medium (0.00 to 0.59). The 'family cohesion' and 'social resources' subscales showed no response while the 'structured style' subscale exhibited medium effect size (Table 4.5).

Discussion

This study investigated the validity, reliability, and responsiveness of the Urdu version of the RS-14 and the RSA, two commonly used resilience scales. We found that both scales have adequate psychometric properties in the context of community-dwelling women living in Pakistan. The total score of RS- 14 scale showed a significant positive association with all subscales and total score of the RSA. However, item by item analysis showed that not all items of the RS-14 were significantly associated with subscales of the RSA, suggesting that both scales measured different components of resilience.

This study, comparing two measures of resilience, highlighted the critical question of whether women's resilience can be accurately measured without considering social competence and abilities that help to deal with life's adversities. The RS-14, which primarily measures personal capabilities and competence of individuals (Windle et al., 2011), does not have items that measure the interpersonal and social protective factors of women. In contrast, we noted that these factors were addressed by the RSA (Friborg et al., 2003). Our item-to-item comparison of

both scales also demonstrated almost 50% of the items in the RSA assessed social factors while the RS-14 did not contain any item related to family cohesion, social resources, and social competence domains of the RSA. This finding suggests that to adequately understand women's resilience, the RSA may be more appropriate in that it contains resilience items that are gender sensitive and embrace social factors of individual's life (Hirani et al., 2016).

In terms of reliability, both measures showed strong reliability. The RS-14 showed a Cronbach alpha of .75, which was similar to a study that was conducted in Pakistan with community women (Bhamani et al., 2015). The Cronbach alpha for the RSA was .83. This internal consistency indicator of the RSA is consistent with other studies that were carried out in different contexts (Hjemdal, Friborg, Braun, Kempenaers, Linkowski, et al., 2011; Jowkar, Friborg, & Hjemdal, 2010).

This study also attempted to determine the responsiveness of these scale, which to the best of our knowledge has not been tested before in a similar context. The Cohen's d effect size for the RS-14 was small whereas analysis of the RSA indicated small to medium effect sizes. This finding again supports our conclusion that the RS-14 and RSA scales both measure resilience but possess different conceptual underpinnings that tap into different aspects of resilience (Cicchetti & Garmezy, 1993; Garmezy, 1993; Olsson, Bond, Burns, Vella-Brodrick & Sawyer, 2003).

A limitation of this study is that test-retest reliability was not assessed, as half of the sample received a weekly intervention for 6 weeks and half (control group) received a single session related to mental health support. It is possible that this may have introduced bias into the test-retest reliability score. Nevertheless, by comparing these two scales, this study demonstrated the relevance of the RSA, particularly for community women in Pakistan. In this context, a major

strength of the RSA came from its inclusion of items that measure the social traits of women when measuring resilience. This study also highlights that with the help of a community health worker, the Urdu version of the RSA was appropriate in this sample of women.

Relevance to Nursing Practice, Education, and Research

Nurses play a vital role in promoting mental health and reducing the burden of mental illness in vulnerable populations. Understanding women's resilience and developing relevant interventions for its enhancement is essential to nursing scholarship and practice. Findings of this study address significance of considering social protective factors of women's health and well-being as one of the core components of their mental health. This study will guide nurse researchers to employ gendered oriented measures like RSA to adequately measure the phenomenon of resilience in women and to introduce effective yet relevant interventions accordingly. Knowledge generated from this study will enable nurses in practice and education to emphasize on social elements of women's health while providing care and preparing future nurses.

Conclusion

In conclusion, RS-14 and the RSA are both valid and reliable scales that can be used in the context of measuring resilience in a sample of Pakistani community women. However, our previous work (Hirani et al., 2016) has suggested that including women's social attributes and competence is of utmost importance in order to measure and understand resilience. The RSA was found to be more appropriate in this regard as it explicitly measures the social domains of women's lives. This study provides support for the use of a gender sensitive resilience scale in Urdu that could contribute in developing relevant and effective interventions for enhancing women's resilience and mental health.

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Table 4.1.

Demographic Characteristics of Study Participants

	(n=120) %
Age Mean (SD)	31.44(6.20)
Marital Status (%)	
Married	92.5
Single	3.3
Separated	0.8
Widow	3.3
Formal Schooling (%)	80.83
Primary (1-5 years)	9.16
Secondary (6-10 years)	44.16
Higher than grade 10	27.5
Preferred Language Urdu (%)	99.2
# of people in family (%)	
Less than 2 people	9.17
3 to 5 people	51.66
6 to 9 people	32.5
More than 10 people	6.66
Husbands Employed (%)	90.8
Total Monthly Income	
Less than 10 thousand Rupees	2.5
10 to 24 thousand Rupees	60.83
25 to 40 thousand Rupees	25.83
Have Children (%)	87.5
Are Pregnant (%)	8.3
Currently Working outside the Home (%)	20.8
Family History of Mental Illness (%)	8.3

Table 4. 2

Score Distribution of Instruments (n=120)

	RS-14	RSA
Total Score Mean± SD	86.90± 8.39	133.95± 16.04
Range	52.5	86
% scoring at floor	0.8	0.8
% scoring at ceiling	1.7	0.8
Cronbach's Alpha	.75	.83

Table 4.3

Correlation Coefficient of RS-14 and RSA

		RSA Subscales						
		Personal Strength/ Perception of Self	Personal Strength/Perception of Future	Structured Style	Social Competence	Family Cohesion	Social Resources	Total RSA
Total RS-14	Pearson Correlation	.448**	.387**	.422**	.368**	.225*	.308**	.515**

Correlation is significant at **p value <.01, * p value<.05

Table 4.4

Correlation Coefficient of RS-14 and RSA (N=120)

	RSA Sub scales					
RS- 14 Items	Perception of Self	Perception of Future	Structured Style	Social competence	Family Cohesion	Social Resources
I usually manage one way or another.	.224*	.202*	.212*	.337**	.222*	.153
I feel proud that I have accomplished things in life.	.136	.159	.176	.085	.058	.070
I usually take things in stride.	.123	.125	-.056	.090	.186*	.033
I am friends with myself.	.208*	.207*	.324**	.199*	.104	.157
I feel that I can handle many things at a time.	.319**	.271**	.324**	.268**	.079	.319**
I am determined.	.196*	.217*	.090	.066	.147	-.030
I can get through difficult times because I've experienced difficulty before	.188*	.071	.277**	.018	.074	.097
I have self-discipline.	.078	.125	.323**	.117	.022	.136
I keep interested in things.	.313**	.231*	.411**	.200*`	.082	.330**
I can usually find something to laugh about.	.311**	.262**	.124	.371**	.089	.280**
My belief in myself gets me through hard times.	.175	.102	.153	-.070	.040	.060
In an emergency, I'm someone people can generally rely on	.174	.184*	.083	.192*	.138	.062
My life has meaning.	.297**	.239**	.254**	.362**	.202*	.203*
When I'm in a difficult situation, I can usually find my way out of it.	.346**	.277**	.356**	.257**	.091	.246**

Correlation is significant at **P value <.01, * P value<.05

Table 4.5

Cohen's d (Effect Size) Comparison of RS-14 and RSA

	Intervention (n=60)		Control (n=60)					
	Mean	SD	Mean	SD	Cohen's d	Effect size r	95% C.I	
							Lower	Upper
RS-14	82.87	10.32	79.95	9.98	0.287	0.142	-.746	6.59
RSA Total Score	138.86	13.43	135.66	13.85	0.234	0.116	-1.73	8.13
Personal Strength/Perception of Self	25.65	3.37	25.02	3.36	0.187	0.093	-.58	1.85
Personal Strength/Perception of Future	15.98	2.98	16.87	2.25	-0.337	-0.166	-1.83	.07
Structured Style	17.08	2.72	15.48	2.64	0.596	0.286	.62	2.57
Social competence	25.67	3.90	24.45	5.43	0.258	0.127	-.49	2.92
Family Cohesion	25.15	5.58	25.12	5.58	0.005	0.002	-1.86	1.93
Social Resources	29.33	5.08	28.73	4.98	0.119	0.059	-1.22	2.42

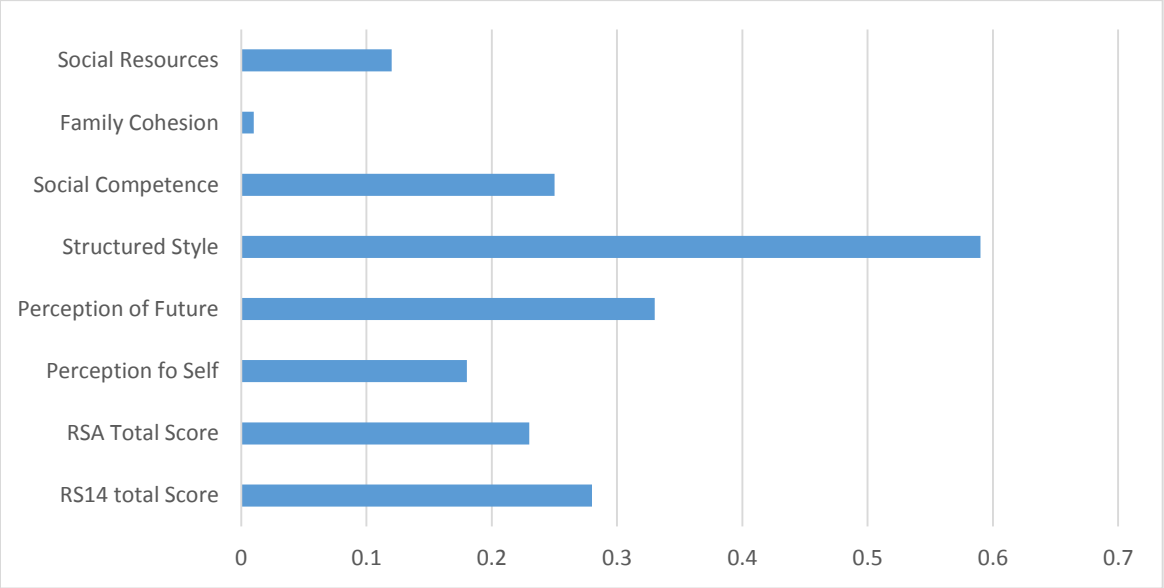

Figure 4.1. Cohen's d comparison of total RS-14 and total RSA with subscales.

Chapter 5
Summary, Conclusions and Recommendations

This chapter summarizes the quantitative findings of the study and the participants' reflections obtained through a focus group with a subset of who attended a 6-week social support intervention. The chapter also discusses the strengths, limitations and recommendations of the current study.

Summary of Findings

The present study developed and tested a 6-week social support intervention for women living in a low socioeconomic area of Karachi, Pakistan. The main findings of the study highlighted that this intervention was successful in improving resilience of women who attended this intervention as compared to women who did not. A significant improvement was measured in women's ability to see their future and life goals, who attended the 6-week support program. This work acknowledges the realities of the Pakistani context and introduced a low cost, relevant and a practical intervention that increased women's resilience and has potential to reduce the burden of mental health challenges in developing countries.

In the light of paper one and three of this dissertation, my work highlighted an absence of lack of gender sensitivity in existing literature on the conceptualizations of resilience and in methodologies used to measure it. The papers also emphasize the importance of incorporating gender/social roles in understanding women's resilience and its underpinnings. Following this preliminary work, my study has attempted to fill this gap by paying thorough attention to gender/ social aspect of women's resilience while developing intervention and measuring resilience. The third paper of this dissertation also maintained this notion and provides evidence by comparing two resilience measures. Both scales revealed strong psychometric properties but RSA that

explicitly measures social domain was found more sensitive to measure resilience in the study sample than the RS-14.

Participants' Reflections on 6-Week Social Support Intervention

After obtaining the post intervention quantitative data, a 90 minute focus group was conducted with women who attended the 6- week social support intervention. The findings of the focus group echoed with the quantitative findings supporting the positive experience of the women who had attended the intervention sessions. Women explained that they found the intervention helpful as coming to the sessions made them feel relaxed, stress free and happy and gave them a sense of belonging. Women also maintained that they found a trustworthy and a safe platform where each one of them got an equal opportunity to share their life issues and discuss the ways to come out of it. One woman said: "I used to keep my problems as secret with me. I never shared it with anyone. When I came here I saw women talking about their problems I got the confidence and started sharing and honestly I started feeling better." Another woman endorsed this comment and said "I can see difference in her as earlier whenever we try to ask her she always cries but now we see good change in her".

Some women acknowledged that their interactions with their children and family improved as a result of attending the groups:

> I used to beat my children whenever I had fights with my husband, now I have learnt that I should not do this, this is not a solution in fact it puts bad effect on my children. I have never thought about it. I have learnt I should share my problems with others. I have learned tolerance.

Women also recognised the strength they received from each other during group discussion. One woman told us,

> I used to think that I am the only one who has all the problems. When I come here and saw everyone is like, me even some women have more serious issues in life than I have. I have also learnt from other women that how they are dealing with problems.

Another woman said:

> I did not know before meeting other women in my group that women and housewives can be so strong and they can lead their lives equally as men and they can stand up and make positive difference in their families' lives.

Many of the women enjoyed the class-like environment and the trust and respect that was exchanged in the groups. One woman said, "Group environment was so comfortable that I did not hesitate to share my personal life issues." Another woman appreciated the confidentiality reminders: "In each session we were beginning and ending with a line that 'we will not share anything outside the group that we have discussed here' it has given me confidence to share my problems and feelings in the group."

There were a number of positive changes that women verbalized that they noticed in their behaviours after attending the social support intervention. These are patience, tolerance, strength, positive communication with husbands and children, pleasant mood, solution oriented thinking and "can do" attitude. All women supported the 6 week social support program and recommend that all other women should attend this as it gave us an opportunity to meet new people, talk about ourselves and learn from others.

Strengths of the Study

There are several key strengths that validate the quality of this dissertation and creates a strong foundation to build up future research. The first and foremost strength is that this study builds on my previous work that was carried out in the same context and with a similar target

group. My earlier work with the community women has given me insight to understand the needs of the target population and helped me to learn the ways that could help in promoting their mental health. Therefore, the development of the social support intervention was not only based on theoretical reasoning but also deeply rooted in the contextual realities and was structured in a way that made it low cost, relevant and feasible in that setting. Thus, the study participants have found this intervention beneficial and closer to their lives.

One of the other strongest threads of this study is the conceptual and theoretical understanding of resilience as a mental health outcome. An in-depth review, analysis and critique of existing evidences on resilience in women has guided the study to come up with comprehensive and systematic conceptual and operational definitions. This has also guided me to choose the resilience measures wisely for this study.

Despite the fact that conducting RCT in a community setting is challenging, the anticipated challenges and vigilant treatment fidelity plan made at the time of designing the research facilitated the effective execution of intervention and minimized the chances of bias. Blinding of data collectors, use of standardized intervention, comprehensive training, intervention's supervision by me, sham intervention for the control group, and measures to assure compliance were the key strengths of the fidelity plan. Using local CHWs was another critical strength of this study especially in the study context. Women participants greatly admired the intervention facilitated by someone who share the same socioeconomic and demographic profile. Furthermore, this strategy is also well integrated and found useful in primary health care in Pakistan.

The other most important strength of this study is the collaboration with AKHSP. Conducting this study at the community family health centre supported the feasibility of this trial

at primary health care level and has also increased the possibility of knowledge utilization at the community level and planning future researches.

Last but not the least, another strength of the study is the use of measures that possess strong psychometric properties. Except RSA, other two instruments RS-14 and WHOQOL-BREF were also validated and tested in local language and context.

Limitations of the Study

A comprehensive and thoughtful planning at the time of proposing this research helped to elude serious limitations to occur during this study. However, few limitations and it is important to consider the study findings in light of these limitations.

The first limitation is associated with the use of RSA. As mentioned earlier, the RSA is theoretically much more relevant to our operational definition of resilience as it contains more items that measure family and social domains of resilience, but the limitation was that it was not used and validated in the study context before. To minimize this limitation, translation, back translation, face validity and pilot testing were conducted for this study.

The next limitation is that seven women who were randomly allocated to the intervention group did not complete the intervention because of conflicts with their work hours, child sickness, illness and wedding. However, these women were able to remain in the study and provided post intervention measurements and their data was included in the analysis.

Another limitation is the lack of follow- up measures. Repeated measures could not be planned due to time and budget constraints. Follow-up measures might have helped us determining the long term effects of the 6 week social support intervention on the outcome measures. Nonetheless, the preliminary results of this study have allowed us to infer the positive effect of the intervention on women's resilience in the community setting.

Implications and Recommendations of the Study

In view of a growing burden of mental health issues among Pakistani women and women living in the similar context of other developing countries, a number of recommendations have been brought forth by this dissertation. The key findings of this work highlights inclusion of gender and social perspectives to conceptually and operationally define women's resilience, and the improvement in women's resilience with a 6 week social support intervention.

This intervention has the potential to be instrumental in undertaking WHO's (2007) recommendation to integrate mental health services in primary health care. Funk, Saraceno, Drew, and Faydi (2008), in view of WHO's recommendations, assert that provision of effective and sustainable mental health interventions at the primary health care level depends upon a well-established primary health care setup, sufficient resources such as staff to execute and supervise interventions and the training resources for the staff. Testing this 6 week social support intervention at a family health centre (located in a community setting) has supported the relevance and feasibility of implementing this intervention at the primary health care level. The notion of women liking to talk about their problems more than men (Mental health Foundation, 2016) was well reflected in women's comments about this intervention, where they found this intervention interesting and pertinent to their needs. Women felt that this one hour per week was for them to talk about their lives and allowed them to learn from each other. From resources' perspective, this intervention is less challenging as this does not require a medically trained professional or a staff with health background. Nonetheless, this one hour per week intervention can be delivered by a onetime trained CHW or volunteer at health care facilities. It is recommended that inclusion of this less technical and relevant intervention at primary health care settings can serve as an effective tool to improve women's health.

Health care practitioners and researchers who work to improve women's mental health in this context may benefit from this work as one of the distinctive contributions that this dissertation has made is that it drew our attention to understand women's resilience from social and gender perspective. It has been strongly argued and recommended through this work that social aspects of women's lives could not be overlooked or denied while patient care and/ or while researching women's health. It is extremely important to acknowledge that interventions to improve women's resilience would only be effective and successful when resilience would be understood from gender angle.

Conclusion

This dissertation developed and tested a community-based 6-week social support intervention to improve women's resilience and QOL as indicators of better mental health. The work was grounded both in conceptual underpinnings and contextual realities and generated evidence that has the potential to contribute to the disciplines of nursing and public health. This study offers a holistic and gendered understanding of women's resilience and lays a foundation to develop practical, relevant, economical, and feasible interventions to promote mental health of community women who live under vulnerable circumstances.

Overall, the encouraging findings of this study (i.e. increased resilience of women), especially the women's ability to see their life goals and future has shown a pragmatic way of incorporating the social support intervention that is effective in improving mental health outcomes and is realistic to be employed at primary health care settings.

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Appendix 1. Ethics Approval

Notification of Approval

Date: June 1, 2015

Study ID: Pro00056361

Principal Investigator: Saima Hirani

Study Supervisor: Colleen Norris

Study Title:

A Randomized Controlled Trial of Social Support Intervention to Improve Resilience and Quality of Life of Women Living in Urban Karachi, Pakistan

Approval Expiry Date: Tuesday, May 31, 2016

		Approval Date	Approved Document
Approved Consent Form	:	6/1/2015	PARTICIPANT CONSENT.docx
		6/1/2015	PARTICIPANT CONSENT for FOCUS GROUP.docx

Sponsor/Funding Margaret McNamara Memorial Fund Agency:

Thank you for submitting the above study to the Research Ethics Board 2. Your application has been reviewed and approved on behalf of the committee.

A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Approval by the Research Ethics Board does not encompass authorization to access the staff, students, facilities or resources of local institutions for the purposes of the research.

Sincerely,

Stanley Vamhagen, PhD
Chair, Research Ethics Board 2

Note: This correspondence includes an electronic signature (validation and approval via an online system).

آغا خان یونیورسٹی
THE AGA KHAN UNIVERSITY

November 2, 2015

Dr. Rozina Karmaliani
Department of School of Nursing and Midwifery
The Aga Khan University
Karachi

Dear Dr. Rozina Karmaliani,

Re: 3731-SON-ERC-15. Student - Ms. Saima Hirani, Supervisor - Dr. Rozina Karmaliani: A Randomized Controlled Trial of Social Support Intervention to Improve Resilience and Quality of Life of Women Living in Urban Karachi Pakistan.

Thank you for your response to ERC recommendations received on October 10, 2015 regarding the above mentioned study.

Your response adequately answered the recommendations made by the Committee. The study was given approval for a period of one year with effect from November 2, 2015. For further extension a request must be submitted along with the annual report.

Any changes in the protocol or extension in the period of study should be notified to the Committee for prior approval.

All informed consents should be retained for future reference. A progress report should be submitted to ERC office after six months.

Thank you.

Yours sincerely,

Dr. Shaista Khan, FRCS (Edin.)
Chairperson
Ethical Review Committee

Appendix 2. Intervention Manual

FACILITATOR MANUAL

A Randomized Controlled Trial of Social Support Intervention to Improve Resilience in Women Living in Urban Karachi Pakistan

Prepared by:

Saima Hirani

Doctoral Student

Co-Supervisors: Dr. Colleen Norris & Dr. Gerri Lasiuk

Faculty of Nursing, University of Alberta

2015

http://www.wellbeinginfo.org/Drop-in-or-Social-Support

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RATIONALE:

Social support refers to resources provided by others to individuals and communities. Several studies have shown that social support has positive affects on physical and mental health. Social support improves health by buffering stress, transforming negative emotions into positive ones, and helping people to manage life adversities.

The aim of this intervention is to provide group support to a group of women. Women in the intervention group will attend 1-hour group meetings week for 6 weeks. Each meeting will be facilitated a trained Community Health Worker (CHW). The groups will provide opportunites for women to give and receive support, share their feelings, and learn ways to deal with life adversity.

This manual is a week-by-week guide for facilitators. It is important that the support group meetings are facilitated as they are structured.

TARGET GROUP:

Women aged 20 to 40 years who are registered with the Gulzar-e-Rahim a Family Health Centre (FHC) in Karachi, Pakistan. Each group will have 8 to 10 women.

PARTICIPANTS' ROLE:

The success of this intervention depends on the participation of women who make up the groups. Group members are encouraged to attend all sessions and to actively participate in group activites and discussions.

FACILITATOR SELECTION & TRAINING:

A female CHW will facilitate the group. The facilitator will:

- Be an adult woman (aged 18 or older)
- Have at least a grade 10 education
- Speak and write Urdu
- Have good communication skills
- Endorse the aims of the group

The facilitator will receive 10 to 15 hours of training from the principle investigator. The training will focus on the importance of social support to health; the details of the study and the intervention; and the importance of creating a safe and relevant group experience. The training will be conducted in Urdu language and the facilitator will receive ongoing support and supervision from the principle investigator during the intervention.

FACILITATOR ROLES:

The facilitator will perform the following roles:

- Attend thesocial support group training conducted by the principal investigator
- Establish rapport with participants and encourage them to build rapport with each other
- Initiate discussion and activities to engage participants
- Maintain attendance record for each group meeting
- Maintain respect, dignity, confidentiality and privacy of each participant

It is important to note that the facilitator's role is to moderate or facilitate discussion, and not to teach. The aim of this intervention is to promote communiation among women with the help of the facilitator.

FACILITATOR SUPERVISION:

The principal investigator will attend the group meetings to oversee the intervention and provide guidance and support to the facilitator. The weekly intervention must be delivered as it is planned with no modification.

MEETING SCHEDULE:

Women in the social support group will meet each week for one hour for six weeks. The day and time for the meetings will be determined based on the availability of the participants.

MEETING ENVIRONMENT:

The venue of the meeting will be one of the rooms at Family Health Centre. This room will offer a private and a safe place to women where women feel comfortable and motivated to participate actively in discussion and activities. During each group meeting, the women and the facilitator will sit in a circle so all participants can see each other.

Week I

OBJECTIVES:

By the end of this session, participants will:

- Establish group norms
- Begin building positive rapport
- Define social support and discuss its importance to health

METHOD:

Activity 1: Introduction **5 minutes**

The facilitator will begin the meeting by introducing herself to the participants, review the purpose of the group, and explain her role. The facilitator will then ask each woman to introduce herself by sharing her name and telling the group a bit about herself.

Activity 2: Ice Breaker **10 minutes**

Ask the women to form groups of 3 or 4. Encourage them to sit with women they have not met before or do not know well.

Ask the women to identify three things that they have in common (for example, interests, traits, occupation etc.).

After 10 minutes, ask each group to share their list with the larger group. **5 minutes**

Encourage and appreciate women for their participation.

Activity 3: Establishing Group Norms **20 minutes**

The next activity focuses on group norms and their importance to positive group function. Explain:

> "A group's success depends on the behaviour of its members. In an effective group, the members understand and agree with its goals, they trust each other, and they treat each other with respect.
>
> Group norms are the rules or expectations that groups establish to govern members' behaviour and to help the group achieve its goals."

Encourage the women to suggest some norms for this group. As the women suggest norms, write them on a large piece of paper or chalkboard.

If the group does not suggest any norms, offer the following examples:

- We will attend every meeting

- We will be on time to meetings
- We will participate actively in discussions
- Only one person speaks at a time
- We will listen to each other
- We will talk respectfully with each other
- We will maintain confidentiality (i.e., we will not talk about other group members outside of the group)
- We will do our homework
- If there is any concern in the group we will bring it to the whole group and discuss

When no one identifies additional norms, go through the list and ask whether all group members agree with them. Encourage group members to suggest revisions and make sure all are in agreement with the revision.

When the group agrees with the list of norms, remind them that all have to abide by these norms.

Overview of Social Support: **5 minutes**

In order to achieve the aims of the group, it is important for the women to have a common understanding of social support. Ask the women to think about and discuss what social support means to them. Please note that your role is to encourage and facilitate discussion.

Initiate discussion by saying:

> "Social support is the support or resources provided to us by others. It takes various forms, such as giving time, advice, money, listening, etc.
>
> The goal of this group is for members to give and receive social support to each other when we meet every week. We might do this by talking about things that are important to us, discussing some of the problems we face in our lives, and sharing examples of how we deal with these problems."

Ask the women to work in pairs. Give them 10 minutes to talk about a time in their lives when they experienced social support and ways they benefitted from it. **10 minutes**

After 5 minutes, each pair to share their experiences. **20 minutes**

Appreciate women for their participation and reinforce that social support is a positive factor in improving physical and mental health outcomes. Social support affects our thinking, emotions, and behaviour. It provides us a safe place to share our concerns, learn new strategies, become emotionally strong, and act wisely to address our life challenges.

Every week, we will meet here for an hour to share our life experiences, perform small activities and discuss ways to improve our life.

CONCLUSION **5 minutes**

Conclude the discussion by summarising the key points of the meeting by saying:

> "Thank you all for coming today and for sharing your ideas. Our goals today were to review the purpose of the group, identify group norms, and to get to know each other. In coming weeks, we will continue to talk about, give, and receive social support by sharing our experiences and learning from each other. Next week we will be talking about stress and how it affects us."

Ask participants to go around the circle and say one word that summarizes their experience of the group (e.g., interested, curious, happy, nervous, etc.)

Before they leave, as participants to complete the following evaluation.

Week I Feedback

Q. The information about social support was helpful.

Q. My participation in the group activities and discussion was:

Week II

OBJECTIVES:

- Review last week's topic and group norms
- Define 'stress'
- Identify common sources of stress
- Identify the influence of stress on the body, the mind, relationships, and health

METHOD:

Recap **10 minutes**

- After taking attendance, ask the group to recap last week's topic.
- Ask the women to review the group's norms.

Overview of Stress and Common Sources of Stress

Stress is a complex and often poorly understood term. For this week's activities, it is important for the women to have a common understanding of stress.

Activity: Definition of Stress **10 minutes**

Ask women to share their understanding of the term 'stress.'

"What is 'stress?"

If it does not come up in the discussion, point out that "Stress is our body's physical and emotional reaction to demanding circumstances. Stress is not always bad, some stress is necessary to keep us functional and productive. For example: stress related to performing daily tasks, children's stress of studies, planning a wedding in family etc."

Activity 2: Sources of Stress **15 minutes**

Ask the women to divide into sub groups of three to four and to identify any 3 sources of stress that they experience in their daily lives. Give them 15 minutes for discussion and tell them to prepare a 5 minutes role play. Explain the group that in a role play they have to act out the examples from their life scenarios and highlight the common stressors that they face day to day basis.

The facilitator will facilitate each sub group while they are discussing.

Role play **15 minutes**

HOMEWORK: **5 minutes**

Ask participants to do the following homework assignment for the next meeting. The homework is:

> "Identify a stressful situation that you experience this week and notice how it affects your mind, body, emotions, and relationships. During next week's group, we will share our experiences".

CONCLUSION: **5 minutes**

Invite the women to summarize what they discussed today. Appreciate them for their participation and remind them of their commitment to confidentiality.

Ask participants to go around the circle and say one word that summarizes their experience of the group (e.g., interested, curious, happy, nervous, etc.)

Note: Week III will continue the same objectives.

Before they leave, as participants to complete the following evaluation.

Week II Feedback

Q. The discussion about stress and identifying stressful sources was helpful.

Strongly agree Agree Not sure Disagree Strongly disagree

Q. My participation in the group activities and discussion was:

Good Very Good Bad Very Bad Not sure

Week III

OBJECTIVES:

- Review last week's topic and group norms
- Define 'stress'
- Identify common sources of stress
- Identify the influence of stress on the body, the mind, relationships, and health

METHOD:

Recap **10 minutes**

- After taking attendance, ask women to recap last week's topic (definition of stress and the common sources of stress).

Activity 1: Sources of Stress

Share the following example with women: **5 minutes**

"A 35 year old woman lives with her husband and three children. The woman's children attend school and her husband was employed as a labourer before her lost his job six months ago. He has been looking for a new job but has not found one so far. The family is barely able to fulfil their monthly expenses and now they do not have money to pay school fees for their children. For the last month, the woman has been having dizziness, fatigue, and weight loss."

Ask the following questions from women. **20 minutes**

Q. What may be some sources of stress for the woman in this example?

Q. What emotions might the woman be feeling?

Q. What could be the effects of such stress on the woman's body, mind, and relationships?

Encourage every woman to participate in this activity.

Activity 2: Discussion of Homework **20 minutes**

Ask the women about their homework. Encourage them to share their own stressful situation and their feelings related to it. Assure women that their information will not be discussed outside of this group.

HOMEWORK:

You will ask the group to do homework for the next meeting. The homework for this week is:

"Identify the list of possible sources that can help you in the time of difficulty."

CONCLUSION: **5 minutes**

Invite the women to summarize what they discussed today. Appreciate them for their participation and remind them of their commitment to confidentiality.

Ask participants to go around the circle and say one word that summarizes their experience of the group (e.g., interested, curious, happy, nervous, etc.)

Next week the group will focus on effectively managing stress.

Before they leave, as participants to complete the following evaluation.

Week III Feedback

Q. I have learnt how stress affects body, mind and relationships.


Strongly agree


Agree


Not sure


Disagree


Strongly disagree

Q. My participation in the group activities and discussion was:


Good


Very Good


Bad


Very Bad


Not sure

Week IV

OBJECTIVES:

- Review group norms
- Review last week's topic
- Identify strategies for managing life adversities (stress)

METHOD:

Recap: **10 minutes**

- After taking attendance, ask women to review the group norms
- Ask the group to recap what we did last week (feelings associated with stress)

Activity 1: Strategies to Deal with Life Adversities (stress) **15 minutes**

Ask the women to divide into two sub- groups and give one of the following examples to each group. Ask the group to identify at least 3 possible strategies to manage the problems in the example. Prepare a 10 minutes role play to present.

Example 1: **10 minutes**

"A 35 year old woman, lives with her husband and three children. Her children are studying and her husband was working as a labourer. His husband has lost his job for last six months. He has been trying hard to get a new job but nothing has happened so far. They hardly manage to fulfil their monthly expenses and now they do not have money to pay school fee for their children. For last one month, the woman has started having dizziness, fatigue and weight loss."

After role play of group 1, ask group 2 to give them feedback and add their opinions.

5 minutes

Refer to the given homework, ask them to add some more strategies

Example 2: **10 minutes**

"A 40 year old woman lives with her husband, in-laws, and four children - a 17 year old son and three daughters aged 15, 9 and 6 years. The woman is a housewife and her husband is a taxi driver. For last several years, the woman and her husband have fought almost every day. Her husband frequently threatens her to leave. . The woman's in-laws

are not supportive and the woman worries when her children witness their fights. The woman is very concerned about her children as she has started observing aggressive behavior in her teenage children."

After role play of group 2, ask group 1 to give their feedback and add their opinion. **5 minutes**

HOMEWORK:

Ask the group to do the following homework for the next meeting:

> "Identify a situation in which you have successfully managed a life stress or challenge. Come prepared to share your experience with the group next week."

CONCLUSION: **5 minutes**

Invite the women to summarize what they discussed today. Appreciate them for their participation and remind them of their commitment to confidentiality.

Ask participants to go around the circle and say one word that summarizes their experience of the group (e.g., interested, curious, happy, nervous, etc.)

Next week the group will continue the same topic and discuss our experiences of effective management of stress related to life problems.

Before they leave, as participants to complete the following evaluation.

Week IV Feedback

Q. The discussion about strategies of effective stress management was helpful:


Strongly agree


Agree


Not sure


Disagree


Strongly disagree

Q. My participation in the group activities and discussion was:


Good


Very Good


Bad


Very Bad


Not sure

Week V

OBJECTIVES:

- Review group norms
- Review last week's topic (effective strategies for managing life challenges)
- Identify examples from the women's lives in which they have successfully managed life challenges (stress)

METHOD:

Recap: **10 minutes**

- After taking attendance, ask women to review the group norms
- Ask the group to recap last week's topic (strategies to effectively deal with problems)
- Encourage women to participate, facilitate where required

Strategies to Deal with Life Adversities

Activity: Discussion of Homework

Ask the participants to work in pairs for this activity.

This exercise has 3 parts:

1. One partner will describe a stressful or challenging life experience and the strategies that she used to handle that situation.
2. Switch roles.

3. The women come back together into a large group and each woman will summarize her partner's example to the big group and identify and highlight the positive strategies her partner used to manage a stressful situation.

Pair Discussion **15 minutes**

Presentation **30 minutes**

CONCLUSION: **5 minutes**

Ask the participants to summarize what they learned in the group and remind them of their commitment to maintain confidentiality. Appreciate the women for their participation and remind them that next week is the final group meeting.

Ask participants to go around the circle and say one word that summarizes their experience of the group (e.g., interested, curious, happy, nervous, etc.)

Before they leave, as participants to complete the following evaluation.

Week V Feedback

Q. The discussion about strategies of effective stress management was helpful:


Strongly agree


Agree


Not sure


Disagree


Strongly disagree

Q. My participation in the group discussion and activities was:


Good


Very Good


Bad


Very Bad


Not sure

Week VI

OBJECTIVES:

- Review group norms
- Review last week's topic
- Share peer feedback about personal strengths of participants
- Wrap up

METHOD:

Recap: **10 minutes**

- After taking attendance, ask women to review the group norms
- Ask the group to recap last week's topic (strategies to effectively deal with problems)
- Encourage women to participate, facilitate where required

Activity 1: Peer Feedback **15 minutes**

Go around the circle and ask each woman to share at least one strength she has noticed or one thing she learned from the woman sitting next to her.

Activity 2: Reflections on learning **30 minutes**

Ask participants to sit in a circle. Give one participant a soft ball and ask her to throw it ball to another woman in the group. The woman who catches the ball is encouraged to share one thing that she liked about these group meetings and identify one new way that she will manage stress. That woman will then throw the ball to another woman. Each woman will get an opportunity to participate. Encourage the women to try not to repeat the comments which were already shared.

Appreciate women for their participation and summarize their responses, you will now tell women to share positive feedback to each other.

WRAP UP:

Appreciate the women for their participation and remind them that their commitment to maintain confidentiality is ongoing.

Appreciate and thank them for their participation. **10 minutes**

Women can have informal socialization time, after completing the evaluation checklist.

Before they leave, as participants to complete the following evaluation.

Week VI Feedback

Q. These group meetings have helped me to discuss my life challenges and to deal with them positively.


Strongly agree


Agree


Not sure


Disagree


Strongly disagree

Q. My participation in the group discussion was:


Good


Very Good


Bad


Very Bad


Not sure

Q. I will recommend these meetings for other women like me?


Absolutely


May be


No


Never


Not sure

Appendix 3. Sham Intervention for the Control Group

Topic:	Overview of Mental Health
Target Group:	Control group participants
Time Duration:	1-hour
Who will conduct?	Nurse (guest speaker)
When?	Parallel to the first week of intervention group
Strategy:	Didactic/Lecture

Objectives:
At the end of this session, participants will be to:

- define mental health and mental illness
- discuss the importance of mental health
- explain common factors that contribute to positive mental health
- list 3 common mental health disorders
- provide 3 strategies to promote mental health

Appendix 4. Demographic Information

Study participant ID:_____ Date:_____

1. **Age:** |____|____| years

2. **Have you ever attended formal schooling?** 1. Yes 2. No

   a. If yes: How many years of formal schooling |____|____| years

3. **Mother tongue** (CHOOSE ONE)

   1. Sindhi 2. Urdu 3. Punjabi 4. Marwari 5. Saraiki 6. Pushto 7. Balochi
   00. Other (SPECIFY):_____

4. **Preferred language URDU**: 1. Yes 2. No

5. **How many people live in your household**: |____|____|

6. **Marital Status:**

   1. Married (Ask Q 6a) 2. Single 3. Separated 4. Divorced 5. Widow

   a. If married, is your husband employed? 1. Yes 2. No

   b. If yes, describe the main type of work that he does
   (SPECIFY):_____

7. **Do you have children?** 1. Yes 2. No

   7a. If Yes, how many: _____Boys

   7b. _____Girls

8. **Are you pregnant?** 1. Yes 2. No

9. **Are you currently working /earning?** 1. Yes 2. No

a. **If yes, describe the main type of work that you do?** _____

b. **What do you do with your income?**

   1. Keep all of it 2. Give all to husband 3. Give all to in-laws 4. Keep some for self

00. Other (SPECIFY):_____

10. **Total monthly income of your household:** Rs. __ __ __ __ __

Section B: Health History

1. **Have you ever been diagnosed with a psychiatric illness:** 1. Yes 2. No

   1a. If Yes: SPECIFY _____
   1b. If Yes: Are you taking any medication? 1. Yes 2. No

2. **Any history of psychiatric illness in past 6 months:** 1. Yes 2. No

3. **Have any of your family members ever been diagnosed with a psychiatric illness:** 1. Yes 2. No

   3a. If Yes: Who (your relationship) _____

Appendix 5. The Resilience Scale (RS-14)

Study participant ID:_____ Date:_____ _____

Please read the following statements. To the right of each you will find seven numbers, ranging from "1" (Strongly Disagree) on the left to "7" (Strongly Agree) on the right. Click the circle below the number which best indicates your feelings about that statement. For example, if you strongly disagree with a statement, click the circle below "1". If you are neutral, click "4", and if you strongly agree, click "7", etc. You must answer every question to submit the test for scoring.

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
1. I usually manage one way or another.	○	○	○	○	○	○	○
2. I feel proud that I have accomplished things in life.	○	○	○	○	○	○	○
3. I usually take things in stride.	○	○	○	○	○	○	○
4. I am friends with myself.	○	○	○	○	○	○	○
5. I feel that I can handle many things at a time.	○	○	○	○	○	○	○
6. I am determined.	○	○	○	○	○	○	○
7. I can get through difficult times because I've experienced difficulty before.	○	○	○	○	○	○	○
8. I have self-discipline.	○	○	○	○	○	○	○
9. I keep interested in things.	○	○	○	○	○	○	○
10. I can usually find something to laugh about.	○	○	○	○	○	○	○
11. My belief in myself gets me through hard times.	○	○	○	○	○	○	○
12. In an emergency, I'm someone people can generally rely on.	1	2	3	4	5	6	7

	1	2	3	4	5	6	7
13. My life has meaning.	○	○	○	○	○	○	○
14. When I'm in a difficult situation, I can usually find my way out of it.	○	○	○	○	○	○	○

Appendix 6. Resilience Scale for Adults (RSA)

Study participant ID**:**_____ Date:_____

Personal strength/Perception of self

When something unforeseen happens	I always find a solution	□ □ □ □ □	I often feel bewildered
My personal problems	are unsolvable	□ □ □ □ □	I know how to solve
My abilities	I strongly believe in	□ □ □ □ □	I am uncertain about
My judgements and decisions	I often doubt	□ □ □ □ □	I trust completely
In difficult periods I have a tendency to	view everything gloomy	□ □ □ □ □	find something good that help me thrive
Events in my life that I cannot influence	I manage to come to terms with	□ □ □ □ □	are a constant source of worry/concern

Personal strength/Perception of future

My plans for the future are	difficult to accomplish	□ □ □ □ □	possible to accomplish
My future goals	I know how to accomplish	□ □ □ □ □	I am unsure how to accomplish
I feel that my future looks	very promising	□ □ □ □ □	uncertain
My goals for the future are	unclear	□ □ □ □ □	well thought through

Structured style

I am at my best when I	have a clear goal to strive for	□ □ □ □ □	can take one day at a time
When I start on new things/projects	I rarely plan ahead, just get on with it	□ □ □ □ □	I prefer to have a thorough plan
I am good at	organizing my time	□ □ □ □ □	wasting my time
Rules and regular routines	are abscent in my everyday life	□ □ □ □ □	simplify my everyday life

Social competence

I enjoy being	together with other people	□ □ □ □ □	by myself
To be flexible in social settings	is not important to me	□ □ □ □ □	is really important to me
New friendships are something	I make easily	□ □ □ □ □	I have difficulty making
Meeting new people	is difficult for me	□ □ □ □ □	something I am good at

When I am with others I easily laugh □ □ □ □ □ I seldom laugh

For me, thinking of good topics for conversation is difficult □ □ □ □ □ easy

Family cohesion

My family's understanding of what is important in life is quite different than mine □ □ □ □ □ very similar to mine

I feel very happy with my family □ □ □ □ □ very unhappy with my family

My family is characterized by disconnection □ □ □ □ □ healthy coherence

In difficult periods my family keeps a positive outlook □ □ □ □ □ Views the future on the future as gloomy

Facing other people, our family acts unsupportive of □ □ □ □ □ loyal towards one another one another

In my family we like to do things on our own □ □ □ □ □ do things together

Social resources

I can discuss personal issues with no one □ □ □ □ □ friends/family-members

Those who are good at encouraging me are some close friends /family members □ □ □ □ □ nowhere

The bonds among my friends is weak □ □ □ □ □ strong

When a family member crisis/emergency I am informed right away □ □ □ □ □ it takes experiences a quite a while before I am told

I get support from friends/family members □ □ □ □ □ No one

When needed, I have no one who can help me □ □ □ □ □ always someone who can help me

My close friends/family members appreciate my qualities □ □ □ □ □ dislike my qualities

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Appendix 7. World Health Organization Quality of Life (WHOQOL-BREF)

Study participant ID**:** _____ Date:_____

About You

Before you begin we would like to ask you to answer a few general questions about yourself by circling the correct answer or by filling in the space provided.

1. What is your gender Male Female

2. What is your date of birth? ____/_____/_____
Day /Month/ Year

3. What is the highest education you received?

None at all
Elementary School
High School
College

4. What is your marital status? Single Separated

Single	Separated
Married	Divorced
Living as Married	Widowed

5. Are you currently ill? 1. Yes 2. No

6. If something is wrong with your health, what do you think it is? _____ illness/problem

Instructions

This questionnaire asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks. For example, thinking about the last two weeks, a question might ask:

Please circle the number					
	Very poor	Poor	Neither poor nor good	Good	Very good
1. How would you rate your quality of life?	1	2	3	4	5
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2. How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

Please circle the number					
	Not at All	A little	A moderate amount	Very much	An extreme amount
3. To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4. How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5. How much do you enjoy life?	1	2	3	4	5
6. To what extent do you feel your life to be meaningful?	1	2	3	4	5

	Please circle the number				
	Not at All	Slightly	A moderate amount	Very much	Extremely
7. How well are you able to concentrate?	1	2	3	4	5
8. How safe do you feel in your daily life?	1	2	3	4	5
9. How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

	Please circle the number				
	Not at All	Little	Moderately	Mostly	Completely
10. Do you have enough energy for everyday life?	1	2	3	4	5
11. Are you able to accept your bodily appearance?	1	2	3	4	5
12. Have you enough money to meet your needs?	1	2	3	4	5
13. How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14. To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

	Please circle the number				
	Very poor	Poor	Neither poor nor well	Well	Very Well
15. How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

	Please circle the number				
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
16. How satisfied are you with your sleep?	1	2	3	4	5
17. How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18. How satisfied are you with your capacity for work?	1	2	3	4	5
19. How satisfied are you with yourself?	1	2	3	4	5
20. How satisfied are you with your personal relationship?	1	2	3	4	5
21. How satisfied are you with your sex life?	1	2	3	4	5
22. How satisfied are you with the support you get from your friends?	1	2	3	4	5
23. How satisfied are you with the conditions of your living place?	1	2	3	4	5
24. How satisfied are you with your access to health services?	1	2	3	4	5
25. How satisfied are you with your mode of transportation?	1	2	3	4	5

The follow question refers to **how often** you have felt or experienced certain things in the last two weeks.

	Please circle the number				
	Never	Seldom	Quite often	Very Often	Always
26. How often do you have negative feelings, such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Did someone help you to fill out this form? *(Please circle Yes or No)* 1 Yes 2. No

How long did it take to fill out this form? _____

Appendix 8. Focus Group Guide

You have completed a 6 week social support intervention with us and we thank you for your participation.

The purpose of getting together today is to learn about your experiences and opinions of the 6-weeks group meetings you just completed.

Q1. What was your experience of attending the 6 week social support group meetings?

- Tell me about one specific thing that you like the most about it?
- Tell me about one specific thing that you did not like much?

Q2. How did you feel about being with other women and sharing your life experiences with them?

- How did you feel listening to other women's life challenges and their ways of managing them?

Q3. Have you noticed any changes in yourself after attending the social support group?

- Share any example?

Q4. What are your views about the group meetings themselves? If yes: why/ if no: why

- Did you get enough opportunity to talk?
- Did you feel listened to when you shared your experiences?
- Did you enjoy the activities that were carried out during the meetings?

Q5. Did you face any challenges getting to the weekly group meetings? If yes, what were some of these challenges?

Q6. Would you participate in similar programs if they were offered in the future?

If yes: Why

If no: why

Q7. Would you recommend this group to other women?

If yes: Why?

If no: Why