

FACTORS INFLUENCING POSTNATAL DEPRESSION

A CASE STUDY OF CMH RAWALPINDI



By

Sadaf Masoom

PIDE2018FMPHILHE15

Supervisor

Dr Saima Bashir

**PIDE SCHOOL OF ECONOMICS
PAKISTAN INSTITUTE OF DEVELOPMENT
ECONMICS, ISLAMABAD
(2022)**



Pakistan Institute of Development Economics

CERTIFICATE

This is to certify that this thesis entitled: “**Factors Influencing Postnatal Depression: A Case study of CMH Rawalpindi**” submitted by **Ms. Sadaf Masoom** is accepted in its present form by the PIDE School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree of **Master of Philosophy in Health Economics**.

External Examiner:

Dr. Ramesh Kumar
Associate Professor
Health Services Academy
Islamabad.

Supervisor:

Dr. Saima Bashir
Research Demographer
PIDE, Islamabad

Head, PIDE School of Economics:

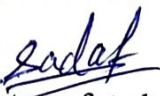
Dr. Shujaat Farooq
Assistant Professor/Head
PIDE School of Economics
PIDE, Islamabad

Authors Declarations

I Sadaf Masoom, hereby state that my MPhil thesis titled 'Factors influencing postnatal depression: A case study of CMH Rawalpindi' is my own work and has not been submitted previously by me for taking any degree from Pakistan Institute of Development Economics or anywhere else in the country/world.

At any time if any statement is found to be incorrect even after my Graduation the university has the right to withdraw my MPHILL degree.

Date: 16-2-2022


Signature of student

Name of the student

ACKNOWLEDGEMENT

This research study would not have been possible without the blessings of Allah almighty and I am really thankful to him. I pay my special gratitude to my parents because of their unconditional support for my dream to become reality. This research would not have been possible without continuous support and dedication of Dr. Saima Bashir, my supervisor and mentor, towards my work. I also want to take this opportunity to thank my internal reviewer Dr. Rizwan-ul-Haq for his valuable comments and constructive criticism on my research proposal. Due to his comments, I am able to improve the quality of my thesis. I would like to thank the ethical and approval committee of CMH Rawalpindi to allow me to collect data at their gynecological OPD department during this pandemic situation COVID-19. I also would like to thank the participant of the study. Without their willingness and cooperation, this research wouldn't be possible. Last but not the least, I am thankful to the support staff particularly nurses at CMH for supporting me during data collection time especially during COVID 19. This research wouldn't have been possible without the conducive environment of PIDE for research activity. I am grateful to everyone who have supported me for this task.

ABSTRACT

The objective of this study is to examine the relationship between the social support and postnatal depression in first-time mothers that visited Central Military Hospital (CMH) Rawalpindi. Data is collected from first time mothers who visited OPD of gynecology at a tertiary care hospital CMH Rawalpindi for postpartum checkup. The Edinburgh Postnatal Depression Scale (EPDS) and the Multidimensional Scale of Perceived Social Support (MSPSS) are used to create depression index and social support index. Bivariate and multivariate statistical techniques are used to examine the association between social support and postpartum depression (PND). Results show that around 35% of the first time mothers are depressed. Further, lack of social support turns out to be the most important and influencing factor that create postnatal depression. Among other factors place of residence and unemployed mothers are also found to be related to postnatal depression in first time mothers in our sample. Therefore, social support should be considered in any postnatal research and women's psychological health. The extent of social support is not enough to fulfill the requirements of first-time mothers, however, it's also possible that the issues are related to mothers perceived level of social support. Therefore, future research should not only focus on social support but also look at the perception of quality of social support to better understand PND. More precisely, more research is needed at a larger scale to understand the dynamics of depression after childbirth and social support network.

Keywords: postnatal depression, Social support, first time mothers

List of Tables

Table 1: Milligrams conceptual framework factors of maternal postnatal depression	30
Table 2: Percentage distribution of PND, Social support and other sample Characteristics of First Time Mothers	36
Table 3: Bivariate Relationship between PND, Social Support and other Control variables	37
Table 4: Logistic Regression of Association between PND and Social Support Among first time mothers; Rawalpindi	40

LIST OF ABBREVIATIONS

PND	Postnatal depression
CMH	Combined Military Hospital
EPDS	Edinburgh Postnatal Depression Scale
MSPSS	Multidimensional Scale of Perceived Social Support
WHO	World Health Organization
OPD	Out Patient Department
SPSS	Statistical Package for Social Science
PDI	Postnatal Depression Index
BDI	Beck Depression Inventory
OSSS	Oslo Social Support Scale 3
OS	Other Significant

TABLE OF CONTENTS

Abstract	v
List of Table	vi
List of Abbreviations	vii
CHAPTER 1	1
INTRODUCTION	1
1.1 Background of the study:	1
1.2 Postnatal Depression and Social Support	2
1.3 Problem Statement	5
1.4 Significance of the Study	6
1.5 Objectives of the Study	6
1.6 Research Questions	6
CHAPTER 2	7
LITERATURE REVIEW	7
2.1 Literature Gap	22
2.2 Conceptual Framework	22
CHAPTER 3	25
DATA AND METHODOLOGY	25
3.1 Data	25
3.2 Data Collection Procedure	25
3.2.1 Instruments	26
3.2.2 Postnatal Depression.	26
3.2.3 Social Support	27
3.3 Variables	28
3.3.1 Dependent Variable	28
3.3.2 Main Independent Variable	28
3.3.3 Other Control Variables	29
3.4 Analytical Strategy	29
3.5 Descriptive Statistics	30
3.6 Bivariate Analysis	32
3.7 Logistic Regression	35
3.8 Discussion	36
3.9 Limitations	39
CHAPTER NO 4	41

CONCLUSIONS AND RECOMMENDATIONS	41
4.1 Recommendations	41
ANNEXURE A	60
ANNEXURE B	59

CHAPTER 1

INTRODUCTION

1.1 Background of the study:

Postnatal depression (PND) is a public health problem over the world. It is the type of depression that is experienced after having a baby. The International Classification of Diseases and Related Health Problems defined postnatal depression (PND) as a mild behavioral illness that arises within its 6 weeks of birth. (WHO, 2012). Postnatal depression (PND) is a serious consequence that has been considered "a thief who steals maternity (Currò et al., 2009).

The prevalence of PND varies from 0.5% to 60% globally (Leahy-Warren & McCarthy, 2007).According to recent epidemiological studies, PND affects 15.8% of Arab women(Ghubash, Abou-Saleh, & Daradkeh, 1997) ,16% of Zimbabwean women (Nhiwatiwa, Patel, & Acuda, 1998), 13.5 percent of Chinese women(D. T. Lee, Yip, Leung, & Chung, 2004) , 17% of Japanese women (Kitamura et al., 2006). and 23% of Indian women (Vikram Patel, Rodrigues, & DeSouza, 2002).Suicide is the most frequent and the end cause of death among pregnant and postnatal depressed women (WHO, 2012).

Three studies related to postnatal depression conducted in Pakistan showed the prevalence rate ranging from 28.8 percent to 35 percent (N Husain et al., 2006);(Rahman, Iqbal, & Harrington, 2003). Other studies in Pakistan found depression rates ranging from 5.2 percent to 63.3 percent from 2 to 8 weeks after birth. (Gausia, Fisher, Ali, & Oosthuizen, 2009; Kalar et al., 2012); (Khooharo et al., 2010) (Gausia et al., 2009). The quick and long-term results of postnatal depression are strongly higher because it does not only effect mother but her newborn child, and their relationships (Leigh & Milgrom, 2008).

Meta-analytical studies suggested that history of mental health , prenatal depression, panic attacks, unpleasant life occasions, a negative emotional attributional style, low self-esteem, a

lack of social support, and a low income are the important factors that create postnatal depression PND in mothers(A. T. Beck, Steer, Ball, & Ranieri, 1996; O'hara & Swain, 1996).Early marriage and low level of education are also considered as risk factors of postnatal depression. Furthermore, history of miscarriage and pregnancy termination and childhood sexual abuse are additional risk factors for developing depression after childbirth (Rubertsson, Waldenström, & Wickberg, 2003); (Davis, Edwards, Mohay, & Wollin, 2003);(Cryan et al., 2001); (A. Buist & Barnett, 1995).

1.2 Postnatal Depression and Social Support

Social support has been found to be a key way of reducing the signs of depressive symptoms. It has four most frequently used defining attributes: emotional, instrumental, informational, and appraisal. Social network, social embeddedness, and social climate were identified as antecedents of social support. Social support consequences were subsumed under the general rubric of positive health states. Examples were personal competence, health maintenance behaviors, effective coping behaviors, perceived control, sense of stability, recognition of self-worth, positive affect, psychological well-being, and decreased anxiety and depression(Langford, Bowsher, Maloney, & Lillis,2005).The presence or social support level is a key element in reducing a women stress and enable her to right adjust to new demands. People who have close bonds with friends, family, or members of a church, workplace, or other support groups are less likely to suffer from illness or premature death. (Leahy-Warren, McCarthy, & Corcoran, 2011).

The postnatal period is a main time when the mother receives additional social support from family members in many societies. (Posmontier & Horowitz, 2004). Some traditional confinement practices help mothers to recover her physical and emotional strength after delivery. Mother get full attention, care and support from family and there are chances to reduce postnatal depression (Webster, Nicholas, Velacott, Cridland, & Fawcett, 2011); (Grigoriadis et al., 2009).

Social support enhances the quality of life. Studies have found that low level of social support may be a significant risk factor for increasing the rates of postnatal depression in the society (Xie, He, Koszycki, Walker, & Wen, 2009). For instance, (E. Leung, 1985) found that family support positively influence mothers mental health after child birth and thereby reduces risk of postnatal depression. Whereas (Taylor, 1989)observed those mothers who did not have the support of their families were more likely to develop postnatal depression.

Social support has different dimensions and depends on the severity of postnatal depression. Social support include several types of services like emotional (Emotional support includes affection and commitment, confidence and the ability to depend in and trust on another person Instrumental (includes complete assistance or benefits e.g. credits, presents, stock or products, in addition assistance through home chores) and informational support (involves offering information and guidance, as well as giving feedback) (Sugawara, Kitamura, Toda, & Shima, 1999); (Larsson, Sydsjö, & Josefsson, 2004).

(Cutrona, 1984) found that, it's possible that the levels of social support are insufficient to fulfill the demands of first-time mothers; it is also possible that these issues are related to the mothers' perceptions of social support. The level of social support was observed to have a higher with postnatal depression than the social group. (Stemp, Turner, & Noh, 1986) discovered that the intellectual perception of social support, rather than the social supportive network, contributed to changes in behavioral discomfort postnatal In addition, (Mimia Cynthia Logsdon & McBride, 1994) showed that the real level of social support was not related to the level expected of postnatal depression(PND). Rather than the actual level of support, the difference between what is received and what is expected best predicts the severity of postnatal depression.

According to (O'Hara, 1986) women with postnatal depression expressed much more dissatisfaction (assumption of social support – extent of s social support expected) through the frequent with helpful behaviors from their partners, relatives and parents than not depressed

mothers .According to (E. Leung, 1985)anxious women were much extra dissatisfied than non-depressed mothers with the quantity of emotional and other care they received from their husbands, mothers, and mother-in-law. He also came to the conclusion that depression is caused by incorrect experience or perception that does not reveal reality. Depressed families were more likely to make logical errors and draw irrational conclusions, leading to poor opinions of themselves, their world, and their future.

Existing research indicates that social support is a key element in relation to postnatal depression. A lack of social support from friends, family, and an disappointing marital relationship are often concomitants of postnatal depression (S. S. Heh, 2003). There is a need of epidemiological indication from the low income countries for the importance of social support as a protecting factor in PND. If there was an association, it might partly account for the high rates of PND rates found in many low-income developing countries where rapid social changes such as urbanization and. dislocation have taken place(N Husain et al., 2006).

Despite the importance of social support in mitigating postnatal depression, only few studies have looked at the role of social support in tackling postnatal depression in Pakistan (Afzal & Khalid, 2014); (Lau & Wong, 2008) found negative correlation between PND and social support that high social support decreases PND and low social support increase PND in Pakistani women, whereas (Wainer, 2010) find highly significant association between perceived social support and PND. The discrepancy between perceived and expected support push mothers into depression. Similarly(Parsons, Young, Rochat, Kringelbach, & Stein, 2012);(Sadiq, Shahzad, & Sadiq, 2016) found same results that PND increases in mothers is not only due to social support but there are also some other factors that create PND in mothers others factors including age, place of residence and income level.

However, to the best of my knowledge none of the study has looked at association between social support and postnatal depression among first- time mothers at 6 weeks post-delivery in Pakistan.

The risk of postnatal depression is especially high among first time mothers because they do not understand how to handle the baby particularly when there is little emotional or instrumental help and support is available for baby care and household chores. Among other factors, the partner may be the key element for creating postnatal depression in mothers by not cognizant to the fact that new mothers need strong social support. (Ward 2004). The aim of this study is therefore two folds: first to investigate the relationship between social support and postnatal depression in first-time mothers 6 weeks after delivery; second to explore which risk factors are the most important of the postnatal depression among first time mothers after controlling for social support.

1.3 Problem Statement

Postnatal depression is a problem that face by mother after child birth. Around 28 percent of women are facing postnatal depression in Pakistan. (Gausia et al.,2009). Research has highlighted factors that contribute to PND such as, education, age of marriage, house hold income, family size and employment status of husband (Leahy-Warren et al., 2011); (Reid, Power, & Cheshire, 2009); (Davies et al., 2003). Moreover, studies from the developed countries have highlighted the role of social support in tackling PND. Mothers including among great level of social supports available have less chances to face PND (Haga, 2011).However, in Pakistan only a limited studies have looked at the link between social support and postnatal depression (Afzal & Khalid, 2014) ;(Kazmi, Khan, Tahir, Dil, & Khan, 2013).Most of these studies have focused on mothers irrespective of birth order. This study is therefore, an attempt to understand how the level of social support influences postnatal depression among first time mothers.

Motherhood is a beautiful experience but it comes with a lot of challenges that affect physical and mental health. First time mothers are particularly more vulnerable when they entered into new phase of life and because of the added responsibilities they have higher likelihood of getting into depression (Simhi, Sarid, & Cwikel, 2019).This study will help in identifying the role for

social support and other factors in tackling the postnatal depression among first time mothers that visited CMH Rawalpindi. Though this study cannot be generalized at larger scale but will provide important insights on the issue of postnatal depression. This study will help in sensitizing policy makers about the role of social support and devising advocacy campaigns in addressing postnatal depression.

1.4 Significance of the Study

This study is one of most relevant policy oriented research. In spite of the fact that this research study cannot be generalized, but the result of the study will nonetheless help to highlight the importance of postnatal depression and its relationship with social support as well as shed light on the suitable intervention that understand policy actions, which are required to diminish the issue and in turn improve the maternal and child wellbeing outcomes facilitate the patients.

1.5 Objectives of the Study

To examine the relationships between social support and postnatal depression in first- time mothers at 6 weeks post-delivery.

To examine the influencing factors of Postnatal Depression after controlling for social support in first time mothers that visited CMH Rawalpindi after postpartum period.

1.6 Research Questions

What is the relationship between social support and postnatal depression in first- time mothers at 6 weeks' post- delivery?

After controlling for social support, what are the influencing factors of Postnatal Depression in first-time mothers that visited CMH Rawalpindi after postpartum period?

CHAPTER 2

LITERATURE REVIEW

Postnatal depression is an umbrella term for a variety of mood disorders that occur within 6 weeks of childbirth. (Asaye, Muche, & Zelalem, 2020). PND is a serious threat to effective mothering, with implications that affect entire families. (Hirst & Moutier, 2010). PND have not only impact on mothers but also have adverse effect on child and her entire family health (Chalise et al., 2020). The incidence of PND is especially greater in developing countries, where psychological issues such as anxiety, depression are mostly ignored (Halbreich & Karkun, 2006). Globally 0.5% to 60% prevalence of PND reported (Leahy-Warren & McCarthy, 2007) while in developing countries the predominance of postnatal depression ranges between 1.9 and 82.1 percent (Wissart, Parshad, & Kulkarni, 2005). For instance, the rate of PND varies between 3.5% to 63.3% in Asian countries and Pakistan and Malaysia had the greatest and lowest rates, respectively (Tahmassian & Moghadam, 2011). Postnatal depression was found in 15.8 percent of Arab mothers (Ghubash et al., 1997), 16 percent of Zimbabwean mothers (Nhiwatiwa et al., 1998), 13.5 percent of Chinese mothers (D. T. Lee, Yip, Chiu, Leung, & Chung, 2001), 17 percent of Japanese mothers (Yoshida, Yamashita, Ueda, & Tashiro, 2001) and 23 percent of Indian women in recent epidemiological studies (Vikram Patel, Araya, De Lima, Ludermir, & Todd, 1999).

PND is the most common difficult situation of child bearing which creates public health issue that affect mothers and their families. (Whitton, Appleby, & Warner, 1996). Similarly (C. T. Beck, 1995) found that PND can effects maternal health, Whereas, (Freeman et al., 2006) found that PND have negative impact on the women life. It endangers her capacity to acknowledge her role as a mum and hinder her ability to think about the infant. Not only mothers' health effect due to PND but also have some bad impact on child development like (Sinclair & Murray, 1998) found Moreover children of the mothers with postnatal depression (PND) are at greater risk of

impeded improvement infancy and early childhood. There are solid signs that PND can have long term unfavorable consequences for the psychological development of the child. Similarly (Chaudron, 2003) (C. T. Beck, Records, & Rice, 2006); (Earls, Child, & Health, 2010) found result that children of depressed mothers report progressively conducts issues as compared to children of the non-depressed mothers. (Jacobsen, 1999)concluded that if postnatal depression is neglected or untreated then it also have long term effects on mother as well as child health.

PND not alone push mothers and their family in to depression but there are some factors behind that cause mothers into postnatal depression. Existing research indicates that social support is an important factor in relative to postnatal depression. A lack of social support from spouse and family, and an unsatisfied married relationship are often concomitants of postnatal depression (S. S. Heh & Fu, 2003). According to the literature on PND women can become depressed due to a lack of social support and poor marital relationship so building a new interpersonal relationship with the child can be difficult for the mother and can become a stressful life event, leading to or developing a mood disorder. on (M Cynthia Logsdon, Usui, & Nering, 2009); (Khooharo et al., 2010; Lok & Neugebauer, 2007).

(Webster et al., 2011) in their study on Canadian women found that social support and Quality of life were negative linked with PND & child development. Lower or poor level of social support from husband, family and friends will increase the chances of PND in mothers and decrease the quality of life and child development, whereas high level of social support in mothers from their husband, friends and family will lead to decrease in PND and increases Quality of life as well as child development.

Similarly, (Leahy-Warren et al., 2011) found that formal structural support and emotional functional support at birth, have important .impact on PND but (S.-S. Heh, Coombes, & Bartlett, 2004) found dissatisfaction with parents' instrumental support and unwanted emotional support from parents-in-law in Taiwan women, Whereas, (Xie et al., 2009)found that that lack of

emotional, instrumental and informational support is related with greater levels of PND among postnatal mothers. In addition (N Husain et al., 2006) found that women in puerperium without adequate social support are at high risk of developing postnatal depression. There is a lack of epidemiological evidence from the low income countries for the importance of social support as a protective factor in PND such as urbanization and dislocation has taken place.

(Duko, Wolde, & Alemayehu, 2020) in their study conducted in New York measured social support, demographic factors & seasonal factors as well found that social support is the most predictive and protective factors among mothers that visited New York hospital after delivery.

(Almond & Lathlean, 2011) in their study held in British also found that PND was significantly predicted by social support and social networks..

(Paykel, 1994) examined that the mothers experienced stressful events in their life during pregnancy and also have lower social support during pregnancy have more chances of PND after child birth. Social support is the most important factor creating PND in mothers

In terms of longitudinal studies (Leavy, 1983) examined that decrease in social support over one year interval will leads to increase in PND in mothers. (Leavy, 1983; McLean & Hakstian, 1979) in their study also conducted a longitudinal study and found that social support can alleviate other physiological symptoms including anxiety and this will leads to increase child development and mother health. (Henderson & Moran, 1983) found that social support is unrelated to PND in mother but perception of social support is highly linked with PND in mothers because it is difficult to understand by friends, family and husband that what kind of support a mother will expected So the difference between actual support and predicted support will increase postnatal depression among mothers. (Cutrona, 1984) concluded that impact of social support after child birth will positively effects on mothers health. Getting low level of social support from their family will leads to high risk of PND and there are also increasing chances of suicide among them.

Postnatal depression and social support are negative linked with each other in Pakistan. The prevalence rate of PND is around 28% in Pakistan (Rahman et al., 2003) For instance, (Afzal & Khalid, 2014) have indicated that mothers in postnatal period are prone to develop postnatal depression if they lack emotional support, instrumental support, informational support or social support in general, whereas (Razurel, Bruchon-Schweitzer, Dupanloup, Irion, & Epiney, 2011) found that sometimes hormonal changes during or after pregnancy are responsible for the PND but it is also found in the mothers with lower socio economic status, poor interpersonal relationship and mothers with less social support also becomes the reason for postpartum depression. Similarly, (Kazmi et al., 2013) found that PND might affect the mothers who had low social support that may become a risk to develop postpartum Depression. In nuclear family setup women perceived more PND as compared to joint family system

Contrary to this (Senturk, Abas, Berksun, & Stewart, 2011) found that in traditional, extended family situations, we discovered that lower spousal relationship quality had stronger rather than lesser relationships with depression. In women who had never had children, a lower level of emotional support from their husband was similarly linked to depression.

(Nakamura et al., 2020) found that inadequate social support among mothers has been extensively researched as a risk factor for postpartum depression (PND). However, no research has looked into the role of informal and formal social support during pregnancy in terms of combined mother and paternal depression after birth.

Along with social support there are some other psychosocial factors which can lead to postnatal depression among mothers. For instance, (Afzal & Khalid, 2014) found gender discrimination as strongest factor that create postnatal depression for mothers. Similarly, (Vikram Patel et al., 2002) found that having a female child is the strongest factor that creates depression in mothers after child birth. Whereas, (De Tychey et al., 2008) finds that birth of the baby boy reduces postnatal depression in mothers. (Batmaz, Kaymak, Kocbiyik, & Turkcapar, 2015) find the

positive relation between gender and PND in mothers especially when a female child is born, So this gender discrimination create a high risk of PND among mothers.

Similarly, (Howard, Ehrlich, Gamlen, & Oram, 2017) found that gender discrimination turns into gender disadvantages in terms of lower salary, in terms of lower education and in terms of security so mothers after baby girl birth are more depressed because of these inequalities in our societies. In addition (Roberts, Davis, & Homer, 2019) also found that birth of female child plays important role in social, economic, cultural and political inequalities. This gender discrimination gap push mothers into PND.

World Health Organization (WHO, 2020) also identify that there will be unequal health outcomes within countries specially for women across their life span. So these inequalities after child birth push them into PND. Similarly (Heise, Pallitto, García-Moreno, & Clark, 2019)found gender discrimination as advanced as potential pathway through which gender inequality get under the skin and harms women health due to which chances of PND is more in mothers. Not only gender discrimination but also some other factors that create PND in mothers.

In terms of education (Kalyani, Saeed, Rehman, & Mubbashar, 2001) sound that low level of education have strong impact on mothers which creates PND in them. Similarly, (Tammentie, Tarkka, Åstedt- Kurki, & Paavilainen, 2002) also concluded the same results that postnatal depression in mothers is due to fewer years of education which have negative impact not only to mothers but also their family and child development. (Mokwena & Shiba, 2014) also agree with the above studies depressed mothers were young, came from poor families, and had low levels of education in Pakistan.

(Rahman et al., 2013) in their study on Pakistan found those women's education and PND are negative linked with each other. Less educated mother have more chances of depression where as high level of educated mothers have less chances of PND. Similarly, (Mohammad, Gamble,

& Creedy, 2011) found that not only low level of educated mothers but also mothers with high level of education have also chances of PND in them because they are more vocal to their feelings. Similarly (Rubin et al., 2011) found that not only mother education but her husband educational background is also a significant predictor of PND in a study of HIV-positive mothers in Chicago, the United States, it was discovered that not having a high school diploma was linked to PND.

In addition (Abdollahi et al., 2014); (Mohammed, Mosalem, Mahfouz, & Abd ElHameed, 2014) conclude another argument that low level of education of husband will lead to mothers have more chances of PND in them. Similarly (Gungor, Oskay, & Beji, 2011) found in a case study mother husbands education below or equal to grade 8 have more chances of PND in them.

Moreover (Tannous, Gigante, Fuchs, & Busnello, 2008)observed that researcher should be aware of the possibility for distinct phenotypes of postpartum depression to appear in women with varied educational backgrounds. The growing cultural diversity of civilizations, combined with the trend toward globalization, necessitates a culturally sensitive approach to patients, research, and policies that considers, beyond rhetoric, the context of a person's experiences and the setting in which research is conducted. She found that culture has an impact on the manifestation of postpartum depression. Education has a greater impact on symptom profiles and the underlying construct of depression among new moms than race and ethnicity

For instance (Di Florio et al., 2017) also found less educated women with postpartum depression are less likely to express sobbing and thoughts of self-harm, but are more likely to experience anhedonia, according to their findings. Despite the fact that there is strong evidence of a link between postpartum depression and poor socioeconomic position.

Postnatal depression also has a significant negative impact on breastfeeding. Several studies have observed that PND is a condition that affects mothers who do not breastfeed or who have

difficulty breastfeeding in addition (Warner, Appleby, Whitton, & Faragher, 1996), (Figueiredo, Dias, Brandão, Canário, & Nunes-Costa, 2013), (Saleh, El-Bahei, del El-Hadidy, & Zayed, 2013), (Dias & Figueiredo, 2015), (Norhayati, Hazlina, Asrenee, & Emilin, 2015), (Pope & Mazmanian, 2016). For instance, (Cetisli, Arkan, & Top, 2018) found that in industrialized countries, studies on the absence or non-initiation of breastfeeding have revealed conflicting results; however, in developing countries, they are hazards for developing PND.

However, initiation or willingness to breastfeed child is not enough to tackle PND. Mother especially first time mothers don't know the proper way of breastfeeding and as a result they feel more guilty that they are not capable of taking care of their child (McDonald, Henderson, Faulkner, Evans, & Hagan, 2010) in their study on mothers visiting hospital at Holland found that Breastfeeding care should be included in the screening of postnatal depression. (Tammentie et al., 2002) also concluded the same result that shorter duration of breastfeeding creates more chances of PND in mothers. Similarly (Warner et al., 1996)) also agree with the above studies that shorter time of breast feeding or no breast feeding push mothers into PND.

Moreover (Pope & Mazmanian, 2016), (Figueiredo et al., 2013), (Figueiredo, Canário, & Field, 2014), Pope and Mazmanian 2016) conclude breastfeeding and PND appear to have a bidirectional association. Breastfeeding may guard against postnatal depression or help in a faster recovery from warning sign of depression, but PND may decrease breastfeeding rates. Breast feeding decreases the chances of PND in mothers and it also protect from the symptoms of depression or assist in a speedier recovery. Whereas, (Spigset & Nordeng, 2016)) found mothers during pregnancy have chances of depression and anxiety .He also revealed that mothers who stop breastfeeding their child after delivery have more chances of PND in them.

In addition (Pope, Mazmanian, Bédard, & Sharma, 2016) examined PND in terms of breast feeding as motivation, origination , time and quantity. Furthermore, they also observed that depressed symptoms may have an impact on breastfeeding results, particularly in terms of intent

or quitting. Although (Figueiredo et al., 2013) (Pope & Mazmanian, 2016) found the specific nature of the association between depression and nursing is unknown, the evidence consistently reveals that breastfeeding has numerous advantages for both mental health including the mother and child. In addition (Figueiredo et al., 2013; Pope & Mazmanian, 2016) also concluded that breast feeding can help mother and child regulate sleep and wake patterns, improve women personality and responsive relationship from their child, lessen the child's natural issues, and promote a better contact with mother and child, all of which can reduce the risk of PND.

For Instance (Dias & Figueiredo, 2015) found that mothers who planned to breastfeeding their child but are failed to do so have more chances of PND in them. Similarly (Kendall-Tackett, 2007) found that breast feeding have positive impact on mothers and child health. It reduces the chances of depression by helping in regulation and sleep and it also modulates the inflammation process due to chances of PND in mothers is less. Moreover (Kendall-Tackett, 2007) also found that the possibility between breastfeeding and PND is biological.

Furthermore, (Glover, Onozawa, & Hodgkinson, 2002); (Kendall-Tackett, 2007); (Figueiredo et al., 2013); (Pope & Mazmanian, 2016) observed that breastfeeding can promote hormonal processes that protect mothers from depression by lowering the HPA-axis response to stress and the oxytocin-soothing effects. (Breastfeeding appears to be beneficial as well since it reduces inflammation.

In terms of age (Rubertsson et al., 2003) found that early marriages creates PND in mothers. Similarly, (Fox, Platz, & Bentley, 1995) found that not only early marriages but mothers who have lower income and lower educational attainment have high risk of PND. (Masood et al., 2015) in a study done in Pakistan observed that unemployment, poor education, teenage mother, unwanted pregnancy, unintended gender of the child, history of mental illness, prim equality of opportunity, history of miscarriage and contraception, having three or more children, being a

housewife are risk factors of PND. In addition, he found that both early and late age of marriage push mothers into depression and also influence the mother-child relationship and health.

Similarly (Muraca & Joseph, 2014) in their study done in Canada found that mother with high maternal age have more chances to depression than younger women. They also conclude that through prevention and screening will decrease burden of illness among the PND mothers. Whereas (Paudel, Dangal, Chalise, Bhandari, & Dangal, 2020) conclude that low age of mothers go to suicidal thoughts due to PND so mother screening and counseling is required in order to save mother life, health and child development.

Similarly, (Troutman & Cutrona, 1990) found that mothers age 18 and older have high risk of PND in them but they also cautioned that age factor is not the only one that is associated with PND in mothers but there are also some other risk factors that creates PND in them. Future research should be required for this in order to identify which is the strongest factors that create PND in mothers.

According to studies including mothers from Switzerland and India (rural Jharkhand, Orissa, and eastern India), (Prost et al., 2012) (Stahelin, Kurth, Schindler, Schmid, & Zemp Stutz, 2013) examined elder age is linked with greater level of PND Similarly (Bener, Gerber, & Sheikh, 2012) founded a study with Arabic mothers and Qatar found that women over the age of 35 have a higher risk of developing PND than younger women However (Katon, Russo, & Gavin, 2014) conducted a cross-sectional research of Australian women and a future cohort research of mothers in Seattle, Washington, USA, found that younger mother, with a mean age of 28.5 (6.3%), showed considerable PND signs associated toward elder mother, with a mean age of 31.7 (5.9%), who did not have these signs. These studies show that after every reproductive age have chances of PND in them.

In terms of quality of social support (Braverman & Roux, 1978); (Kumar & Robson, 1984) have found that women who had marital problems during pregnancy are more likely to develop postpartum depression. On the other hand (Hopkins, Campbell, & Marcus, 1987) were unable to corroborate this conclusion that women with postpartum depression thought their spouses were less helpful than women who were not sad. But (O'Hara, 1986);(O'Hara, Rehm, & Campbell, 1983) found that although these differences were only visible after the baby was born, not during pregnancy. The fact that the meta-analyses were based on pre-partum data reduces the possibility of reporting bias. Women with postpartum depression previously reported their spouses as being less helpful. However, it's impossible to say whether their depressive symptoms had a negative impact on their performance their relationship's perceptions These findings are free of biases like the measure were collected before the birth.

In terms of income (Bartley, 1994); (Jenkins, 1985); (Weich, Churchill, Lewis, & Mann, 1997); World Health Organization, 2001) found about the impact of socioeconomic status in the aetiology of mental health disorders and depression. Unemployment, low income, and a lack of education have all been identified as risk factors for mental illness. Moreover, the role of socioeconomic deprivation in the aetiology of postpartum depression has also been investigated.

(O'hara & Swain, 1996) in their study found that low level of income and mothers occupation are negative linked with each other which means that lower the income greater the PND level and higher income will leads to decrease in PND. Similarly, they also found that employed mothers are less likely to depressed as compared to unemployed mothers In short they came to the conclusion that factors like poor income, mother's occupation, and social standing had a tiny but significant predictive link with postpartum depression. Other socio demographic factors, such as marital status, pregnancy employment status and parity does not link with PND.

Moreover (D. Lee, Yip, Leung, & Chung, 2000); (V Patel, De Souza, & Rodrigues, 2002) (Boyce, 2003).(Warner et al., 1996) also observed that job loss and poverty were strongly linked

with PND. Similarly, they also specifically studied low level of income residents within India, China and Canada respectively and revealed that financial pressure was a significant chance factor in postnatal depression within these populations. (Dolbier et al., 2013) conclude that low socioeconomic class is the greatest important predictor of PND among non-Hispanic, White, and African American women in the United States. Similarly, (Leigh & Milgrom, 2008) found that low level of living standards are frequently linked with lower socioeconomic status; conversely, low level of living standards have been reported as an independent factor of PND even when they last for other objects.

Other similar studies in recent times (Bener, Burgut, Ghuloum, & Sheikh, 2012); Dennis *et al*, 2012; Ganann *et al*. 2015; Lee & Hung, 2015) showed that PND is predicted by one's financial situation. Lower level of family income was found to be a neutral factor of PND in a survey study showed among migrant women in Canada, immigrant Vietnamese mothers in Taiwan, and mothers in Qatar, as well as findings from local and countrywide cross-sectional Canadian survey (Lee & Hung, 2015).

In terms of unemployed mothers, (Rabiei, Mazaheri, Masoudi, & Hasheminia, 2014); (Yusuf & Saudal, 2015) found that PND is also influenced by one's employment status. Mothers job-related record was found to be a significant factor in a cross-sectional survey of women in Iran and a future longitudinal research in Malaysia and Sabah. Similarly, (Katon et al., 2014) found PND can be prevalent among unemployed women in an upcoming longitudinal research conducted with women of Seattle, Washington. According to a future cross-sectional study conducted with Arabic mother in Qatar (Bener, Burgut, Ghuloum, & Sheikh, 2012) found that majority of depressed mothers are unemployed whereas others had a specialized job, manual profession, were professional females, or served their efforts in the Armed forces and police. . Both studies show that being a housewife, whether by choice or by necessity due to unemployment, puts mothers at greater risk of PND.

Similar results were found in study conducted in northern Taiwan (Ho, Chang, & Wan, 2013) The results show that women with low income and who work part-time have a greater risk of postnatal depression than other mothers who do full time job. This suggests that women's employment help them in meeting their daily needs, and that their inability to meet those needs, even when part-time job, puts them at high risk of PND.

Place of residence is a significant factor of PND. (Vigod et al., 2013) conclude that mothers in highest populated urban areas are at a higher risk of postnatal depression than women in other regions. Much of the diversity is due to regional disparities in the division of significant risk factors for postnatal depression, such as immigration status, interpersonal violence, self-perceived health, and social support.

Similarly (Saadati, Ahmad Tarmizi, Mohd Ayub, & Abu Bakar, 2015) in her study found that mental health and behavioral issues in women have been impacted by urbanization. There is considerable evidence that city dwellers are much more prone than non-urban dwellers to report mental illness. Poverty, for example, is linked to a number of things depression, physical symptoms, social maladaptation, and other mental health issues psychological illness Fear of being a victim of crime or being exposed to violence. Depressive symptoms, posttraumatic stress disorder, and aggressiveness were all strong predictors. ethnicity, ethnic identity family, socioeconomic class, race, ethnicity, and other factors. Depression, substance abuse, and suicide are all linked to culture aggression.

Moreover (Lu, 2010) examined that urban residents mothers are commonly attributed to work-related pressures and unfavorable working conditions. They are more likely to develop stress-related health problems as a result of their increased stress. In addition, Crime and disorder in the community can have a bad e impact on people's health in urbanization.

(Curry, Latkin, & Davey-Rothwell, 2008) looked at how issues in the area, such as crime and abandoned homes, can contribute to poor mental health and psychological distress in mothers. In addition (Whitley & Prince, 2005), found women living in urban area and have jobs have difficult to handle the child and in this way they suffer higher risk of PND .Contrary to this (Brown, Lumley, McDonald, & Krastev, 2006) concluded that increased to violence and daily difficulties has a negative influence on urban women psychological health which includes anxiety, depression, post-traumatic stress disorder, and aggression.

In addition to this (Sanderson et al., 2002) found ethnic minorities in cities frequently suffer conditions and circumstances that are harmful to their psychological and physical well-being, such as economic distress, crime, unemployment, and a low quality of life in mother and create PND in them (Fauzie, 2015) found that depression, substance abuse, and violence are all linked to ethnic identity, which includes family, social status, race, ethnicity, and culture. Depressive symptoms are more likely to be influenced by a lack of supportive parents, a less established ethnic identity, and negative perceptions about one's ability to properly handle stress in mothers.

(Brandon et al., 2008) in their study also found that poverty has contributed to poor mental health as a result of rapid urbanization. Most migrants from rural areas bringing with them their own set of values, beliefs, and expectations, which are frequently at odds with those they face in their new environment. They must not only adapt to a new and hard metropolitan environment, but also to social dynamics. He found urbanization sets women at risk. Women in rural areas primarily work at home, but in urban areas, they are expected to be spouses, moms, educators, and professionals all at the same time. (Fauzie, 2015) in their study on Pakistan highlighted the fact that most of women are working in low paying jobs such as some women work as maids, salesgirls, and in the construction industry, where they are vulnerable to male violence. (Brandon et al., 2008) in their study in India, revealed that mothers had greater incidence of phobias, affective disorders, organic psychotic disorders, and suicide than men. According to (Mariam &

Srinivasan, 2009) found their study on Pakistan that the majority of women with postnatal depression come from low-middle socioeconomic backgrounds.

Moreover, (Shivalli & Gururaj, 2015) in their study on India found that PND risk was increased among postnatal women in rural areas (31.4 percent). The high risk of PND can be predicted by the birth of a female infant, poverty, pregnancy problems, or a known medical ailment. Screening for PND should be a standard part of postpartum depression. Training and effectiveness trials for screening PND by grass-roots level workers are required.

Family structure is found to be significantly associated with PND. For instance (Cox, 1999) showed that in Pakistan, if a mother is part of a joint family, she will receive support from the majority of her family members during her pregnancy and postpartum time, however in a nuclear family, there will be few people to help each other. Similarly (Nusrat Husain et al., 2011) in their study on Pakistan also identify similar conclusion that there is a strong link between depression and women who live in nuclear homes.

(Afzal & Khalid, 2016) found women in nuclear households are more sensitive to baby blues in their postnatal period than women in mixed homes. In addition another study found by (Gausia et al., 2009; Rahman et al., 2003) on mothers residing in southern Kahuta, Pakistan, it was discovered that 25% and 28% of women suffered depression throughout their prenatal and postnatal periods, respectively.

In addition (Munaf & Siddiqui, 2013) in their studies conducted in Pakistan examined that a nuclear family, a low quality of life, and marital satisfaction are all key risk factors for postpartum depression. As a result, if the marital partner shows love and affection, and if family and friends provide suitable guidance and support, women can easily manage anxiety caused by hormonal changes in the postpartum period. Those who live in nuclear homes should get

counseling from professional psychiatric services if possible throughout their postnatal depression.

(Tavakol & Heidarei, 2015) in their study conducted in Pakistan also found that a substantial negative connection between Post-natal depression scores and life and marriage satisfaction. In addition, women from joint households were less depressed than women from nuclear families. As a result, it appears that life satisfaction, marital contentment, and family structure all have a role in post-natal depression.

Postnatal depression is a genuine issue worldwide and has got substantial consideration in policy and research particularly in developed world, however it is under studied phenomenon in Pakistan. Among other reasons, depression let alone postnatal depression is considered as taboo and therefore is not discussed in academic and policy circles. Moreover, health care professional is not much trained in order to identify the influencing factors that factors that creates postnatal depression partly due to lack of research in this area.

This study is subsequently planning to fill the gap in literature on factors that influencing postnatal depression especially the influence of social support on experiencing postnatal depression among first time mothers. Tragically, no comprehensive information is accessible at national or territorial level on postnatal depression among first time mothers particularly in relation to social support. There are some studies but they are based on sample of reproductive age women 15-49 years and did not take into account the birth order. The dynamics of PND are different among first time mothers and the needs of social support are different among first time mothers. Therefore, this study is an attempt to understand the association between postnatal depression and social support among first time mothers. The study will help policy makers to identify understand the linkages between social support and PND the most important factors, which can be taken into policy debate for future.

2.1 Literature Gap

This study is subsequently planning to fulfill the gap in literature on factors that influencing postnatal depression especially the effect of social support on first time mothers experiencing postnatal depression tragically, no comprehensive information is accessible at national or territorial level on postnatal depression among first time mothers.

2.2 Conceptual Framework

Table 1: Milgram’s conceptual framework factors of maternal postnatal depression.

Vulnerability factors	Socio-cultural factors	Precipitating factors	Appraisal
Personality and cognitive style	Lack of support	Unemployment	Lack of social support
Childhood and family experiences	Incongruence between real life of perinatal period and expectations	Labor complications	Maladaptive coping style
History of perinatal depression	Unrealistic image about motherhood or motherhood myth	Mother's illness	
History of premenstrual syndrome		Infant demands	
Poor marital relationship		Financial stressors	
Previous Negative life events			

I used Milgram Conceptual framework to study the relation between PND and social support among first time mothers and to examine the influencing factors of PND after controlling for social support among first time mothers that visited CMH Rawalpindi after postpartum period. The (Leigh & Milgrom, 2008)theoretical framework defines vulnerability as factors faced by mothers associated with pregnancy that are thought to increase mothers' vulnerability to PND.. The precipitating factors, on the other hand, are present stressful events, concerns, and difficulties that develop during the perinatal period and may have an impact on mothers'

emotional well-being. The conceptual framework of (Leigh & Milgrom, 2008) distinguishes precipitating variables at each time of the perinatal period. Antenatal (before childbirth) mothers face different obstacles than postnatal (after childbirth) mothers (after childbirth and up to one year after this event). Apart from the actual problems, the literature also includes one's personal assessment of the precipitating events as well as one's ability to cope throughout the perinatal period as important implications on mothers' emotional well-being. But due to time limitation, resource constraint and COVID 19 situation, we are only able to collect data after delivery. Finally, because the perinatal period occurs in a socio-cultural setting, it's necessary to make decisions about social and cultural issues and how they affect mothers' experiences.

Policy Brief

No proper policy on mental health exists in Pakistan let alone postnatal depression. A national mental health authority was previously formed under Mental Health Ordinance 2001, which was tasked to provide advice to the government on mental health policies and legislation. The mental health authority had been involved in service planning, service management and co-ordination, and in monitoring and quality assessment of mental health services for a short period of time, before becoming inactive. In 2010, the Federal Mental Health Authority was dissolved and responsibilities were given to the provinces, empowering them to pass appropriate mental health legislation. Ever since, only two provinces (Sindh and Punjab) have formulated mental health acts, while the same is awaited in other provinces to protect those suffering from mental illness. The situation in these provinces remains legally uncertain and after lapse of the 2001 ordinance creates a legal lacuna.

The Punjab government enacted the Punjab Mental Health Act in 2014, which is itself an amendment of the 2001 ordinance and has not been processed through any consultation or participation of professionals. While progress can be seen in the province of Sindh, experts from Sindh still voice their concerns and suggest further changes to the laws. The informed and pertinent debate, as we find in the case of the province of Sindh, is still to be identified in rest of the provinces and this ignorance on mental health rights is as much evident in the policy discourse at the Federal Government level in Pakistan.

However, the mental health act of both Sindh and Punjab as well as the Federal mental health ordinance (which is ineffective after devolution) talks about the treatment and care of mentally disordered person. These mental acts are not considering the depression and stress related mental problems as the health problems. These stress and anxiety also handicapped a person from productive member of the society. The depression hampers one's ability to enjoy and think life positively.

CHAPTER 3

DATA AND METHODOLOGY

3.1 Data

The data for this study comes from Combined Military Hospital (CMH) Rawalpindi. As the purpose of this study is to examine the incidence of PND and its association with social support among first time mothers, we randomly selected first time mothers who visited CMH for postpartum checkup after six weeks of delivery. All the first time mothers who visited the Out Patient Department (OPD) of gynecology department were eligible to be part of the study. We collected data from randomly selected 150 first time mothers from CMH Rawalpindi.

3.2 Data Collection Procedure

As this is a primary data, we had to get ethical approval from the CMH ethical review board/committee for data collection (letter attached in the last). Data were collected with the help from a questionnaire that took about 15 minutes to complete. The respondents who were first time mothers and were 6 weeks postpartum and willing to take part in the study were randomly identified and referred by their respective doctors. Mothers who were suffering from another medical condition such as pain, insomnia were excluded from the study as they could wrongly attribute their physical symptoms to that of depression and may possibly bias the sample. The target group was married first time mothers who are 6th week postpartum and visited hospital for postnatal checkup. The interviewer used to visit the gynecology OPD during their office timings and after taking consent from the respondents collected the data. The data is collected between March-August 2020. Researcher has read and provided the consent sheet to each participant describing the study's objective and simply saying that participation was entirely voluntary. Data was collected from 150 first time mothers in one to one interviews session. Purposive sampling technique is used to recruit women for interview. All first time mothers who visited CMH

gynecological OPD and showed willingness to be part of the study were eligible.

3.2.1 Instruments

A 12-item questionnaire collected data on demographic and background characteristics of the participants and included a short version of the MSPSS Questionnaire (Zimet, Dahlem, Zimet, & Farley, 1988) as well as the EPDS (Cox, Holden, & Sagovsky, 1987). A pilot study was conducted with 10 respondents who were first time mothers to test the face validity of the instrument. The Cronbach's alpha coefficient was 0.80.

3.2.2 Postnatal Depression.

A wide variety of measures have been used to screen women for depression in the postnatal period. These include the Beck Depression Inventory (Beck et al., 1961) and the Centre for Epidemiological Studies-Depression Scale (Radloff, 1977). However particular care needs to be taken in the postnatal period as some of the features of depression identified in these scales, such as sleep disturbance, changes in appetite and weight loss, are normal features of postpartum adaptation. One measure which largely avoids these biological symptoms of depression is the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987). The EPDS has been used widely in studies investigating postnatal depression in women, and has been used in some studies to assess depressive symptoms in men as well (Matthey et al., 2001, Ramchandani et al., 2005). The EPDS is the most frequently used PND screening tool (Leahy- Warren, McCarthy, & Corcoran, 2012); (Leahy- Warren et al., 2012). The EPDS has been found to be reliable and valid in identifying depressive symptoms in pregnant mothers in numerous studies. (Xie et al., 2009).

The Edinburgh Postnatal Depression Scale is intended as a screening scale for identifying postnatal depression in health care settings. It is based on 10-item questionnaire for identify the complications in mothers after child birth. A reasonable time to screen is four to eight weeks after delivery and it can be repeated. The EPDS score is not a diagnosis and therefore it should

not override clinical judgment. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt during the previous week. In doubtful cases it may be useful to repeat the tool after 2 weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders. calculation is a little complex with questions 1, 2, & 4 being scored 0, 1, 2 or 3 (with the top answer scored as 0 and the bottom answer scored as 3), while questions 3, 5 & 10 are scored in the reverse. A score of 12 or more identifies women with postnatal depression, but many studies use a cut-off of 10 depends on their research questions. In my study 0 is considered as strongly agree 1 is considered as agree 2 is considered as disagree 3 is considered as strongly disagree.

3.2.3 Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS; Appendix A) is a frequently used 12-item instrument developed by Zimet et al. to assess the subjective adequacy of an individuals' social support (Zimet, Dahlem, Zimet, & Farley, 1988). Since the MSPSS was first published in 1988, it has been used extensively in both healthy and clinical samples to assess respondents' perceived social support (Bruwer, Emsley, Kidd, Lochner, & Seedat, **2008**; Canty-Mitchell & Zimet, 2000; Dahlem, Zimet, & Walker, 1991; Eker, Arkar, & Yaldız, 2001; Stanley, Beck, & Zebb, 1998; Vaingankar et al., 2012; Zhou et al., 2015; Zimet et al., 1988; Zimet, Powell, Farley, Werkman, & Berkoff, 1990). The MSPSS is preferred for use in many contexts because it is brief, and provides measures of support from significant others (SO), family (FAM), and friends (FRI). It is meant to measure an individual's perception of how much he or she receives outside social support and has been tested on people from different age groups and cultural backgrounds and found to be a reliable and valid instrument. Most investigations have revealed that the MSPSS had good reliability (with a Cronbach's alpha of 0.85 to 0.91). MSPSS to be a three-factor construct which demonstrates good to excellent internal.

In this study, I used MSPSS to measure social support. As mentioned above, MSPSS measures perception of social support from three specific sources friends, family and significant other.

Although other scale contained item addressing these sources of support most did not consider them potentially separate distinct subgrouping.

This instrument is 12 questions long and has been widely used and well validated. It is a 12-item score in order to examine the qualitative level of efficacy of social support from three aspects including friends, family and husband (Questionnaire attached in Appendix A). Each item is scored on a 7-point scale, with 1 being very strongly disagree and 7 being very strongly agree (7). By concentrating on individual perceived support from three different sources, the MSPSS is a helpful tool for examining how each source may be directly and differentially connected to the mental health of depressed and non-depressed mothers. In this study, social support is assessed using the MSPSS (Zimet et al., 1988) during the postnatal period (6 weeks after delivery) .

3.3 Variables

3.3.1 Dependent Variable

3.3.1a Edinburgh Postnatal Depression (EPDS)

I used the Edinburgh postnatal depression scale to assess the postnatal depression

For this study (EPDS) will be dichotomous in nature; 1 representing postnatal depression (women who will score above 13) and 0 (those who score less than or equal to 13) represents not depressed.

3.3.2 Main Independent Variable

3.3.2a Social Support

I used MSPSS to measure social support. As mentioned above MSPSS is 12-item scale measuring different dimensions of social support available to mothers. For this particular study, I am looking at the overall level of social support available to mothers and not disaggregating it into various aspects of social support such as Family, friends, or significant other.

Scoring Information:

As suggested by (Zimet et al., 1988) mean score is calculated by adding the sums of all 12 items and then dividing by 12. In this approach, any mean scale score between 1 and 2.9 is considered low social support; a score between 3 and 5 is considered moderate support; and a score between 5.1 and 7 is considered high social support.

Reliability

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha is one way of measuring the strength of that consistency. The scale reliability is checked by using Cronbach's Alpha. The internal consistency of the entire scale is good, with a Cronbach's α of 0.87

3.3.3 Other Control Variables

In addition to MSPSS, I controlled for various socio-demographic and economic variables such as age, education, gender of child, place of residence, status, family income, gender and breast feeding.

Age as a categorical variable and its measurement is represented in 3 categories, as shown below: 20years old, 21-30years old, and 31 years and above. Mother's education is classified into three categories: no formal education (reference category), primary education (grade 1-5), secondary and above education (grade 6 & above). Gender of child is a dichotomous variable 0 represents female and 1 for male. Family income is measured in three categories: less than 20 thousand, 21-40 thousand and 41 thousand and above. Breastfeeding is a dichotomous measure and is defined as 0 if mother is not breastfeeding her child and 1 is mother reported that she is breastfeeding her child.

3.4 Analytical Strategy

Bivariate and multivariate statistical techniques used to observe the link between social support and postnatal depression. The statistical significance of association between PND and social

support and other control variables is tested by applying chi-square test. The Pearson correlation between scores on the MSPSS and EPDS is calculated to determine if there is a link between perceived social support (measured with the MSPSS) and postnatal depression (measured with the EPDS).

For multivariate analysis, binary logistic model is used because dependent variable is dichotomous in nature. Logistic regression is a type of linear regression that is more complex than simple linear regression. When the dependent variable is dichotomous or binary. Logistic regression is a statistical technique for predicting the relationship between predictors. (our independent variables, Social Support index, Age, gender discrimination, place of residence, income, education) and a predicted variable (Postnatal depression Index) where the dependent variable is dichotomous. The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 20 software.

RESULTS

3.5 Descriptive Statistics

Table 2 present the percentage distribution of the sample characteristics of first time mothers. More than one third of the first time mothers responded that they are suffering from postnatal depression. Around 78.7% of the respondent had moderate level social support available to them and further 7.3% first time mother had higher level of social support available to them whereas only 14.0% of the sample had low level of social support from their family.

Majority of the first time mothers are between the ages of 21-30 years (61%) and one fourth of the sample respondent are above 30 years. In terms of education, around 84% of the first time mothers has secondary and above education. More than half of the sample (54%) is from rural areas and around 50% of the first time mothers are employed.

Table 2: Percentage distribution of PND, Social Support and other Sample Characteristics of First Time Mothers

<i>Variables</i>	<i>Percentages%</i>
<i>Postnatal Depression (EPDs)</i>	
Depressed	35.3%
Not depressed	64.7%
<i>Social Support</i>	
Low level	14.0%
Moderate level	78.7%
High level	7.3%
<i>Age</i>	
Below 20	14.0%
21-30 years	60.7 %
31 and above	25.3 %
<i>Education</i>	
No formal education	3.3%
Primary education	12.7%
Secondary education and above	84.0%
<i>Place of Residence</i>	
Rural	54.0%
Urban	46.0%
<i>Marital Status</i>	
Married	95.4%
Divorced/separated/widowed	6.7%
<i>Working Status</i>	
Employed	50.0%
Unemployed	50.0%
<i>Family Type</i>	
Nuclear	60.7%
Joint	39.3%
<i>Gender of the child</i>	
Male	48.0%
Female	52.0%
<i>Breast feeding</i>	
Yes	85.3%
No	14.7%
<i>Husband Occupation</i>	
Government	70.0%
Private/Other	30.0%
<i>Household Income</i>	
Less than 20000	14.7%
21000-40000	52.0%
41000 &above	33.3%

More than 60 percent of the respondents live in nuclear family. Forty-eight percent of the babies born to first time mothers are male. Majority of the mothers are breastfeeding their babies

(85.3%). This table also shows that more than two third (70.0%) of the respondent’s husband are working in government sector where as rest of the respondent’s husband working in private sector. More than 50 percent of the respondent’s household income is between 21000-40000 where as one-third of the respondent’s report that their household income is above 41000 rupees.

3.6 Bivariate Analysis

Table 3 presents the bivariate relationship between PND, Social Support and other control variables including age, education, gender of the child, place of residence, marital status, family type, employment status, husband occupation and family income. Chi –square is used to test whether distributions of categorical variables differ from each other.

The bivariate analysis supports our hypothesis that less social support significantly increases the risk of postpartum depression (90.5%). Whereas first time mothers who have high level of social support have low rate of postpartum depression (9.1%).

Table 3: Bivariate Relationship between PND, Social Support, and Other Control Variables

Variables	Depres sed	Not- depres sed	P- valu e
Social Support Index			<i>.000</i>
Low social support	90.5%	9.5%	
Moderate social support	28.0%	72%	
High social support	9.1%	90.9%	
<i>Age</i>			<i>.001</i>
Below 20 years	57.1%	42.9%	
21-30 years	39.6%	60.4%	
31 and above	13.2%	86.8%	
Education			<i>.365</i>
No formal Education	60.0%	40.0%	

Primary Education	26.3%	73.7%	
Secondary Education \$ above	35.7%	64.3%	
Place of Residence			.018 %
Rural	27.2%	72.8%	
Urban	44.9%	55.1%	
Marital Status			.497 %
Married	35.0%	65%	
Divorced/Widowed/Seperated	40.0%	60.0%	
Working Status			.000 %
Employed	8.0%	92.0%	
Unemployed	62.7%	37.3%	
Family Type			.001 %
Nuclear	25.3%	74.7%	
Joint	50.8%	49.2%	
Gender of the child			.374 %
Male	33.3%	66.7%	
Female	37.2%	62.8%	
Breast Feeding			.273 %
Yes	36.7%	63.3%	
No	27.3%	72.7%	
Husband Occupation			.274 %
Government	33.3%	66.7%	
Private	40.0%	60.0%	
Family Income			.758

Less Than 20000	40.9%	59.1%	
21000-40000	35.9%	64.1%	
41000\$ above	32.0%	68.0%	

<i>Depressed</i>	<i>Not depressed</i>	<i>P-value</i>
<i>Social Support Index</i>	.000	
Low social support	90.5%	9.5%
Moderate social support	28.0%	72.0%
High social support	9.1%	90.9%
<i>Age</i>	.001	
Below 20 years	57.1%	42.9%
21-30 years	39.6%	60.4%
31 and above	13.2%	86.8%
<i>Education</i>	.365	
No formal Education	60.0%	40.0%
Primary Education	26.3%	73.7%
Secondary education and above	35.7%	64.3%
<i>Place of Residence</i>	.018	
Rural	27.2%	72.8%
Urban	44.9%	55.1%
<i>Marital Status</i>	.497	
Married	35.0%	65.0%
Divorced/Widowed/Separated	40.0%	60.0%
<i>Working Status</i>	.000	
Employed	8.0%	92.0%
Unemployed	62.7%	37.3%
<i>Family Type</i>	.001	
Nuclear	25.3%	74.7%
Joint	50.8%	49.2%
<i>Gender of the Child</i>	.374	
Male	33.3%	66.7%
Female	37.2%	62.8%
<i>Breast Feeding</i>	.273	
Yes	36.7%	63.3%
No	27.3%	72.7%
<i>Husband Occupation</i>	.274	
Government	33.3%	66.7%
Private/Other	40.0%	60.0%

<i>Family Income</i>	.758	
Less than 20000	40.9%	59.1%
21000-40000	35.9%	64.1%
41000&above	32.0%	68.0%

Among other factors, younger mothers (below age 20), belonging to urban areas, unemployed, and living in joint family have higher risk of PND. More than half of the first time mothers who are below 20 age are more depressed (57.1%). Though not significant, mothers with no formal education have reported higher rates of PND (60%). Similarly, low level of income leads to the risk of PND (41%).

3.7 Logistic Regression

Table 3 presents that logistic regression results of impact of social support on PND among first time mothers. In Model 1, we only introduced social support. The results support the bivariate analysis and show that mothers with moderate or high level of social support available are significantly less likely to experience PND (OR=0.04 & OR=0.01 respectively) as compared to first time mothers who have low level of social support.

In Model 2, we have introduced the other control characteristics to examine whether the relationship between PND and social support changes by controlling other socio demographic and economic variables. The relationship between PND and social support did not necessarily change. Mothers with higher level of social support available are significantly less likely to experience PND followed by mothers with moderate level of social support available compared to their counterparts who had low level of social support.

Table No 4: Logistic Regression of Association between PND and Social Support among First Time Mothers: Rawalpindi

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>
<i>Social Support</i>		
Low Social Support	- -	
Moderate Social Support	.041***	0.05**
High Social Support	.011***	0.02*

Age

Below 20 years	-
21-30 years	1.061
31 and above	.850
<i>Education</i>	
No formal Education	-
Primary Education	.185
Secondary education and above	.383
<i>Place of Residence</i>	2.85*
<i>Marital Status</i>	1.780
<i>Working Status</i>	17.958***
<i>Family Type</i>	2.275
<i>Gender of the Child</i>	.935
<i>Breast Feeding</i>	3.147
<i>Husband Occupation.</i>	.766
<i>Family Income</i>	
Less than 20000	-
21000-40000	1.164
41000 & above	.434
<i>Constant</i>	9.500**

The results show that the risk of PND among first time mothers live in urban areas is 3 times as high as compared to first time mothers living in rural areas (OR=2.8). Interestingly and contrary to expectations, unemployed mothers are significantly more likely to experience PND as compared to working mothers. It is found that low social support, urban residence and being unemployed are negatively associated with postnatal depression among first time mothers.

3.8 Discussion

Postnatal depression is a complicated system of physical, behavioral, and social exchanges that occur in women after delivery. It is a type of major depression that begins within the first four weeks of childbirth. (Goldberg, Smith, & Ross, 2020). Although delivering to a new child is commonly a pleasing and satisfying practice, a few mothers experience several emotional problems during this time. Postpartum depression is the most common and difficult psychiatric

issue for these mothers (Danaci et al., 2002). The prevalence of PND is especially high in developing countries, where postnatal depression is ignored (Halbreich & Karkun, 2006).

Globally 0.5% to 60% prevalence of PND reported (Leahy-Warren & McCarthy, 2007). PND not alone push mothers and their family in to depression but there are some component factors behind that push mothers into postnatal depression. Existing research indicates that social support is a significant component for generate the PND. The unavailability of social support from partner and family, and a poor marital relationship are often concomitants of PND.

Keeping in view the high prevalence of PND in Pakistan, it is important to understand the how social support influences PND as we could not find any study that has looked at the connection between postnatal depression and social support among first time mothers. For this study, data is collected from first time mothers who visited OPD of gynecology at a tertiary care hospital CMH Rawalpindi for postpartum checkup. EPDS and the MSPSS are used to create depression index and social support index. Bivariate and multivariate statistical techniques are used to identify the connection among postnatal depression and social support .

Analysis shows that social support is the most important influencing factor that increases the risk of PND among first time mothers. The finding is significant and supports our hypothesis that lower the support from family, friends and partners higher the risk of PND in first time mothers. It is difficult to manage childcare and household responsibilities particularly for first time mothers who are learning to adjust new way of life. Unavailability of social support, therefore, can push them into depression. Similarly, social support in the form of help from mother or mother-in-law is usually available for the first few weeks (P. Leung, Cheung, & Cheung, 2011) but as postpartum depression manifested itself after 6-8 weeks, by that time usually social support in is no more available.

The findings are consistent with other studies for instance; (Tambağ, Turan, Tolun, & Can, 2018) concludes that as the higher the level of social support there is a decrease at postnatal depression risk whereas (Leathers, Kelley, & Richman, 2017) also found that greater level of generally perceived stress and absence of social support are linked through PND. The occurrence of social support has been related to reduced stress levels and improve overall health status. Pakistan's family system provides social support and care to mothers after child-birth (Posmontier & Horowitz, 2004) However, the high prevalence of PND among first time mother 35.3 percent in our sample asks for in-depth research on this topic. Due to lack of social support It is difficult to manage child and house hold chores and push them in to depression.

In addition if there is support available to them, it may that even though the first time mother in our sample have social support available to them as evident from the results (around 79% had moderate level of social support), these mothers are unsatisfied with quality of social support available to them. Literature suggested that quality of social support increases or decreases the likelihood of postnatal depression (Bodhare et al., 2015); (Stemp et al., 2001).

The entire level of social support wasn't related near the expected level of postnatal depression (PND) (Hedge, Latha & Sharma 2012 ; Leahy- Warren et al., 2012). Instead than the real level of social support, the difference between what was received and what was expected best expects the level of PND.

Education may also be the risk factor of postnatal depression (Milgrom et al., 2008) in first time mothers. Majority of the respondent in my sample have secondary and above education (84%). It could be that these women were more aware and vocal about their feelings and therefore reported higher incidence of depression.

Having said so, there is no denial of the fact that the access of social support a woman receives stays a significant factor for reducing her burden and resulting in enhanced change to new demands placed on her. As a result, every study of postnatal women's mental health should take social support into account.

Among other factors that significantly increase the risk of PND among first time mothers are urban residence and being unemployed. Results show that mothers living in urban residence are more likely to experience PND as compared to their rural counterpart. The possible explanation for higher PND among urban women is that urban life style is very different and individualistic in nature. Also nuclear family system is more prevalent in urban areas. (Senturk et al.,2011). Therefore, these mothers may not have strong support system to help them navigate the new change in their family. Whereas, in Pakistan family system is still strong in rural areas and these women have more social support available to them not only from immediate family members but from extended community as well (N Husain et al., 2006).

The higher risk of PND among unemployed first time mothers is an intriguing finding (Abrahams & Stellenberg, 2015)One reason could be that our sample is predominantly educated. More than 80% of the first time mothers had secondary and above education. So, these mothers may feel that with addition of another family member they need more financial resources. Studies have shown that income level is also an influencing variable for postnatal depression.(A. E. Buist et al., 2008)

3.9 Limitations

However, there are several limitations of this study. First, it is based on small and local sample and results cannot be generalized at larger scale. It is a hospital based study and therefore not representative of postnatal depression among general population at large. At the time of this study (March-August 2020) COVID 19 was at its peak. Most of the hospitals had limited their OPD operations and also not providing permission to contact the patients due to communicable

nature of COVID. Therefore, I could only collect information from a small sample following the proper SOPs of COVID 19. Second, the results of the study may be interpreted with cautions as majority of my study sample turns out to be educated. This may bias the results of the study too as educated mothers may be more vocal of their feelings.

Thirdly, I am focusing on first time mothers particularly those who gave birth within first two years of marriage. Though it's not ideal but it will to some extent address the problem of common depression. As age at marriage in Pakistan is around 18. The chances from depression are quite low in this group. Moreover, though its ideal to collect information in both prenatal and postnatal period from the same group of respondents to separate the effect of prenatal depression on postnatal depression but due to time limitation and resource I could not collect data in prenatal period. Further, my data lacks information on the previous episodes of depression or mood swings a respondent had. Similarly, questions on marital quality are not asked which may provide further insights into the issue of depression in general and postnatal depression in particular.

CHAPTER NO 4

CONCLUSIONS AND RECOMMENDATIONS

Analysis shows higher incidence of PND among first time mothers. Furthermore, social support turn out to be the most important factor that increases the risk of postnatal depression among first time mothers that visited CMH Rawalpindi at 6 week of post-delivery. Greater extent of social support decreases the chance of postnatal depression. Around 80 percent of the first time mothers had moderate level of social support from family members and friends and partners and another 7% had increase level of social support. Social support is the most predictive and protective factors that create postnatal depression in first time mothers that visited CMH Rawalpindi. Among other factors, place of residence and employment status of mothers also effect and push first time mothers in to postnatal depression.

4.1 Recommendations

Policy Makers:

There is a need of proper Evidence based mental health policy to lower the risk for postnatal depression because we do not have trained health care professionals in order to identify PND among mothers.

General Public and Academia:

There is need to focus on quality of social support that what mothers actually expect instead of social support from their families, friends and husband. Further in-depth research particularly at national level is needed to understand the scale of problem. Future research should take into account other related variables such as depression in pre and post pregnancy, marital quality to better understand the context. There is also a need to

include fathers in research on postnatal depression as recent studies from developed countries highlighted that the chances of PND in fathers also increasing in future.

REFERENCES

- Abdollahi, F., Rohani, S., Sazlina, G. S., Zarghami, M., Azhar, M. Z., Lye, M. S., . . . Mozafari, S. (2014). Bio-psycho-socio-demographic and obstetric predictors of postpartum depression in pregnancy: a prospective cohort study. *Iranian journal of psychiatry and behavioral sciences*, 8(2), 11.
- Abrahams, J. M., & Stellenberg, E. L. (2015). Prevalence of and factors influencing postnatal depression in a rural community in South Africa. *African Journal of Primary Health Care and Family Medicine*, 7(1), 1-8.
- Afzal, S., & Khalid, R. (2014). Social Support and Postnatal Depression in Pakistani Context. *Pakistan Journal of Social and Clinical Psychology*, 12(1), 34.
- Afzal, S., & Khalid, R. (2016). Postnatal Affective Disorders: Mapping the research in Pakistan. *Journal of Gender & Social Issues*, 15(1).
- Almond, P., & Lathlean, J. (2011). Inequity in provision of and access to health visiting postnatal depression services. *Journal of advanced nursing*, 67(11), 2350-2362.
- Asaye, M. M., Mucbe, H. A., & Zelalem, E. D. (2020). Prevalence and predictors of postpartum depression: Northwest Ethiopia. *Psychiatry Journal*, 2020.
- Bartley, M. (1994). Unemployment and ill health: understanding the relationship. *Journal of Epidemiology & Community Health*, 48(4), 333-337.
- Batmaz, S., Kaymak, S. U., Kocbiyik, S., & Turkcapar, M. H. (2015). From the first episode to recurrences: the role of automatic thoughts and dysfunctional attitudes in major depressive disorder. *International Journal of Cognitive Therapy*, 8(1), 61-77.
- Beck, A. T., Steer, R. A., Ball, R., & Ranieri, W. F. (1996). Comparison of Beck Depression Inventories-IA and-II in psychiatric outpatients. *Journal of personality assessment*, 67(3), 588-597.
- Beck, C. T. (1995). The effects of postpartum depression on maternal-infant interaction: a meta-analysis. *Nursing research*.

- Beck, C. T., Records, K., & Rice, M. (2006). Further development of the postpartum depression predictors inventory- revised. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 35*(6), 735-745.
- Bener, A., Burgut, F. T., Ghuloum, S., & Sheikh, J. (2012). A study of postpartum depression in a fast developing country: prevalence and related factors. *The International Journal of Psychiatry in Medicine, 43*(4), 325-337.
- Bener, A., Gerber, L. M., & Sheikh, J. (2012). Prevalence of psychiatric disorders and associated risk factors in women during their postpartum period: a major public health problem and global comparison. *International journal of women's health, 4*, 191.
- Boyce, P. (2003). Risk factors for postnatal depression: a review and risk factors in Australian populations. *Archives of Women's Mental Health, 6*(2), s43-s50.
- Brandon, A. R., Trivedi, M. H., Hynan, L. S., Miltenberger, P. D., Labat, D. B., Rifkin, J. B., & Stringer, C. A. (2008). Prenatal depression in women hospitalized for obstetric risk. *Journal of Clinical Psychiatry, 69*(4), 635.
- Braverman, J., & Roux, J. (1978). Screening for the patient at risk for postpartum depression. *Obstetrics and Gynecology, 52*(6), 731-736.
- Brown, S. J., Lumley, J. M., McDonald, E. A., & Krastev, A. H. (2006). Maternal health study: a prospective cohort study of nulliparous women recruited in early pregnancy. *BMC pregnancy and childbirth, 6*(1), 1-12.
- Buist, A., & Barnett, B. (1995). Childhood sexual abuse: a risk factor for postpartum depression? *Australian and New Zealand Journal of Psychiatry, 29*(4), 604-608.
- Buist, A. E., Austin, M.-P. V., Hayes, B. A., Speelman, C., Bilszta, J. L., Gemmill, A. W., . . . Milgrom, J. (2008). Postnatal mental health of women giving birth in Australia 2002–2004: findings from the beyondblue National Postnatal Depression Program. *Australian & New Zealand Journal of Psychiatry, 42*(1), 66-73.

- Cetisli, N. E., Arkan, G., & Top, E. D. (2018). Maternal attachment and breastfeeding behaviors according to type of delivery in the immediate postpartum period. *Revista da Associação Médica Brasileira*, *64*, 164-169.
- Chalise, M., Karmacharya, I., Kaphle, M., Wagle, A., Chand, N., & Adhikari, L. (2020). Factors associated with postnatal depression among mothers attending at Bharatpur Hospital, Chitwan. *Depression research and treatment*, 2020.
- Chaudron, L. H. (2003). Postpartum Depression. *Pediatrics in review*, *24*(5), 155.
- Cox, J. L. (1999). Perinatal mood disorders in a changing culture. A transcultural European and African perspective. *International review of psychiatry*, *11*(2-3), 103-110.
- Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. *The British journal of psychiatry*, *150*(6), 782-786.
- Cryan, E., Keogh, F., Connolly, E., Cody, S., Quinlan, A., & Daly, I. (2001). Depression among postnatal women in an urban Irish community. *Irish Journal of Psychological Medicine*, *18*(1), 5-10.
- Currò, V., De Rosa, E., Maulucci, S., Maulucci, M. L., Silvestri, M. T., Zambrano, A., & Regine, V. (2009). The use of Edinburgh Postnatal Depression Scale to identify postnatal depression symptoms at well child visit. *Italian Journal of pediatrics*, *35*(1), 1-9.
- Curry, A., Latkin, C., & Davey-Rothwell, M. (2008). Pathways to depression: The impact of neighborhood violent crime on inner-city residents in Baltimore, Maryland, USA. *Social science & medicine*, *67*(1), 23-30.
- Cutrona, C. E. (1984). Social support and stress in the transition to parenthood. *Journal of abnormal psychology*, *93*(4), 378.

- Danaci, A. E., Dinc, G., Deveci, A., Seyfe, F., Icelli, S. I., Danaci, A. E., . . . Içelli, I. (2002). Postnatal depression in turkey: epidemiological and cultural aspects. *Social Psychiatry & Psychiatric Epidemiology*, 37(3).
- Davies, S. L., DiClemente, R. J., Wingood, G. M., Harrington, K. F., Crosby, R. A., & Sionean, C. (2003). Pregnancy desire among disadvantaged African American adolescent females. *American Journal of Health Behavior*, 27(1), 55-62.
- Davis, L., Edwards, H., Mohay, H., & Wollin, J. (2003). The impact of very premature birth on the psychological health of mothers. *Early human development*, 73(1-2), 61-70.
- De Tyche, C., Briançon, S., Lighezzolo, J., Spitz, E., Kabuth, B., De Luigi, V., . . . Thockler, A. (2008). Quality of life, postnatal depression and baby gender. *Journal of clinical nursing*, 17(3), 312-322.
- Di Florio, A., Putnam, K., Altemus, M., Apter, G., Bergink, V., Bilszta, J., . . . Devouche, E. (2017). The impact of education, country, race and ethnicity on the self-report of postpartum depression using the Edinburgh Postnatal Depression Scale. *Psychological medicine*, 47(5), 787-799.
- Dias, C. C., & Figueiredo, B. (2015). Breastfeeding and depression: a systematic review of the literature. *Journal of affective disorders*, 171, 142-154.
- Dolbier, C. L., Rush, T. E., Sahadeo, L. S., Shaffer, M. L., Thorp, J., & Investigators, C. C. H. N. (2013). Relationships of race and socioeconomic status to postpartum depressive symptoms in rural African American and non-Hispanic white women. *Maternal and child health journal*, 17(7), 1277-1287.
- Duko, B., Wolde, D., & Alemayehu, Y. (2020). The epidemiology of postnatal depression in Ethiopia: a systematic review and meta-analysis. *Reproductive health*, 17(1), 1-9.
- Earls, M. F., Child, C. o. P. A. o., & Health, F. (2010). Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics*, 126(5), 1032-1039.

- Fauzie, A. K. (2015). Impacts of Urbanization on Mental Health and Problem Behavior. *International Journal of Multidisciplinary Research and Development*, 2(12), 87-89.
- Figueiredo, B., Canário, C., & Field, T. (2014). Breastfeeding is negatively affected by prenatal depression and reduces postpartum depression. *Psychological medicine*, 44(5), 927-936.
- Figueiredo, B., Dias, C. C., Brandão, S., Canário, C., & Nunes-Costa, R. (2013). Breastfeeding and postpartum depression: state of the art review. *Jornal de pediatria*, 89, 332-338.
- Fox, R. A., Platz, D. L., & Bentley, K. S. (1995). Maternal factors related to parenting practices, developmental expectations, and perceptions of child behavior problems. *The Journal of Genetic Psychology*, 156(4), 431-441.
- Freeman, M., Hibbeln, J., Wisner, K., Brumbach, B., Watchman, M., & Gelenberg, A. (2006). Randomized dose- ranging pilot trial of omega- 3 fatty acids for postpartum depression. *Acta Psychiatrica Scandinavica*, 113(1), 31-35.
- Gausia, K., Fisher, C., Ali, M., & Oosthuizen, J. (2009). Magnitude and contributory factors of postnatal depression: a community-based cohort study from a rural subdistrict of Bangladesh. *Psychological medicine*, 39(6), 999-1007.
- Ghubash, R., Abou-Saleh, M., & Daradkeh, T. (1997). The validity of the Arabic Edinburgh postnatal depression scale. *Social psychiatry and psychiatric epidemiology*, 32(8), 474-476.
- Glover, V., Onozawa, K., & Hodgkinson, A. (2002). *Benefits of infant massage for mothers with postnatal depression*. Paper presented at the Seminars in Neonatology.
- Goldberg, A. E., Smith, J. Z., & Ross, L. E. (2020). 4. Postpartum Depression and Anxiety in Male-Partnered and Female-Partnered Sexual Minority Women. In *Marriage and Health* (pp. 53-70): Rutgers University Press.

- Grigoriadis, S., Robinson, G. E., Fung, K., Ross, L. E., Chee, C., Dennis, C.-L., & Romans, S. (2009). Traditional postpartum practices and rituals: clinical implications. *The Canadian Journal of Psychiatry*, *54*(12), 834-840.
- Gungor, I., Oskay, U., & Beji, N. K. (2011). Biopsychosocial risk factors for preterm birth and postpartum emotional well-being: a case-control study on Turkish women without chronic illnesses. *Journal of clinical nursing*, *20*(5- 6), 653-665.
- Haga, S. M. (2011). Identifying risk factors for postpartum depressive symptoms: the importance of social support, self-efficacy, and emotion regulation.
- Halbreich, U., & Karkun, S. (2006). Cross-cultural and social diversity of prevalence of postpartum depression and depressive symptoms. *Journal of affective disorders*, *91*(2-3), 97-111.
- Heh, S.-S., Coombes, L., & Bartlett, H. (2004). The association between depressive symptoms and social support in Taiwanese women during the month. *International journal of nursing studies*, *41*(5), 573-579.
- Heh, S. S. (2003). Relationship between social support and postnatal depression. *The Kaohsiung journal of medical sciences*, *19*(10), 491-495.
- Heh, S. S., & Fu, Y. Y. (2003). Effectiveness of informational support in reducing the severity of postnatal depression in Taiwan. *Journal of advanced nursing*, *42*(1), 30-36.
- Heise, L., Pallitto, C., García-Moreno, C., & Clark, C. J. (2019). Measuring psychological abuse by intimate partners: Constructing a cross-cultural indicator for the Sustainable Development Goals. *SSM-population health*, *9*, 100377.
- Henderson, A., & Moran, P. (1983). Social relationships during the onset and remission of neurotic symptoms: A prospective community study. *The British journal of psychiatry*, *143*(5), 467-472.
- Hirst, K. P., & Moutier, C. Y. (2010). Postpartum major depression. *American family physician*, *82*(8), 926-933.

- Ho, C.-L., Chang, L.-I., & Wan, K.-S. (2013). The relationships between postpartum adaptation and postpartum depression symptoms of first pregnancy mothers in Taiwan. *The International Journal of Psychiatry in Medicine*, 45(1), 1-13.
- Hopkins, J., Campbell, S. B., & Marcus, M. (1987). Role of infant-related stressors in postpartum depression. *Journal of abnormal psychology*, 96(3), 237.
- Howard, L. M., Ehrlich, A. M., Gamlen, F., & Oram, S. (2017). Gender-neutral mental health research is sex and gender biased. *The Lancet Psychiatry*, 4(1), 9-11.
- Hung, C. H., & Chung, H. H. (2001). The effects of postpartum stress and social support on postpartum women's health status. *Journal of advanced nursing*, 36(5), 676-684.
- Husain, N., Bevc, I., Husain, M., Chaudhry, I., Atif, N., & Rahman, A. (2006). Prevalence and social correlates of postnatal depression in a low income country. *Archives of women's mental health*, 9(4), 197-202.
- Husain, N., Parveen, A., Husain, M., Saeed, Q., Jafri, F., Rahman, R., . . . Chaudhry, I. B. (2011). Prevalence and psychosocial correlates of perinatal depression: a cohort study from urban Pakistan. *Archives of women's mental health*, 14(5), 395-403.
- Jacobsen, T. (1999). Effects of postpartum disorders on parenting and on offspring. *Postpartum mood disorders*, 119-139.
- Jenkins, R. (1985). Sex differences in minor psychiatric morbidity. *Psychological medicine Monograph supplement*, 7, 1-53.
- Kalar, M. U., Fatima, I., Nabila, K., Zainab, A., Wardah, G., Zara, R., . . . Jafri, F. (2012). Prevalence and predictors of postnatal depression in mothers of Karachi. *International Journal of Collaborative Research on Internal Medicine & Public Health*, 4(5), 0-0.
- Kalyani, G. H. S., Saeed, K., Rehman, C., & Mubbashar, M. (2001). Incidence of depressive illness in Pakistani women during postnatal period. *Journal-College of Physicians and Surgeons of Pakistan*, 11, 246-248.

- Katon, W., Russo, J., & Gavin, A. (2014). Predictors of postpartum depression. *Journal of women's health, 23*(9), 753-759.
- Kazmi, S. F., Khan, M., Tahir, R., Dil, S., & Khan, A. (2013). Relationship between social support and postpartum depression. *Ann Pak Inst Med Sci, 9*(4), 191-194.
- Kendall-Tackett, K. (2007). A new paradigm for depression in new mothers: the central role of inflammation and how breastfeeding and anti-inflammatory treatments protect maternal mental health. *International breastfeeding journal, 2*(1), 1-14.
- Khooharo, Y., Majeed, T., Das, C., Majeed, N., Majeed, N., & Choudhry, A. M. (2010). Associated risk factors for postpartum depression presenting at a teaching hospital. *Annals of King Edward Medical University, 16*(2), 87-87.
- Kitamura, T., Yoshida, K., Okano, T., Kinoshita, K., Hayashi, M., Toyoda, N., . . . Kanazawa, K. (2006). Multicentre prospective study of perinatal depression in Japan: incidence and correlates of antenatal and postnatal depression. *Archives of women's mental health, 9*(3), 121-130.
- Kumar, R., & Robson, K. M. (1984). A prospective study of emotional disorders in childbearing women. *The British journal of psychiatry, 144*(1), 35-47.
- Larsson, C., Sydsjö, G., & Josefsson, A. (2004). Health, sociodemographic data, and pregnancy outcome in women with antepartum depressive symptoms. *Obstetrics & gynecology, 104*(3), 459-466.
- Lau, Y., & Wong, D. F. K. (2008). The role of social support in helping Chinese women with perinatal depressive symptoms cope with family conflict. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 37*(5), 556-571.
- Leahy-Warren, P., & McCarthy, G. (2007). Postnatal depression: prevalence, mothers' perspectives, and treatments. *Archives of psychiatric nursing, 21*(2), 91-100.

- Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2011). Postnatal depression in first-time mothers: prevalence and relationships between functional and structural social support at 6 and 12 weeks postpartum. *Archives of psychiatric nursing*, 25(3), 174-184.
- Leahy- Warren, P., McCarthy, G., & Corcoran, P. (2012). First- time mothers: social support, maternal parental self- efficacy and postnatal depression. *Journal of clinical nursing*, 21(3- 4), 388-397.
- Leathers, S. J., Kelley, M. A., & Richman, J. A. (1997). Postpartum depressive symptomatology in new mothers and fathers: parenting, work, and support. *The Journal of nervous and mental disease*, 185(3), 129-139.
- Leavy, R. L. (1983). Social support and psychological disorder: A review. *Journal of community psychology*, 11(1), 3-21.
- Lee, D., Yip, A., Leung, T., & Chung, T. (2000). Identifying women at risk of postnatal depression: prospective longitudinal study. *Hong Kong Med J*, 6(4), 349-354.
- Lee, D. T., Yip, A. S., Chiu, H. F., Leung, T. Y., & Chung, T. K. (2001). A psychiatric epidemiological study of postpartum Chinese women. *American journal of Psychiatry*, 158(2), 220-226.
- Lee, D. T., Yip, A. S., Leung, T. Y., & Chung, T. K. (2004). Ethnoepidemiology of postnatal depression: prospective multivariate study of sociocultural risk factors in a Chinese population in Hong Kong. *The British journal of psychiatry*, 184(1), 34-40.
- Leigh, B., & Milgrom, J. (2008). Risk factors for antenatal depression, postnatal depression and parenting stress. *BMC psychiatry*, 8(1), 1-11.
- Leung, E. (1985). Family support and postnatal emotional adjustment. *Bulletin of the Hong Kong Psychological Society*.
- Leung, P., Cheung, M., & Cheung, A. (2011). Developing help-seeking strategies for Pakistani clients with depressive symptoms. *Asia Pacific Journal of Social Work and Development*, 21(2), 21-33.

- Logsdon, M. C., & McBride, A. B. (1994). Social support and postpartum depression. *Research in nursing & health, 17*(6), 449-457.
- Logsdon, M. C., Usui, W. M., & Nering, M. (2009). Validation of Edinburgh postnatal depression scale for adolescent mothers. *Archives of women's mental health, 12*(6), 433-440.
- Lok, I. H., & Neugebauer, R. (2007). Psychological morbidity following miscarriage. *Best Practice & Research Clinical Obstetrics & Gynaecology, 21*(2), 229-247.
- Lu, Y. (2010). Rural-urban migration and health: Evidence from longitudinal data in Indonesia. *Social science & medicine, 70*(3), 412-419.
- Mariam, K., & Srinivasan, K. (2009). Antenatal psychological distress and postnatal depression: A prospective study from an urban clinic. *Asian journal of psychiatry, 2*(2), 71-73.
- Masood, Y., Lovell, K., Lunat, F., Atif, N., Waheed, W., Rahman, A., . . . Husain, N. (2015). Group psychological intervention for postnatal depression: a nested qualitative study with British South Asian women. *BMC women's health, 15*(1), 1-8.
- McDonald, S. J., Henderson, J. J., Faulkner, S., Evans, S. F., & Hagan, R. (2010). Effect of an extended midwifery postnatal support programme on the duration of breast feeding: a randomised controlled trial. *Midwifery, 26*(1), 88-100.
- McLean, P. D., & Hakstian, A. R. (1979). Clinical depression: comparative efficacy of outpatient treatments. *Journal of Consulting and Clinical Psychology, 47*(5), 818.
- Milgrom, J., Gemmill, A. W., Bilszta, J. L., Hayes, B., Barnett, B., Brooks, J., . . . Buist, A. (2008). Antenatal risk factors for postnatal depression: a large prospective study. *Journal of affective disorders, 108*(1-2), 147-157.
- Mohammad, K., Gamble, J., & Creedy, D. (2011). Prevalence and factors associated with the development of antenatal and postnatal depression among Jordanian women. *Midwifery, 27*(6), e238-e245.

- Mohammed, E., Mosalem, F., Mahfouz, E., & Abd ElHameed, M. (2014). Predictors of postpartum depression among rural women in Minia, Egypt: an epidemiological study. *Public Health, 128*(9), 817-824.
- Mokwena, K., & Shiba, D. (2014). Prevalence of postnatal depression symptoms in a primary health care clinic in Pretoria, South Africa of health care services. *African Journal for Physical Health Education, Recreation and Dance, 20*(sup-1), 116-127.
- Munaf, S., & Siddiqui, B. (2013). Relationship of post-natal depression with life and marital satisfaction and its comparison in joint and nuclear family system. *Procedia-Social and Behavioral Sciences, 84*, 733-738.
- Muraca, G. M., & Joseph, K. (2014). The association between maternal age and depression. *Journal of Obstetrics and Gynaecology Canada, 36*(9), 803-810.
- Nakamura, A., Sutter-Dallay, A.-L., El-Khoury Lesueur, F., Thierry, X., Gressier, F., Melchior, M., & van der Waerden, J. (2020). Informal and formal social support during pregnancy and joint maternal and paternal postnatal depression: Data from the French representative ELFE cohort study. *International Journal of Social Psychiatry, 66*(5), 431-441.
- Nhiwatiwa, S., Patel, V., & Acuda, W. (1998). Predicting postnatal mental disorder with a screening questionnaire: a prospective cohort study from Zimbabwe. *Journal of Epidemiology & Community Health, 52*(4), 262-266.
- Norhayati, M., Hazlina, N. N., Asrenee, A., & Emilin, W. W. (2015). Magnitude and risk factors for postpartum symptoms: a literature review. *Journal of affective disorders, 175*, 34-52.
- O'Hara, M. W. (1986). Social support, life events, and depression during pregnancy and the puerperium. *Archives of general psychiatry, 43*(6), 569-573.
- O'Hara, M. W., Rehm, L. P., & Campbell, S. B. (1983). Postpartum depression: A role for social network and life stress variables. *Journal of Nervous and Mental Disease.*

- O'hara, M. W., & Swain, A. M. (1996). Rates and risk of postpartum depression—a meta-analysis. *International review of psychiatry*, 8(1), 37-54.
- Parsons, C. E., Young, K. S., Rochat, T. J., Kringelbach, M. L., & Stein, A. (2012). Postnatal depression and its effects on child development: a review of evidence from low-and middle-income countries. *British medical bulletin*, 101(1), 57-79.
- Patel, V., Araya, R., De Lima, M., Ludermir, A., & Todd, C. (1999). Women, poverty and common mental disorders in four restructuring societies. *Social science & medicine*, 49(11), 1461-1471.
- Patel, V., De Souza, N., & Rodríguez, M. (2002). Postnatal depression and infant growth and development in low income countries: a cohort study from Goa, India. *Arch Dis Child*, 87, 1-4.
- Patel, V., Rodrigues, M., & DeSouza, N. (2002). Gender, poverty, and postnatal depression: a study of mothers in Goa, India. *American journal of Psychiatry*, 159(1), 43-47.
- Paudel, S., Dangal, G., Chalise, A., Bhandari, T. R., & Dangal, O. (2020). The coronavirus pandemic: what does the evidence show. *J Nepal Health Res Counc*, 18(1), 1-9.
- Paykel, E. S. (1994). Life events, social support and depression. *Acta Psychiatrica Scandinavica*, 89, 50-58.
- Pope, C. J., & Mazmanian, D. (2016). Breastfeeding and postpartum depression: an overview and methodological recommendations for future research. *Depression research and treatment*, 2016.
- Pope, C. J., Mazmanian, D., Bédard, M., & Sharma, V. (2016). Breastfeeding and postpartum depression: Assessing the influence of breastfeeding intention and other risk factors. *Journal of affective disorders*, 200, 45-50.
- Posmontier, B., & Horowitz, J. A. (2004). Postpartum practices and depression prevalences: Technocentric and ethnokinship cultural perspectives. *Journal of Transcultural Nursing*, 15(1), 34-43.

- Prost, A., Lakshminarayana, R., Nair, N., Tripathy, P., Copas, A., Mahapatra, R., . . . Bajpai, A. (2012). Predictors of maternal psychological distress in rural India: A cross-sectional community-based study. *Journal of affective disorders, 138*(3), 277-286.
- Rabiei, L., Mazaheri, M. A., Masoudi, R., & Hasheminia, S. A. M. (2014). Fordyce happiness program and postpartum depression. *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences, 19*(3), 251.
- Rahman, A., Fisher, J., Bower, P., Luchters, S., Tran, T., Yasamy, M. T., . . . Waheed, W. (2013). Interventions for common perinatal mental disorders in women in low-and middle-income countries: a systematic review and meta-analysis. *Bulletin of the World Health Organization, 91*, 593-601.
- Rahman, A., Iqbal, Z., & Harrington, R. (2003). Life events, social support and depression in childbirth: perspectives from a rural community in the developing world. *Psychological medicine, 33*(7), 1161-1167.
- Razurel, C., Bruchon-Schweitzer, M., Dupanloup, A., Irion, O., & Epiney, M. (2011). Stressful events, social support and coping strategies of primiparous women during the postpartum period: a qualitative study. *Midwifery, 27*(2), 237-242.
- Reid, H., Power, M., & Cheshire, K. (2009). Factors influencing antenatal depression, anxiety and stress. *British Journal of midwifery, 17*(8), 501-508.
- Roberts, L., Davis, G. K., & Homer, C. S. (2019). Depression, anxiety, and post-traumatic stress disorder following a hypertensive disorder of pregnancy: a narrative literature review. *Frontiers in cardiovascular medicine, 6*, 147.
- Rubertsson, C., Waldenström, U., & Wickberg, B. (2003). Depressive mood in early pregnancy: prevalence and women at risk in a national Swedish sample. *Journal of Reproductive and Infant Psychology, 21*(2), 113-123.
- Rubin, L. H., Cook, J. A., Grey, D. D., Weber, K., Wells, C., Golub, E. T., . . . Cohan, D. (2011). Perinatal depressive symptoms in HIV-infected versus HIV-uninfected women:

- a prospective study from preconception to postpartum. *Journal of women's health*, 20(9), 1287-1295.
- Saadati, F., Ahmad Tarmizi, R., Mohd Ayub, A. F., & Abu Bakar, K. (2015). Effect of internet-based cognitive apprenticeship model (i-CAM) on statistics learning among postgraduate students. *PLoS One*, 10(7), e0129938.
- Sadiq, G., Shahzad, Z., & Sadiq, S. (2016). Prospective study on prevalence and risk factors of post natal depression in Rawalpindi/Islamabad, Pakistan. *Rawal Med J*, 41(1), 64-67.
- Saleh, E.-S., El-Bahei, W., del El-Hadidy, M. A., & Zayed, A. (2013). Predictors of postpartum depression in a sample of Egyptian women. *Neuropsychiatric disease and treatment*, 9, 15.
- Sanderson, C., Cowden, B., Hall, D., Taylor, E., Carpenter, R., & Cox, J. (2002). Is postnatal depression a risk factor for sudden infant death? *British Journal of General Practice*, 52(481), 636-640.
- Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1981). The health-related functions of social support. *Journal of behavioral medicine*, 4(4), 381-406.
- Senturk, V., Abas, M., Berksun, O., & Stewart, R. (2011). Social support and antenatal depression in extended and nuclear family environments in Turkey: a cross-sectional survey. *BMC psychiatry*, 11(1), 1-10.
- Shivalli, S., & Gururaj, N. (2015). Postnatal depression among rural women in South India: do socio-demographic, obstetric and pregnancy outcome have a role to play? *PLoS One*, 10(4), e0122079.
- Simhi, M., Sarid, O., & Cwikel, J. (2019). Preferences for mental health treatment for postpartum depression among new mothers. *Israel journal of health policy research*, 8(1), 1-8.
- Sinclair, D., & Murray, L. (1998). Effects of postnatal depression on children's adjustment to school: Teacher's reports. *The British journal of psychiatry*, 172(1), 58-63.

- Spigset, O., & Nordeng, H. (2016). Safety of psychotropic drugs in pregnancy and breastfeeding. *Pharmacovigilance in psychiatry*, 299-319.
- Staehelin, K., Kurth, E., Schindler, C., Schmid, M., & Zemp Stutz, E. (2013). Predictors of early postpartum mental distress in mothers with midwifery home care: Results from a nested case-control study. *Swiss medical weekly*, 143(w13862).
- Stemp, P. S., Turner, R. J., & Noh, S. (1986). Psychological distress in the postpartum period: The significance of social support. *Journal of Marriage and the Family*, 271-277.
- Sugawara, M., Kitamura, T., Toda, M. A., & Shima, S. (1999). Longitudinal relationship between maternal depression and infant temperament in a Japanese population. *Journal of clinical psychology*, 55(7), 869-880.
- Tahmassian, K., & Moghadam, N. J. (2011). Relationship between self-efficacy and symptoms of anxiety, depression, worry and social avoidance in a normal sample of students. *Iranian journal of psychiatry and behavioral sciences*, 5(2), 91.
- Tambağ, H., Turan, Z., Tolun, S., & Can, R. (2018). Perceived social support and depression levels of women in the postpartum period in Hatay, Turkey. *Nigerian journal of clinical practice*, 21(11), 1525-1530.
- Tammentie, T., Tarkka, M. T., Åstedt- Kurki, P., & Paavilainen, E. (2002). Sociodemographic factors of families related to postnatal depressive symptoms of mothers. *International journal of nursing practice*, 8(5), 240-246.
- Tannous, L., Gigante, L. P., Fuchs, S. C., & Busnello, E. D. (2008). Postnatal depression in Southern Brazil: prevalence and its demographic and socioeconomic determinants. *BMC psychiatry*, 8(1), 1-8.
- Tavakol, M., & Heidarei, A. (2015). The relationship between the quality of life and hope with depression among divorced women and divorce applicant. *International Letters of Social and Humanistic Sciences*, 55, 95-100.

- Taylor, E. (1989). Postnatal depression: what can a health visitor do? *Journal of advanced nursing*, 14(10), 877-886.
- Troutman, B. R., & Cutrona, C. E. (1990). Nonpsychotic postpartum depression among adolescent mothers. *Journal of abnormal psychology*, 99(1), 69.
- Vigod, S. N., Tarasoff, L. A., Bryja, B., Dennis, C.-L., Yudin, M. H., & Ross, L. E. (2013). Relation between place of residence and postpartum depression. *Cmaj*, 185(13), 1129-1135.
- Wainer, J. S. (2010). Perceived stress, perceived social support, depression and food consumption frequency in college students.
- Ward, C. (2004). Migrant mothers and the role of social support when child rearing. *Contemporary nurse*, 16(1-2), 74-85.
- Warner, R., Appleby, L., Whitton, A., & Faragher, B. (1996). Demographic and obstetric risk factors for postnatal psychiatric morbidity. *The British journal of psychiatry*, 168(5), 607-611.
- Webster, J., Nicholas, C., Velacott, C., Cridland, N., & Fawcett, L. (2011). Quality of life and depression following childbirth: impact of social support. *Midwifery*, 27(5), 745-749.
- Weich, S., Churchill, R., Lewis, G., & Mann, A. (1997). Do socio-economic risk factors predict the incidence and maintenance of psychiatric disorder in primary care? *Psychological medicine*, 27(1), 73-80.
- Whitley, R., & Prince, M. (2005). Fear of crime, mobility and mental health in inner-city London, UK. *Social science & medicine*, 61(8), 1678-1688.
- Whitton, A., Appleby, L., & Warner, R. (1996). Maternal thinking and the treatment of postnatal depression. *International review of psychiatry*, 8(1), 73-78.
- Wissart, J., Parshad, O., & Kulkarni, S. (2005). Prevalence of pre-and postpartum depression in Jamaican women. *BMC pregnancy and childbirth*, 5(1), 1-5.

- Xie, R.-H., He, G., Koszycki, D., Walker, M., & Wen, S. W. (2009). Prenatal social support, postnatal social support, and postpartum depression. *Annals of epidemiology, 19*(9), 637-643.
- Yoshida, K., Yamashita, H., Ueda, M., & Tashiro, N. (2001). Postnatal depression in Japanese mothers and the reconsideration of 'Satogaeri bunben'. *Pediatrics International, 43*(2), 189-193.
- Yusuf, A.-H., & Saudal, S. F. (2015). A study of the prevalence of postnatal depression and its risk factors among Arab women. *African Journal of Nursing and Midwifery, 2*(6), 1-13.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of personality assessment, 52*(1), 30-41.

ANNEXURE A

Informed Consent

I am Sadaf Masoom student of M Phil (Health Economics) at Pakistan Institute of Development Economics, (PIDE) Islamabad. I am conducting a research for partial fulfillment of my MPhil degree in Health Economics.

Aim of my research is to understand prevalence rate and influencing factors of Post natal Depression among first time mothers that visited CMH Rawalpindi after postpartum period. This will help policy makers and execution partners to understand the issue of PND and its influencing factors on local level. The study will help to understand the policy actions, which are required to reduce the issue and facilitate the patients.

Participation in this research study is voluntary. If you decide to participate in this research, you are given a questionnaire booklet on which you can share your experiences and opinions .This will take only 10 to 15 minutes of your precious time. There is no right or wrong answers. Nevertheless, if some statement is not clear to you, you can ask for clarification. Thank you for reading this information sheet.

Please sign below if you have read and decided to participate in this research study.

Regards Signature of the Respondent

Sadaf Masoom

Department of health Economics

Pakistan Institute of Development, Economics, Islamabad.

Email:sadafmasoom_18@pide.edu.

Information Sheet

Please provide the information written below

1. Age in years _____
2. Education in years _____
3. Place of Residence: Rural: _____ Urban: _____
4. Marital Status: Married: _____ Divorced: _____ Separated: _____ Widowed: _____
5. Working status: Employed: _____ Unemployed _____

(Personal income if employed) Rupees: _____

1. Family type: Nuclear: _____ Joint family: _____
1. Gender of the child: _____
1. Are you Breast feeding your child: Yes: _____ No: _____
1. Husband occupation: Government: _____ Private: _____ Other: _____
1. Family/Household income: _____

1. Edinburgh Postnatal Depression Scale(Epds):

Instructions: Please rate the following questions based on identification of postnatal depression by using Edinburgh postnatal depression scale.

S.No	Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I have been able to laugh and see the funny side of things					
2.	I have looked forward with enjoyment to things					
3.	I have blamed myself unnecessarily when things No, not at all went wrong.					
4.	I have been anxious or worried for no good reason					
5.	I have felt scared or panicky for no very good reason.					
6.	Things have been getting on top of me.					
7.	I have been so unhappy that I have had difficulty sleeping.					
8.	I have felt sad or miserable.					
9.	I have been so unhappy that I have been crying.					
10.	The thought of harming myself has occurred to me.					

1. Multidimensional Scale of Perceived Social Support Scale(Mspss):

Instructions: Read each statement carefully. Indicate how you feel about each statement. We

use

Sr.no	Statement s	Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1	There is a special person who is around when I am in need.							
2	There is a special person with whom I can share joys and sorrows							
3	My family really tries to help me.							
4	I get the emotional help & support I need from my family.							
5	I have a special person who is a real source of comfort to me.							
6	My friends really try to help me.							

7	I can count on my friends when things go wrong.							
8	I can talk about my problems with my family.							
9	I have friends with whom I can share my joys and sorrows.							
10	There is a special person in my life who cares about my feelings.							
11	My family is willing to help me make decisions.							
12	I can talk about my problems with my friends.							



ANNEXURE B

Pakistan Institute of Development Economics

Department of Health Economics

Post Box No. 1091, Islamabad 44000, Pakistan

Tele (Off): 92-51-924 8147

Fax: 92-51-924 8065

E-mail: head.healtheco @pide.org.pk

Web: www.pide.org.pk/psde

March 09, 2020

COMMANDANT

GYNAECOLOGY DEPARTMENT CMH

RAWALPINDI

Data Collection for M. Phil Thesis

It is to certify that Ms. Sadaf Masoom D/O Mr. Muhammad Masoom is enrolled as M.Phil. student in Health Economics at Pakistan Institute of Development Economics, Islamabad under registration No. PIDE2018FMPHILHE15.

Ms. Sadaf has completed her course work successfully and now working on thesis titled "Factors influencing Postnatal Depression, A case study of CMH Rawalpindi". She is in the phase of data collection. She will visit CMH Hospital Rawalpindi for data collection to complete her M. Phil Thesis.

Dr. Abedullah
Head

PIDE School of Public Policy
(051) 9248032