PREVALENCE OF POSTPARTUM DEPRESSION AMONG POSTNATAL MOTHERS ATTENDING IN TEACHING HOSPITAL BIRGUNJ

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ABSTRACT

Postpartum depression is a common mental health problem during postnatal period. It is a serious public health concern and it is associated with numerous medical and psychosocial problems in mother and child. The study aims to assess the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital Birgunj.

A descriptive cross-sectional study design was adopted to conduct the study. 102 postnatal mothers were selected by using non-probability purposive sampling technique from Teaching Hospital Birgunj. Data was collected by using Edinburgh Postnatal Depression Scale. The obtained data were entered in Software Package for Social Science (SPSS) version 23 and analyzed using descriptive statistics and inferential statistics. The study findings revealed that 71.6% of postnatal mothers were in normal range i.e. depression not likely, 12.7% had possible depression, 7.8% had fairly high possibility of depression and 7.8% had probable depression. The study findings revealed that there is no significant association between the prevalence of postpartum depression and selected socio-demographic variables.

The study concluded that less than one fourth of the postnatal mothers had probable depression and fairly high possibility of depression. It is recommended that different formal and informal health education classes and counseling should be provided to the postnatal mothers.
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CHAPTER I

1. INTRODUCTION

1.1 Background of the study

Postpartum depression is depression that occurs soon after having a baby. Some health professionals call it postpartum non-psychotic depression. The postpartum blues are considered as normal part of early motherhood and usually goes away within 10 days after delivery. However, some women have worse symptoms that last longer. This is called postpartum depression. (Subedi, 2015)

Postpartum depression is one of the highest incidence problems among postpartum mental health disturbances which emerges at the 2–8 weeks of postnatal period, can continue up to 1 year, and has the ability to transform to psychosis. (Tambang, Turan, Tolum & Can, 2018)

Worldwide, statistics show that 450 million people are seriously affected by neurological and mental illness ranking depression as the fourth principal cause for disability and premature deaths and by the year 2020, depression is predicted to be the second leading cause of disability. Globally, about 10% of pregnant women and 13% of women who just gave birth are suffering from mental health problems. It is higher in developing countries where 15.5% develop mental illness during pregnancy and 19.8% after childbirth continuing to affect the welfare of mothers, their babies, partners and family members. (Fantahun, Cherie, Deribe & Leul, 2018)

Exact cause of postpartum depression is unknown but different factors have been proposed. It results from hormonal imbalance, physical changes after delivery (changes in muscle tone and difficulty in losing weight, soreness and pain in the perineal area making women uncomfortable), biochemical abnormalities, previous history of postnatal depression or psychiatric disorder, family history, recent stressful life event or stress related to child care, previous pregnancy loss such as miscarriage or still birth, antenatal depression or anxiety, lack of supportive relationship with
partner, lack of stable relationship with parents, poor marital relationship, inability for adjustment in the changes after childbirth. (Subedi, 2015)

Women are between 2 and 3 times more likely to experience depression and anxiety than men. Women in the postpartum period are even more vulnerable. Postpartum depression is a unique, frequently unrecognized, yet devastating disorder. It is the most common complication postpartum affecting 10%–15% of women. The prevalence is even higher in developing countries. This contributes substantially to maternal mortality and morbidity and represents a considerable public health problem affecting women and their families. In addition, maternal depression affects the children's physical and psychological health. Maternal depression results in lower birth weight of infants, higher rates of underweight at 6 months of age, poor long-term cognitive development, higher rates of antisocial behavior and more frequent emotional problems among their children. (Shraiam, 2019)

Postpartum depression is characterized by the some clinical features which are: depressed mood, persistent sadness, inability to enjoy pleasurable activity, loss of interest or pleasure in life, irritability, low self-esteem, inability to adjust to the role of motherhood, worry about the baby’s health and well-being, increased fearfulness, weeping, interferes with the women’s ability to care for her baby, impaired concentration, low energy and motivational levels, feelings of hopelessness and helplessness, worries about baby’s health and wellbeing, worries about harming the baby, loss of appetite and weight, insomnia or sleeping more than usual, restlessness, negative thoughts about the baby and fears about harming the infant, suicidal thoughts. Physical symptoms that don’t respond to the treatment e.g. headache, asthma, backache, vaginal discharge, abdominal pain may be reported. (Subedi, 2015)

Postpartum depression may lead mothers to be inconsistent with childcare. Women diagnosed with postpartum depression often focus more on the negative events of childcare, resulting in poor coping strategies. There are four groups of coping methods, each divided into a different style of coping subgroups. Avoidance coping is one of the most common strategies used. It consists of denial and behavioral disengagement subgroups (for example, an avoidant mother might not respond to her baby crying). This strategy however, does not resolve any problems and ends up
negatively impacting the mother’s mood, similarly of the other coping strategies used. (Zagade, Deshpande, 2013)

Postpartum depression is a curable disease when diagnosed early. As with other psychiatric disorders, patients with postpartum depression are more likely to seek help from their primary care physicians than from mental health professionals. Hence part of the goals of obstetricians is to have a clinical judgment in screening possible patients undergoing this serious condition. Because of the chronicity of postpartum depression, and the impact it has on a woman and her entire family, anticipatory guidance about PPD risk factors, prevalence, and typical symptoms is recommended to alert women who have one or more risk factors to contact their health care providers if depression or anxiety symptoms appear and persist beyond two weeks postpartum. The earlier patients with PPD are diagnosed; the sooner treatment measures can be implemented to prevent it from worsening into a more severe, and chronic course. (Chavez & Dichoso, 2014)

Management includes modifying postnatal visits. Postnatal visits must include screening for psychological morbidity. Management also includes general care of puerperium, supportive psychotherapy and reassurance, antidepressant drugs are used if depression lasts long and in case of severe depression with suicidal risk and hospitalization ECT is considered. (Subedi, 2015).

1.2 Need for the study

One of the most common perinatal mental health problems is postnatal depression, with rates ranging between 13% in the first few weeks to 20% of women in the first year after the birth of their child. A significant number of women will first become depressed in pregnancy. Postpartum depression affects approximately 10-15% of all mothers in western societies. Recent epidemiological inquiries have reported prevalence rates for post partum depression of 15.8% in Arab women, 16% in Zimbabwean women, 34.7% in South African woman, 11.2% in Chinese women, 17% in Japanese women and 23% in Goa Women in India. The birth of a female child also has been associated with about 34.7% of postpartum depression reported in South Africa. (Thomas, Gandhi, Parel, 2018)
In Nepal study was conducted at Janaki Medical College and Teaching Hospital, Janakpur, Nepal since 2019. It was found that prevalence of postpartum depression among postnatal mothers was 15.2%.( Maharjan, et al, 2019)

Similarly, in Nepal another study was conducted at Dhulikhel Hospital, Kathmandu University Of Medical Sciences, Nepal since 2019. The prevalence was found to be 29% among postpartum mothers. (Kunwar, Corey, Sharma, Risal, 2016)

Postnatal depression is the most frequent psychiatric disorder seen after childbirth, with a prevalence rate of 10% to 15%. The women at risk need to be identified by a valid and reliable method, either using a screening instrument or an interview schedule. Postnatal depression rates have increased significantly over the past 50 years, up from 8% in the 1950s to 27% today (and with a further 25% also feeling that they've possibly suffered). (Zagade, Deshpande, 2013)

Although effective nonpharmacologic and pharmacologic treatments are available, both patients and their caregivers frequently overlook postpartum depression. Untreated postpartum affective illness places both the mother and infant at risk and is associated with significant long-term effects on child development and behavior; therefore, prompt recognition and treatment of postpartum depression are essential for both maternal and infant well being. ( Hiremath, 2009)

At present PPD is an important maternal mental health problem according to several studies. Prevalence of PPD among postpartum mothers can affect their ability and interest for the care of baby and herself and thus this may cause several negative consequences on the health of both the mother and the baby. So, researcher felt the need and is interested in assessing the prevalence of postpartum depression among the post natal mothers of gynecological / obstetric ward of the teaching hospital of the Birgunj.

1.3 Objectives of the study

1.3.1 General objectives:

The general objective of the study was to assess the prevalence of post partum depression among postnatal mothers attending in Teaching Hospital, Birgunj.
1.3.2 Specific objectives:

The specific objectives of the study were:

- To assess the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital Birgunj
- To determine the association between prevalence and selected socio-demographic variables

1.4 Significance of the study

The findings will help to estimate the prevalence of postpartum depression among postnatal mothers.
The findings will help to identify early sign and symptom of postpartum depression among postnatal mothers.
The findings will help to prevent the progression of postpartum depression among postnatal mother.
1.5 Conceptual Framework

NOTE: Dotted line (………) is not included in the study

Fig1 depicts conceptual framework showing relationship between dependent and independent variable of the study

Here independent variables are age occupation, educational status, number of children, type of family, monthly income, area of residence, place of delivery, mode of delivery age of baby and gender of baby .dependent variable is prevalence of postpartum depression which is measured by Edinburgh Postnatal Depression Scale. Also the dependent variable i.e. prevalence of post partum depression might be
influenced by some intervening variable in the study like unhappy with in laws, presence of husband during pregnancy, complication during delivery. The intervening variable is again influenced by the independent variable of the study. Intervening variable is not included or studied in the study.

1.6 Research questions

What was the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj?

1.7 Research Variables

1.7.1 Dependent Variables

Prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj

1.7.2 Independent variables

Mothers

Age

Occupation

Educational status

Religion

No of children

Type of family

Monthly income

Area of residence

Place of delivery

Mode of delivery
1.7 Operational Definitions

**Postpartum Depression**: In this study, postpartum depression referred to depression that affects some postnatal mothers after 7 days of birth of baby which is measured by Edinburgh Postnatal Depression Scale. Postpartum depression will be scored and characterized as:

- Less than 8: depression not likely
- 9-11: depression possible
- 12-13: fairly high possibility of depression
- 14 and higher: fairly high possibility of depression

**Postnatal mothers**: In this study, postnatal mothers referred to mother (both primi and multiparous) who gives birth to a baby either viable or non viable by any mode of delivery in any setting either home, hospital or any other place, attending in inpatient and outpatient department of gynecological /obstetric ward and pediatric ward and the mothers whose baby are admitted in Neonatal Intensive Care unit and mothers attending in immunization clinic.

**Prevalence**: In this study, prevalence referred to the account of the number of postnatal mothers with the postpartum depression in a given sample at a specific point of time.
CHAPTER II

LITERATURE REVIEW

2.1 Introduction

Literature review is a critical summary of research on a topic of interest, often prepared to put a research in context. A literature review helps to lay foundation for the study, shows current knowledge on the topic and illuminates the significance of the new study.

A review of literature is the description and analysis of the literature relevant to particular field or topic. It provides an overview of what work had been carried out, who are the key researchers. Who did that work, which of the questions is already answered regarding a particular area of research interest, which methods and methodology were used to answer the particular questions and what are prevailing theories and hypothesis. (Sharma, 2015)

It deals with the collection of information regarding the prevalence of postpartum depression among postnatal mothers by utilizing different resources such as pub med, books, HINARI, magazine, journals and competence. The extensive review helps to determine and explore the sufficient idea and concept about the topics. By utilizing the reviews the researcher explored research variables, conceptual framework, sampling technique, background information, etc.

2.2 Review of related literature

Mishra, Shakya, Pathak & Mishra (2019) has conducted mixed method (both qualitative and quantitative) study to assess magnitude of postpartum depression and to identify possible reasons in three selected Terai hospitals in Nepal i.e. Bharatpur, Lumbini Zonal Hospital, Narayani Sub-Regional hospital. A sample of 260 women attending MCH clinic for vaccinating their children under the age of one from purposively selected three Terai hospitals in Nepal were taken. Individual interview questionnaire and Nepali version Edinburgh Postnatal Depression Scale were used as quantitative tool. 248 respondents were included in the analysis. For the qualitative part, Focus Group Discussion, In-depth interview and Key Informants Interview were
used. Data analysis was done using Statistical Package of Social Sciences (20). Chi-square test was done to show strength of association. Theme building was done for qualitative analysis. Findings from both studies have been triangulated. Among the 248 respondents 177 (71.4%) of them showed no signs of depression however, in the 71 (28.6%) respondents the postpartum depression was found through EPDS. The prevalence of postpartum depression was seen in all kinds of socio-economic and demographic characteristics but varied in the magnitude. Women from anywhere can be sufferers of the post partum depression and the findings of this study would be an important evidence for an individual, family, community and policy makers and programme designers/implementers in managing this problem properly.

Maharjan, Lamichhane, Shrestha, Mathias, Gautam and Sah, (2018) conducted cross sectional study to determine the prevalence and factors associated with depressive symptoms among postnatal mothers attending in Gynecological/obstetric ward in Janaki Medical College And Teaching Hospital, Dhanusha, Nepal. The study was conducted among 330 post-partum mothers after delivery to 12 weeks using systematic random sampling. Mothers were interviewed using a semi-structured questionnaire. The Edinburgh Postnatal Depression Scale (EPDS) was used to screen for depressive symptoms. Chi-square test analysis was used to determine the association of post-partum depressive symptoms with sociodemographic, obstetric and psychosocial factors. The prevalence of post-partum depressive symptoms among mothers was 15.2%. The factors significantly associated with postnatal depression were ethnicity, age at marriage, number of children, sex of the baby, planned or unplanned pregnancy, infant health problems, family history of depression, unhappy with in-laws, absence of husband during pregnancy, smoking habit of husband and drinking habit of the husband. About one-fifth of postpartum mothers have depressive symptoms. Obstetric and psychosocial factors were more associated with occurrence of PPD symptoms.

Agrawala, Rao and Narayan, (2018) conducted a community based cross sectional study study to estimate the prevalence and analyze the factors associated with PPD. Four hundred ten (410) postnatal women within six months of heir deliveries were interviewed using a semi-structured questionnaire, and were screened using Edinburgh Postnatal Depression Scale (EPDS). Descriptive analysis was done on
socio-demographic variables, obstetric, neonatal and postnatal and psychosocial factors. Logistic regression was carried to analyze the factors associated with PPD. Prevalence of PPD was 21.5%. Higher level of maternal and paternal educational status, labour complications and more than two children, history of an abortion and sleeping difficulty of the mothers were found to be statistically significant for PPD. The study concluded that early identification of symptoms and timely referral to appropriate health care provider can prevent major depression in the postnatal period.

**Bansal, Ganjiwale, Nimbalkar and Kharod, (2018)** conducted a hospital based cross-sectional study to find the prevalence and associated factors of Postpartum Depression in mothers with hospital deliveries. A study of 14 months duration was conducted recruiting mothers admitted in the postnatal ward, or having their newborn admitted in neonatal intensive care unit or neonatal intermediate care unit. All these mothers were screened for post partum depression using Gujarati version of Edinburgh Postnatal Depression Scale. A separate questionnaire was used for assessing newborn care practices and some more factors that might be associated with post partum depression. Logistic regression applied for finding contributors for post partum depression. Two hundred and five mothers with a mean age of 25.6 (SD 4.82, range 17-42 years) participated in the study. A total of 48 had abnormal depression scores (23.4%). Mothers not exclusively breast feeding the children were observed to have 12 times higher odds of getting depression. The odds of depression in mother of a child not covered properly are 24 times more than the mother whose child is well covered with clothes. The findings suggest that depression in mothers is associated with poor maternal infant feeding outcomes and care practices including covering the baby. Screening of mothers in early postpartum period is necessary for betterment of mother baby unit.

**Shriram, Shah, Rani and Sathiyasekaran, (2018)** conducted a population based cross sectional study to study the prevalence of postpartum depression among recently delivered women in a rural population and the health care utilization pattern for the condition among women. The study was conducted in a rural population served by primary health center. All women in the study area who had a pregnancy outcome during the past 6 months and have completed 42 days since their last delivery were included in the study. The data on postpartum depression were collected using the
Edinburgh Postnatal Depression Scale (EPDS). There were 365 postpartum women in the study area who participated in the study. Mean age of the study participants was 24.5 years. The deliveries were Institutional in 97.8% of women. The prevalence of depression among the study women (an EPDS score of 10 and above) was 11%. Among women with depression, a history of depression before the last delivery was given by 42.5% of women. Only 7.5% of women had sought some form of health care for their problem. The study shows that the prevalence of depression among postpartum women is quite high and the health seeking for depression is very low. Health professionals and workers have to be trained to raise awareness, detect, and treat depression among postpartum women promptly.

Tambang, Turan, Tolun and Can, (2018) conducted a cross-sectional study to determine the depression and social support in women at the postpartum period. The research was conducted in Narlca No. 2 family health center located in the city center of Hatay with 177 women who have given birth at least 2–4 months before and agreed to participate in the study. Edinburgh Postpartum Depression Scale (EPDS), Multidimensional Scale of Perceived Social Support (MSPSS), and Sociodemographic Information Form were utilized for data collection. It was determined that women's scores of EPDS and MSPSS were affected by the variables of intended pregnancy and obtained support for infant care ($P < 0.05$). A significant negative correlation ($P < 0.01$) was found between MSPSS and EPDS scales. This study concludes that as social support levels increase there is a decrease at postpartum depression risk. It is recommended that planning of interventions should be in accordance with the factors affecting the social support and depression levels at women in the postpartum period.

Modi, Parikh & Valipay (2018) conducted a cross-sectional study to study the prevalence of PPD and to correlate risk factors associated with it. A sample of two hundred and fifty postpartum women with gestational period ranging from 1 to 6 weeks postpartum, attending the obstetrics and gynecology or pediatrics department (inpatient and outpatient), and the psychiatry outpatient department of a tertiary care hospital at Gujrat, India was taken. A specially designed semi-structured proforma was used for correlation of various risk factors. Edinburgh Postnatal Depression Scale was used for diagnosing PPD. In this study, it was found that 20.4% of the women
evaluated suffered from PPD. Significant risk factors for PPD included age below 30 years, financial dependence, positive family history of psychiatric illness and PPD, previous girl child, unwanted pregnancy, pressure to have a male child, and complications during pregnancy and delivery. Domestic violence, substance abuse in husband, and relationship issues also increased the risk. Considerable prevalence of PPD is found across various cultures. Prevention of risk factors is useful in primary prevention of PPD. In the future, this study can be used for screening females with high risk for developing PPD so that more intense interventions can be applied.

Sherkhane & Sharma (2018) conducted a community based cross-sectional study to estimate the prevalence and factors leading to PPD among women residing in urban slums, Dharwad. A sample of 284 postpartum women of 2-6 weeks of any age group for 1 year was taken in urban slums. Patient Health Questionnaire-9 (PHQ-9) scale was used to estimate the prevalence of postpartum depression. Of the 284 women, 45.8% were in the age group of 21–25 years, 38.4% had completed secondary education, and most of them 84.9% were housewives. 35% of women were from nuclear family and 53.2% belonged to the upper middle class. Using PHQ-9 scale, it was seen that 7.7% had minor depression and 0.4% had major depression. Increasing age, unplanned pregnancy, those who had pre- and post-term delivery, and those who delivery through cesarean section were found to be associated with PPD and the association was found to be statistically significant. Equal importance should be given for both physical and mental health of postpartum women for a healthy mother and child.

John, (2017) conducted quantitative cross-sectional study to determine the predictors of Postpartum depression among women in Karachi, Pakistan. A purposive convenience sample of 234 postpartum women was taken from out-patient departments of a tertiary care hospital in Karachi, Pakistan. A survey in English and Urdu containing the Edinburgh Postnatal Depression Scale (EPDS), DUREL Religion Index Subscale three, Cohen’s 10-item Perceived Stress Scale (PSS), Multidimensional Scale of Perceived Social Support (MSPSS), Abuse Assessment Screen, Traditional postpartum cultural beliefs, and other demographic variables associated with PPD in the literature was completed by self-report or structured interview. Data was analyzed using SPSS version 24. The sample consisted of 95.7% Muslims, 98.7%
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married, 52.2% had education of intermediate or below, with a mean age of 27.78 ± 4.43 years, ranging from 19-42 years, and 163 screened positive for PPD using the EPDS. Independent sample t-test, and Pearson’s chi square were significantly different among women with PPD compared to women without PPD on habits detrimental to health (p = .005), MSPSS friends’ subscale (p = .03), MSPSS total (p = .01), abuse (p = .003), special person (p = .031), PSS (p = .00), and a belief ‘consumption of hot foods’ (p = .004). Multiple linear regression revealed, MSPSS total (p = .05), abuse (p = .03), and PSS (p = .00) as significant predictors of PPD, and explained 31% of the variance. Scale reliability was acceptable to excellent, with one Cronbach’s alpha of .65 and the rest ranging from .73 to .92. This study contributes to nursing science by describing predictors of PPD in Pakistan, aiding identification of women at risk for PPD and early detection. Future research is necessary for the development and integration of a holistic approach that includes screening and treatment of PPD in postpartum care to improve maternal mental health and wellbeing.

Kerie, Menberu and Niguse, (2017) conducted an institutional based cross sectional study to determine the prevalence and associated factors of postpartum depression among mother who gave birth within last 12 months among hospitals of Southwest Ethiopia. The study was conducted among 422 mothers. The outcome variable (postpartum depression) was assessed by using an Edinburgh postnatal depression scale, stress full life event was assessed by using perceived stress scale and social support was assessed by using the 3-Item Oslo social support scale. The study revealed that 138 (33.82%) of mothers had postpartum depression. Unplanned pregnancy adjusted odds ratio (AOR) = 4.49, 95% CI (2.31, 8.71), age from 15 to 24 years AOR = 0.420, 95% CI (0.18, 0.98), having a chronic physical illness AOR = 7.71, 95% CI (2.34, 25.44), experiencing death of infant AOR = 4.12, (1.78, 9.51) and unstable marital condition AOR = 6.02, (2.79, 12.99) were significantly associated with postpartum depression. The prevalence of post-partum depression was found to be high. Therefore urgent attention must be given to this problem, in particular towards its early detection, so that morbidity could be reduced in this group of women.
Kishore, Udaypur & Mallapur (2016) conducted a cross-sectional study to study the prevalence of postnatal depression among postnatal mothers and to identify the factors associated with depressive symptoms among postnatal mothers in two rural field practice areas namely, Vantamuri and Kinaye catered by Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi, Karnataka, India. A sample of 300 women attending immunization clinics in the Primary health centre with postpartum period less than 3 months were included in the study. Edinburgh Postnatal depression scale was used for identifying mothers at risk of postnatal depression. A score of ≥13 was considered as positive for depressive symptoms. The prevalence of Post-natal depression was 41 (13.6%). Factors like age, literacy status, socio economic status, gravidity, sex of newborn, mode of delivery and unplanned pregnancy were significantly associated with the prevalence of postnatal depression. Early screening of the women and counseling of women and their family will reduce the maternal morbidity and adverse child outcomes.

Shewangzaw, Tadesse, Ashani, Misgana & Shewasinad (2016) conducted a institutional based cross-sectional study to assess the prevalence of postpartum Depression and associated factors among postnatal women who are attending at Hiwot Fana Specialized University Hospital, Eastern Ethiopia, 2016. A sample of 122 postnatal mothers was collected by non probability convenience sampling technique. The data was collected by using a structured, pre designed questionnaire. The data was analyzed manually and presented by using frequency table and graphs. A total of 122 postnatal mothers were involved into this study and all of them were analyzed. The study found a prevalence of postpartum depression one week after delivery at Hiwot Fana Specialized University Hospital was 13.11%. Recent pregnancy was reported as unwanted by 2.46% and partner’s support was perceived as inadequate by 19% of the respondents and Caesarian section was 38.52%. Almost all, 95.90 % exclusively breast fed their infants and minor illnesses had occurred to 13.11% of the infants. Premature baby 5.74%, poor satisfactions with medical care 22.13%, family history of mental illness 3.28% were strongly associated with postpartum depression. The other factors such as neonate illness, residence, desired new born sex, hypertension, and hyper emesis had also their own significant association. Educational status, number of birth, age, place of delivery and sex of new born had no significant association with postpartum depression. The study found a prevalence of
postpartum depression among women delivering at HFSUH, one week after delivery was 13.11% which is a significant high value and compared well with other studies. The findings in this study may form the bases for the need of routine screening of postpartum depression in the postnatal care especially those mothers with unplanned pregnancy, premature baby, poor support systems, poor satisfaction with medical care, family history of mental illness, and stressful life events which were highly associated with postpartum depression. This would help prevent postpartum depression at all levels hence a healthy mother.

Fanatun, Cherie & Deribe (2016) conducted a facility based cross-sectional study to assess the prevalence and factors associated with postpartum depression among postpartum mothers attending public health centers in Addis Ababa, Ethiopia. A sample of 633 postpartum women from four sub cities was identified through simple random sampling technique among 10 sub cities in Addis Ababa, Ethiopia. Furthermore, the study participants were determined by systematic random sampling after 10 health centers were selected by lottery method and the number of participants in each health center was proportionally allocated. In order to determine postpartum depression, participants were rated using the Edinburgh Postnatal Depression Scale (EPDS) and the findings were analyzed using bivariate and multivariate logistic regression. P-value less than 0.05 with 95% confidence interval was used to state the association. The study revealed prevalence of postpartum depression among mothers was 23.3%. Moreover, women who were unmarried, had unplanned pregnancy, delivered without presence of any relatives in health institutions, had previous history of child health, had history of substance use and had low income were found to more often display postpartum depression. For optimal maternal health care provision in regards to postpartum depression, integration of mental health service in addition to inter sectoral collaboration of women’s affair with health institutions is crucial.

Kunwar, Corey, Sharma and Risal,(2015) conducted cross-sectional study to determine the screening prevalence and risk factors of postpartum depression among women who delivered at university Hospital, Nepal. This is a study investigating the relationship between postpartum depression and various factors. A total of 100 postpartum women who presented to a Dhulikhel hospital for delivery were interviewed on days 2-3 after delivery. The mothers were administered Edinburgh
Postnatal Depression Scale (EPDS) as well as a Performa that included questions about the known risk factors (sociodemographic and sociocultural factors, and mother-related, pregnancy-related, and child related factors). The overall screening prevalence of depressive symptoms in the postnatal period (defined as EPDS=>13) was 29% (95% CI 20.1%-37.8%). On univariate analysis (chi square test), postpartum depression was significantly associated with pregnancy complications (p<0.01), infant’s health problems (p <0.001) and vaginal delivery (p <0.05). The study concluded that Postpartum depression is common among Nepalese women and can be detected early in the postpartum periods; and many psychosocial factors like pregnancy complications, infant’s health problems and vaginal delivery are associated with it. The study recommended that mothers with high risk should be routinely screened for postpartum depression.

Melinamani, Hitnal and Patil, (2015) conducted a univariate descriptive design study to assess the prevalence of postnatal depression. The study was conducted among 105 postnatal mothers. Edinburgh postnatal depression scale is used to assess the prevalence of postnatal depression. It was found that out of 105 samples 12 (12%) were normal, 23 (22%) mothers had mild depression, 33 (31%) mothers had moderate depression and 37(35%) mothers had severe depression. There is significant association between age and postnatal depression (p value 0.05) but there is no significant association between education, occupation, income, religion and total number of pregnancy and postnatal depression (p<0.05). The study concluded that postnatal depression is associated with age of the mother.

Giri, Khatri, Mishra, Khanal, Sharma and Gartoula, (2015) conducted a cross sectional study to determine the prevalence and factors associated with depressive symptoms among postnatal mothers attending a child immunization clinic at maternity hospital in Kathmandu. The study was conducted among 346 postpartum mothers at 6-10 weeks after delivery using a systematic random sampling. Mothers were interviewed using a semi structured questionnaire. The EPDS was used to screen for depressive symptoms. Logistic regression analysis was used to calculate the association of postpartum depressive symptoms with socio-demographic and maternal factors. The prevalence of postpartum depression symptoms among mothers was 30%. Mothers aged 20 to 29 were less likely to have depressive symptoms.
compared to older mothers. Similarly the mothers with the history of pregnancy induced health problems were more likely to have depressive symptoms and subjective feeling of stress than mothers who didn’t. The study concluded that the number of postpartum mother experiencing depressive symptoms was high almost one third of the participants reported having them. Pregnancy induced health problems and subjective feeling of stress during pregnancy in the postpartum period were found to be associated depressive symptoms amongst these women. Screening of depressive symptoms should be included in antenatal and postnatal care services for early identification and prevention.

Ahmad, Butt, Umar, Arshad, Iftikar & Maqsood (2015) conducted an observational cross-sectional study to quantify the prevalence of postpartum depression in an urban setting where literacy rate is higher and medical facilities are readily available. The study was performed in National Hospital, Lahore and Fatima Memorial Hospital, Lahore and was accumulated at Riphah College of Rehabilitation Sciences, Lahore. A sample of 88 women was selected by non-probability, purposive sampling technique. Self-administered questionnaire consisting of validated 10 items, Edinburgh postnatal depression scale (EPDS) was employed to detect depression among women living in an urban setting. The grand mean of all the 10 items of Edinburgh postnatal scale was 6.7 ± 2.6 SD. The grand mean of question number 10 was calculated to be 2.37 ± 3.48 SD which shows that most women hardly ever thought about committing suicide. The results depicts that prevalence of postpartum depression in an urban setting is very low. The association between age, postnatal week, educational level and socioeconomic status states that depression most commonly occurs in undergraduate adolescents belonging to lower class families and peeks in their third postnatal week. The prevalence of postpartum depression is quite low i.e. 6.8% in urban settings. This shows that the depressive states are avoided in better literate and socioeconomic statuses. Women are more capable of coping with new challenges and their families are better adopted of supporting them through this period.

Yusuf, Tang, Bins & Lee (2014) conducted a prospective cohort study to investigate the prevalence of postpartum depression within 6 months of postpartum and associated risk factors among women in Sabah, Malaysia. A sample of 2072 women
of 36-38 weeks gestation followed up at 1, 3 and 6 months of postpartum. The presence of depressive symptoms was assessed using the validated Malay version of Edinburgh postnatal depression scale. Logistic regression analysis was performed to ascertain risk factors associated with postnatal depression. Overall 14.3% of postnatal mothers had depression within 1st 6 months of the postpartum. Women depressed during the pregnancy were more likely to suffer from depression after birth. Women whose husband associated with infant care and mothers who were associated with the marital relationship appeared to incur a reduced risk of postpartum depression. A substantial proportion of mothers suffered from postnatal depression in Sabah, Malaysia. Screening and intervention programme targeting the vulnerable subgroup of women during antenatal and early postpartum period are recommended to deal with the problem.

Bener, Burgut, Gholoum and Seikh (2012) conducted a prospective cross sectional study to determine to determine the prevalence and identify risk factors of postpartum depression among Arab women in Qatar using Edinburgh Postnatal Depression Scale Score (EPDS). The study was conducted in Primary healthcare centers of the Supreme Council of Health, State of Qatar. A representative sample of 1669 mothers within 6 months after delivery was approached and 1379 (82.6%) mothers participated in this study. The study was based on a face-to-face interview with a designed diagnostic screening questionnaire. Occurrence of postpartum depressive symptoms was assessed by the EPDS. Also, socio-demographic characteristics, medical and family history, and obstetric variables of patients were collected through a designed questionnaire. The diagnostic screening questionnaire was reviewed and calculated the final score which identified the risk cases. The prevalence of postpartum depression among the study sample was 17.6%. Mothers of age above 35 years, low education below intermediate level, housewives, with low monthly income were significantly at high risk for postpartum depression. Maternal complications and caesarean section were significantly higher among depressed mothers compared to non-depressed women. Financial difficulties, prematurity, poor family support, dissatisfaction in marital life, poor marital relationship were the main predictors of postpartum depression. This prevalence of postpartum depression in women living in Qatar was comparable to previous epidemiological research done in developing countries. Financial difficulties, prematurity, lack of family support, and poor marital
relationships have been identified as main risk factors for developing postpartum depression.

**Kalar, Fatima, Nabila, Zanaib, Wardah, Zara &et.al (2010)** conducted a cross-sectional study to determine the prevalence of postnatal depression and to determine the risk factors associated with postnatal depression in mothers of Karachi. Data was collected from three different districts of Karachi from December 2010 till April 2011. The study population was selected by a cluster sampling method. Using probability cluster sampling 150 women were selected from each cluster for the study population of 700 women. A total of 450 women were selected for participation in the study. General Health Questionnaire, a 12 item measure was used for psychological health. At 6–8 weeks after birth, the mothers were administered Edinburgh Postnatal Depression Scale. Postnatal depression was determined from binary logistic regression analysis of antenatal and early postnatal variables. Among antenatal factors mothers who had current score of five or more on twelve item General Health Questionnaire had a prevalence of 48.6% of postnatal depression. These mothers were 1.52 times at the risk of postnatal depression. Protective factors against postnatal depression include planned pregnancy, help from family members and help from husband. Among postnatal factors, mothers who had cesarean delivery had a prevalence of 48.4% of postnatal depression. These mothers were 1.57 times at the risk of postnatal depression. Postnatal depression is a common mental illness in our local population; it is usually a consequence of preexisting antenatal morbidity and is a chronic disorder for one half of the women who suffer from this illness.

**Summary of the reviewed literature**

For conducting study on topic prevalence of postpartum depression among postnatal mothers, researcher had been through many literatures related with this topic and reviewed it thoroughly. Different types of the study have been conducted on the topic prevalence of postpartum, depression among postnatal mothers. Among them majority of the research study were cross-sectional research design. In those study majority of the tool was Edinburgh Postnatal Depression Scale. The literature review reveals prevalence of postpartum depression among postnatal mothers was 15-30% approximately.
CHAPTER III

METHODOLOGY

This is logical and systematic process to find research problem by exploring the framework to conduct research, sampling technique, research instrument method, data collection, ethical consideration and method of data analysis.

3.1 Research Design

A descriptive cross sectional study design was used for the study to find out prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj.

3.2 Research Setting and Population

The study was conducted at National Medical College Teaching Hospital which is situated in Province number 2, Government of Nepal and in a Metropolitan city of Terai belt and is connected with the northern border of India. The hospital has 752 beds with superspeciality services in almost all clinical departments.

The study was conducted in inpatient and outpatient department of gynecological/obstetric ward and pediatric ward, Neonatal intensive care unit and immunization clinic.

The study population was postnatal mothers of inpatient and outpatient department of gynecological / obstetric ward and Pediatric ward, Neonatal Intensive Unit (NICU), and Immunization Clinic of Teaching Hospital, Birgunj.

3.3 Sampling

3.3.1 Sample Size

The sample size was calculated based on the prevalence of postpartum depression that was 15.2% (Maharjan, 2018). By considering the operational definition and inclusion criteria sample population was drawn.
The Cochran formula was used to calculate the sample size.

$$n = \frac{z_{\alpha}^2 pq}{d^2}$$

Where $Z_\alpha$ is the tabulated value of Z-score at a level of significance, at 95%, its value is 1.96.

$p$ is prevalence of previous study i.e. 15.2% =0.152 (Mishra, 2019)

$q=1-p$ hence $q=1-0.152 = 0.848$

$d$ is the degree of precision set at 7% i.e. 0.07.

Hence, substituting the formula:

$$n = \frac{1.96^2 \times 0.152 \times 0.848}{0.07 \times 0.07}$$

= 101.054

From the calculation sample size was 102.

3.3.2 Sampling Technique

Non probability purposive sampling technique was adopted for selecting postnatal mothers.

3.3.3 Inclusion Criteria

Postnatal mothers of inpatient and outpatient department of gynecological / obstetric ward and Pediatric ward, Neonatal Intensive Unit (NICU), and Immunization Clinic of Teaching Hospital, Birgunj.

Postnatal mothers those who will be available at the time of data collection.

Postnatal mothers those who are willing to participate at the time of data collection.
3.4 Research Tool

After reviewing the related literature, consultation with the thesis guide and subject expertise in the related field, the research tool for the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj was selected. Edinburgh Postnatal Depression Scale was taken as research tool. And modification was done in the standard tool that i.e. I was changed into you.

Section A

This section consisted of socio-demographic variables which was prepared by the researcher herself. It consisted of:

**Mothers**

Age

Occupation

Educational status

Religion

No of children

Type of family

Monthly income

Area of residence

Place of delivery

Mode of delivery

**Information related to Baby:**

Age in weeks

Gender of newborn
Section B

This section comprised of Edinburgh Postnatal Depression Scale which was used to assess the prevalence of postpartum mothers among postnatal mothers. The Edinburgh Postnatal Depression Scale is a 10 item questionnaire that was developed first Cox, Holden and Sagovsky in 1987 to identify the women who have postpartum depression. Edinburgh postnatal depression scale is a standard tool for assessing postnatal depression. It is translated and validated in different language (i.e. Iran, French, Dutch, Swedish, Spanish, Thai, Turkish, Arabic, German, Gujrati, and Nepali) as per the need of the researcher and the setting.

The scale consists of 10 questionnaires. Responses are scored 0,1,2,3 based on the seriousness of the symptom. The total score is found by adding together the score for each 10 items. The cutoff point of the Edinburgh postnatal depression scale is ≥13. Items of the scale correspond to various clinical symptoms such as guilt feeling, sleep disturbance low energy, anhedonia and suicidal ideation. Higher score indicates more depressive symptoms. It may be used within 8 weeks of postpartum period.

Less than 8: depression not likely

9-11: depression possible

12-13: fairly high possibility of depression

14 and higher: fairly high probability of depression

Validity

In this study validated English tool was standardized. Validated Nepali version of Edinburgh postnatal depression scale was taken (By Kunwar, 2015). The tool was modified by replacing “I” with “you”. In this study the modified tool was translated in Bhojpuri language which was again retranslated into English language.

Reliability

The split-half reliability of the scale was found to be 0.88, and the standardized a-coefficient was 0.87.
Pretesting of the tool was done among 10% of sample size i.e. 10 mothers who meet the inclusion criteria for the accuracy of the tool. Pre testing was done on Narayani hospital.

Reliability was 0.81 which was tested using cronbach’s alpha reliability test.

3.5 Data Collection Procedure

Formal approval was obtained from Hospital director of National Medical College Teaching Hospital.

Data was collected after getting ethical clearance from Institutional Review committee of National Medical College.

Self introduction and purpose of the study was explained to all postnatal mothers.

Written informed consent was taken from each postnatal mother.

Each patient was assured for privacy and confidentiality of information given by them.

Data was collected by researcher herself from 2076/05/12 to 2076/06/04 by using Edinburgh Postnatal Depression Scale.

3.6 Ethical Consideration

Formal approval was obtained by the researcher from Institutional Review Committee of National Medical College Teaching Hospital.

Formal permission was taken from the Hospital Director of National Medical College Teaching Hospital.

Written informed consent from each postnatal mother prior to data collection was taken.

Privacy, anonymity and confidentiality of all participants was maintained.

Human dignity was maintained by allowing the respondent to quit the researcher whenever they want to leave.
Principle of justice was maintained by not judging and discriminating the respondents on the basis of their age, caste, religion, background and so on.

3.7 Data Analysis Procedure

After completion of data collection the collected data was collected for the completeness and accuracy. Data was organized in order of editing, classifying, coding and tabulating the information. Data processing was done manually and also with the use of the computer. Statistical package for social sciences (SPSS) version 23 was used for data analysis.

Data was analyzed by using descriptive statistical method (frequency, percentage, mean, median, mode, and standard deviation) and inferential statistical method was applicable.
CHAPTER IV

FINDINGS OF THE STUDY

This chapter deals with the findings, analysis and interpretation and analysis of the data. This study is focused on the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj.

The responses of 102 postnatal mothers had been analyzed according to the objectives of research study. Results were presented based on the descriptive analysis (frequency, percentile, mean, median, mode and standard deviation) and inferential statistics (chi square test).

The data were organized and presented in various table in order to facilitate their interpretation. The major findings of the study are presented in the following sections:

Section A: Demographic characteristics of the respondent which is presented in Table 1 and 2

Section B: Prevalence of postpartum depression among respondents which is presented in Table 3, 4 and 5

Section C: Association between prevalence of postpartum depression among respondents with selected demographic variables presented in Table 6
Section A: Demographic Characteristics of the Respondents

This section deals with the demographic characteristics of the respondents on the basis of demographic characteristics of postnatal mother and her newly born baby. The data pertaining to the demographic characteristics of the mothers includes age, religion, area of residence, educational status, occupation, number of children, type of the family, monthly income of the family, place of delivery and mode of delivery.

The data pertaining to the demographic characteristics of the baby includes age of baby and gender of baby.
TABLE 1

Distribution of Respondents as per Demographic Variable of the Mother

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 25 years</td>
<td>65</td>
<td>63.7%</td>
</tr>
<tr>
<td>More than 25 years</td>
<td>37</td>
<td>36.3%</td>
</tr>
<tr>
<td><strong>Mean ±SD = 23.04±3.236, Min 18 years, Max 35 years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>63</td>
<td>61.8%</td>
</tr>
<tr>
<td>Muslim</td>
<td>37</td>
<td>36.3%</td>
</tr>
<tr>
<td>Buddhist</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Area of residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>59</td>
<td>57.8%</td>
</tr>
<tr>
<td>Rural</td>
<td>43</td>
<td>42.2%</td>
</tr>
<tr>
<td><strong>Educational status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>23</td>
<td>22.5%</td>
</tr>
<tr>
<td>Primary level</td>
<td>17</td>
<td>16.7%</td>
</tr>
<tr>
<td>Informal education</td>
<td>14</td>
<td>13.7%</td>
</tr>
<tr>
<td>Secondary level</td>
<td>37</td>
<td>36.3%</td>
</tr>
<tr>
<td>Higher secondary level and above</td>
<td>11</td>
<td>10.8%</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>Homemaker</td>
<td>92</td>
<td>90.2%</td>
</tr>
<tr>
<td>Business</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Labour</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Service</td>
<td>4</td>
<td>3.92%</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>2.94%</td>
</tr>
<tr>
<td><strong>No of children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>32</td>
<td>31.4%</td>
</tr>
<tr>
<td>Two</td>
<td>37</td>
<td>36.3%</td>
</tr>
<tr>
<td>Three</td>
<td>21</td>
<td>20.6%</td>
</tr>
<tr>
<td>Four and above</td>
<td>12</td>
<td>11.8%</td>
</tr>
<tr>
<td><strong>Type of family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear family</td>
<td>18</td>
<td>17.6%</td>
</tr>
<tr>
<td>Joint family</td>
<td>84</td>
<td>82.4%</td>
</tr>
<tr>
<td><strong>Monthly income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10000</td>
<td>11</td>
<td>10.8%</td>
</tr>
<tr>
<td>10000-20000</td>
<td>46</td>
<td>45.1%</td>
</tr>
<tr>
<td>20000-40000</td>
<td>25</td>
<td>24.5%</td>
</tr>
<tr>
<td>&gt;40000</td>
<td>20</td>
<td>19.6%</td>
</tr>
<tr>
<td><strong>Place of delivery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>10</td>
<td>9.8%</td>
</tr>
<tr>
<td>Hospital</td>
<td>91</td>
<td>89.2%</td>
</tr>
<tr>
<td>Any other</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Mode of delivery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal vaginal delivery</td>
<td>46</td>
<td>45.1%</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>54</td>
<td>52.9%</td>
</tr>
<tr>
<td>Instrumental delivery</td>
<td>2</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

SD: Standard deviation, Max: Maximum age, Min: Minimum age

Table 1 depicts the demographic characteristics of postnatal mothers. Among 102, 63.7% were in the age group less than 25 years with mean and standard deviation: 23.04± 3.238 where minimum age of postnatal mothers was 18 years and maximum 35 years. Regarding religion, 61.8% belongs to Hindu religion. Among all 57.8% of people resided on urban area, 36.3% were literate from secondary level, 90.0% of the postnatal mothers were homemaker and 36.35% of the postnatal mothers had two
children. Regarding the type of family, 82.4% belongs to joint family and in concern of the income 45.1% of the postnatal mothers had monthly family income between 10000 to 20000. Majority of postnatal mothers (89.2%) delivered baby in hospital and majority of them delivered baby by caesarean section.

**TABLE 2**

**Distribution of Respondents as per Demographic Variable of the Baby**

\[ n = 102 \]

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of baby in days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 days</td>
<td>49</td>
<td>48.0</td>
</tr>
<tr>
<td>8-13 days</td>
<td>31</td>
<td>30.4</td>
</tr>
<tr>
<td>14-20 days</td>
<td>10</td>
<td>9.8</td>
</tr>
<tr>
<td>21-42 days</td>
<td>12</td>
<td>11.8</td>
</tr>
<tr>
<td>Gender of baby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>65</td>
<td>63.7</td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
<td>36.3</td>
</tr>
</tbody>
</table>

Table 2 depicts the demographic characteristics of baby among 102 mothers, 48.0% were in age group of one week. Regarding gender 63.7% of the babies were male.
Section B: Postpartum depression among respondents

This section deals with the findings related to the postpartum depression among the postnatal mothers which included various items related to postpartum depression and level of postpartum depression. It has been presented in the table 3, 4 and 5.

**TABLE 3**

<table>
<thead>
<tr>
<th>Statements</th>
<th>0 score</th>
<th>1 score</th>
<th>2 score</th>
<th>3 score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You have been able to laugh and see the funny side of the things</td>
<td>63(61.8)</td>
<td>30(29.4)</td>
<td>9(8.8)</td>
<td>0(0.0)</td>
</tr>
<tr>
<td>2. You have looked forward with enjoyment to things</td>
<td>56(54.9)</td>
<td>35(34.3)</td>
<td>11(10.8)</td>
<td>0(0.0)</td>
</tr>
<tr>
<td>3. You have blamed myself unnecessarily when things went wrong</td>
<td>21(20.6)</td>
<td>51(50.0)</td>
<td>28(27.5)</td>
<td>2(2.0)</td>
</tr>
<tr>
<td>4. You have been anxious or worried for no good reason</td>
<td>49(48.0)</td>
<td>30(29.4)</td>
<td>21(20.6)</td>
<td>2(2.0)</td>
</tr>
<tr>
<td>5. You have felt scared or panicky for no good reason</td>
<td>55(53.9)</td>
<td>24(23.5)</td>
<td>21(20.6)</td>
<td>2(2.0)</td>
</tr>
<tr>
<td>6. Things have been getting on top of you</td>
<td>64(62.7)</td>
<td>29(28.4)</td>
<td>7(6.9)</td>
<td>2(2.0)</td>
</tr>
<tr>
<td>7. You have been so unhappy that you have had difficulty sleeping</td>
<td>48(47.1)</td>
<td>37(36.3)</td>
<td>16(15.7)</td>
<td>1(1.0)</td>
</tr>
<tr>
<td>8. You have felt sad or miserable:</td>
<td>35(34.3)</td>
<td>44(43.1)</td>
<td>22(21.6)</td>
<td>1(1.0)</td>
</tr>
<tr>
<td>9. You have been so unhappy that you have been crying</td>
<td>52(51.0)</td>
<td>33(32.4)</td>
<td>17(16.7)</td>
<td>0(0.0)</td>
</tr>
<tr>
<td>10. The thought of harming yourself has occurred to me</td>
<td>95(93.1)</td>
<td>7(6.9)</td>
<td>0(0.0)</td>
<td>0(0.0)</td>
</tr>
</tbody>
</table>

Table 3 represents the prevalence of postpartum depression among respondents and their response to postpartum depression statements where 93.1% respond to “The thought of harming yourself has occurred to me” scored Zero.
### TABLE 4

**Level of postpartum depression among respondents**

<table>
<thead>
<tr>
<th>Level of postpartum depression</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression not likely (less than 8)</td>
<td>73</td>
<td>71.6%</td>
</tr>
<tr>
<td>Depression possible (9-11)</td>
<td>13</td>
<td>12.7%</td>
</tr>
<tr>
<td>Fairly high possibility of depression (12-13)</td>
<td>8</td>
<td>7.8%</td>
</tr>
<tr>
<td>Probable depression (14 and higher)</td>
<td>8</td>
<td>7.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>102</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 4 illustrates among 102 respondents, 71.6% were within normal range that is depression not likely. In 12.7% there may be possible depression and in 7.8% there is high possibility of depression. Regarding probable depression, 7.8% of respondents had probable depression.

### TABLE 5

**Mean, median, mode, standard deviation and range on total score of postpartum depression among postnatal mothers**

n=102

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± SD</th>
<th>Median</th>
<th>Mode</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>6.39 ± 4.296</td>
<td>6</td>
<td>5</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 5 shows that Mean ±SD of the total score is 6.39 ± 4.296.
Section C: Association between prevalence of postpartum depression with selected demographic variables.

This section deals with association between prevalence of postpartum depression with selected demographic variables.
TABLE 6
Association between prevalence of postpartum depression with selected demographic variables

Table 6 reveals the association between level of postpartum depression with demographic variables of the respondents which reveals that there is no significant association between prevalence of postpartum depression and demographic variables of respondents.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level of postpartum depression</th>
<th>χ²</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Depression not likely</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depression possible, fairly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>high possibility of depression,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>probable depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 25 years</td>
<td>47(72.3)</td>
<td>18(27.7)</td>
<td>0.048</td>
</tr>
<tr>
<td>More than 25 years</td>
<td>26(70.3)</td>
<td>11(29.7)</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>43(68.3)</td>
<td>20(31.7)</td>
<td>0.890</td>
</tr>
<tr>
<td>Others (Muslim, Buddhist and</td>
<td>30(76.9)</td>
<td>9(23.1)</td>
<td></td>
</tr>
<tr>
<td>Other)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area of residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>43(72.9)</td>
<td>16(27.1)</td>
<td>0.119</td>
</tr>
<tr>
<td>Rural</td>
<td>30(69.8)</td>
<td>13(30.2)</td>
<td></td>
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<tr>
<td>Educational status</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Illiterate</td>
<td>15(65.2)</td>
<td>8(34.8)</td>
<td>0.589</td>
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<tr>
<td>Literate (informal education,</td>
<td>58(73.4)</td>
<td>21(26.6)</td>
<td></td>
</tr>
<tr>
<td>primary level, secondary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>level, higher secondary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>level and above)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homemaker</td>
<td>64(69.6)</td>
<td>28(30.4)</td>
<td>1.851</td>
</tr>
<tr>
<td>Others (farmer, business,</td>
<td>9(90.0)</td>
<td>1(10.0)</td>
<td></td>
</tr>
<tr>
<td>labor, service and others)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of children</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>One</td>
<td>24(75.0)</td>
<td>8(25.0)</td>
<td>0.611</td>
</tr>
<tr>
<td>Two</td>
<td>27(73.0)</td>
<td>10(27.0)</td>
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</tr>
<tr>
<td>More than two</td>
<td>22(66.7)</td>
<td>11(33.3)</td>
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<td>Types of family</td>
<td></td>
<td></td>
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<tr>
<td>Nuclear family</td>
<td>10(55.6)</td>
<td>8(44.4)</td>
<td>2.754</td>
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<td>Joint family</td>
<td>63(75.0)</td>
<td>21(25.0)</td>
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<td>Monthly income</td>
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</tr>
<tr>
<td>Less than 20000</td>
<td>39(70.9)</td>
<td>16(29.1)</td>
<td>0.026</td>
</tr>
<tr>
<td>More than 20000</td>
<td>34(72.3)</td>
<td>13(27.7)</td>
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<tr>
<td>Place of delivery</td>
<td></td>
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<td></td>
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<tr>
<td>Home</td>
<td>7(63.6)</td>
<td>4(36.4)</td>
<td>0.070</td>
</tr>
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<td>Hospital and other</td>
<td>66(72.5)</td>
<td>25(27.5)</td>
<td></td>
</tr>
<tr>
<td>Mode of delivery</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Normal</td>
<td>34(70.8)</td>
<td>14(29.2)</td>
<td>0.024</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>39(72.2)</td>
<td>15(27.8)</td>
<td></td>
</tr>
<tr>
<td>Age of baby in days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 days</td>
<td>32(65.3)</td>
<td>17(34.7)</td>
<td>2.214</td>
</tr>
<tr>
<td>8-14 days</td>
<td>25(80.6)</td>
<td>6(19.4)</td>
<td></td>
</tr>
<tr>
<td>14-42 days</td>
<td>16(72.7)</td>
<td>6(27.3)</td>
<td></td>
</tr>
<tr>
<td>Gender of baby</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46(70.8)</td>
<td>19(29.2)</td>
<td>0.056</td>
</tr>
<tr>
<td>Female</td>
<td>27(73.0)</td>
<td>10(27.0)</td>
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</tbody>
</table>

#Continuity correction

n=102
This chapter deals with the discussion, conclusions, limitations and recommendations of the study. Discussion section presents all the findings in comparison with those of other studies and conclusions are drawn from each finding. Recommendations give direction to future researcher and suggestions for improving present study for generalizations.

5.1 Discussion

The present study was conducted with the objective to assess the prevalence of postpartum depression among postnatal others attending in National Medical College Teaching Hospital, Birgunj.

The findings of the conducted study are discussed as follows:

**Regarding Socio-demographic characteristics,** it is found that most (63.7%) of the postnatal mothers were from the age group less than 25 years. Similarly more than half (61.8%) of the postnatal mothers were Hindu and more than half (57.8%) of the postnatal mothers were residing in urban area. Likewise among 102 postnatal mothers 36.3% were educated up to secondary level. More than 90% i.e. 90.2% of the postnatal mothers were homemaker. Likewise maximum (36.3%) of the postnatal mothers had two children. Concerning the type of the family, majority (82.4%) of the postpartum mothers had joint family. Likewise nearly half (45.1%) of the postnatal mothers had monthly income of family between 10000- 200000. Likewise maximum (89.2%) of the postnatal mothers delivered baby in hospital. Likewise nearly half (48%) of postnatal mothers had their baby of one week. Likewise majority (63.7%) of the postnatal mothers had given birth to a male baby.

Based on the cutoff point of Edinburgh postnatal depression scale ≥13, 7.8% of the respondents had probable depression, 7.8% of the respondents of the respondents had fairly high possibility of depression, 12.7 % of the respondents had possible depression and had 71.6% had depression not likely i.e. no depression. On the
contrary, a recent study was conducted by Maharjan (2018) in Janaki Medical College and Teaching Hospital among 330 postpartum mothers, which revealed that the prevalence of depressive symptoms was 15.2%.

Concerning the association between postpartum depression and socio-demographic variables of the respondents, there is no significant association between the prevalence of postpartum depression and socio demographic variables of respondents like age, religion, area of residence, educational status, occupation, no of children, type of family, monthly income, place of delivery, mode of delivery, age of baby and gender of the baby. In contrast to this, a study was conducted by Maharjan (2018) among the postnatal mothers of Janaki Medical College And Teaching Hospital, Janakpur where there was no significant association found between the prevalence of postpartum depression and socio demographic variables of respondents like age, religion, area of residence, educational status, occupation, type of family, monthly income, place of delivery, mode of delivery and age of baby.

5.2 Conclusions

On the basis of the finding of the present study it is concluded that less than one fourth of the postnatal mothers had probable depression and fairly high possibility of postpartum depression. It is found that there is no any significant association between the prevalence of postpartum depression and selected socio-demographic variables. By identifying and diagnosing the symptoms at an early stage can hopefully recover the women within a year and the ones in the morbid state can be helped to seek the health professional.

5.3 Implications of the study

Based on the findings of study, the study can serve as guideline for the nurse educator to formulate, incorporate and update the issues related postpartum depression in curriculum so that nursing students enhance their knowledge on prevention of postpartum depression and promotion of health of mother and infant.

The study can serve as guideline for the concerned authority for planning and conducting programs to reduce postpartum depression.
The nurses researcher can further plan, implement and evaluate a planned awareness programmes among postnatal mothers regarding factors responsible for postpartum depression.

As a part of nursing care nurses can provide formal and informal health education, motivation and counseling to postnatal mothers which is an important factor to help postnatal mothers to maintain a healthy balance for the wellbeing of both mother and baby.

5.4 Limitation

The postnatal mothers attending in teaching hospital were only involved. Since the sample size was relatively small. The findings of the study were hard to generalize. The current study design was cross-sectional that the data was collected at one time. It would be worthy to investigate the changes in results over period of time.

5.4 Recommendations

In the light of the findings of the study, the researcher recommends that:

Different formal and informal health education classes and counseling can be provided to postpartum mothers.

The comparative study can be conducted between different areas.

The explorative study can be conducted to assess the source and effects of postpartum depression.
REFERENCES


APPENDIX A

Letter of Approval of Research Proposal from IRC, NMCTH, Birgunj

Regd No.11 551/208/127
FAN No. 3907/6079

NATIONAL MEDICAL COLLEGE
(NATIONAL MEDICAL COLLEGE PRIVATE LIMITED)
Affiliated to Tribhuvan University, Recognized by Nepal Medical Council
Approved by the Ministry of Education, Government of Nepal

BSc-NMC 1402|018|016

Institutional Review Committee
(IRC)

Date: 9th Sep, 2019

Ms. Pratikshya Kumari Mahar
B.Sc Nursing 4th Year
National Medical College

Ref: Ethical Approval of Research Proposal

Dear Ms. Pratikshya Kumari Mahar,

Thank you for the submission of your research proposal entitled “Prevalence of postpartum depression among postnatal mothers attending in teaching hospital, Birgunj,” to the Institutional Review Committee, National Medical College. The proposal was ethically reviewed by IRC. We are pleased to inform you that the above-mentioned research proposal has been approved from ethical point of view by IRC of National Medical College on 8th Sep, 2019.

Approval is given for three years. Project which have not commenced within two years of original approval must be re-submitted to IRC. You must inform IRC when the research has been completed. If you are unable to complete your research within three years validation period, you will be required to write to IRC to request an extension or you will need to re-apply.

Any serious adverse events or significant change which occurs in connection with this study and/or which may alter its ethical consideration must be reported to IRC, and an Ethical amendment Form submitted where appropriate. You are requested to follow the ethical principles for the health and biomedical research.

Thanking you,

Romero

Dr. Tripti Pal Raman
Member secretary
IRC, NMCTH
Birgunj, Nepal

* Birgunj-15, Nepal
+977-51-417015, 417330, Fax No: +977-51-417009
mcbx@otinet.com.np, principal@mcbx.educ.np, nedkdx@mcbx.educ.np
www.mcbx.educ.np
APPENDIX B

Request letter for conducting pretest

To,
The Hospital Superintendent,
Narayani Hospital,
Birgunj, Parsa
Nepal

Respected Madam/Sir,

This is to introduce Ms. Pratiksha Kumari Mahar, a student of Bachelor of Science in Nursing final year of this college. She is to conduct pretesting for her research project which is to be submitted to the Tribhuvan University in partial fulfillment of University requirements for the award of Bachelor of Science in nursing degree.

Title of Study: “Prevalence of Postpartum Depression among Postnatal Mother”

The student is in need of your esteemed help and cooperation as she is interested in conducting pretest her research study in your esteemed Organization.

I am to request you to kindly extend necessary facilities to her in your organization to conduct pretesting for the proposed study from 12.11.26. to 15.11.26. for Data Collection.

Further information in this regard, if required will be furnished by the student personally.

Vice Principal
NMCNE

Birgunj, Nepal

APPENDIX C

Approval Letter for Successful Conduct of Pretest

Title of Study: "Prevalence of postpartum Depression among Postnatal Mother"
APPENDIX D

Request Letter for Data Collection

NATIONAL MEDICAL COLLEGE NURSING CAMPUS
(NATIONAL MEDICAL COLLEGE PRIVATE LIMITED)
Affiliated to Tribhuvan University, Recognized by CTIVT & Nepal Nursing Council
Approved by the Ministry of Education, Government of Nepal

Ref No.52/076/77

Date: 2076/5/12

To,
The Hospital Director,
National Medical College Teaching Hospital
Birgunj, Parsa
Nepal

Respected Madam/Sir,

This is to introduce Ms. Pratikshya Kumari Mahara, a student of Bachelor of Science in Nursing, final year of this college. She is to conduct a research project which is to be submitted to the Tribhuvan University in partial fulfillment of University requirements for the award of Bachelor of Science in Nursing degree.

Title of Study: “Prevalence of Postpartum Depression among Postnatal Mothers attending in Teaching Hospital Birgunj”

The student is in need of your esteemed help and cooperation as she is interested in conducting her research study in your esteemed organization.

I am to request you to kindly extend necessary facilities to her in your organization to work on the proposed study during the month of Baisakhi from 2076/05/20 to 2076/06/04 for Data Collection.

Further information in this regard, if required will be furnished by the student personally.

Ms. Rabita Singh
Vice Principal
NMMC

© Birgunj-15, Nepal
Ph. +977-51-41701-5, 417320, 421740, Fax No. +977-51-417909
Email: nmmc@nmc.nepal.ning.com, nmmc@nmc.edu.np
Website: www.nmc.edu.np

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APPENDIX E

Approval Letter for Data Collection

Date: 2076/06/12

Ref No. 6/076/077

To,
The Vice Principal,
National Medical College Nursing Campus
Birgunj, Parsa
Nepal

Subject: Approved letter for “Prevalence of Postpartum Depression among Postnatal Mother attending in Teaching Hospital Birgunj”

Dear Madan/Sir,

With Reference to the letter given on 2076/05/20 received from your campus for conducting the research for the award of degree of Bachelor of Science in Nursing, Ms. Pratiksha Kumari Mahara, a student of National Medical College Nursing Campus successfully conducted the research study from 2076/05/22 to 2076/06/04 on the given topic.

Title of the Study: “Prevalence of Postpartum Depression among Postnatal Mother attending in Teaching Hospital Birgunj”

I wish for her future success in each and every step for her life.

Thinking you,

Prof. Dr. Pramod Kumar Sarraf
Hospital Director
National Medical College,
Teaching Hospital Birgunj-15
NMC No.-1458

Prof. Dr. P.K Sarraf
Hospital Director
NMUTH
Birgunj, Nepal
APPENDIX F

Consent Form of Participants

NATIONAL MEDICAL COLLEGE NURSING CAMPUS
AFFILIATED TO TRIBHUVAN UNIVERSITY
BIRGUNJ, PARSA
CONSENT FORM OF PARTICIPANTS

Title: “Prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj.”

Respected Participants,

I am, Ms. Pratikshya Kumari Mahara, B.Sc Nursing 4th Year student of National Medical College Nursing Campus. As a partial fulfillment of the course, I have to conduct a research and the problem selected is “Prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj.” I would like to get some information regarding the prevalence of postpartum depression among postnatal mothers through this research instrument. This information will be kept confidential and will be used only for the study purpose. This is for your kind information and participation.

........................................
Signature of researcher

Respondent from participants: I am willing to participate in the study and aware that the information provided will be kept confidential and used only for the study purpose.

Date:

Place:

........................................
Signature of participant
APPENDIX G

Research Tool (in English Version)

NATIONAL MEDICAL COLLEGE NURSING CAMPUS
AFFILIATED TO TRIBHUVAN UNIVERSITY
BIRGUNJ, PARSA
RESEARCH TOOL FOR DATA COLLECTION

Research tool: Structured interview schedule

Title: “Prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj.”

Objectives: To identify the prevalence of postpartum depression among postnatal mothers attending in Teaching Hospital, Birgunj

Instructions: The following data collection instrument is divided into two sections. Section A consists of socio demographic information. Section B consists of Edinburgh Postnatal Depression Scale. The entire research tool will be distributed to each participant after taking consent.
SECTION A
SOCIO- DEMOGRAPHIC DATA SHEET

CODE :…………….( for researcher purpose only)

DATE OF DATA COLLECTION: ………………..

Instructions: Following statements are related to socio- demographic variables of the respondents. Researcher has to ask to participants and place tick (√) mark in the appropriate options.

1. Age (in years)……….

2. Religion
   a. Hindu
   b. Buddhist
   c. Muslim
   d. others

3. Area of residence:
   a. Urban
   b. Rural

4. Educational status
   a. Illiterate
   b. Informal education
   c. Primary level
   d. Secondary level
   e. Higher secondary level and above

5. Occupation
   a. Farmer
   b. Homemaker
   c. Service
   d. Business
   e. Labour
   f. Other

6. No of children:
   a. One
   b. Two
   c. Three
   d. Four and above

7. Type of family
   a. Joint family/ Extended family
   b. Small/ Nuclear family

8. Monthly income
9. Place of delivery
   a. Home
   b. Hospital
   c. Any other

10. Mode of delivery
    a. Normal vaginal delivery
    b. Instrumental delivery
    c. Caesarean section

INFORMATION OF BABY

1. Age (in days)
   a. 7 days
   b. 14-20 days
   c. 8-13 days
   d. 21-42 days

2. Gender of baby:
   a. Male
   b. Female
   c. None
SECTION B

MODIFIED EDINBURGH POSTNATAL DEPRESSION SCALE

Instructions: Since you have recently had a baby, we want to know how you feel. Researcher has to ask question and has to place a check mark (√) on the blank space by the answer that comes closest to how you have felt in the past 7 days—not just you have felt today.

1. You have been able to laugh and see the funny side of the things
   i. As much as you always could ...........
   ii. Not quite so much now ............
   iii. Definitely not so much now ............
   iv. Not at all .............

2. You have looked forward with enjoyment to things
   i. As much as you ever did ............
   ii. Rather less than you used to do ............
   iii. Definitely less than you used to do ............
   iv. Hardly at all .............

3. You have blamed myself unnecessarily when things went wrong
   i. Yes, most of the time ............
   ii. Yes, some of the time ............
   iii. Not very often ............
   iv. No never .............

4. You have been anxious or worried for no good reason
   i. Yes, very often ............
   ii. Yes, sometimes ............
   iii. Hardly ever ............
   iv. No, not at all .............

5. You have felt scared or panicky for no good reason
   i. Yes, quite a lot ............
   ii. Yes sometimes ............
   iii. No, not much ............
   iv. No, not at all .............
6. Things have been getting on top of you
   i. Yes, most of the time you have not been able to cope at all ...........
   ii. Yes, sometimes you have been coping as well as usual ...........
   iii. No, most of the time you have coped quite well ...........
   iv. No, you have been coping as well as ever ...........

7. You have been so unhappy that you have had difficulty sleeping
   i. Yes, most of the time ...........
   ii. Yes, sometimes ...........
   iii. No, not very often ...........
   iv. No, not at all ...........

8. You have felt sad or miserable:
   i. Yes, most of the time ...........
   ii. Yes, quite often ...........
   iii. Not very often ...........
   iv. No, not at all ...........

9. You have been so unhappy that you have been crying
   i. Yes most of the time ...........
   ii. Yes, quite often ...........
   iii. Only occasionally ...........
   iv. No, never ...........

10. The thought of harming yourself has occurred to me
    i. Yes, quite often ...........
    ii. Sometimes ...........
    iii. Hardly ever ...........
    iv. Never ...........
APPENDIX H

Consent Form in Nepali Version

g]zgn d]l8sn sn]h gl;{Ê SofDk;
la/u+h, k;f{
3lqe'jg ljZljBfnoaf6 ;+j4 k|fKt
cGtjftf[sf] nflu pQ/bftsf] lnltv d~h'/Lgfdf

zLif[s M la/u+hdf /x]sf] lzf0f c:ktfndf pkl:yt ;'Ts]/L cfdfdf x'g] kfj6g]6n l8k][;gsf] Jofkstf ;DaGwL cWoog .
cfb/0fLo pQ/bftf

=================================

cg';Gwfgstf[sf] x:tfIf/
pQ/bftsf] k|tllqmoʃ
do; cWoogsʃ] ;Dk'of{ hgsf/Lsf] af]/df cjut 5' / cfkmd{gʃ
;jOR5fn] o; cWoogdf ;xefuL ePsʃ] x' .
Idlt M
:yfg M
APPENDIX I

Research Tool (in Nepali Version)

g]zgn d]*8sn sn]h gl;{É SofDk;

la/u+h, k;f{

lqe'jg l]ZjljBfnoaf6 ;+j4 k|fKt
tYof+s ;+sngsf] cg';Gwfg pks/0f

cg';Gwfg pksf/0f M cw{ ;d|lrt cGt{jfft{ cg';,'rL

zLif{s M la/u+hdf /x]sf] lzlf0f c:ktndf pkl:yt ;'Ts]/L cfddf x'g] kf]i6g]6n l8k][];gsf] Jofkstf ;DaGwL cWoog


lgb]{zg M tn lbOPsf] k|zg b'O{ efudf ljefhg ul/OPsf] 5 .

efu – ! df ;fdflhs JolQmut lj]/0f /flvPsf] 5 .

efu – @ df kl/dflh[t O8]gju{ kf]i6g]6n l8k][];g :s]n /flvPsf] 5 .

cGt/jfft{ pQ/bftf ;Fu+ d~h'/Lgfddf lnPkl5 ;'? ul/g]5 .
efu –!

;fdlhs JolQmut Ijj/0f kfgf

sf]8 g+= M

ldlt M

lgb]{zg M tn lbOPsf] Ijj/0fx? pQ/bftfsf] ;fdlhs JolQmut Ijj/0f ;Fu ;Da;Gwt 5 . cg';Gwfgstf{n} pQ/bftfnfO{ ;f]w/ ;xL - √_ lrGx nufpg' kg][5 .

! = pd]/ -jif{df_

@ = wd{

s = lxGb' v = d'l:nd

u = af}4 3 = cGo

#= a;f]af; ug}l f]q

s = ;x/ v = ufFpm

$ = z]lfs cj:ylf

s = clzlfft v = cgcf}krfl/s lzlff

u = k|fylds t -sllf l–%_ 3 = dfWolds tx -sllf ^–l)_

a_ pRr dfWolds tx jf ;f] eGbf dfly

%= k]zf

s = ls;fg v = >d
efu – @ kl/dflh[t O8]gju{ kf[j6g]6n l8k|];g :s]n

Igb]{zag M xfn}:tn} tkfO{sf] aRrf hGd]sf] 5 . d hFgG rfxG5' Is clxn] dfq
gP/ ljut ;ft lbg b]lv tkfOn] s:tf] dx'; ul/\s xe'Psf] 5 . oL rf/ ljsNk dWo]dnFO{ eGg'xf}; . cg';Gwfgstf{[n k]zg ;f]Wg' lg]{5 , pO/bftfn} eg] cg';f/
cg';Gwfgstf{[n oL ljsNksf] vfnL 7fpFdf ;xL IrGx -\_ nufpg' lg]{5 .
!

!= ljut Ps xKtf b]lv tkfO{F xfF;g ;Sg' ePsf] 5 / < tkfO{FnfO{ h] s'/fdf
dlgl /dfOnf] eO/x]sf] 5 <


v= klxn] h:tf} 5}g .

u= Psbd} sd 5 .

3= lans'n} 5}g .

=@= ljut Ps xKtfb}lv tkfO{F h] s'/fdf dklg /dFpg ;Sg'ePsf] 5 / < s'g}

ljifofd dklg cfgGb ln/xg'ePsf] x'G5 <

s= klxn] hlt g} 5 .

v= klxn] eGbf s}lx sd x'fb} cfpFsf] 5 .

u= ;flRrs} klxn] eGbf w]/} sd ePsf] 5 .

3= c;fWo} sd ePsf] 5 .

#= ljut Ps xKtf b]lv cfskm'n] u]/sf] s'g} sfd law]sf} a]nfdf tkfO{cfskm}nfO{ bf]if lbg'x'G5 Is <


v= slxn]sfFlx .

u= cxF , Tol} w]/} lbGg .

3= cxF , slxn] dklg lbGg .

$= ljut Ps xKtf b]lv lAgf sf/0f g} tkfO{ lrlGtt e} /xg' x'G5 Is <

63
s = slxn] klg x’Gg .

v = Psbd la/n} .

u = slxn] sfFlx .

3= xf], k|fo ;wF} .

%= laut Ps xKtf b]lv lagf sf/0f g} tkfO{F 8/fO/xg' x’G5 ls <

s = slxn] klg x’Gg .

v = Psbd la/n} .

u = slxn] sfFlx .

3= xf], k|fo ;wF} .

^= tkfO{Fn} cr}n s’g} klg sfdnfO{ af]emstf] ?kdf ln/xg'x’G5 ls <

s=xf], k|fo eO/xG5, tkfO{ To;sf] Joj:yfkg -sfd Idnfpg_ g} ug{
 ;Sg'x’Gg . ===========

v= xf] slxn] sfFlx eO/xG5, tkfO{F o;sf] Joj:yfkg -sfd Idnfpg_ g} ug{
 ;Sg'x’Gg . ===========

u= cln cln Joj:yfkg -sfd Idnfpg_ ug{ ;Sg’x’G5 . ===========


&= ljut Ps xKtfb]lv tkfO{FsF} dg v’zL 5}g h;n] ubf{ tkfO{F lgbfpG
 ;ls/xg' ePsF} 5}g ls<

s= xf], k|foh;f] .

v= slxn] sfFlx .

u= cxF , Tol< w/j} x}g .

3= cxF , slxn] klg xf]Og .

*= ljut Ps xKtf b]lv tkfO{FnO{ lk/ / IrGtf eO/xG5 ls <

s= xf], k|foh;f] .
v = slxn] sfFlx .

u = cxF , Tolt w]/} x}g .

3 = cxF, slxn] klg xf]Og .

(= laut Ps xKtfb]lv tkfO{FnfO{ olt w]/} lbSs nflu/xG5 ls hun] ubf{ tkfO{F /f]O/xg' x’G5 ls<

s = xf], k[foh;f] .

v = slxn] sfFlx .

u = cxF, Tolt w]/} x}g .

3 = cxF slxn} klg xf]Og .

(!)= cn ctkm}n] ctkm’nfO{ c:/ kfg][ -lryf][g] {, sf6\g] / dg{ dg nfUg_ larf/ tkfO{Fs} dgdf cfpF5 ls <

s = xf], k[foh;f] .

v = slxn] sfFlx .

u = cxF, Tolt w]/} x}g .

3 = cxF, slxn] klg xf]Og .
APPENDIX J

Consent Form (in Bhojpuri Version)

g]zgn d]l8sn sn]h gl;{É SofDk;
la/u+h, k;f{
lqe'jg ljZljBfnoaf6 ;+a4 k|fKt
cGt/jftf[s] nflu ;xefuL nf]us] lnvt d~h'/Lgfdf

zdLif{s M la/u+hd]/xn lzl0f0 c:ktnd] n/sf]/L cf]/td] xf]s]jnf kf]:6g]6n l8k];g Jofkstf ;DaGwL cWoog
cfb/0fLo ;xefuL nf]u,

xd, k|tLff s'df/L dx/f, g]zgn d]l8sn gl;{É SofDk; la/u+hs] :gf ts
txd] cWoog s/]jnf ljwfyL{ afgL . :gf ts] xf]s]jnf kf]:6g]6n l8k];g Jofkstf ;DaGwL cWoogÆ x j . oL
cg';Gwfg s/]s] k/]nf . cf xd/ zdLif{s æela/u+hd]/xn lzl0f0 c:ktfns] n/sf]/L
cf]/td] xf]s]jnf kf]:6g]6n l8k];g Jofkstf ;DaGwL cWoogÆ x j . oL
cg';Gwfg pks/0f s] dfWod;] n/sf]/L cf]t/d] xf]s]jnf kf]j6g]n l8k];gs
hfgsf/L n][j]s] rfxtfgL . /fj}f ;as] b]jn hfgsf/L xd uf]Ko /fv]d . /fj}f ;as]
APPENDIX K

Research Tool (in Bhojpuri Version)

g]zgn d]l8sn sn]h gl;{É SofDk;

la/u+h, k;f{
lqe’jg l]Zl]ljBfnoaf6 ;+a4 k|fKt
tYof+s ;+sngs] cg';Gwfg pks/0f
cg';Gwfg pks0f M cw{ ;d\l rt cGt{jtf{ cg';’rL

zLif{s M la/u+hd] /xn lzlf0f c:ktfns] n/sf]/L cf]/td] xf][s]jfnf kfji6g]6n
l8k][;gs] Jofkstf ;DaGwL cWoog
Kavit Pathak

p2]Zo M la/u+hd] x/n lzlf0f c:ktfn] n/sf]/L cf}/td] xf}s]jfnf kfj6g]6n l8k[];gs] Jofkstf ;DaGwL d'Nof^sg

lgb]{zh M lgrnf b]Pn k|Zg ;a bf] efud] af8n uO{n af .

efu – ! d] ;fdflhs JolQmut ljj/0f /vnaf .

efu – @ d] kl/dflh{t O8]gju{ kfj6g]6n l8k[][g :s]n /vn uOn af .
cGt/jftf{ ;xefuL;Fu d~h'/Lgfdf n]s] ;'? s/]n hfO{ .
efu – ! ;fdflhs JolQmut ljj/0f kGgf

sf]8 g+= M

ldlt M

lgb]{zg M– lgrnf b]On ljj/0f ;xefuLs] ;fdflhs JolQmut ljj/0f ;] ;DalGwt af . cg';Gwfgstf{s} ;xefuL nf]u ;] k'5s] ;xL IrGx -√ nufj]s] k/L .

!= pd]/ ;fnd]_

@= wd{
  s_ lxGb'
  u_ af]4
  v_ d':nd
  3_ cGo

#= ckg]s} /x]jfnf hux sfxF af <
  s_ ;x/
  v_ ufjF

$= zf]llfs cj;yyf
  s_ clzllft
  v_ cgcf]krfl/s lzlf
  u_ k]fylds tx -sllf !-%_
  3_ dfWolds tx -sllf ^–!)_
  ^_ pRr dfWolds tx of px ;] pk/
  %= ckg] sly sfd s/]gL <
  s_ ls;fg
  v_ Jofkf/
  u_ 3/ u[x:yL
  3_ dhb'/
  ^_ gf]s/L
  r_ cGo

^= aRrfs] ;a\Vof
  s_ Ps
  v_ b'O{
  u_ ltg
  3_ rf/ jf px ;] pk/

&= kl/jf/ s] k|sf/
  s_ 5f]6sf kl/jf/
  v_ ;o'St kl/jf/ ÷ a8sf kl/jf/
* = dlxgfs] cfDbfgL
  s_ !),))))\(\text{\_})\quad v_ !),))))\(\text{\_})\quad u_ !),))))\(\text{\_})\quad 3_ !),))))\(\text{\_})\quad f\] pk/

( = aRrf hGdn :yfg
  s_ 3/ v_ c:ktfn
  u_ cGo

!= ckg] s] aRrf s];} hGdn\(\text{\_})ePn af <
  s_ lagf ck[]_; g v_ ck[; g s/s]
  u_ pks/0f \(\text{\_})f wg s] k[of]u s/s]

aRrf ;DaGwL hfgsf/L

!= pd/ -xKtfd]_
  s=; ft lbg v_cf7 ;] t]x[ lbg
  u= rf}w ;] aL; lbg 3_PSsfO; ;] aLofnL;
  lbg

@= ckg] s] af}jf ePnf af ls aAL <
  s_ af}jf v_ aAL
  u_gO{v}
Kavit a Pathak

efu – @ kl/dflht O8]gju{ kf]i6g]6n 18k]j;g :s]n


s= klxn] h[t]/x] cf]xL t/] af .
v= klxn] hO;g g}v] .
u= ;fkm] sd af .
3= ;fkm] gOv] .
@= latn Ps xKt;} ckg] x/ a}t d] dhf n]t afgL . x/]s ljifod] dg v'z xf]hft af .
s= klxn] hO;g xL af .
u= ;rd'r kxn] ;] ax't sd xf]uOn af .
3= ax't sd xf] uOn af .
#= latn Ps xKtf;} ckgf sgf] sfd lau8nf ;] ckg], ckg] cfk s] bf]iL dfg] gL .
s= x, cS;/ .
v= saf] saf] .
u= gf jf]tgf Ho}bf gf dfgL .
3= gf, saf] gf dfg]gL .
$= latn Ps xKtf;} lagf sf/0f ckg}s] dg d] lrGtf xf] /xn af .
s= gf, saf] gf xf] nf .
v= saf], saf] dfq .
u= saf] saf] .
3= cS;/ xf]nf .

\%= laut Ps xKtf ;] ckg[si lagf sf/0f xL 8/ nfu hftaf .
s= gf, saf] gf xf]nf .

v= saf], saf] dfq .

u= saf} saf] .

3= x, cS;/ .

s= x, cS;/ xf]nf, jf]s/ Joj:yfkg xL gf s/] ;sL .


u= yf]/ ax't Joj:yfkg xf] hfnf .

3= x, klxn] hO{g Joj:yfkg xf] hfnf .

\&= latn Ps xKtf;] ckg]sf] dg v'z g}v] jf] ;] lgGb gO{v] cfjt .
s= x, cS;/ .

v= saf] saf] .
3= gf, saf] gf .

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