OBSTETRICS DISSERTATION ON "ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL" IN CHENGALPATTU MEDICAL COLLEGE AND HOSPITAL

Dissertation Submitted To

The Tamil Nadu Dr. M.G.R Medical University

In partial fulfilment of the requirement for the award of the Degree of

M.S. OBSTETRICS AND GYNAECOLOGY

BRANCH II

REGISTER NO: 220620103006

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY

INSTITUTE OF OBSTETRICS AND GYNECOLOGY

CHENGALPATTU MEDICAL COLLEGE AND HOSPITAL

CHENGALPATTU-603001

MAY-2022

BONAFIDE CERTIFICATE

This is to certify that this dissertation entitled **"ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL" IN CHENGALPATTU MEDICAL COLLEGE AND HOSPITAL"** submitted by **DR.V.KAVITHA**, Appearing for M.S OBSTETRICS AND GYNAECOLOGY BRANCH-II degree examination in may 2022 is a bonafide record of work done by her, under my direct guidance and supervision in partial fulfilment of the regulations of the Tamilnadu DR.M.G.R MEDICAL UNIVERSITY, CHENNAI. I forward this to the Tamilnadu DR.M.G.R. Medical University, Chennai, Tamilnadu India.

Dr. J.MUTHUKUMARAN M.S., M.Ch.,

Dean,
Chengalpattu Medical College,
Chengalpattu-603001.

DEAN
Chengalpattu Medical College
Chengalpattu

Dr.G.THENMOZHI (M.D.OG)

Associate Professor and
Head of the Department,
Department of O&G,
Chengalpattu Medical College
Chengalpattu.

HOD & PROFESSOR
Department of Obstetrics & Gynaecology
Chengalpattu Medical College & Hospital
Chengalpattu

DECLARATION BY THE CANDIDATE

I solemnly declare that this dissertation entitled **"ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL"IN CHENGALPATTU MEDICAL COLLEGE AND HOSPITAL.** was done by me at Chengalpattu medical college and hospital during the study period January 2021- January 2022. Under the guidance and supervision of Professor DR.G.THENMOZHI M.D.OG. this dissertation is submitted to the Tamil Nadu DR.M.G.R Medical university towards partial fulfilment of requirements for the reward of M.S DEGREE IN OBSTETRICS AND GYNAECOLOGY BRANCH-II

Place: Chengalpattu
Date: 3/1/22

Dr.V.KAVITHA,
Postgraduate,
Department of O&G,
Chengalpattu Medical College,
Chengalpattu.

ACKNOWLEDGEMENT

First of all, I would like to express my deep gratitude to my Professor **DR.G. THENMOZHI M.D OG** Professor and HOD of the department of OG, Chengalpattu medical college for allowing me to undertake this dissertation on the topic **"ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL"** IN CHENGALPATTU MEDICAL COLLEGE AND HOSPITAL.

I would also like to thank OUR DEAN **DR. MUTHUKUMARAN** and all the members of my college Ethical committee for granting me permission to undertake this study.

I'm also grateful to my guide **Dr. G. THENMOZHI M.D, O.G** Professor and HOD, for her timely feedback to complete my study.

It gives me immense pleasure to express my heartfelt thanks to our Psychiatry Professor **Dr. SABITHA M.D.,** HOD Department of Psychiatry who helped me in my study.

I thank all my other assistant professors in the department of OG for their constant support throughout my study period.

Anything is possible when you have your best friends around you and it stands true with me because of my friends and I thank them for their love and support.

Institutional Ethics Committee
Chengalpattu Medical College
Registration No: ECR/774/Inst/TN/2015
IEC Approval Letter – Amended 18.03.2021

No. IEC-CMC/Approval/19/2021 **Dated: 30.03.2021**

Principal Investigator:

Dr. V. Kavitha,
1st Year PG,
Dept. of Obstetrics and Gynecology,
Chengalpattu Medical College
Chengalpattu

Co-Investigators:

Dr. G. Thenmozhi, M.D., Professor and HOD,
Dept. of Obstetrics and Gynecology, Chengalpattu Medical College

Ref.No.: CMCH – 21 – PR – 158

Title of Work: Assessment of Postpartum Depression and anxiety among mothers delivering at tertiary care Hospital.

The request for an approval from the Institutional Ethical Committee (IEC) was considered on the IEC e-meeting held as per ICH-GCP guidelines, New Drug and clinical trials Rule March 2019 requirements & ICMR – EC Guidance during COVID – 19 Pandemic on 18.03.2021 at the Medical Education Unit, Chengalpattu Government Medical College, Chengalpattu at 11.00 AM for the IEC-Chengalpattu Medical College members.

The Members of the committee, the Secretary and the Chairperson are pleased to inform you that your proposed project mentioned above is **Approved** in its presented form.

1. This approval is valid for three years or the duration of the project whichever is less.
2. Should inform the IEC in case of any changes in study procedure, methodology, sample size investigation, investigator or guide or any other changes.
3. Should not deviate from the area of work for which you had applied for ethical clearance.
4. Should inform the IEC immediately, in case of any adverse events or serious adverse reactions, if encountered during from study seven days.
5. Should abide to the rules and regulations of the institution(s).
6. Should complete the work within the specific period and if any extension is required, you should apply for the permission again for extension period.
7. A yearly progress report of the project has to be submitted to the IEC for review.
8. Should submit a copy of the trial work to the ethical committee on completion of the study.

30/3/21

(Dr.A.Anitha)
Member Secretary Ethics Committee

Member Secretary
Institutional ethics Committee
Chengalpattu Medical College Hospital
Chengalpattu - 603001

URKUND

Curiginal

Document Information

Analyzed document	Dr.Kavitha Dissertation.docx (D123741487)
Submitted	2021-12-28T03 00 00.0000000
Submitted by	Kavitha.v
Submitter email	kavithabharathvimya@gmail.com
Similarity	2%
Analysis address	kavithabharathvimya.mgrmu@analysis.urkund.com

Sources included in the report

W	URL https://www.science.gov/topicpages/p/postpartum%2Bdepression%2Banxiety.html Fetched 2021-09-13T13 09 42.6030000	3
W	URL https://www.researchgate.net/publication/8473734_Antenatal_risk_factors_for_postpartum_depression_A_synthesis_of_recent_literature Fetched 2019-09-30T12 28 01.1230000	3
W	URL https://mgo.ca/sites/mgo-ca/files/Interventions_for_Postpartum_Depression.pdf Fetched 2019-11-05T23 56 47.3770000	5

PLAGIARISM CERTIFICATE

This is to certify that this dissertation work titled **"ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL"** of the candidate **Dr.V.KAVITHA,** with Registration Number **220620103006** for the award of **MS Branch-II,** in **Obstetrics & Gynaecology.** I personally verified the urkund.com website for the purpose of plagiarism Check.I found that the upload thesis file contains from introduction to conclusion pages and result shows 2 percentage of plagiarism in the dissertation.

Dr.G.THENMOZHI (M.D.O&G)
Associate Professor and
Head of the Department,
Department of O&G,
Chengalpattu Medical College
Chengalpattu.

Department of Obstetrics & Gynaecology
Chengalpattu Medical College & Hospital
Chengalpattu

TABLE OF CONTENTS

ABSTRACTS

KEY WORDS:

Post-partum depression, Post-natal depression, Post-partum anxiety, Post-natal anxiety, prevention, early detection and management, cross- sectional study, Hamilton Depression rating scale, Hamilton anxiety rating scale.

ABSTRACT:

Postpartum depression (PPD) and Anxiety is a mood disorder that begins after childbirth and mostly lasts beyond six weeks, depression is quite often combined with anxiety. The main objectives of this work were measuring the extent of postpartum depression and anxiety among the females of to explore the underlying factors of these disorders and find the role of progesterone level in it.

Postpartum depression often associated with Anxiety.postoartum anxiety is mental health disorder along with feeling of anxious. When it occur one year after delivery called as post natal anxiety.

A cross sectional study was conducted among 137 postpartum mothers delivering at Tertiary care hospital at the Chengalpattu medical college and hospital. Data was collected by a questionnaire interview which included data about socio-demographic, obstetric, past personal and family history for assessment of postpartum depression and anxiety.

Results showed 13.9% of the studied females suffered from postpartum depression alone, 8% suffered from anxiety alone.

It was concluded that postpartum depression and/or anxiety affect 21.9% of females in the Chengalpattu government hospital. Very low socioeconomic level, lower educational levels, past history of similar conditions, and low progesterone level are the significant predictions.

INTRODUCTION

The period of pregnancy is a fairy tale of every women's life. The mother is elevated with joy and excitement, dreaming to welcome her child into her arms as soon as possible. The beauty of a life giving experience for every mother in this world is impeccable.

Maternal mental well-being during postpartum period is very important both for the mother and for a healthy well-being of the new born. However, such well-being is not a very usual matter, as at least one out of ten mothers suffer from such depression symptoms. In fact, further more recent studies resulted that a similar or even greater share of mothers experience anxiety symptoms. An extraordinary meta-analysis showed a postpartum period prevalence (0-24 weeks) of 13.7% for anxiety symptoms and 8.4% for anxiety disorders. Infants of mothers with depression have a high chances of negative outcomes in growth, especially when the mother's symptoms are severe or become chronic. Though the effects of anxiety on child outcomes have been less thoroughly investigated and studied than the impact of depression, recent studies have reported negative effects of anxiety on mother–infant interactions, infant temperament, feeding practices and social-emotional development. Addressing both the issues of postpartum depression and anxiety at an early stage may help to reduce the severity and chronicity of symptoms, as well as the impact on the child's health and development. Knowledge of these factors influencing the risk of developing postpartum depression and anxiety may help early detection. These factors may be previously present in women who get pregnant, but may also arise during pregnancy, furthermore, implying

opportunities for health care professionals to reduce risk factors at different stages, thereby preventing mothers from developing depression and anxiety. About 20 years ago, it was published that meta-analyses involving broad perspectives on risk factors for postpartum depression. Factors like history of depression, lack of social support, prenatal depression and life stress consistently emerged as contributors to the risk of postpartum depression.

However, for several other factors effect sizes and associations varied substantially, probably due to methodological differences. Since then, many articles and several systematic meta-analyses on risk factors for postpartum depression have been published, but looking beyond the broader perspective to specific risk factors. Comparing results across articles has been complicated by the variety of risk factor definitions and statistical methods, and the different sets of variables included. Ideally, an extensive approach would include in the same study factors from before, during and after pregnancy. However, factors from the postpartum period received little attention in many studies. Regarding anxiety, the body of literature on risk factors is far more limited, with findings limited mainly to single study. Also, few reported findings based on univariate analyses only. Factors for which associations with anxiety are reported by many studies, and by studies using multivariate analyses, were: ethnicity, partner support, (maternal) self-efficacy and history of depression. The aim of this study was therefore to identify risk factors for developing postpartum depression as well as anxiety, that occur before, during, and after pregnancy in the general population.

But this isn’t a cake walk period. This joyful period is nested with a group of disorders like[1]:-

1. Antenatal depression

2. Antenatal anxiety

- Psychiatric disorders in the childbirth include:-
    1. Anxiety
    2. Depression
    3. Tourette Syndrome
    4. Post-traumatic Stress Disorder(PTSD)
    5. Conduct Disorder(CD)
    6. Oppositional Deficit/Hyperactivity Disorder
    7. Obsessive-Compulsive Disorder(OSD)
- Postpartum psychiatric disorders which include:-
    1. Postpartum Blues
    2. Postpartum Depression
    3. Postpartum Anxiety
    4. Postpartum Psychosis

1. POSTPARTUM BLUES[2]

Postpartum Blues which is also referred to as Baby blues is a very common and self-limited condition that usually follows childbirth and can showcase a variety of symptoms like mood swings, tearfulness and irritability. Negativity quite accompanies the intense periods of joy. The situation worsens due to other reasons like fatigue, sleeping difficulty, loss of concentration, etc….

2. POSTPARTUM DEPRESSION

Postpartum Depression can affect people in numerous number of ways but the most common effects include signs and symptoms like fatigue and lethargy, stomach pain and headache, lack of appetite, Difficulty in bonding with the baby, low motivation and feeling guilty, worthless, etc….[3]

3. POSTPARTUM ANXIETY[4]

Postpartum anxiety may spike due to hormonal changes in the postpartum period.it might rise up due to many factors including the health of the baby, finances, etc.. The history of pregnancy loss (miscarriage or stillbirth) also increases your risk for developing postpartum anxiety. Anxiety and sadness may also appear after weaning from breastfeeding due to hormonal changes.

4. POSTPARTUM PSYCHOSIS[5]

Postpartum psychosis can follow within a couple of weeks after baby delivery. Often it occurs suddenly. Different mothers depict different symptoms which include delusions, hallucinations, agitation, severe insomnia, paranoia, sex drive, mood swings, feeling disconnected from the baby, etc..

In this study we have used the following questionaries for assessment of postpartum depression & anxiety among mothers delivering at tertiary care hospital at Chengalpet medical college.

1. Semi structured socio demographic and clinical questionnaire.
2. Hamilton depression rating scale.(HDRS)
3. Hamilton anxiety rating scale.(HAM-A)

1.Semi structured socio demographic and clinical questionnaire includes patients details like Name ,age ,education, employment, ,income, BMI, Mensrtural history ,marital histroy, obstetric history ,antenatal complication ,intrapartum complication,postpartum complication, and pregnancy outcome.

2. HAMILTON DEPRESSION RATING SCALE (HDRS);

This scale is most commonly used instrument for assessing symptom of depression .the instrument is designed to be administered by clinicians after a structured or unstructured interview of the patient to determine their symptom. A total score is calculated by summing the individual scores from each question. The scale is widely

available and has two common versions with either 17 or 21 items and is scored between 0 and 4 points. the maximum score being 52 on the 17 –point scale.

- Score below 7 generally represent the absence or remission of depression.
- Score between 7 -17 represent mild depression
- Score between 18-24 represent moderate depression.
- Score 25 above represent severe depression.

While patients with mild depression often remit spontaneously or responds to psychological (talking) therapies,patients with increasingly severe depression are more likely to benefit from a combination of treatments including biological therapies such as medication.

HAMILTON ANXIETY RATING SCALE:

HAM –A was one of the first rating scales developed to measure the severity of anxiety symptoms and is still widely used in both clinical and research settings.

The scale consists of 14 items .each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with total score range of 0 -56

It has been predetermined that the results of the evaluation can be interpreted as follows

Where A score of <17 indicates – mild anxiety

A score from 18-24 – mild to moderate anxiety

A score of 25-30 – moderate to severe anxiety.

AIM AND OBJECTIVE

- To study the incidence and factors associated with postpartum depression and anxiety
- To identify the various socio demographic and medical factors associated with the development of postpartum depression and Anxiety.
- To study the correlation between high risk pregnancy and psychiatric outcomes.
- To build strategies for the prevention of depression and anxiety and to give maximum support to the mother during the postpartum period.

HISTORY OF POSTPARTUM DEPRESSION

A FAMOUS CASE;

Once upon a time, there was a little girl who dreamt of being a mommy. She wanted, more than anything to have a child and thought her dream would come true one day and then one day, finally she became pregnant. Her antenatal periods were uneventful and gave birth to a baby girl. But instead of being relieved and happy, she could do was cry.''

Brook shields famously compared her tears following the birth of her daughter to the rain taking down the itsy-bitsy spider in the popular children's song. The above quote is from the opening page to shields' widely read memoir, down came the rain, published in 2005.

Shields' book gave a public and famous face to a disease that women had suffered silently throughout all of history. In it, shields shares in intimate details her struggles following the delivery of her daughter. She was helpless, sad, and scared. She lost all motivation to parent. She did not acknowledge her depression. For some time, she resisted professional help and medication and even contemplated suicide. And when she came out whole on the other side, after successful treatment with antidepressant medication and psychotherapy, she wanted to prevent others from suffering in silence[6].

Now, nearly a decade later, thanks to shields and a host of other celebrities, bloggers, researchers and political advocates, postpartum depression (PPD) has become a household term. Today, when women go to a physician for prenatal care, they see posters in the doctor's office explaining what PPD is and what they should do if they

develop depressive symptoms after childbirth classes and when leaving the hospital after childbirth, women are given pamphlets about PPD and business cards for counsellors and psychiatrists, should they need them. And pregnant women are routinely screened for PPD at postpartum obstetrics follow-ups—and even by paediatricians during infants check ups. Such widespread awareness and acceptance of PPD did not always abound, however.

Recent research indicates that nearly 70-80% of women suffer from some depressive symptoms within the first two weeks following delivery. These depressive symptoms are now widely recognized as manifesting in various ways with varying degrees of severity. Tearfulness and mood lability seen soon after birth in many women has become known as the postpartum or "baby blues". The postpartum blues are considered a "normal" reaction to giving birth. However, some women experience true major depressive episodes in the weeks and months following birth that are more persistent, manifesting as loss of pleasure, interest, sleep, and self-worth. It is these episodes that are referred to as PPD, estimated to affect 10-13% of women during the postpartum period. Finally, beyond the postpartum blues and major depressive episodes, about 1 or 2 in 1000 women develop cognitive disturbances, bizarre behaviour or hallucinations, and a severe condition known as postpartum psychosis[7].

Depression following childbirth has long carried a social stigma. Many people think that a woman should be happy following the birth of a child –and when she is not, she is often looked upon unkindly.

Women have long tried to hide signs of depression, sometimes with dire consequences when their depressive symptoms turn into thoughts of harming themselves or their babies. A well-publicized example is that of Melanie stokes, who killed herself in Chicago in 2001 after suffering postpartum mental illness[8]. Recent legislation to support PPD research and advocacy now bears her name.

Moreover, medical professionals have not long been supportive of treatment for depression following childbirth. The psychiatric community did not officially recognize depression in the postpartum until the fourth edition of it's diagnose and statistical manual, published in 1994. Even now, the DSM IV identifies depression with a postpartum onset as being only depression that appears within four weeks after delivery of a baby. However, many experts argue that PPD may develop anytime within the first year following delivery, and clinicians are encouraged to screen women for periods longer than just those four weeks following the birth of their children[9].

Controversies and speculation about depressive symptoms following childbirth have existed since the earliest medical literature. Hippocrates made the first known reference to PPD in the fourth century B.C. and his hypotheses became dogma that survived for over a thousand years. He proposed that lochial discharge—the fluid that comes from the uterus after birth—if suppressed, could flow to the head and result in agitation, delirium and attacks of mania. He also thought that blood collected at the breasts of a woman could indicate onset of madness[10]. Another early reference to postpartum mental symptoms comes from Trotula, a 13th century female physician, who believed that postpartum mental disturbances were due to increased moisture in the

body following childbirth. she wrote “if the womb is too moist, the brain is filled with water, and the moisture running over the eyes, compels them to involuntarily shed tears[11].”

Even then, down came the rain Observations of postpartum mental disturbances continued throughout history. During the middle age, women who exhibited melancholy during or after childbirth were through to be witches or victims of witchcraft, as any other stigmatized individual might have been. By the 16th century, descriptions existed of a “disturbance of the maternal instinct” following childbirth, and most reports were focused on mothers who killed their children . known as "Melancholic filicide,” these deaths led physicians to increase study of postpartum mental disorders. One well-known 16th century physician, Castello Branco, described a case of postpartum melancholy as such: “The beautiful wife of Carcinator who always enjoyed the best of health, was attacked after childbirth by melancholy, and remained insane for a month, but recovered with treatment.” Through Branco does not describe what type of treatment he used for the wealthy woman, reports of experimental treatments began to surface over the following centuries[12].

REVIEW OF LITERATURE

Reviewing the literature is the important initiation in any research. This denotes a systematic and comprehensive study of published materials under specific topic consideration. Review of Literature accomplishes the need for the present study, finds lacunae in present knowledge, the numerous theories that have been presented earlier and accurately identifies the pertinent questions that need to be posed.

Chabrol H made a study on the prevention and the treatment of Post-partum depression at the Toulouse University. He reviewed and concluded that pharmacological, psychological and psychosocial approaches for Post-partum depression is well accepted and efficient[13].

CL Dennis has conducted a study to identifying women at risk for post-partum anxiety; a prospective population based study that while significant proportion of women experience anxiety symptoms post childbirth, multiparous women with psychiatric history are at greater risk of diverse stress. These key factors may be used to promote early identification and secondary preventive interventions[14].

Johan CH van Bussel highlighted the study on anxiety in pregnant and postpartum women. An exploratory study of the role of material orientations. He concluded that women quite differ in risk factors, the nature of heightened anxiety during the transition from women to motherhood. The anxieties of women tending to the regulatory orientation are pregnancy related, whereas women tending to the facilitator orientation fear the separation from their child during the post-partum period{15}

Rojas et al characterised the relationship between post-partum depression and standards of life and found mild to moderate depression and found quite a significant impairment in daily activities.[16]

Park YJ et al identified stress of child care and studied the predictors of PPD and family support as the significant predictors. He used the fitness model for explaining PPD based on 6 variables, child care stress, planning of pregnancy, quality of married life, support from family, self- esteem and social support.[17]

A .Benner made a study of postpartum depression in a fast developing areas on prevalence and related factors; The prevalence of postpartum depression in women was comparable to previous epidemiological research done in several developing countries. Poor marital relationships, prematurity, Financial difficulties, lack of family support, have been identified as major risk factors leading to the development of postpartum depression.[18]

Boyce and Hickey identified the psychological factors and Obstetric Risk Factors for Postnatal Depression in Urban and Rural Communities. The results characterised the importance of psychosocial risk factors for postnatal depression and most obstetric factors during pregnancy and birth do not significantly increase risk for Post-partum depression. Early identification of potential risk for post-partum depression should include assessment of personality, psychiatric history, sociodemography and present life events, as well as all past and present obstetric factors.[19]

J Yelland conducted a study on Post-partum anxiety, depression and social health: results from a population survey of Australian women. Usual management for

postpartum mental health issues conclusively include the pharmacological approaches that may not be effective if social health issues are not addressed. Integrated and coordinated perinatal care that is responsive to women's social health may lead to improvements in women's emotional wellbeing following birth.[20]

C Reck studied on the prevalence. Onset and comorbidity of post-partum anxiety and depressive disorders. He concluded that clinical relevance of PAD, controlled studies and specialized programmes for prevention and treatment are urgently required.[21]

H Janson performed a study on Childhood sexual abuse, parenting and postpartum depression- a 3 year follow-up study: A history of sexual abuse in women who are affected with depressed postpartum may express long term implications for the woman's mental health, her relationship with her baby, also in the emotional development of her child. It is critical to offer women in such high-risk group supports in an attempt to reduce these difficulties and any long-term adverse effects[22].

L Lilly studied The role of maternal anxiety in the early postpartum period: screening for anxiety and depressive symptomatology: Symptoms of maternal anxiety are common after labour and persist in the early postpartum period. This study suggests that the impact of maternal anxiety should be considered while studying postpartum distress. The comorbidity amongst anxiety and depressive symptomatology persisted for 3 months making women more vulnerable to postpartum distress. Given this result screening prior to hospital discharge is essential as it can provide an indication of the mothers who are in the danger of developing affective disorders.[23]

M Furtado performed a study on Biological and psychosocial predictors of anxiety worsening in the postpartum period: A longitudinal study**:** this is one of the first longitudinal study to investigate psychosocial and biological risk factors for anxiety worsening in the postpartum period in women with pre-existing anxiety disorders. Continued research investigating these risk factors is required to elucidate whether they differ from women experiencing new-onset anxiety disorders in the perinatal period, and among those in non-puerperal groups. Identifying these risk factors can help in guiding the development of screening measures for early and accurate detection of symptoms. This can lead to the implementation of appropriate interventions aimed at decreasing the risk of perinatal anxiety worsening.[24]

Owoeye et al studied the risk factors associated with postpartum depression. He concluded that the risk factors involved in the development of postpartum depression were predominantly psychosocial factors such as joblessness, marital conflict and unwanted pregnancy. He also outlined the steps that needed to be taken in order to reduce postpartum depression such as provision of cheaper and improved health care facilities and improving the socio-economic situation in the country.[25]

M Claesson conducted a study on the Prevalence of anxiety and depressive symptoms among obese pregnant and postpartum women: an intervention study: Obese pregnant women attending an intervention program seem to have the high risk of experiencing anxiety and depressive symptoms similar to obese pregnant and postpartum women in general.[26]

T Field studied the Regulation of anxiety during the postpartum period: every year, millions of postpartum women and their babies around the globe are affected by the onset or worsening of maternal anxiety disorders, and yet, there is virtually no information in either humans or animals about the endocrine, neuroendocrine, and neurotransmitter factors leading to high anxiety during this particular reproductive state. At least it is known that postpartum anxiety can be naturally reduced by infant contact.[27]

RL Miller described the Anxiety and stress in the postpartum: the prevalence of anxiety and stress in the present study points and the importance of assessing postnatal women for better indicators of psychological morbidity than that of depression alone. The DASS-21 has emerged to be a useful instrument for this purpose.[28]

K Fallah identified the Prevalence and risk factors for comorbid postpartum depressive symptomatology and anxiety: Comorbid postpartum depressive symptomatology and anxiety is a common condition but little is known about its risk factors. Additional research has been made to develop strategies to reliably identify women with such comorbid condition and to determine effective treatment options.[29]

SA Keim made a prospective study of maternal anxiety, perceived stress, and depressive symptoms in relation to infant cognitive development: Maternal anxiety, depressive symptoms and stress had little negative influence on infant cognitive development. In fact, moderate psychosocial distress might slightly accelerate motor development in particular, and some aspects of language.[30]

Hall et al studied the relationship between the women "doing the month" and the development of postpartum depression. They found that the incidence of depression was less when women stayed at their maternal home and were taken care by their mothers. Their support system was inversely proportional to the amount of depressive symptoms experienced by the women. There was an inverse proportion on postpartum depression for the mother when there was an influence of her in laws. They concluded that the East Asian culture of doing the month was beneficial in decreasing the incidence of postpartum depression.[31]

MO Silverman studied The risk factors for postpartum depression: A population-based study, In one of the largest population-based study to date, the risk of Postpartum depression was more than 20 times higher for women with a depression history, compared to women without. Gestational diabetes was independently associated with a highly increased Postpartum Depression risk. Maternal depression history also had a modifying impact on pre- and perinatal postpartum depression risk factors.[32]

THE DISEASE

POSTPARTUM DEPRESSION – THE DISEASE

This section details the disease- postpartum depression. A small description of pathophysiology, diagnosis, management, prevention of postpartum depression is entailed.

ETIOPATHOGENESIS:

Multifactorial Causation model:

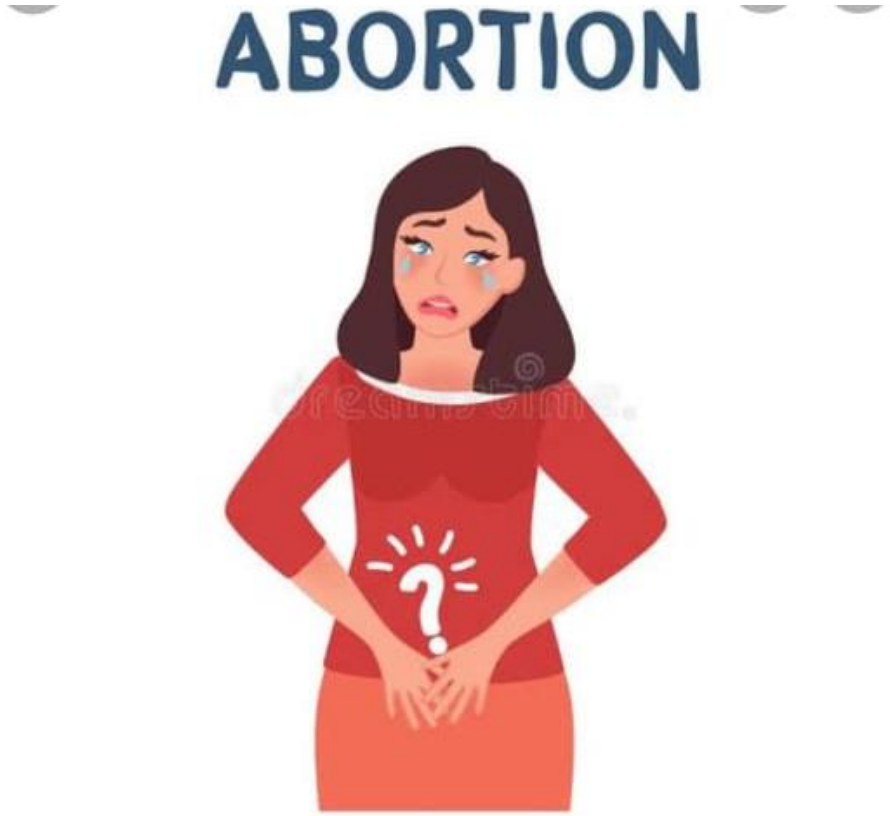
It is very simplistic to consider that a single etiological agent causes the development of depression. It is currently believed that a variety of factors contribute to the development of depression in a genetically susceptible person[33]. The following factors are considered to be the most significant factors in the development of Postpartum Depression.

1. BIOLOGICAL FACTORS:

The rapid fall of reproductive hormone levels that occur after delivery is considered as the primary reason for the development of Postpartum Depression. Progesterone and oestrogen[34] levels return to the pre-pregnant state within a span 3 days. Lactation is initiated when prolactin, which was blocked by oestrogen during pregnancy is no longer present in the mother. Oxytocin production is stimulated by suckling. Cyclical androgen variation is absent in both pregnancy and lactation. Biological theories on the pathophysiology of Postpartum Depression are almost similar to those of other psychiatric disorders. Postpartum women represent postpartum depression due to the withdrawal of the reproductive hormones.

A. OBSTETRIC FACTORS:

Obstetric factors that have implicated the increase of postpartum depression include premenstrural dystrophic disorder, marital status ,number of gravida parity ,live birth and abortion, antenatal complications such as hyperemesis, Anemia ,heart disease, PIH,sexually transmitted diseases and post-partum complications such as post partum haemorrhage, wound dehiscence, prolonged hospital stay and etc [35]



B. BREAST FEEDING:

The inverse proportionality between breastfeeding and postpartum depression shows that breastfeeding is associated with a reduction in the rate of postpartum depression. It was found that breastfeeding during the first 4 months after delivery reduces the risk of postpartum depression. However this is affected by other factors like preference, social customs, etc….[36]

C. UNWANTED PREGNANCY:

Unwanted pregnancy has a very high impact on postpartum depression as it varies for different women based on their environment. It does not conclude that the women dislike their foetus directly but variable factors get involved along with causing postpartum depression[37].

2. PSYCHOLOGICAL FACTORS

Previous history of depression and anxiety is among the factors that are associated with a higher risk of postpartum depression In addition to past depression history, other factors include negative attitude toward the recent pregnancy, dislike in pregnancy, number of life events and a history of sexual abuse in their past life were as predisposing risk factors of postpartum depression. Moreover the reluctance of the baby gender and having low self-esteem with the impact on parenting are factors that trigger in the development of postpartum depression. Other psychological factors are:-

A. NEUROTIC PERSONALITY:- Neurotic personality is associated with higher chance of causing postpartum depression.[38]

B. COGNITIVE ATTRIBUTIONAL STYLE:-Negative cognitive attributional style has been a significant predictor of the development of postpartum depression.[39]

3. CLINICAL FACTORS

The postpartum depression causing clinical factors include family history of depression, mood during pregnancy and past depressive incidences.

A. FAMILY HISTORY OF DEPRESSION:-

Establishing a family history of depression is uphill task as it has the taboo associated with the disclosure of personal depression to the family members. This makes it a difficult cause to be proved.[40]

B. MOOD DURING PREGNANCY:-

This is one of the most common and significant clinical factor as it involves the state of mind of the mother carrying her foetus which can be influenced by several external and internal factors.[41]

C. PAST DEPRESSIVE EPISODES:-

Past and history make a non-erasable impact which may be reason to trigger postpartum depression.[42]

4. SOCIAL FACTORS

There are few unique socio-cultural factors closely linked to postpartum depression; main one being the strong preference for male infants in the society. There is a deeply rooted belief that boys will bring more income to the family and society, and they will continue the family lineage.[43]

Other life changing events like Death of a closely related one, divorce, breakup, loss of a job and moving to a new town may all lead to stressful experiences and the onset of depression even in perfectly normal individuals.

Pregnancy and child birth are alone stressful events but other multiple stress causing factors add up to the trigger of postpartum depression

Other common factors are some like Conflicts that happen often and could, to a certain extent, affect the social support provided in a mother's household. New mothers often have a different lifestyle and way of caring for their infant, leading to clashes with the traditional expectations of their mothers or mothers-in-law.

One of the potential pitfalls in identifying stressful life events as the cause of PPD is the characteristic of recalling events. People tend to recall stressful life events with greater accuracy once the diagnosis is made. This problem is reduced in prospective studies when the confounding factors are removed.

5. SOCIAL SUPPORT

Protection and good support structure has a vital contribution in preventing postpartum depression. Support can be from husband, family, friends or any known person. The following are the types[44] of social support:-

A. Emotional support - love and care from close ones.
B. Information support – Tips, guidance and advice regarding pregnancy and childbirth
C. Perceived support – A belief that people around them will provide the necessary support when needed.
D. Instrumental support – Material assistance
E. Received support – Support that is obtained
F. Voluntarily when asked.

SOCIO ECONOMIC STATUS;

Low socioeconomic status was associated with increased depressive symptoms in late pregnancy and postpartum period. women with four SES risk factors (low monthly income ,less than a college education ,unmarried and unemployed) were 11 times more likely than women with no SES factors to have clinically elevated depression scores at 3 months post partum even after controlling for the level of pre natal depressive symptom.[45]

CHILD FACTORS:

Impacts on the child:

Mothers with postpartum depression lacks the ability to provide proper care for the baby[49]. The baby born to mothers with postpartum depression seems to come up with poor social, emotional, neurophysiological and cognitive skills. The ability of the infant to manage physiological stress, regulate their negative emotions and handle social process, is dependent on the mother and depression when present in the mother causes disruption of the cognitive, emotional and psychosocial growth of the infant.

Criteria for evaluation:[49]

1. Feeding skills of the mother
2. Harmony and attunement between mother and baby

SUMMARIZING THE FACTORS ASSOCIATED WITH POSTPARTUM DEPRESSION;

Marital status, parity, number of alive babies, unwanted pregnancy, delivery complication ,mother preference for the infant gender, illness of the infants, previous neonatal loss, previous history of depression, husband substance abuse, stressful recent life events,high level of childcare stress, cognitive attribution.

DIAGNOSIS OF POSTPARTUM DEPRESSION;

Other than psychiatric cause ,Non psychiatric cause in the postpartum period is the most common complication of childbirth affecting 10 to 15% of the women .the main reason is underreporting of the disease burden both from the side of the patient and under diagnosis because the healthcare person is not adequately sensitized to refer the patients for the specialist consultation .because of the silent nature of the disease. Postpartum depression is the most common medical complication of childbearing .Universal screening increases the likelihood of prompt identification of PPD. Obstetrician –gynaecologist routinely evaluate the postpartum women for a general health examination and review of family planning options after six weeks of delivery, therefore ,they are well positioned to identify PPD. The optimum timing for screening and the acceptability of depression screening in the obstetrical settings. finally we explore how to manage the patients who diagnosed as depression and the treatment option for women with PPD.

DSM – TR – IV[47] criteria for the detection of Major depressive disorder.

Five or more of the following symptoms have been present during the same 2 –week period and represent a change from previous functioning; at least one of the symptom is either (1) depressed mood or (2) loss of interest or pleasure.

Note: Do not include symptoms that are clearly due to general medical condition,or mood-incongruent delusion of hallucinations.

- Depressed mood most of the day,nearly everyday,as indicated by either subjective report

  (e.g feels sad or empty)or observation made by others (appear tearful)
- Markedly diminished interest or pleasure in all , or almost all, activities most of the day nearly every day (as indicative either subjective account or observation made by others)
- Significant weight loss when not dieting or weight gain (e.g a change of more than 5 % of body weight in a month) ordecrease or increase in appetite nearly every day.
- Insominia or hypersomnia nearly every day.
- Psychomotor agitation or retardation nearly everyday (observable by others ,not merely subjective feelings of restlessness or being slowed down)
- Fatigue or loss of energy nearly everyday.
- Feeling of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self reproach or guilt about being sick)
- Diminished ability to think or concentrate ,or indeciveness, nearly everyday

(either by subjective account or as observed by others)

- Recurrent thoughts of death (not just fear of dying recurrent suicidal.
- Ideation without a specific plan ,or a suicidal attempt or a specific plan for committing suicide.
- The symptom do not meet criteria for a mixed episode
- The symptom cause clinically significant distress or impairment in social ,occupational ,or other important area of functioning
- The symptom are not better accounted for by bereavement i.e after a loss of loved one, the symptoms persists for longer then to months or characterized by marked functional impairement morbid preoccupation with worthlessness,suicidal ideation,psychotic symtoms or psychomotor retardation.
- Postpartum onset specifier ; onset of episode within 4 weeks postpartum.

TREATMENT

Treatment options available for post partum depression ;

Pharmacological interventions :

Tricyclic anti depressants :

1. Amitriptyline
2. Imipramine
3. Desipramine
4. Clomipramine
5. Doxepin
6. Nortryptyline
7. Trimipramine
8. Protriptyline

Selective serotonin reuptake inhibitors (SSRIs):

1. Citalopram
2. Paroxetine
3. Fluoxetine
4. Sertraline
5. Fluvoxamine

Norepinephrine dopamine reuptake inhibitors (NDRIs):

1. Bupropion
2. Amineptine
3. Ethylphenidate
4. Dexmethyphenidate

Monoamine oxidase inhibitors (MAOIs):

1. Tranylcypomine
2. Terbutaline
3. Phenelzine
4. Moclobemide

Others:

1. Nefazodone
2. Amoxapine
3. Venlafaxine
4. Maprotiline

Psychological intervention:

1. Guided self help
2. Interpersonal psychotherapy
3. Cognitive behavioural therapy

Psychosocial intervention:

1. Partner support
2. Peer support
3. Non direct counselling

Hormonal Therapy:

1. Estrogen therapy
2. Progesterone therapy

The NURSE approach:

1. Nourishment
2. Understanding
3. Rest and relaxation
4. Spirituality
5. Exercise

Other intervention:

1. Complementary treatments – exercise, yoga, massage, relaxation training, meditation etc.,
2. Bright light therapy
3. Maternal and infant sleep deprivation
4. Relaxation massage therapy
5. Electro – convulsive therapy

PREVENTION OF POST PARTUM DEPRESSION:

Interventions:

1. Primary intervention – reduces the incidence of disease
2. Secondary intervention – slows the progress of disease
3. Tertiary prevention – reduces the resultant disability due to the disease through treatment[48]

Benefits of screening and prevention:

1. Reduces morbidity
2. Improves child health
3. Increased quality of life

Potential harms of screening:

1. False positive results
2. Adverse treatment effects
3. Cost of treatment
4. Incorrect diagnosis

Modalities of prevention:

Psychological intervention:

1. Interpersonal psychotherapy
2. Psychological debriefing
3. Cognitive behavioural therapy

Psychosocial intervention:

1. Intra partum support
2. Antenatal and postnatal classes
3. Supportive interactions.

Quality improvement interventions:

1. Continuity of care
2. Early postpartum follow up
3. Home follow up
4. Flexible postpartum care

Hormonal interventions:

1. Estrogen therapy
2. Progesterone therapy
3. Thyroxine replacement

Other interventions:

1. Educational strategies
2. Relaxation with guided imagery

Child growth and development:

1. Physical development
2. Cognitive development
3. Emotion development
4. Social behaviour
5. Child behaviour
6. Sudden infant death syndrome
7. Sleep
8. Crying and motor functions

POSTPARTUM ANXIETY

Condition which characterized by symptoms of intense anxiety or panic and may involve many somatic symptom such;

Cardiac palpitation, tachycardia, tachypnea ,dyspnoea, hot or cold flashes, chest pain, dizziness, tremor and feelings of doom and helplessness

Every new mother is little anxious. Motherhood opens a new chapter in life with a new experience and role to do. Such situations commonly cause anxiousness. Few mothers end up with having excessive worries and experience severe postpartum anxiety. Important gonadal steroid levels have been reported showing as much as 100-fold variation in serum estrogen levels and 1000-fold change in progesterone level during pregnancy. These factors cause emotional difficulties to the mother, psychological factors add up to this cause leading to the development of severe postpartum anxiety. Often mothers have many concerns like the health of the child, Change in lifestyle , finances , family support and more. There are also instances were the pregnancy might not be wanted which causes more anxiety.

PREDICTORS OF POSTPARTUM ANXIETY:

Postpartum anxiety is related to anxiety and some psychological disorders which were present before pregnancy, during pregnancy, anxiety during early postpartum period and maternity blues. A study conducted by Farr et al discovered that higher count of stressful life events during pregnancy was a major risk factor causing postpartum anxiety. Though this study turned out to be retrospective and stressful events during pregnancy were assessed postpartum, so that cognitive bias due to the current mental health difficulties are highlighted.[61]

Van Bussel et al presented that depressive copying style was an important predictor of anxiety but as the real stress level was not assessed, the role of both stress and copying styles of postpartum anxiety weren't evident. Low levels of perceived social support tend to be related to postpartum anxiety levels, and poor

relationship adjustment is an important predictor of higher postpartum anxiety

Other significant predictors of postpartum anxiety include artificial abortion and unwanted pregnancy. Mode of delivery contributes to immediate anxiety after childbirth but not to anxiety 6 weeks postpartum .pregnant women are concerned about health and medical problem ,childbirth and health of the baby, weight and body image emotion and relationship and socio economical issues. These aspect to be assessed to grasp the full range of anxiety.

PATHOPHYSIOLOGY OF ANXIETY :

The exact mechanism is not clearly known.Anxiety symptoms and the resulting disorders are thought to be due to disrupted mechanisms within the central nervous system. Physical and emotional manifestations of this dysregulation are the result of heightened sympathetic arousal of varying degrees (Kaplan and Sadock, 1995). Several neurotransmitter systems have been implicated to play a role in one or several of the modulatory steps involved. The most commonly considered are the serotonergic and noradrenergic neurotransmitter systems. It is thought that an lesser activation of the serotonergic system and an over activation of the noradrenergic system are involved (Ressler and Nemeroff, 2000, Munir et al., 2019). These systems are regulated by some other pathways and neuronal circuits in other regions of the brain, resulting in dysregulation of physiological arousal and the emotional experience of this arousal (Ressler and Nemeroff, 2000). Many believe that lesser level of serotonin system activity and elevated level of noradrenergic system activity are responsible

for its development. It is, therefore, selective serotonin reuptake inhibitors (SSRI) and serotonin-norepinephrine reuptake inhibitors (SNRI) that are the first-line agent for its treatment (Munir et al., 2019). Disruption of the gamma-aminobutyric acid (GABA) system has also been implicated because of the response of many of the anxiety spectrum disorders to treatment with benzodiazepines (Nutt, 2001). There has been some interest in the role of corticosteroid regulation and its relationship to symptoms of fear and anxiety.

Corticosteroids may increase or decrease the activity of certain neural pathways, affecting not only behaviour under stress, but also the brain's processing of fear-inducing stimuli (Korte, 2001). Cholecystokinin has been viewed as a neurotransmitter involved in regulatinkg the emotional states (Korte, 2001). There is such careful orchestration between these neurotransmitters that changes in one neurotransmitter system invariably elicit changes in another, including extensive feedback mechanisms. Serotonin and GABA are inhibitory neurotransmitters that quieten the stress response (Coplan and Lydiard, 1998; Rush et al., 1998). All of these neurotransmitters have become important targets for therapeutic agents. Many studies indicate that a genetic predisposition to developing an anxiety disorder is likely. However, environmental stressors clearly play a role, in varying degrees. All of the disorders are affected in some way by external cause and how they are processed and reacted to (Kaplan and Sadock, 1995).

Several studies have found elevated WBC count among depressed and anxious individuals (Pitsavos et al., 2006; Kobrosly and van Wijngaarden, 2010; Duivis et al., 2013; Aydin et al., 2016; Shafiee et al., 2017). Shafiee et al., 2017 reported that

the mean WBC count increased with increasing severity of symptoms of depression and anxiety among men. Men (but not women) with severe anxiety symptoms had significantly higher values of RDW ($p < 0.001$). Moreover, there was a negative association between red blood cell (RBC) and mean corpuscular hemoglobin (MCH) and symptoms of depression/anxiety. Pitsavos et al. (2006) observed that anxiety score is positively correlated with WBC count in women, but not in men. Since WBC count is an independent predictor of atherosclerosis and cardiovascular diseases (Loimaala et al., 2006; Madjid et al., 2004, Shafiee et al., 2017). RDW is a strong predictor of mortality and has association with a variety of cardiovascular and thrombotic disorders (Montagnana et al., 2012; Patel et al., 2009, Shafiee et al., 2017). Therefore, higher levels of RDW among depressed and anxious individuals may predict greater risk of developing cardiovascular diseases in these patients (Shafiee et al., 2017). Shafiee et al., 2017 concluded that a positive association between depression/anxiety symptoms and levels of hematological inflammatory markers including WBC and RDW, which persisted despite adjustment by potential confounders

PERIPHERAL MANIFESTATION OF ANXIETY:

- Diarrhoea
- Dizziness, light headedness
- Hyperhidrosis

- Hyper reflexia
- Palpitation
- Pupillary mydriasis
- Restlessness
- Syncope
- Tachycardia
- Tingling in the extremites
- Tremors
- Urinary frequency, hesitancy, urgency.

RISK FACTOR FOR POSTPARTUM ANXIETY:

Risk factor for postpartum anxiety has been divided into four categories:

- Demographic factors,
- Child birth experiences
- Social support
- History of psychiatric and

psychological problems

DEMOGRAPHIC RISK FACTORS:

In a sample of 1659 women,13 % experienced postpartum anxiety of those women ,young mothers and those with higher education were more anxious (35 % and

68 % respectively),and the post partum working women were more anxious (52 %). Housewives were depressed (52 %) .Mixed findings were reported for parity including primiparity being a risk factor in one study paul et al[50] and multiparity in another study Dennis et al[51].Those inconsistent data are difficult to interpret.[52]

CHILDBIRTH EXPERIENCES;

Postpartum anxiety including the type of delivery and the fears surrounding the process of birth.IN One study, elevated state –trait anxiety score were associated caesarean versus normal delivery (22 % and 15 %) and another study postpartum anxiety ,depression and stress were associated with caesarean delivery[53]. the caesarean delivery, as suggested by premature delivery being releated to postpartum anxiety in still another sample. In a much a larger sample (N =4657) ,the type of delivery was not releated to anxiety (but not with depression symptoms) at an eight month follow up assessment postpartum.The author concluded that improving a womans childbirth experience may decrease the incidence of postpartum anxiety but not the postpartum depression. some other factors were related to severe anxiety scores likes fear of birth , fear of death during delivery (mother and baby) and less self –confidence and less confidence on the staff working in the medical field[54], In the study on Israeli women,of those who developed postpartum anxiety, 75% were reported as feeling anger , fear regarding emotional detachment during childbirth.However ,anxiety was directly not releated to obstetric and delivery complication.

FAMILY SUPPORT:

Releated to socio ecnomically underdeveloped countries have been reported association between anxiety symptoms and lack of social support. Lack of social support was related to postpartum anxiety at 6 weeks .In the sample of 1659 mothers the depression anxiety stress scale were used Bener et al[55] .unplanned pregnancy were undergone to postpartum depression ,lack of family support were undergone to postpartum anxiety.In a systemic review of 35 studies on 10,880 postpartum women in Africa,lack of family support were releated to postpartum anxiety,whereas association between postpartum anxiety and obstetric variable were inconclusive ,Again surprisingly ,obstetric complications were not directly releated to postpartum anxiety.[56]

DEVELOPMENTAL EFFECTS;

Many negative developmental effects have been noted to follow postpartum anxiety. These include negative effects on breast feeding,on bonding ,on infant temperament and sleep ,on mental development ,health and internalizing in infant .These developmental effect studies were based on structured clinical interviews and behaviour observation.

BREAST FEEDING:

In the systematic review, 33 studies on postpartum anxiety and breast feeding met selection criteria[60], in several studies women those associated postpartum anxiety were less likely to give breast feeding and more likely used formula feeding during the period of hospitalization. Postpartum anxiety mother who breast fed their babies felt

greater difficulties. They were more likely to stop breast feedings earlier. As in systematic review and meta-analyses, the authors experienced methodological difficulties due to lack of comparability of method and findings across the studies.

TREATMENT[62];

The treatment for postpartum anxiety are usually same like that other types of anxiety disorder .

COGNITIVE BEHAVIORAL THERAPY:

Short term talking therapy along with a mental health professional to learn ways to change anxiety producing thought.

AROMATHERAPY:

Deep breathing in calm environmemt and soothing essential oils may help to reduce anxiety.mother who are breastfeeding should not use essentional oil to there skin because it penetrate thorough porous enter into the bloodstream and breastmilk.

ANTIDEPRESSANT MEDICATIONS:

Medications such as selective serotonin reuptake inhibitors and Nor adrenaline reuptake inhibitors (SSRI AND SNRIS) which increase the levels of mood stabilising brain chemicals.

ANTIANXIETY MEDICATIONS:

Such as Benzodiazepines reduce anxiety.

MATERIALS AND METHODS:

In this study, I used to identify and analyse the socio-demographic factors affecting anxiety and depression in the post-partum period. The study was conducted from January 2021 to January 2022. The study was conducted on the 137 patients presented to the Department of Obstetrics and Gynaecology, Chengalpattu medical college.

INCLUSION CRITERIA:

- >18 Years To <35 Years
- Mothers delivered by Labour natural and Caeserian section.
- Mothers delivered at Chengalpattu medical college and hospital and referred from primary and secondary health care centre.

EXCLUSION CRITERIA:

- <18 yrs
- Those mothers who are not willing for concern.
- Mothers who are seriously ill.

PATIENT ANALYSIS:

A detailed study was done regarding various socio- demographic factors, history regarding their personal life, present obstetric history, previous obstetric history, past medical history and family history.

Hamilton depression rating scale and Hamilton anxiety rating scale.

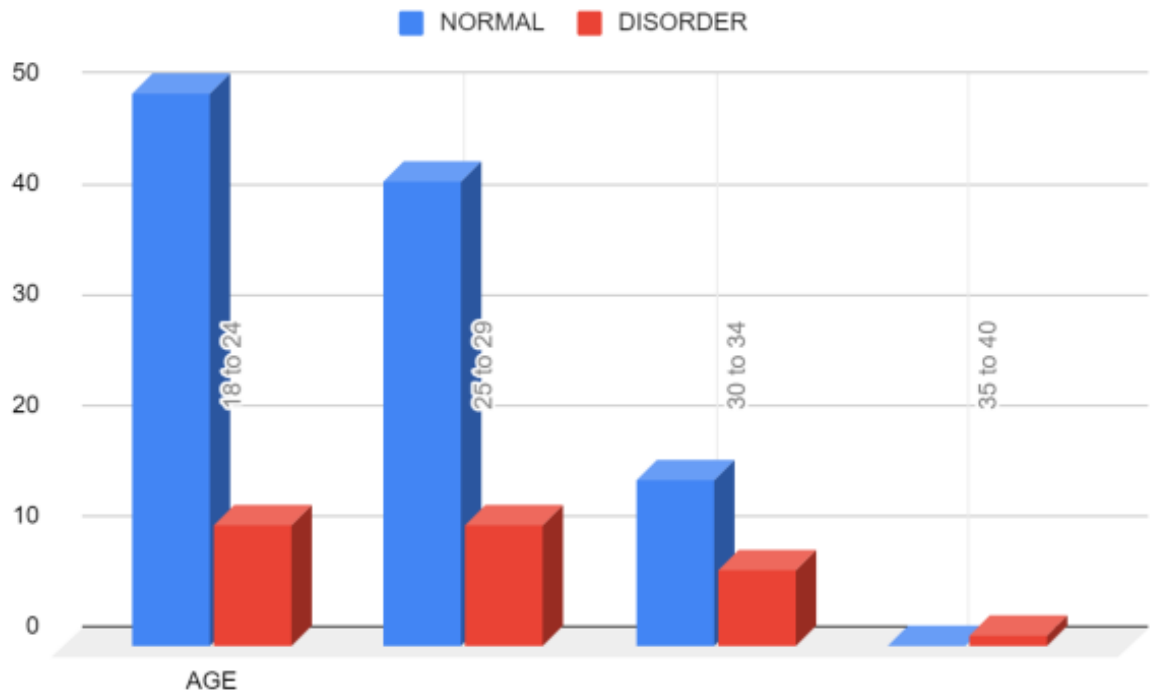
The data obtained from the above questionnaries.

RESULTS

AGE:

Age of the subjects participating in this study were analysed. The minimum age was 18 years and the maximum age was 35 years. Based on the below study the age has no significant impact on the postpartum depression and anxiety.

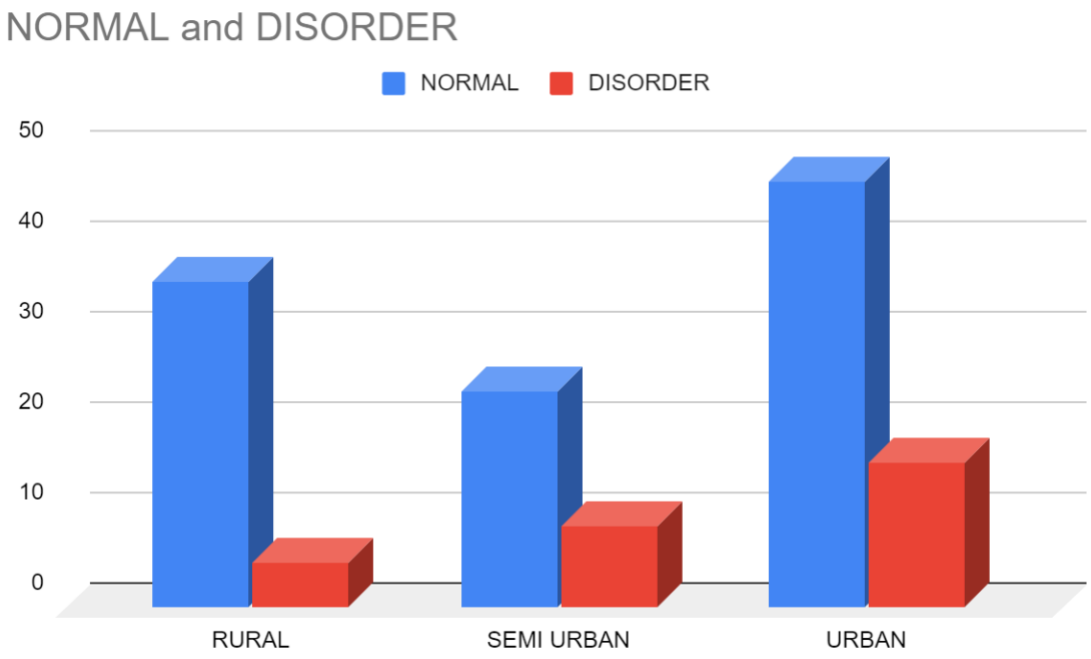
		DIAGNOSIS					
		NORMAL		DISORDER		Chi-square Value	p Value
		n	n %	n	n %		
AGE	18 to 24	50	46.70%	11	36.70%	5.404	0.144
	25 to 29	42	39.30%	11	36.70%		
	30 to 34	15	14.00%	7	23.30%		
	35 to 40	0	0.00%	1	3.30%		


NORMAL
DISORDER
50
40
30
20
10
0
18 to 24
25 to 29
30 to 34
35 to 40
AGE

RESIDENCE:

When place of residence i.e. rural semi urban and urban were compared to the development of post-partum depression and anxiety, the following table was obtained it shows the place of residence has no association with the development of disorder.

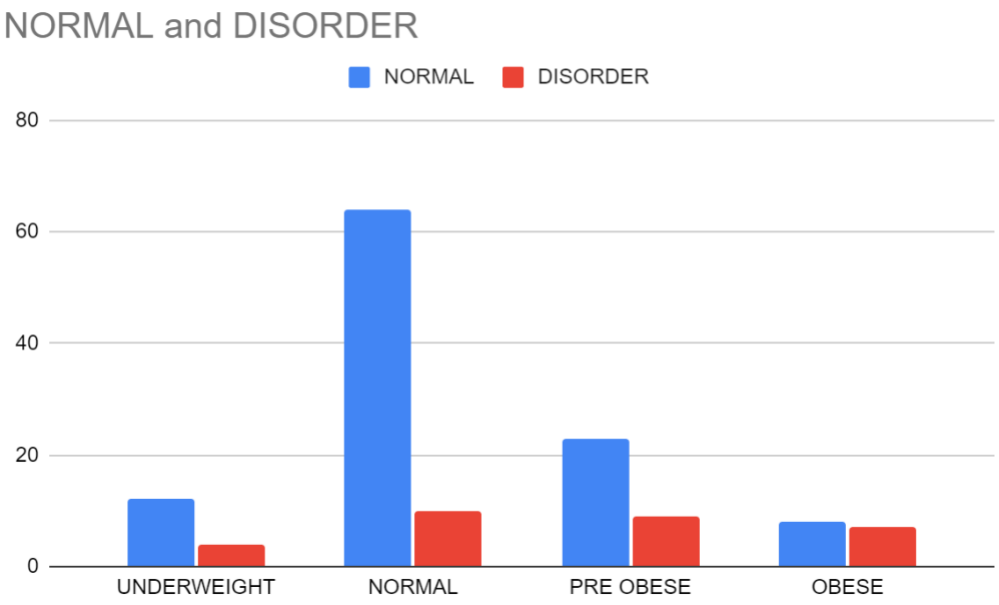
		Diagnosis					
		NORMAL (n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
RESIDENCE	**Rural**	36	33.60%	5	16.70%	3.265	0.195
	Semi Urban	24	22.40%	9	30.00%		
	Urban	47	43.90%	16	53.30%		



BMI:

The development of PPD and Anxiety were compared against the BMI of the subjects and the following results obtained .based on the following report BMI does not significantly influence the disorder.

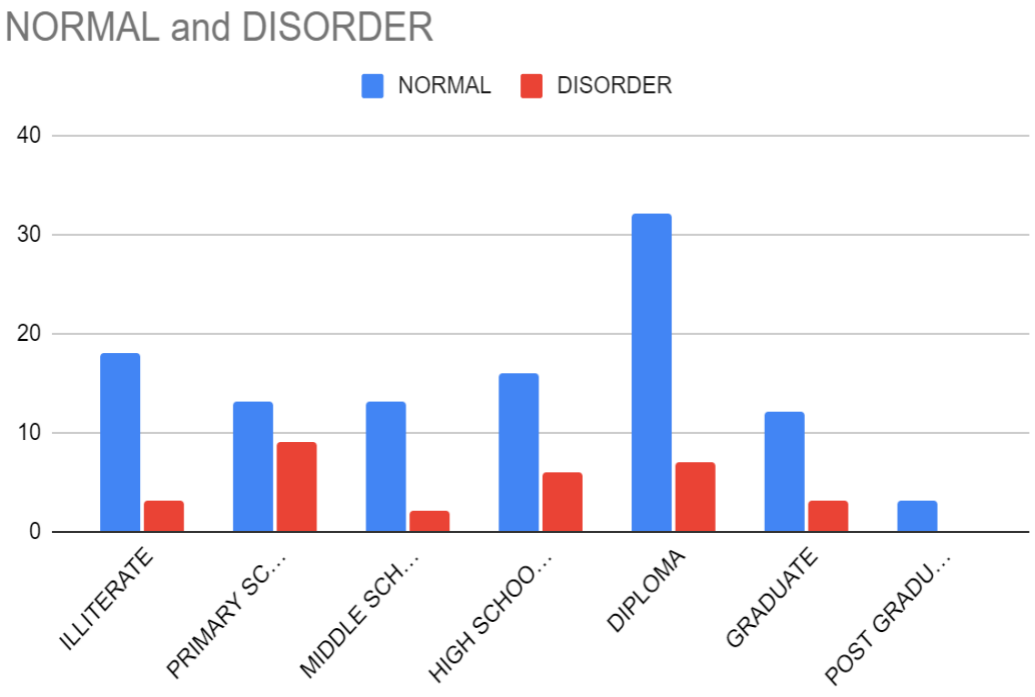
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
BMI	UNDERWEIGHT [<18.50]	12	11.20 %	4	13.30 %	9.238	0.026
	NORMAL [18.50 - 24.99]	64	59.80 %	10	33.30 %		
	PRE OBESE [25 - 29.99]	23	21.50 %	9	30.00 %		
	OBESE [≥30]	8	7.50 %	7	23.30 %		



EDUCATION QUALIFICATION:

The development of PPD was compared with the education level of the subjects and the following results obtained. The below results shows development of postpartum depression and Anxiety not significantly affected by education level.

		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
EDUCATION QUALIFICATION	ILLITERATE	18	16.80 %	3	10.00 %	7.6-04	0.269
	PRIMARY SCHOOLING	13	12.10 %	9	30.00 %		
	MIDDLE SCHOOL	13	12.10 %	2	6.70%		
	HIGH SCHOOL CERTIFICATE	16	15.00 %	6	20.00 %		
	DIPLOMA	32	29.90 %	7	23.30 %		
	GRADUATE	12	11.20 %	3	10.00 %		
	POSTGRADUATE	3	2.80%	0	0.00%		

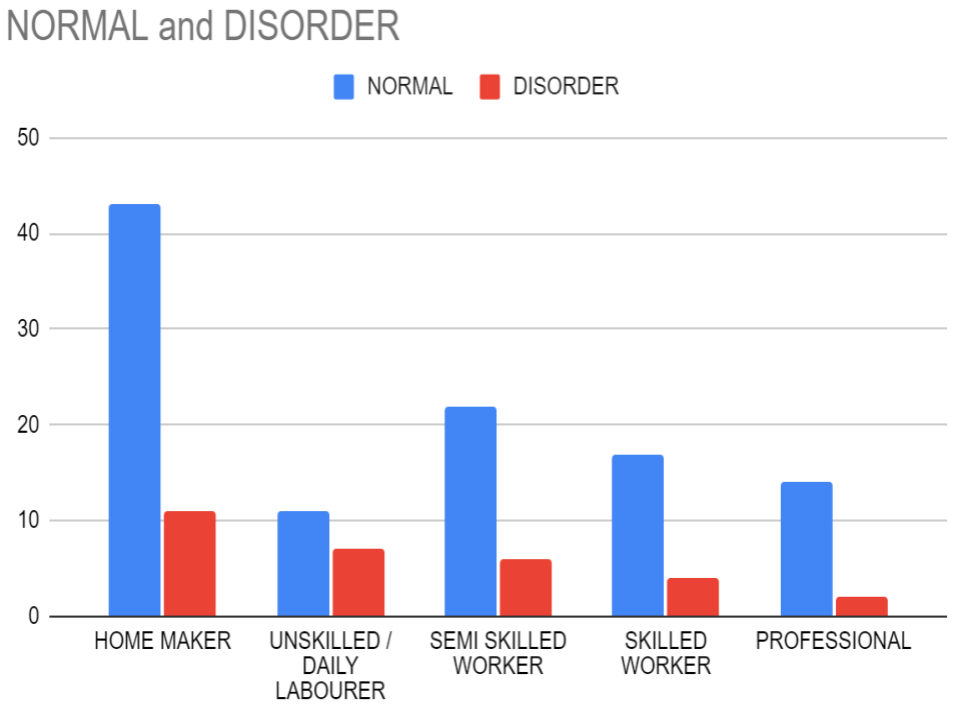


OCCUPATION:

The development of PPD was compared with the nature of employment and the following results obtained

Development of postpartum depression and Anxiety not significantly releated to the occupation.

		Diagnosis				
		NORMAL(n)	n%	DISORDER (n)	n%	p Value
OCCUPATION	HOME MAKER	43	40.20 %	11	36.70 %	0.4
	UNSKILLED / DAILY LABOURER	11	10.30 %	7	23.30 %	
	SEMI SKILLED WORKER	22	20.60 %	6	20.00 %	
	SKILLED WORKER	17	15.90 %	4	13.30 %	
	PROFESSIONAL	14	13.10 %	2	6.70%	

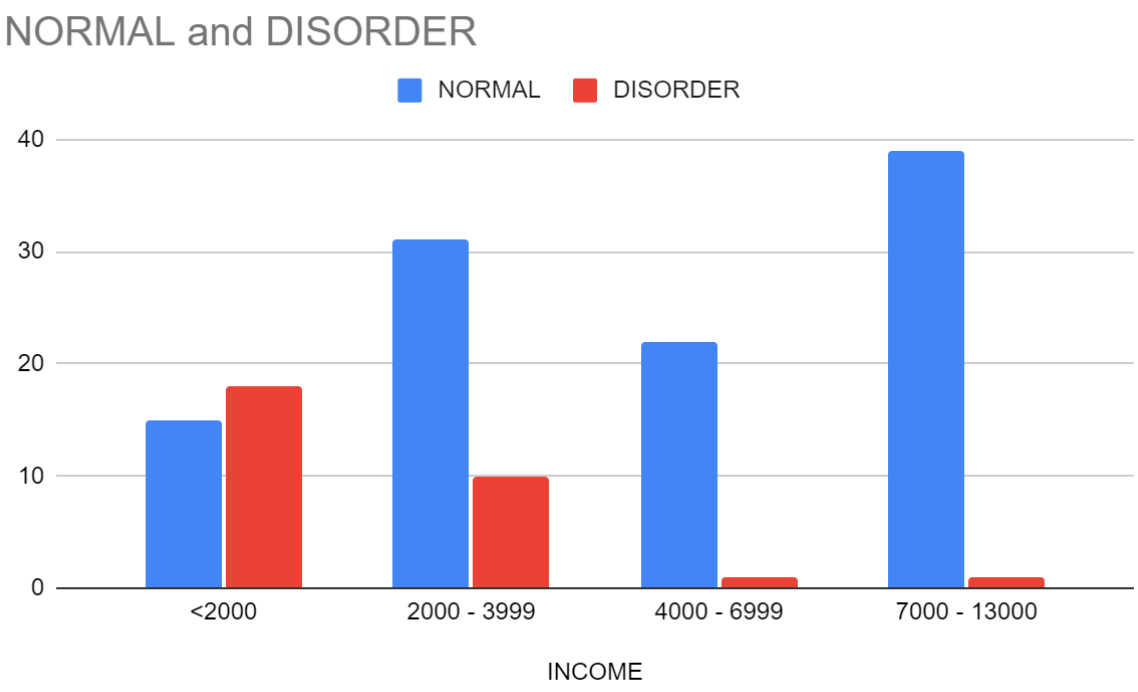


MONTHLY FAMILY INCOME:

The development of Post partum depression and Anxiety was compared against monthly income and the following results obtained.

Income is significantly related to the development of this disorder.

		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
Income	**<2000**	15	14..02%	18	60.00%	33.657	<0.001
	2000 – 3999	31	28.87%	10	33.34%		
	4000 – 6999	22	20.56%	1	3.33%		
	7000 – 13000	39	36.55%	1	3.33%		

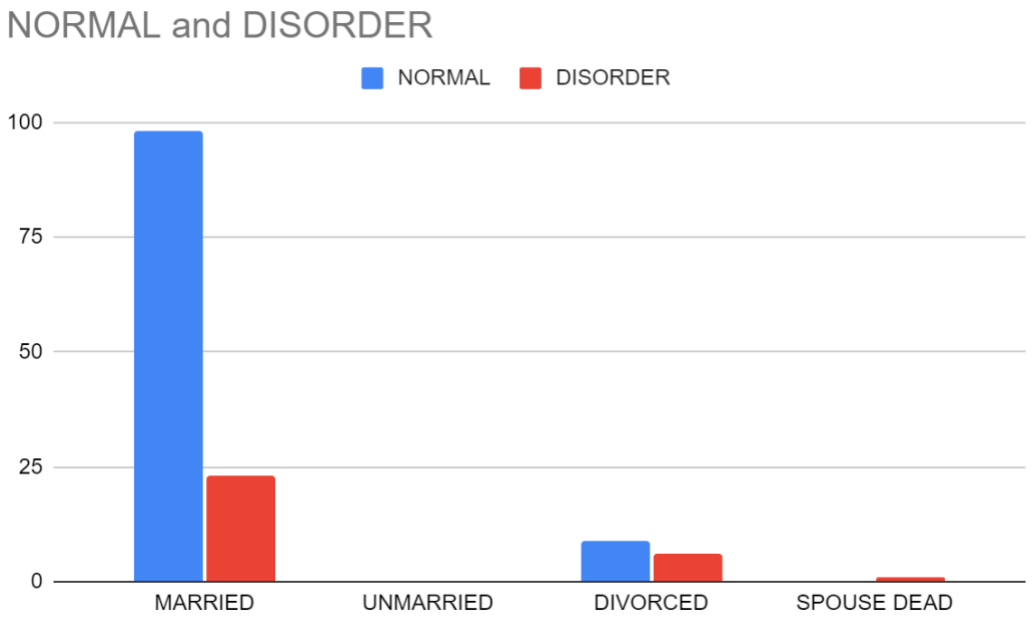


MARITAL STATUS:

The development of PPD was compared against the marital status and the following results obtained

Postpartum depression and Anxiety is significantly affected by the marital status.

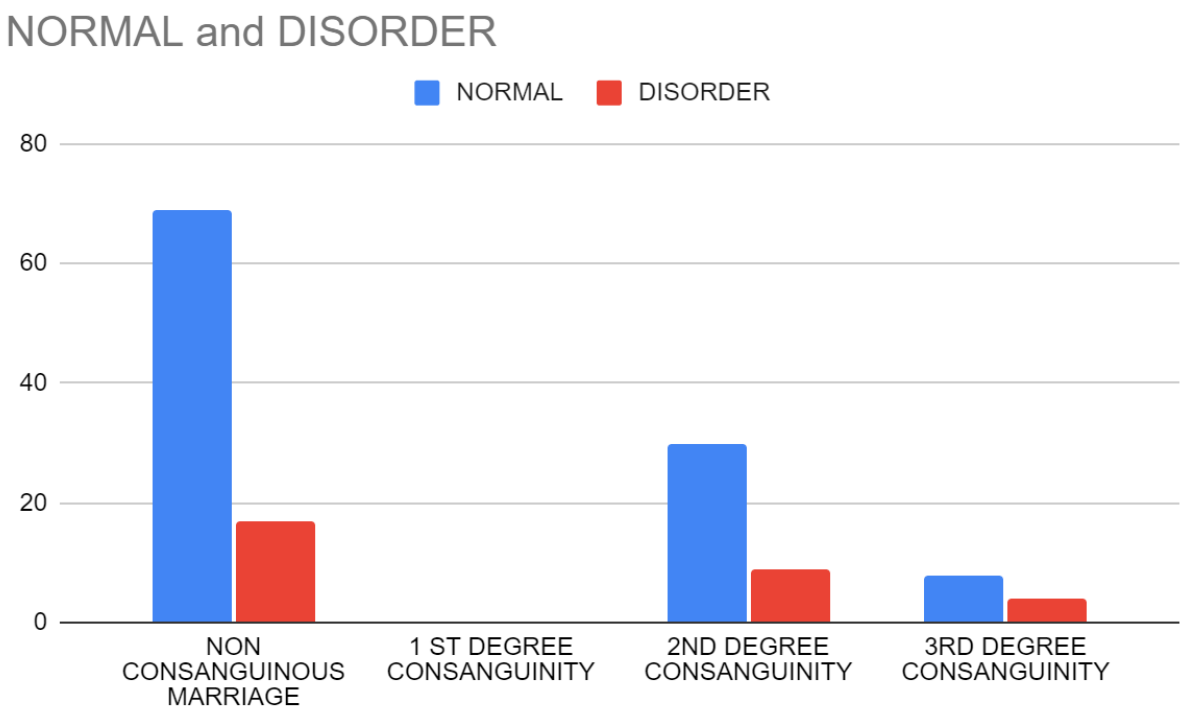
		Diagnosis				
		NORMAL(n)	n%	DISORDER (n)	n%	p Value
MARITAL STATUS	MARRIED	98	91.60%	23	76.70%	0.03
	UNMARRIED	0	0.00%	0	0.00%	
	DIVORCED	9	8.40%	6	20.00%	
	SPOUSE DEAD	0	0.00%	1	3.30%	



NATURE OF MARRIAGE:

Nature of marriage did not significantly affect the development of PPD AND ANXIETY.

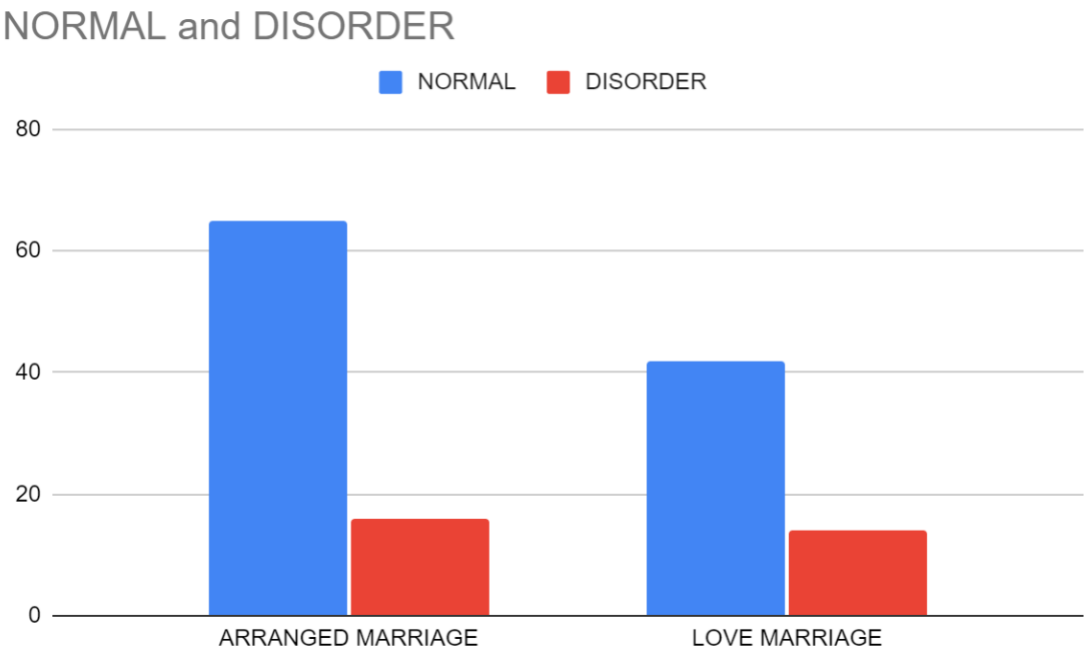
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
MARITAL STATUS	NON CONSANGUINOUS MARRIAGE	69	64.50 %	17	56.70 %	1.177	0.555
	1 ST DEGREE CONSANGUINITY	0	0.00 %	0	0.00 %		
	2 ND DEGREE CONSANGUINITY	30	28.00 %	9	30.00 %		
	3 RD DEGREE CONSANGUINITY	8	7.50 %	4	13.30 %		



TYPE OF MARRIAGE:

Type of marriage did not Significantly affect the development of PPD AND ANXIETY.

		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
TYPE OF MARRIAGE	**ARRANGED MARRIAGE**	65	60.70%	16	53.30%	0.533	0.465
	LOVE MARRIAGE	42	39.30%	14	46.70%		

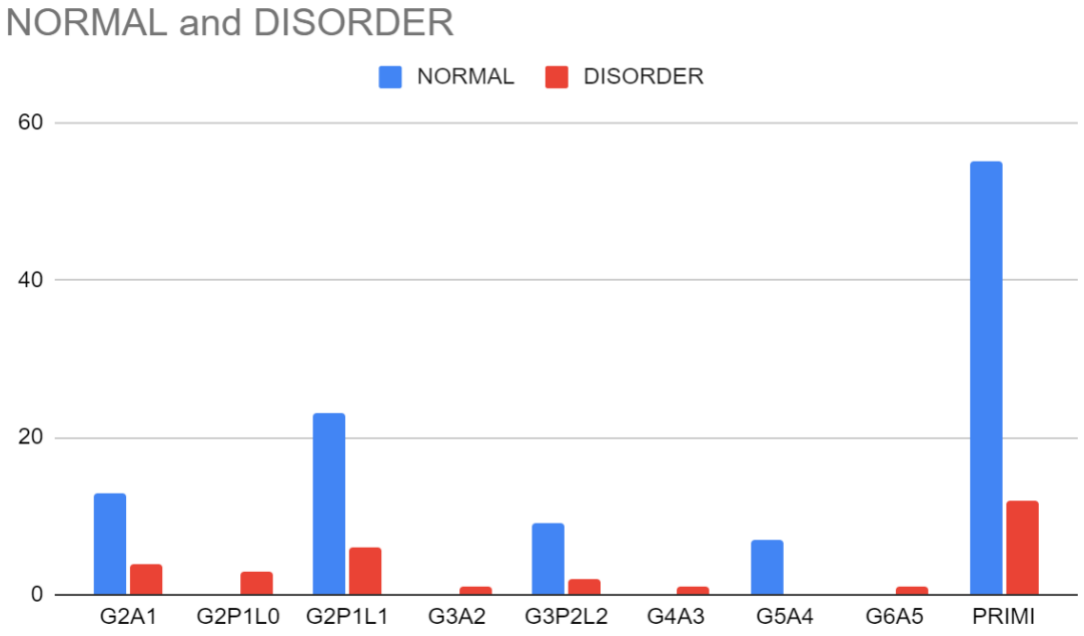


GPLA:

The development of PPD was compared against GPLA.

The outcome of postpartum depression and anxiety was significantly affected by gravity, para , livebirth and abortion.

		Diagnosis				
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**p Value**
GPLA	**G2A1**	13	12.10%	4	13.30%	0.002
	G2P1L0	0	0.00%	3	10.00%	
	G2P1L1	23	21.50%	6	20.00%	
	G3A2	0	0.00%	1	3.30%	
	G3P2L2	9	8.40%	2	6.70%	
	G4A3	0	0.00%	1	3.30%	
	G5A4	7	6.50%	0	0.00%	
	G6A5	0	0.00%	1	3.30%	
	PRIMI	55	51.40%	12	40.00%	

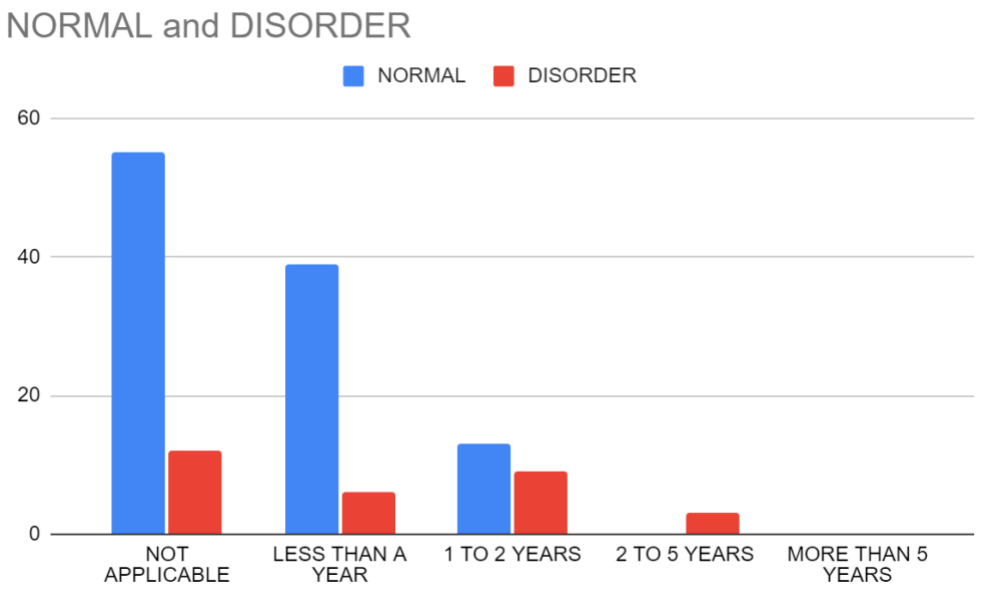


SPACING OF PREGNANCY:

The development of PPD and Anxiety was compared against the spacing of pregnancy and the following results obtained.

Spacing of the pregnancy significantly affect this disorder

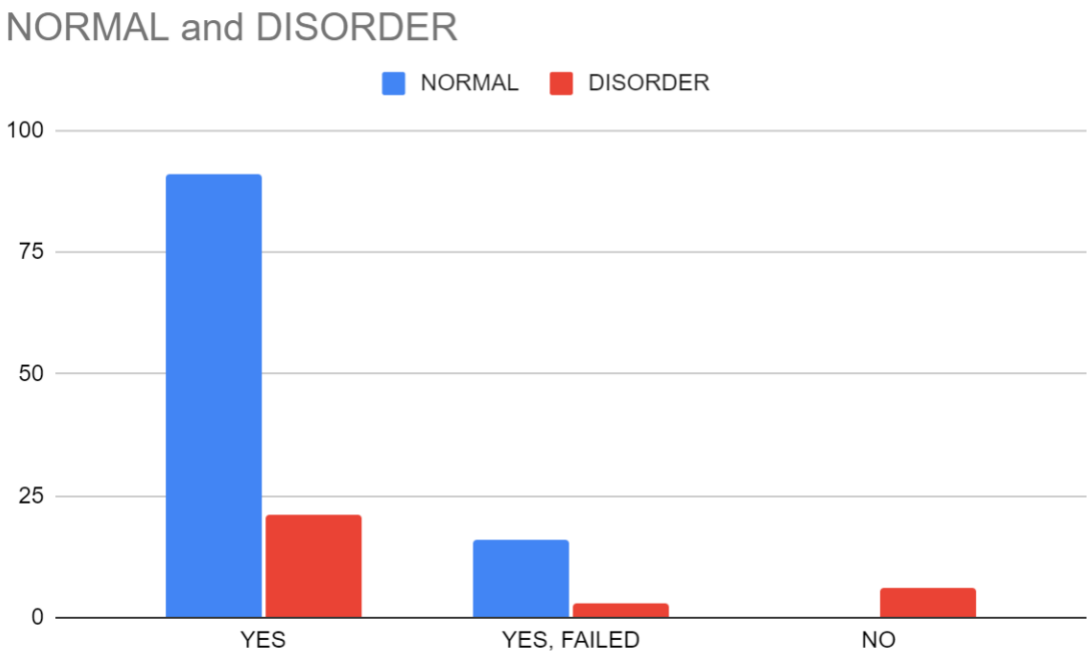
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
SPACING OF PREGNANCY	NOT APPLICABLE	55	51.40 %	12	40.00 %	17.902	<0.001
	LESS THAN A YEAR	39	36.40 %	6	20.00 %		
	1 TO 2 YEARS	13	12.10 %	9	30.00 %		
	2 TO 5 YEARS	0	0.00%	3	10.00 %		
	MORE THAN 5 YEARS	0	0.00%	0	0.00%		



CONTRACEPTIVE USE:

Pregnancy as a result of contraceptive failure was associated with higher rates of post-partum depression and Anxiety.

		Diagnosis					
		NORMAL (n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
CONTRACEPTIVE USE	**YES**	91	85.00 %	21	70.00 %	22.463	<0.001
	YES, FAILED	16	15.00 %	3	10.00 %		
	NO	0	0.00%	6	20.00 %		

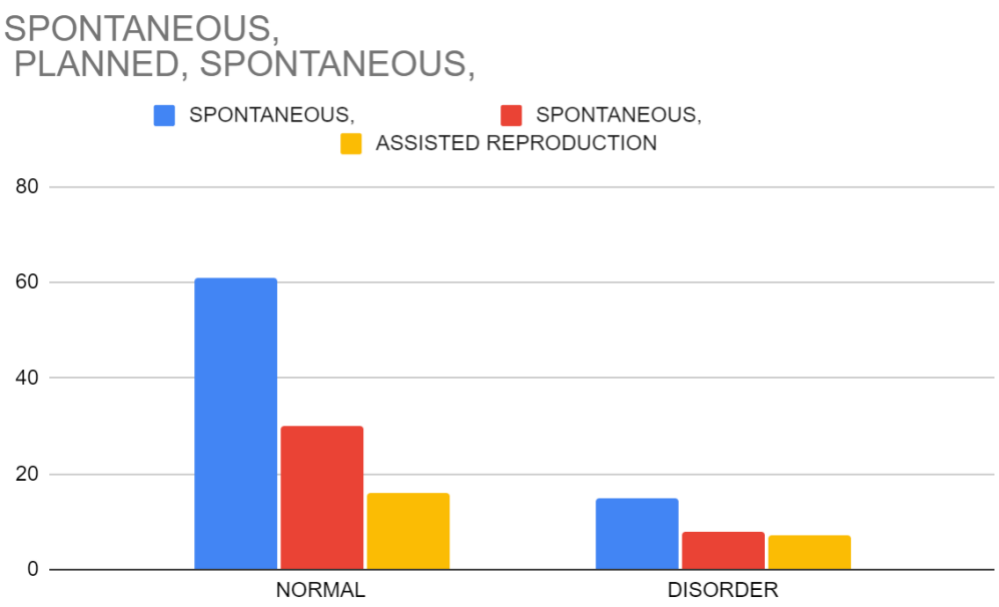


NATURE OF CONCEPTION:

The development of PPD was compared against the nature of conception and the following results obtained

Nature of conception did not significantly affect the postpartum depression and Anxiety.

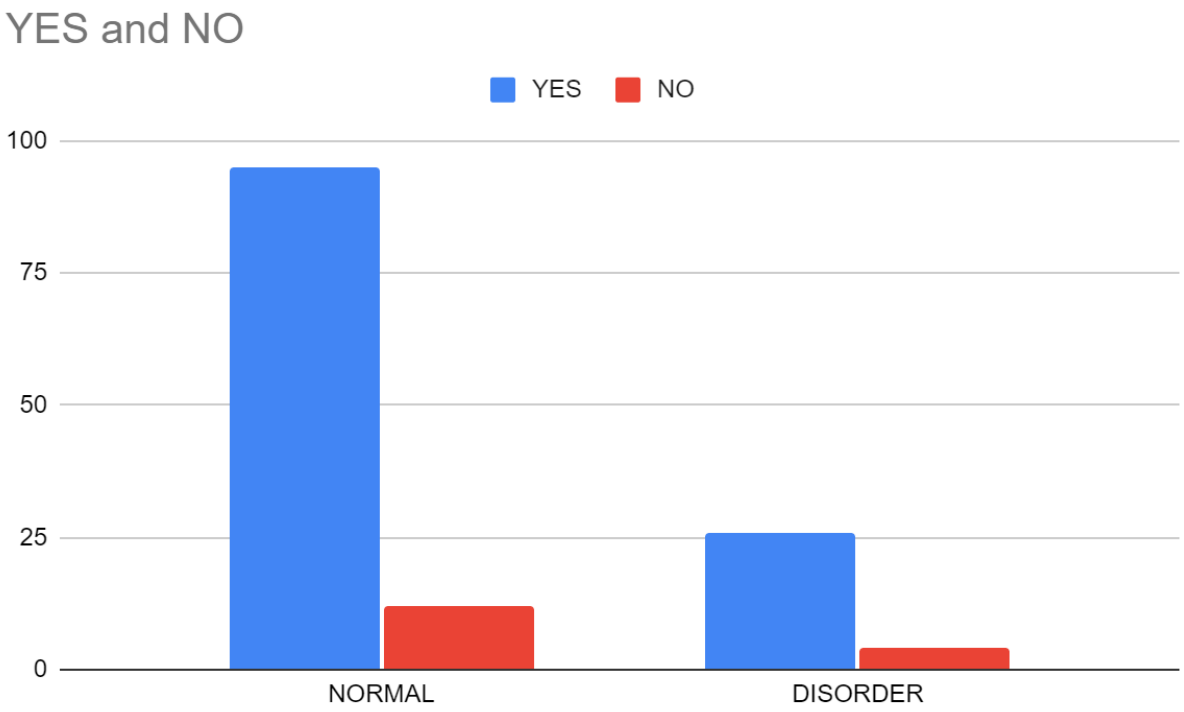
		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
NATURE OF CONCEPTION	**SPONTANEOUS, PLANNED**	61	57.00%	15	50.00%	1.203	0.548
	SPONTANEOUS, UNPLANNED	30	28.00%	8	26.70%		
	ASSISTED REPRODUCTION	16	15.00%	7	23.30%		



BOOKING:

Booking of pregnancy not significantly affected the development of post-partum depression and Anxiety.

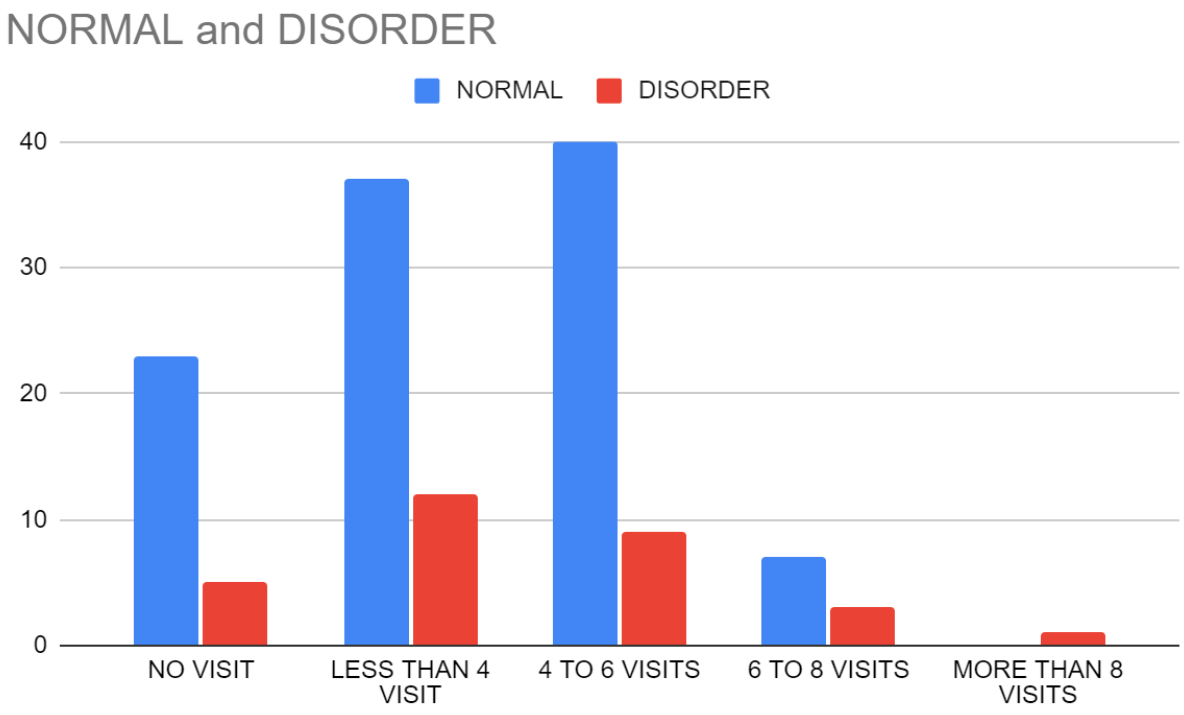
		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
BOOKED	**YES**	95	88.80%	26	86.70%	0.102	0.75
	NO	12	11.20%	4	13.30%		



HEALTH CARE VISIT:

Healthcare visit did not significantly affect the development of the disorder

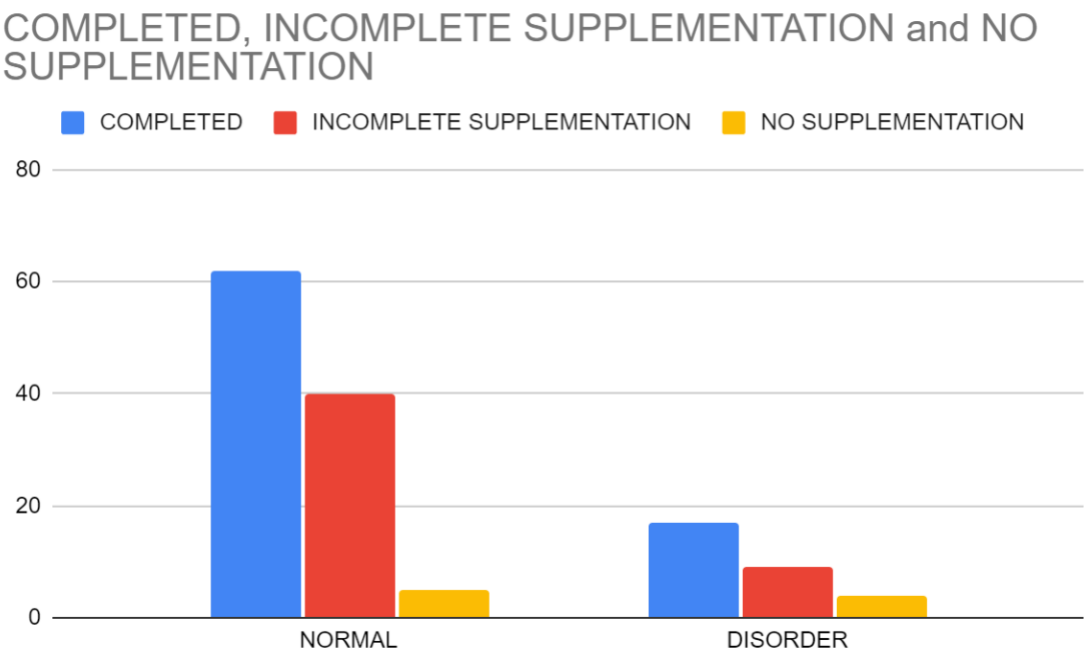
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
HEALTH CARE VISIT	NO VISIT	23	21.50%	5	16.70%	4.767	0.312
	LESS THAN 4 VISIT	37	34.60%	12	40.00%		
	4 TO 6 VISITS	40	37.40%	9	30.00%		
	6 TO 8 VISITS	7	6.50%	3	10.00%		
	MORE THAN 8 VISITS	0	0.00%	1	3.30%		



IFA SUPPLEMENTATION:

IFA_supplement did not significantly alter the development of postpartum depression and Anxiety.

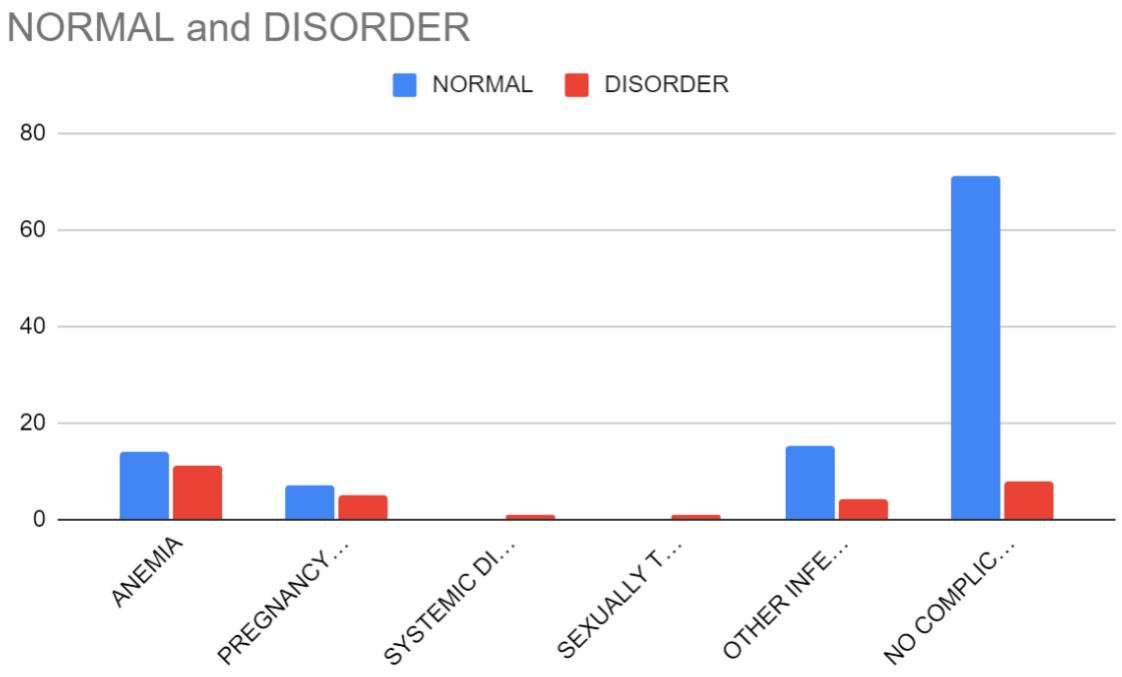
		Diagnosis					
		NORMAL (n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
IFA SUPPLEMENTATION	**COMPLETED**	62	57.90%	17	56.70%	3.309	0.219
	INCOMPLETE SUPPLEMENTATION	40	37.40%	9	3if0.00%		
	NO SUPPLEMENTATION	5	4.70%	4	13.30%		



ANC:

The pregnancy associated with antenatal complication significantly increased the development of postpartum depression and anxiety.

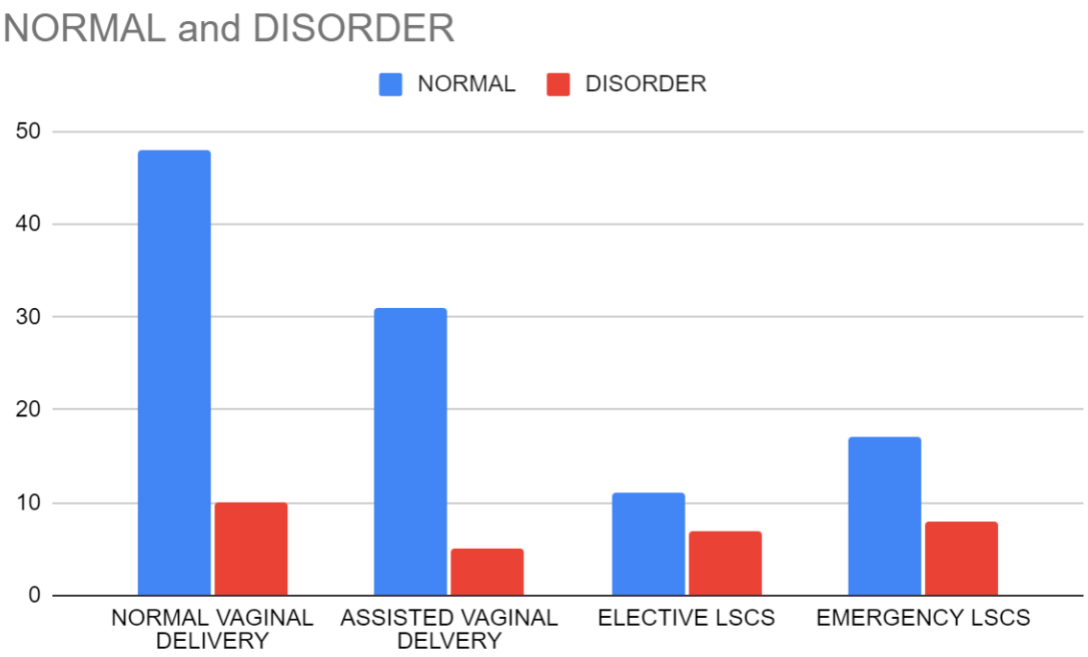
		Diagnosis				
		NORMAL(n)	n%	DISORDER (n)	n%	p Value
ANC	ANEMIA	14	13.10 %	11	36.70 %	<0.001
	PREGNANCY RELATED COMPLICATIONS	7	6.50 %	5	16.70 %	
	SYSTEMIC DISEASES	0	0.00 %	1	3.30 %	
	SEXUALLY TRANSMITTED DISEASES	0	0.00 %	1	3.30 %	
	OTHER INFECTIONS	15	14.00 %	4	13.30 %	
	NO COMPLICATIONS	71	66.40 %	8	26.70 %	



MODE OF DELIVERY:

Mode of delivery did not significantly alter the development of this disorder.

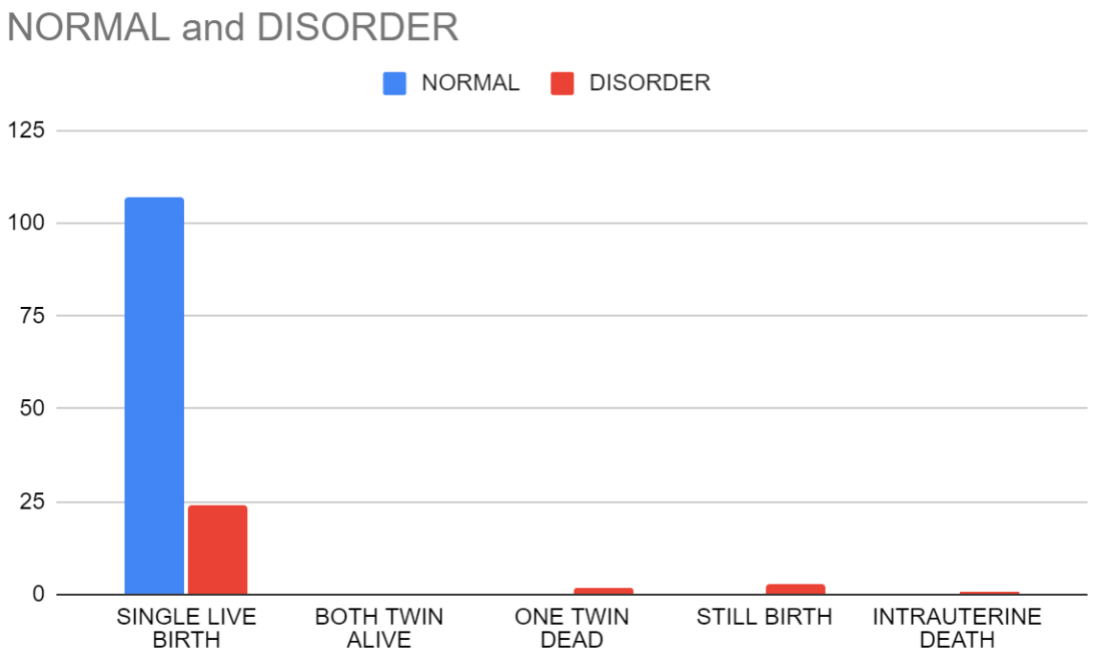
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
MODE OF DELIVERY	NORMAL VAGINAL DELIVERY	48	44.90%	10	33.30%	6.616	0.085
	ASSISTED VAGINAL DELVERY	31	29.00%	5	16.70%		
	ELECTIVE LSCS	11	10.30%	7	23.30%		
	EMERGENCY LSCS	17	15.90%	8	26.70%		



PREGNANCY OUTCOME:

The pregnancy outcome like still born ,intrauterine fetal death more significantly affect the post partum depression and anxiety.

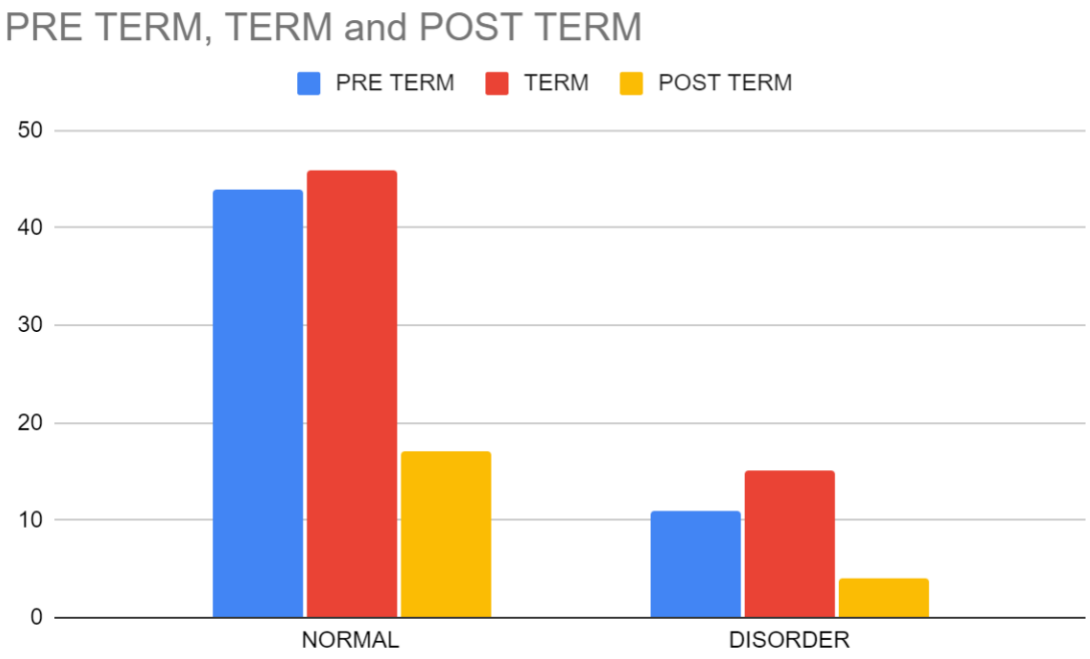
		Diagnosis					
		NORMAL (n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
OUTCOME	SINGLE LIVE BIRTH	107	100.00 %	24	80.00 %	22.38	<0.001
	BOTH TWIN ALIVE	0	0.00%	0	0.00%		
	ONE TWIN DEAD	0	0.00%	2	6.70%		
	STILL BIRTH	0	0.00%	3	10.00 %		
	INTRAUTERINE DEATH	0	0.00%	1	3.30%		



DURATION OF PREGNANCY:

Duration of pregnancy did not significantly associated with the development of post-partum depression and Anxiety.

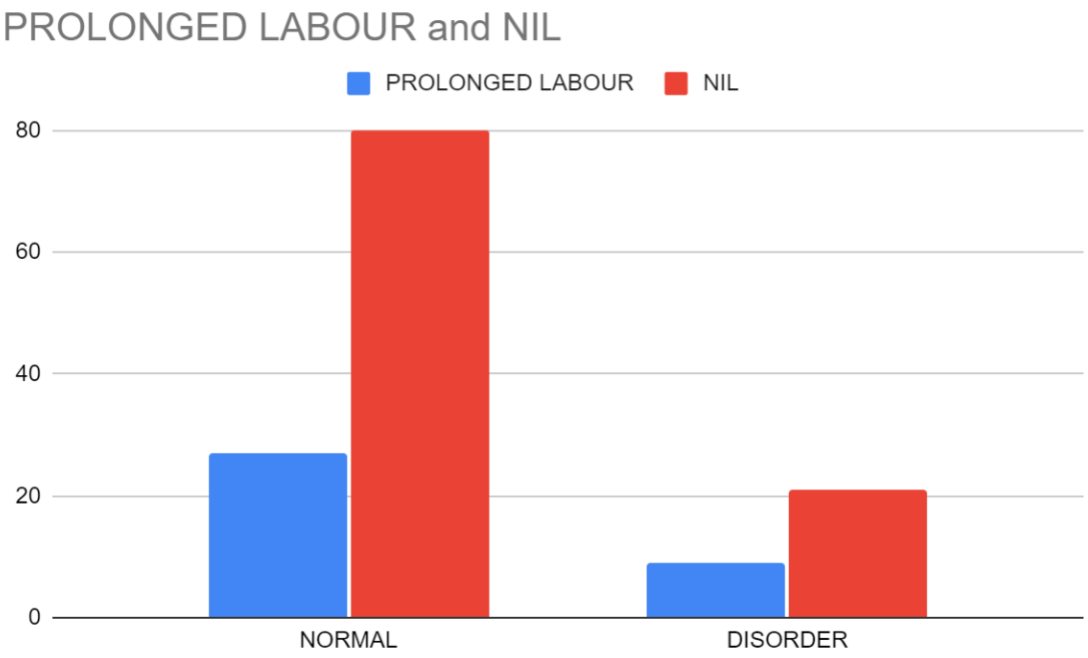
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
DURATION OF PREGNANCY	PRE TERM	44	41.10 %	11	36.70 %	0.474	0.789
	TERM	46	43.00 %	15	50.00 %		
	POST TERM	17	15.90 %	4	13.30 %		



INTRAPARTUM COMPLICATION:

Development of intra-partum complications did not significantly alter the development of post-partum depression

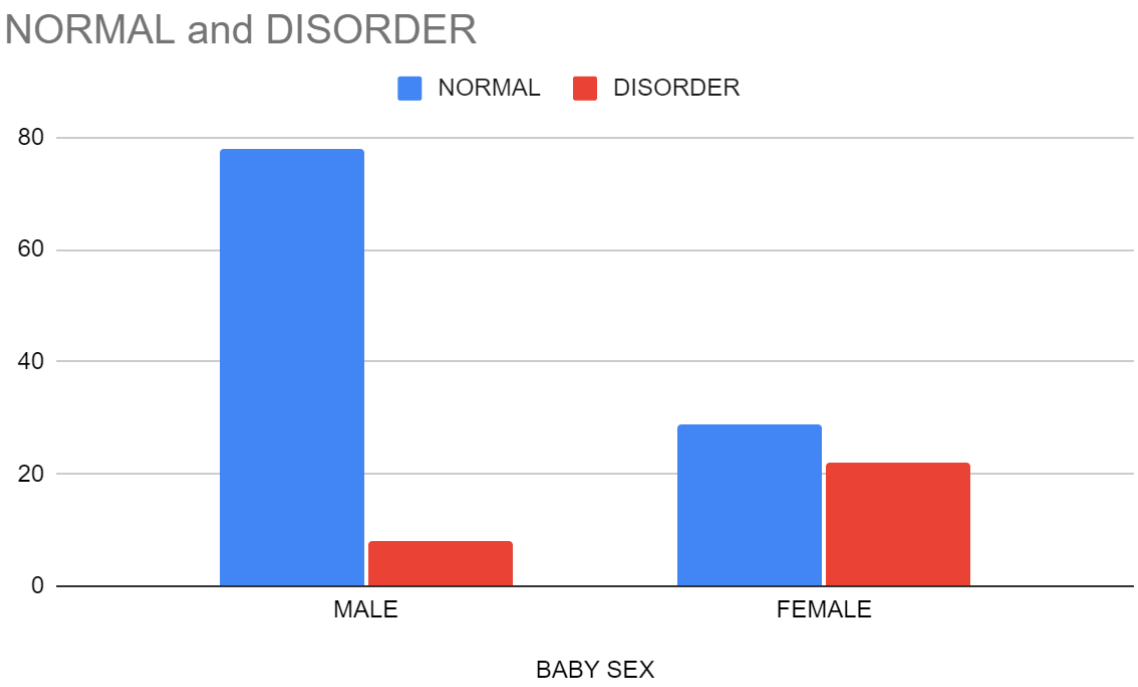
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
INTRAPARTUM COMPLICATION	PROLONGED LABOUR	27	25.20%	9	30.00%	0.275	0.6
	NIL	80	74.80%	21	70.00%		



SEX OF THE CHILD

The sex of the child significantly affect the development of this disorder.

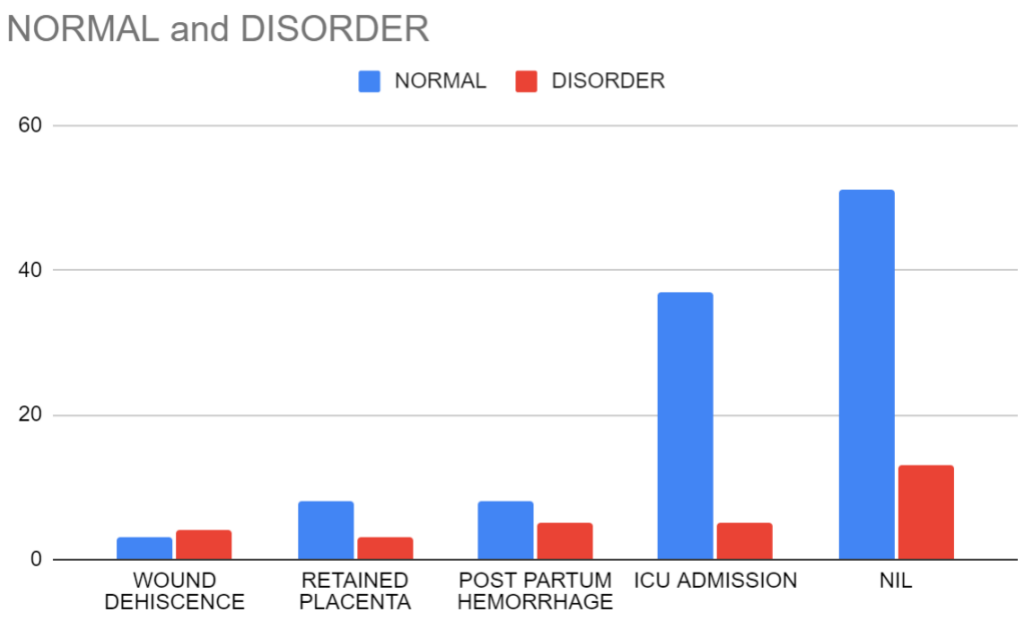
		Diagnosis					
		NORMAL (n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
SEX	**MALE**	78	72.89%	8	26.66%	21.429	<0.001
	FEMALE	29	27.11%	22	73.34%		



POST PARTUM COMPLICATIONS:

The development of post-partum complications significantly alter the development of post-partum depression

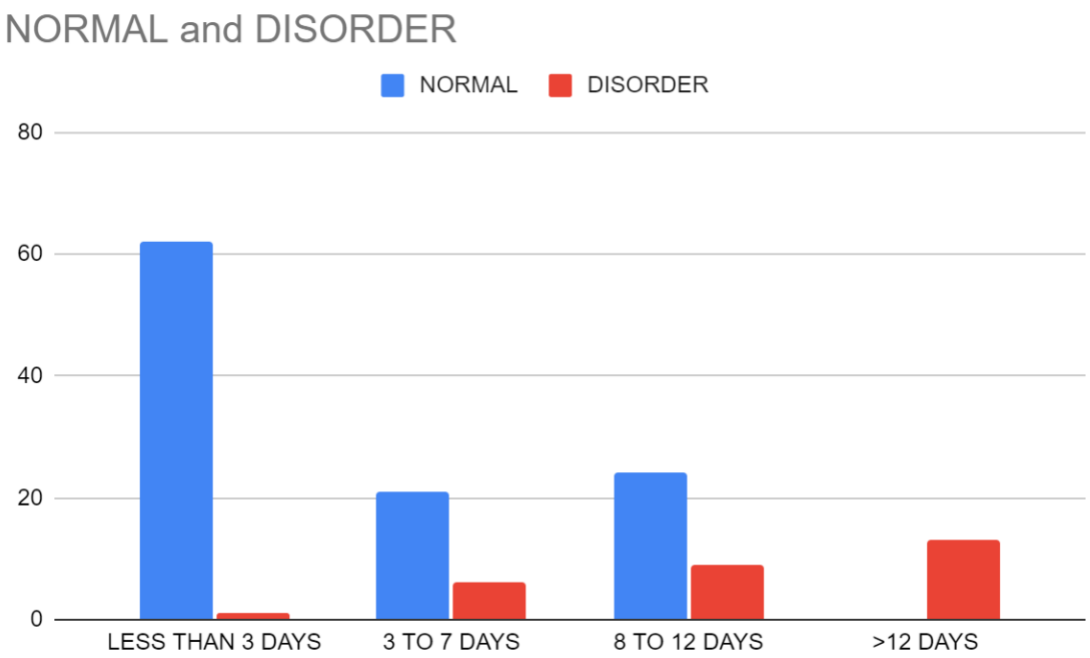
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
POST PARTUM COMPLICATIONS	WOUND INFECTION	3	2.80%	4	13.30%	9.902	0.042
	RETAINED PLACENTA	8	7.50%	3	10.00%		
	POST PARTUM HEMORRHAGE	8	7.50%	5	16.70%		
	ICU ADMISSION	37	34.60%	5	16.70%		
	NIL	51	47.70%	13	43.30%		



HOSPITAL STAY:

Hospital stay of more than 7 days was associated with a higher incidence of post-partum depression and anxiety.

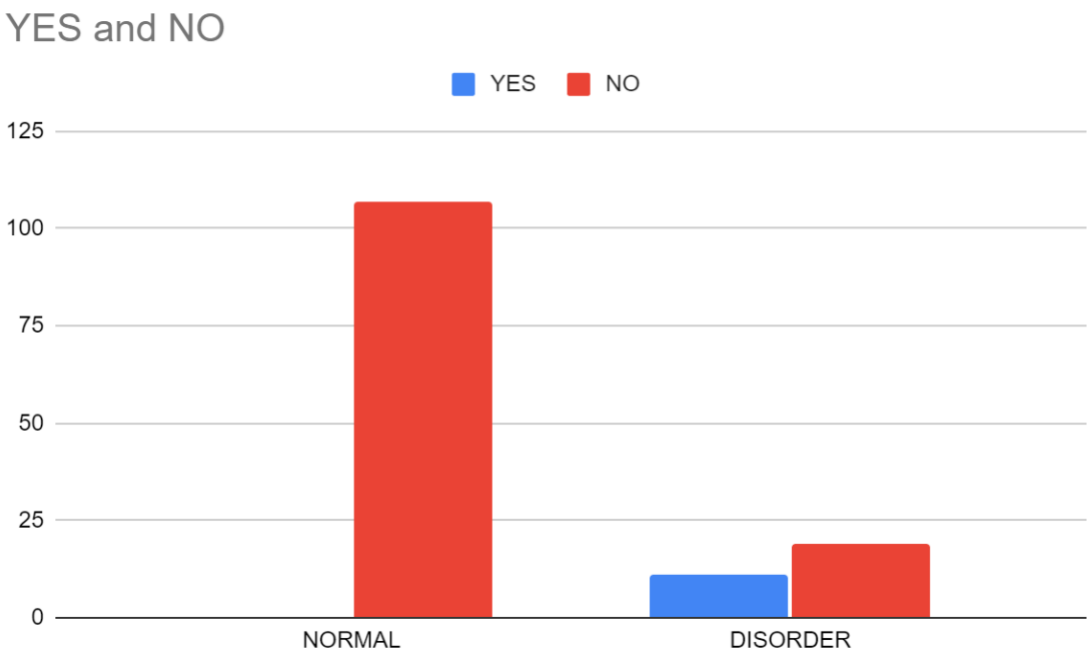
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
HOSPITAL STAY	LESS THAN 3 DAYS	62	57.90 %	1	3.40 %	63.302	<0.001
	3 TO 7 DAYS	21	19.60 %	6	20.70 %		
	8 TO 12 DAYS	24	22.40 %	9	31.00 %		
	>12 DAYS	0	0.00 %	13	44.80 %		



DEPRESSIVE SYMPTOMS:

Depressive symptoms in current pregnancy is associated with a higher incidence of post-partum depression

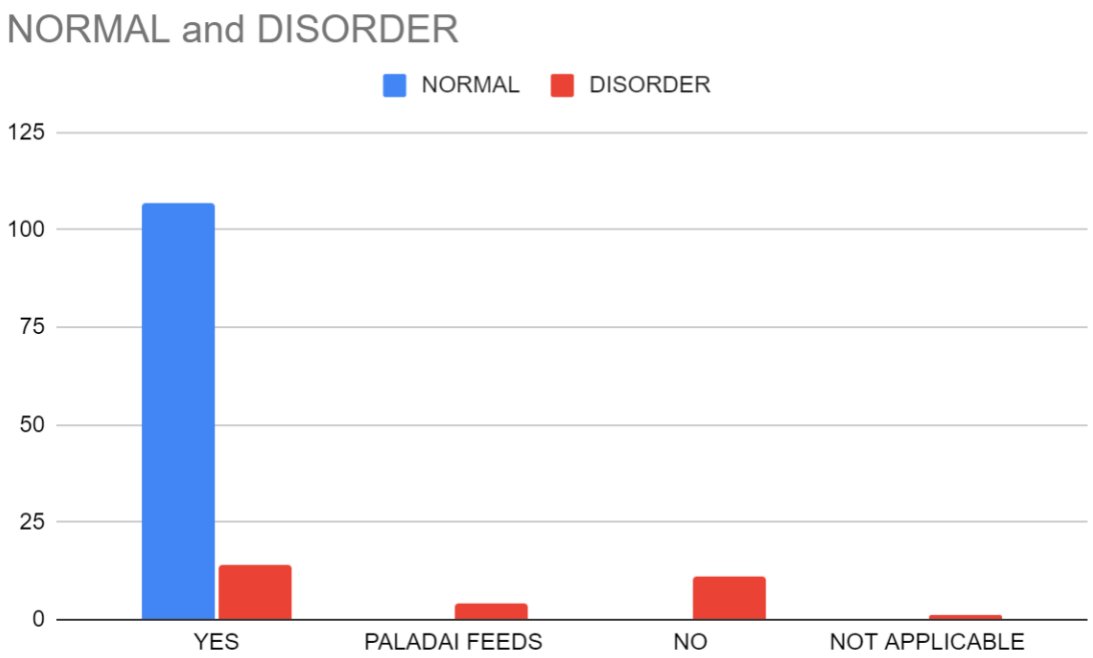
		Diagnosis					
		NORMAL (n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
DEPRESSIVE SYMPTOMS	**YES**	0	0.00%	11	36.70 %	42.658	<0.001
	NO	107	100.00 %	19	63.30 %		



BREAST FEEDING:

The mother who had breast fed their child were at a lower risk of developing post-partum depression and anxiety than women not breast feeding their child

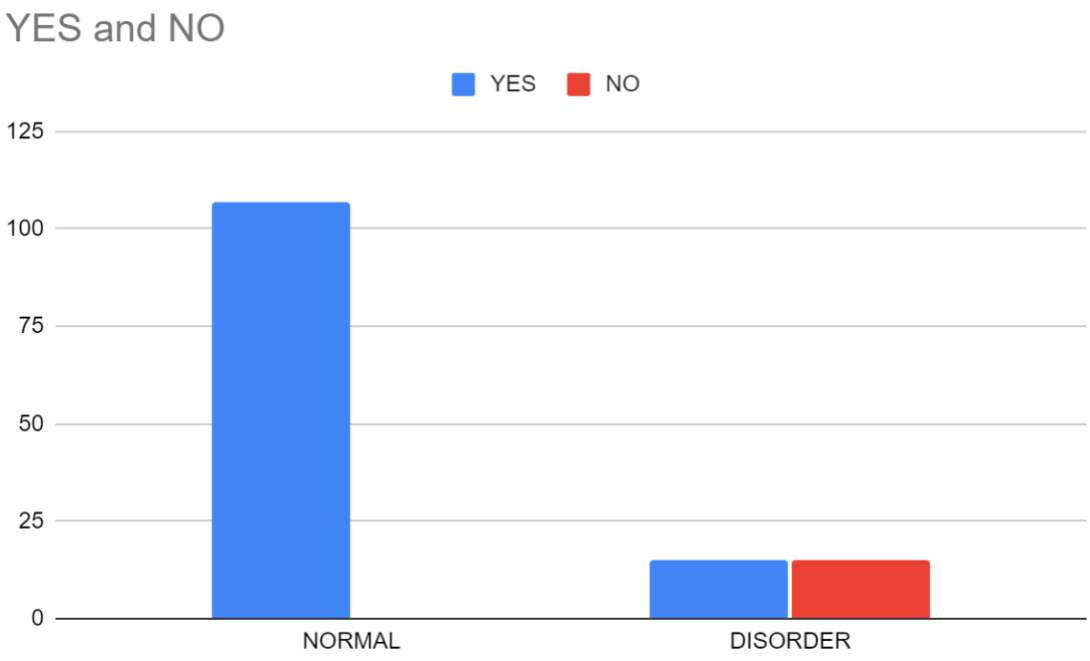
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
BREAST FEEDING	YES	107	100.00 %	14	46.70 %	64.613	<0.001
	PALADAI FEEDS	0	0.00%	4	13.30 %		
	NO	0	0.00%	11	36.70 %		
	NOT APPLICABLE	0	0.00%	1	3.30 %		



FAMILY SUPPORT:

The Women who had a lack of support structure are at a higher risk of developing post-partum depression and anxiety.

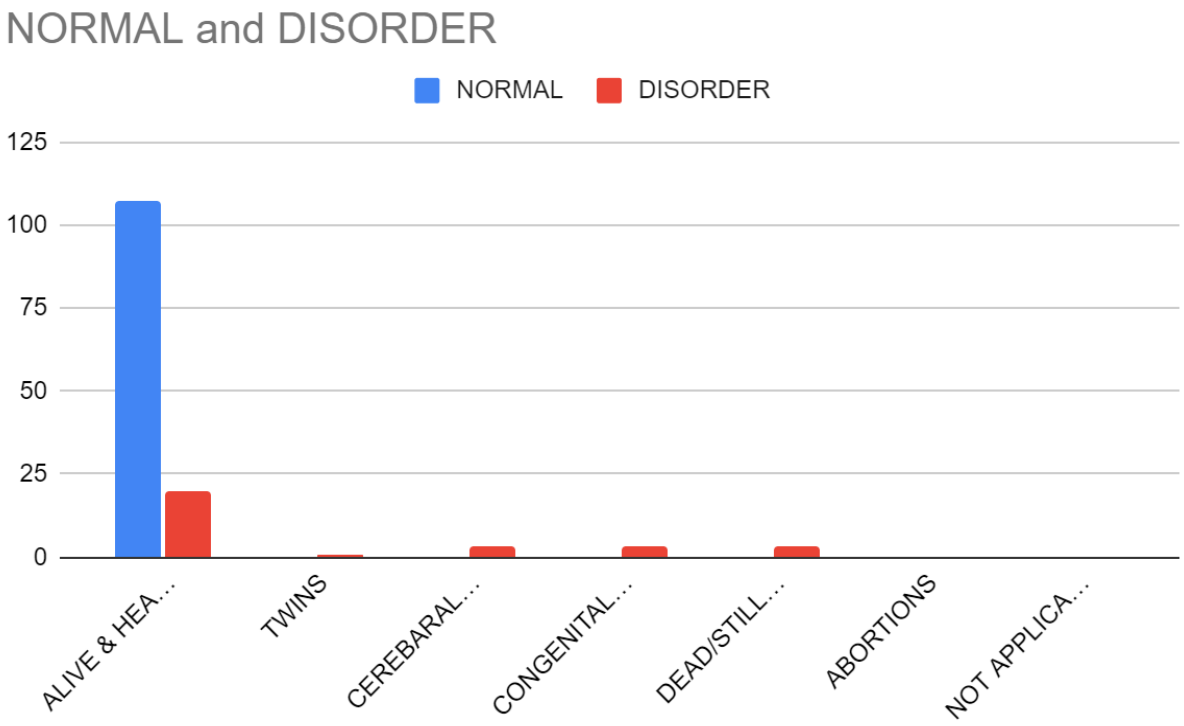
		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
FAMILY SUPPORT	**YES**	107	100.00 %	15	50.00 %	60.078	<0.001
	NO	0	0.00%	15	50.00 %		



CURRENT CHILD:

The outcome of present child like ,congenital disease ,dead borne ,abortion significantly affect the development of this disorder.

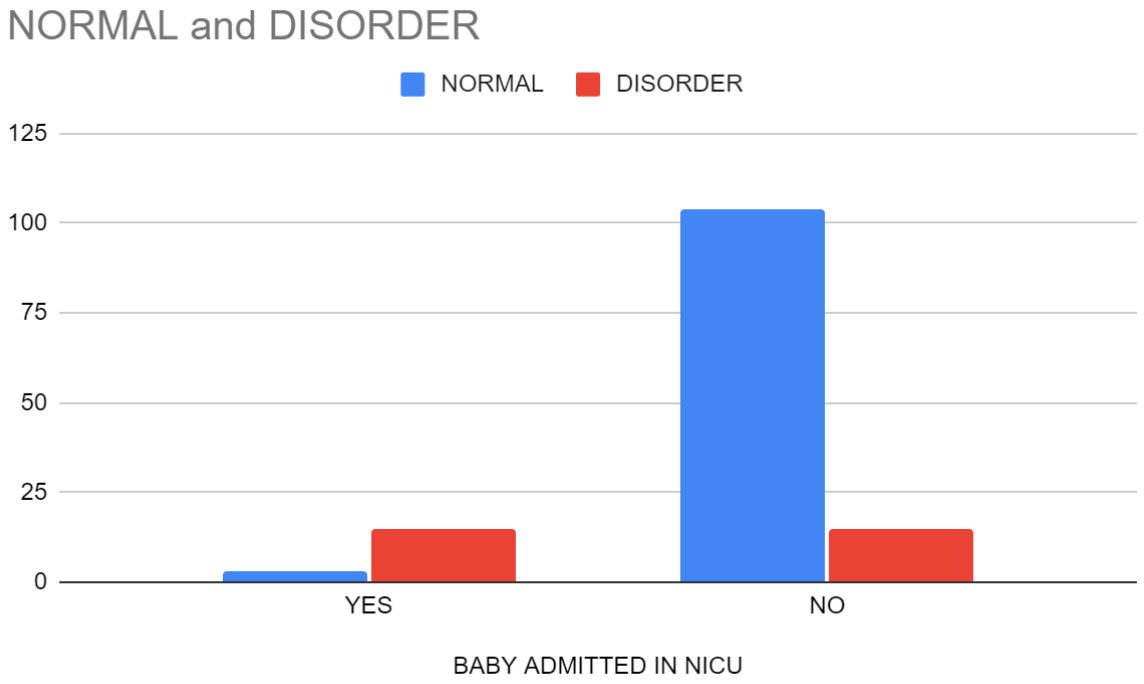
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
CURRENT CHILD	ALIVE & HEALTHY	107	100.00 %	20	66.70 %	38.475	<0.001
	TWINS	0	0.00%	1	3.30%		
	BIRTH ASPHYXIA	0	0.00%	3	10.00 %		
	CONGENITALL DISEASE	0	0.00%	3	10.00 %		
	DEAD/STILL BIRTH	0	0.00%	3	10.00 %		
	ABORTIONS	0	0.00%	0	0.00%		
	NOT APPLICABLE	0	0.00%	0	0.00%		



NEONATE ADMITTED IN NICU:

If the neonate admitted in NICU , those mother are significantly prone to develop this disorder.

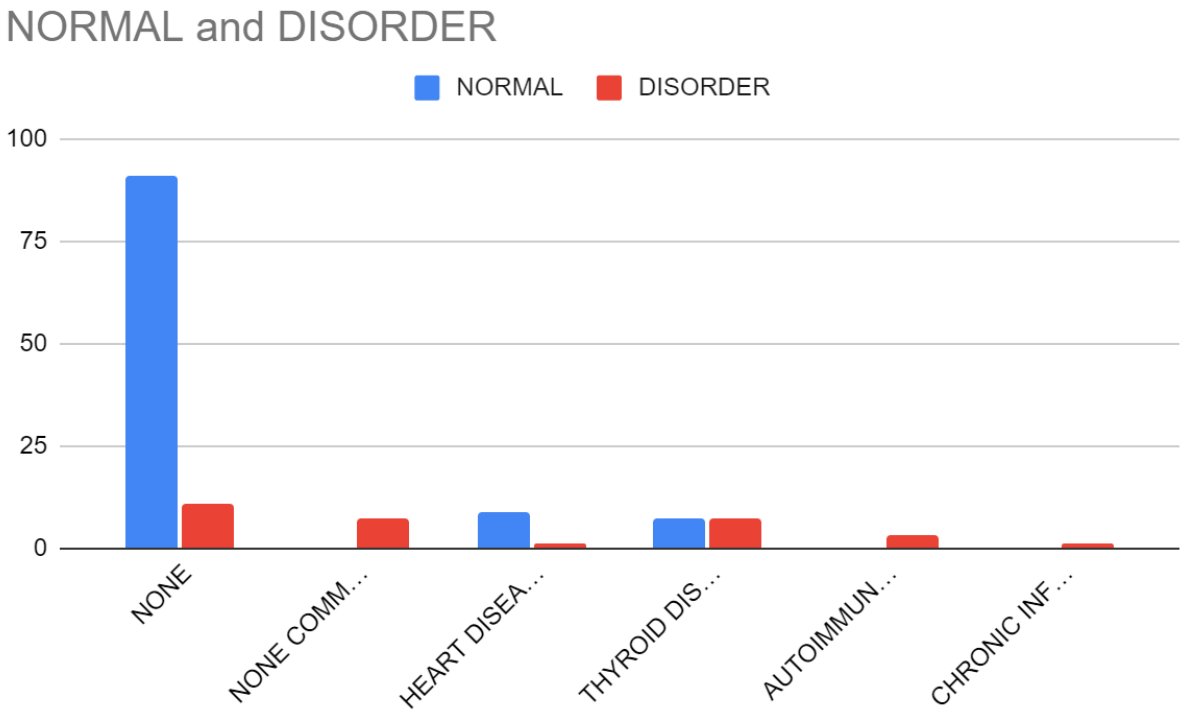
		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
Neonate Admitted in NICU	**Yes**	3	02.81%	15	50.00%	45.732	<0.001
	No	104	97.19%	15	50.00%		



CHRONIC ILLNESS:

Past history of chronic disease is associated with a significant increase in the incidence of post-partum depression and anxiety.

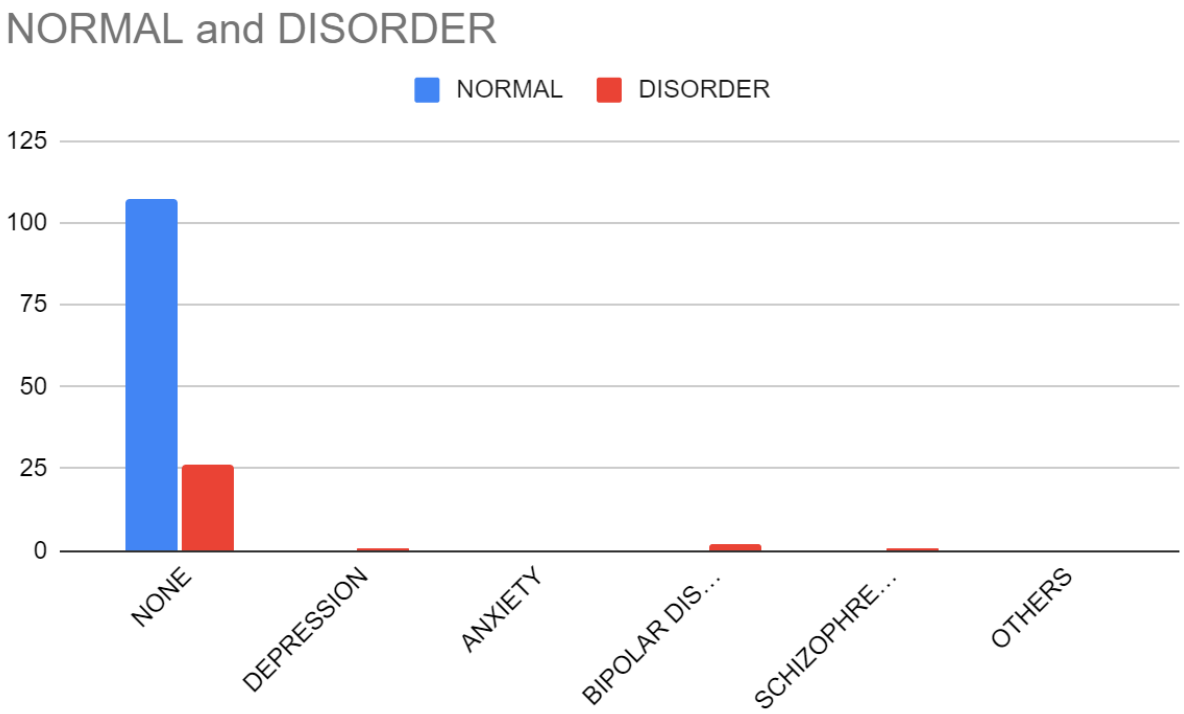
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
CHRONIC ILLNESS	NONE	91	85.00 %	11	36.70 %	53.892	<0.001
	NONE COMMUNICABLE DISEASE	0	0.00 %	7	23.30 %		
	HEART DISEASE	9	8.40 %	1	3.30 %		
	THYROID DISORDER	7	6.50 %	7	23.30 %		
	AUTOIMMUNE DISORDER	0	0.00 %	3	10.00 %		
	CHRONIC INFECTIONS	0	0.00 %	1	3.30 %		



PSYCHIATRIC ILLNESS:

Women who had associated with psychiatric illness strongly associated with increased rate of postpartum depression and anxiety.

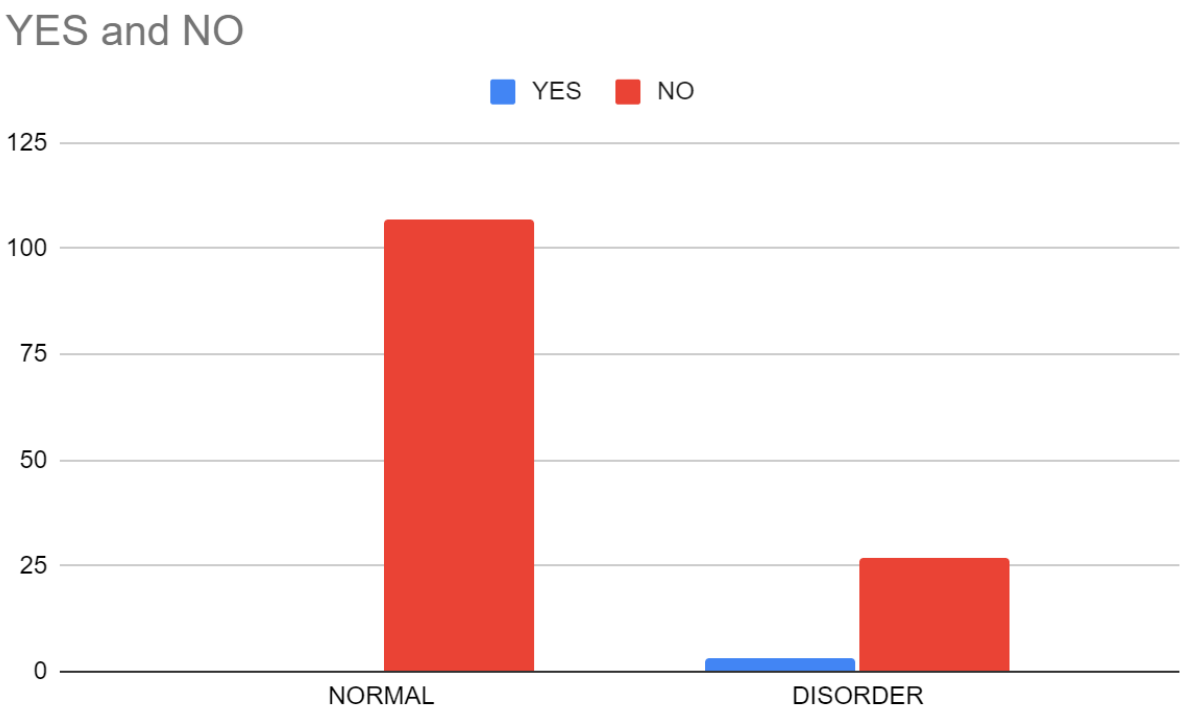
		Diagnosis					
		NORMAL (n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
PSYCHIATRIC ILLNESS	NONE	107	100.00 %	26	86.70 %	14.696	0.002
	DEPRESSION	0	0.00%	1	3.30%		
	ANXIETY	0	0.00%	0	0.00%		
	BIPOLAR DISORDER	0	0.00%	2	6.70%		
	SCHIZOPHRENIA	0	0.00%	1	3.30%		
	OTHERS	0	0.00%	0	0.00%		



SUICIDAL IDEATION:

Past history of suicidal ideation is associated with a significant increase in the incidence of post-partum depression and anxiety.

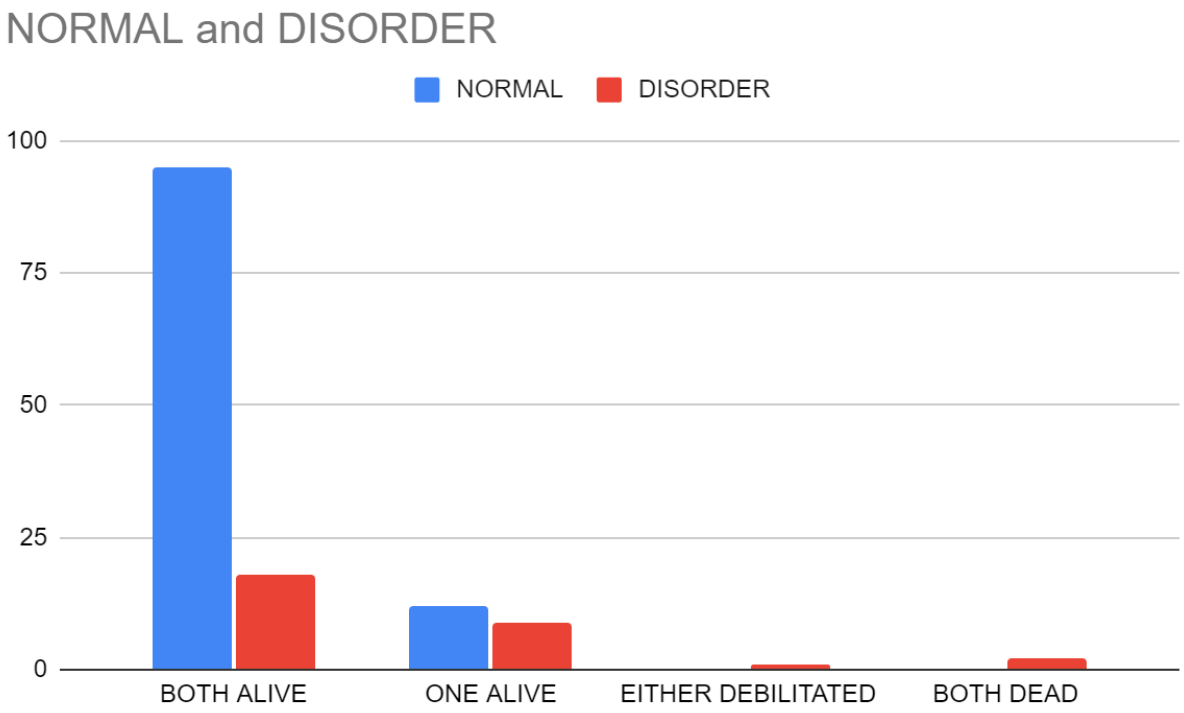
		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
SUICIDAL IDEATION	**YES**	0	0.00%	3	10.00%	10.94	0.002
	NO	107	100.00%	27	90.00%		



PARENTS:

The loss of one or both parents were associated with a significant increase in the incidence of post-partum depression and anxiety.

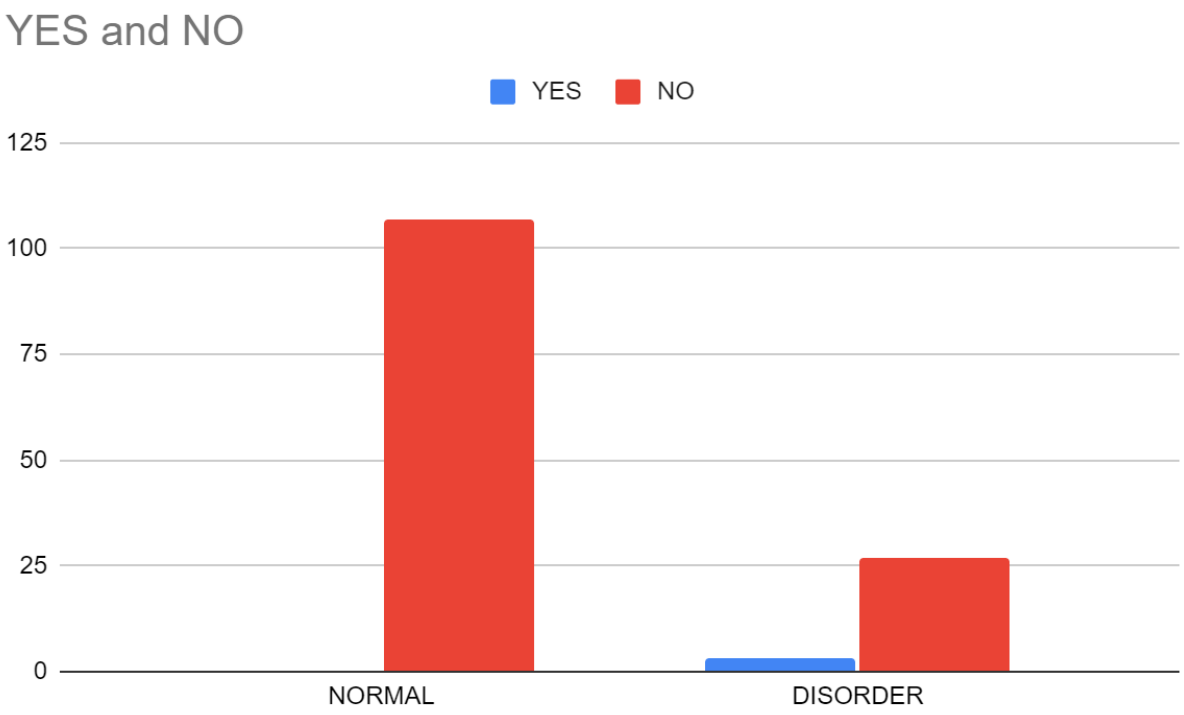
		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
PARENTS	BOTH ALIVE	95	88.80 %	18	60.00 %	18.448	<0.001
	ONE ALIVE	12	11.20 %	9	30.00 %		
	EITHER DEBILITATED	0	0.00%	1	3.30%		
	BOTH DEAD	0	0.00%	2	6.70%		



PSYCHIATRIC ILLNESS IN FAMILY:

The family history of psychiatric illness also significantly related to the development of post-partum depression and anxiety.

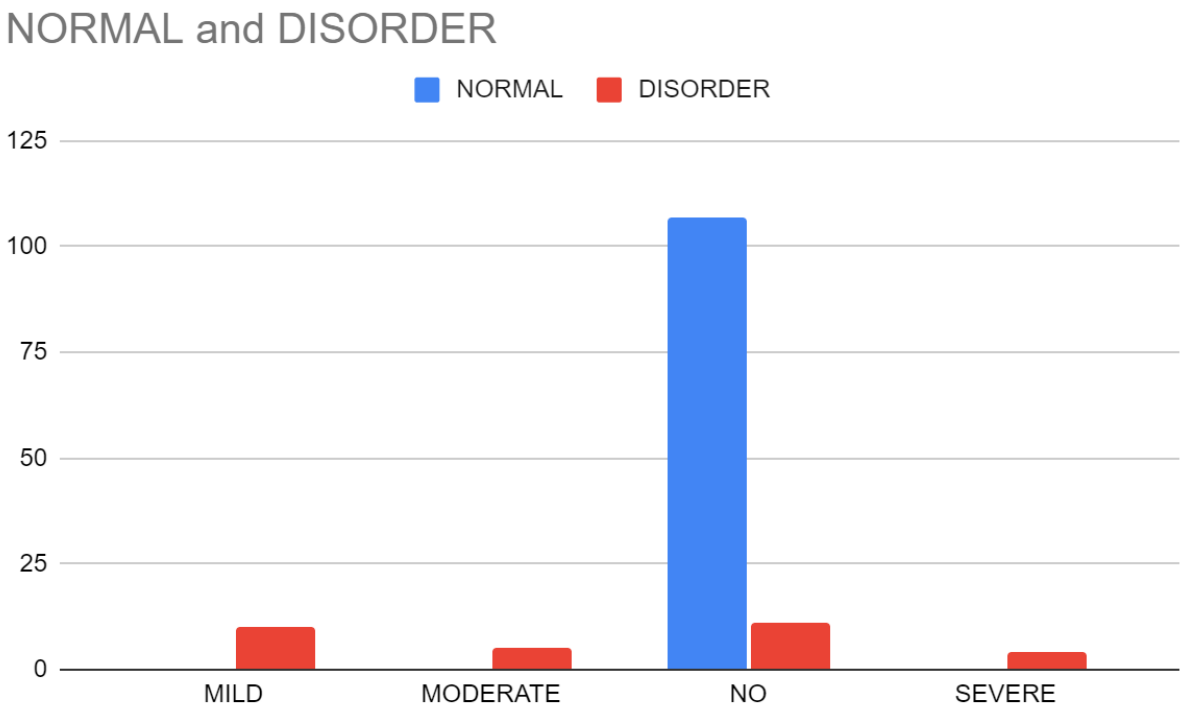
		Diagnosis					
		NORMAL (n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
PSYCHIATRIC ILLNESS IN FAMILY	YES	0	0.00%	3	10.00 %	10.94	0.001
	NO	107	100.00 %	27	90.00 %		



HDRS SEVERITY:

In our study as per Hamilton depressive rating scale 19 women out of 137 had significantly affected by postpartum depressive disorder.

		Diagnosis					
		NORMAL(n)	n%	DISORDER (n)	n%	Chi-square Value	p Value
HDRS SEVERITY	MILD	0	0.00%	10	33.30 %	78.678	<0.001
	MODERATE	0	0.00%	5	16.70 %		
	SEVERE	0	0.00%	4	13.30 %		
	NO	107	100.00 %	11	36.70 %		

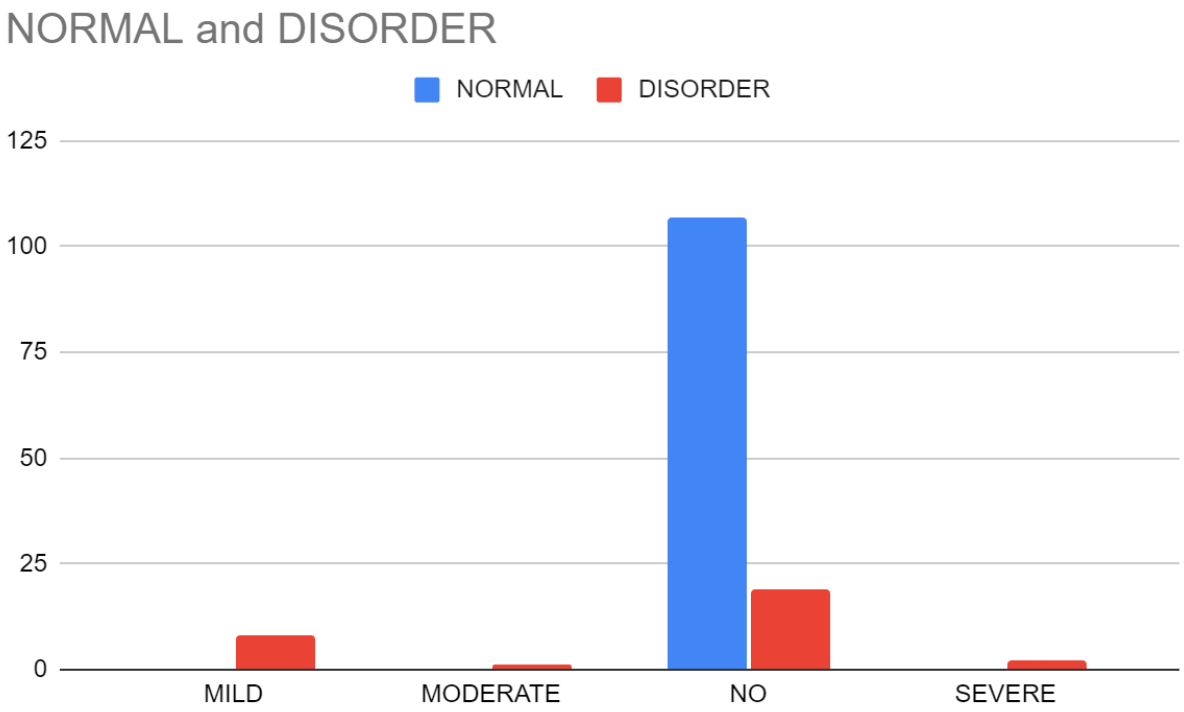


HARS SEVERITY:

In our study as per Hamilton anxiety rating scale 11 women out of 137 had significantly affected by postpartum anxiety.

		Diagnosis					
		NORMAL(n)	**n%**	**DISORDER (n)**	**n%**	**Chi-square Value**	**p Value**
HARS SEVERITY	**MILD**	0	0.00%	8	26.70 %	42.658	<0.001
	MODERAT	0	0.00%	1	3.30%		
	SEVERE	0	0.00%	2	6.70%		
	NO	107	100.00 %	19	63.30 %		

S


NORMAL and DISORDER
NORMAL
DISORDER
125
100
75
50
25
0
MILD
MODERATE
NO
SEVERE

DISCUSSION

- This study has been conducted among postpartum female aged 18 to 35 years, with the benefits of investigating this age group using a standardized questionnaire.
- The mean age of women included in this study 25. 5 with a range of 18 to 35 years. In this study age variance did not significantly affect the development of postpartum depression and anxiety. Chengalpattu medical college is a referral hospital which receives patients from the surrounding rural areas. There is no significant difference in number of cases from rural, semi-urban and urban areas.
- BMI, literacy level, and occupation does not significantly influence the disorder.
- Lower income & lower socio economical people are more prone for post partum disorder. They couldn't fulfil all their needs in their low income.
- Unmarried, divorced and widow women are more often the victims of postpartum depression and anxiety compared to married women. Degree of consanguinity and type of the marriage do not significantly affect this disorder.
- In our study 49 % women were primigravida . Those who had many abortions and multigravida with no previous live children had a very strong predisposition to the development of postpartum depression and anxiety.
- More spacing between pregnancy increased incidence of this disorder.
- Pregnancy as a result of contraceptive failure were associated with higher rate of postpartum depression and anxiety. It reflect that our health care system should monitor those women using contraception whether they are regularly and properly using or not.

- Nature of the conception and booking also did not significantly affect this disorder.
- The number of health care visit during pregnancy and utilising iron and folic acid also decreased the incidence.
- The pregnancy associated antenatal complication like anemia, heart disease, hypertensive disorder, other infection, sexually transmitted disease etc increased the occurrence of this disorder. This indicate that we need to provide a prophylactic measure to prevent postpartum depression and anxiety in women with significant ante natal problems.
- Mode of deliveries whether normal vaginal ,assisted vaginal ,elective lscs, and emergency lscs did not significantly affect the incidence of this disorder if their baby was alive healthy .
- But other pregnancy complications like stillborn ,intrauterine death were more significantly causes of these postpartum depression and anxiety.
- In our health system 85 % of women did not develop any intra partum complication. It reflect our tamilnadu health care system effectively give better health care service.
- The development of postpartum complications like postpartum haemorrhage, wound infection , and mother admitted in ICU were more significantly affected by this disorder.
- So we have to advise the mother to consume nutritionly rich diet and proper cleanliness and avoid unnecessary visitors during in the period of the hospital admission time These measures will decrease the postpartum complications,
- Hospital stay for more than 7 days has significantly caused higher incidence of postpartum depression and anxiety.

- Depressive symptoms and suicidal thoughts during pregnancy were associated with significantly increased psychiatric morbidity.
- Mother those who are breast feeding were protective to the development of postpartum depression and anxiety.
- The reason could be the bonding of the mother and child during feeding and the feeling of satisfaction upon breast feeding the child.
- In our study the women who lacked family support structure were at a higher risk of developing postpartum depression and anxiety.
- The outcome of current children like Birth asphyxia ,congenital disease and dead born significantly increased postpartum depression and anxiety.
- Higher rate of development of postpartum depression and anxiety in women who gave birth to female baby. There is a prevalent opinion in the society that male children are better than female children because of decreased expenditure and more income and the notion that male children take care of the parents during old age .this has also reflected in the higher rates of development of postpartum disorder in women who gave birth to female baby.
- If the baby admitted in NICU due to birth asphyxia, hypoxic ischemic encephalopathy, Respiratory distress syndrome those mother are naturally prone for psychiatric disorder.
- Women who were associated with psychiatric illness had increased rate of postpartum depression and anxiety.
- Since HDRS ,HARS scale were screening tools we have used in this study to analyse the postpartum depression and anxiety .women who scored more value were

diagnosed to have postpartum depression and anxiety . They were referred to the department of psychiatrics or call over given to psychiatric department for more tests and better and proper mode of treatment.

CONCLUSION:

People in our country are still considering that visiting a Psychiatrist and having a Psychiatric illness as a taboo. This also relates with the very little content about Post partum Depression and Anxiety in the Indian Books. In Postpartum Disorder, the Baby is affected more as the mother suffers from depression and Anxiety This indicates the significance to take the necessary action as a Healthcare provider towards Post Partum Disorder.

The initial steps which needs to be done is to identify the mothers who are at risk of developing depression and Anxiety to provide appropriate treatment. This is achieved only by a team of specialists which include an Obstetrician, Clinical Psychologists, Pediatric Psychiatrist and the paramedical workers.

This can be done if the Health care providers first increase their knowledge about the disease and the various problems which the mother, the baby and the family members had to face.

The society should be educated about the manifestations of Postpartum blues, Postpartum Depression and Anxiety, Post Partum psychosis and the need to contact a health care provider when the symptoms occur.

The pharmacokinetics and dynamics of the Antidepressants and Antianxiety and their interaction in breastfeeding the baby are to be considered as the Breast milk is important in the Growth and development of the Baby.

BIBLIOGRAPHY

1. **Brockington I F** (2006), *Eileithyia's Mischief: the Organic Psychoses of Pregnancy, Parturition and the Puerperium*. Bredenbury, Eyry Press, chapter 3.
2. **Gavin NI, Gaynes BN, Lohr KN**, et al. Perinatal depression: a systematic review of prevalence and incidence. *Obstet Gynecol 2005; 106:1071*
3. **Wong, Hockenberry, Wilson, Perry, Lowdermilk.** Maternal Child Nursing Care. 3rd ed. China: Mosby Elsevier; 2006. p.674.
4. **Weinberg MKP TRONICK EZ** the impact of maternal psychiatric illness on infant development j.clin psychiatry 1998;59:
5. **Seyfried L.S and Marcus S.M**, Post-partum mood disorders.International Review of Psychiatry,15,2003, 231-42
6. **Shields B**. Down Came the Rain: My Journey Through Postpartum Depression. New York: Hyperion,2006.
7. **Flynn HA**. Epidemiology and Phenomenology of Postpartum Mood Disorders. Psychiatric Annals 2005. 35(7): 544:551.
8. **Elton C**. Postpartum Depression: Do All Moms Need Screening Time. 20 Jul 2009. Available via (Accessed 2 May 2013)
9. **Battle CL**. Zlotnick C. Prevention of Postpartum Depression. Jul 2005. Psychiatric Annals. 35(7): 590-598.
10. **Hamilton JA**. Chapter 12, History. In Postpartum Psychiatric Problems. St Louis: Mosby Harwin, 1962, p126.

11. **Trotula of Salerno,** The Diseases of Women. A translation of Passionibus Mulierum Curandorum by Elizabeth Mason: Hohl, MD. Los Angeles: The Ward Ritchie Press; 1940.

12. **Brockinton I**. A Historical Perspective on the Psychiatry of Motherhood. In Perinatal Stress, Mood and Anxiety Disorders: From Bench to Bedside. Basel, Switzerland: Karge Published 2005.

13. **Chabral H, Teissedre**. A study of the Edinburgh postnatal depression scale. *Encephale 2004 July-August; 30(4) 376-81*

14**.CL Dennis, HK Brown, S Wanigaratne**… - The Canadian …, 2018 - journals.sagepub.com 15**. JCH van Bussel, B Spitz, K Demyttenaere** - Journal of affective disorders, 2009.

16. **Rojas G, Fritsch R, Solís J, González M, Guajardo V, Araya** Quality of life of women depressed in the post-partum period *Rev Med Chil. 2006 Jun;134(6):713-20 [Article in Spanish]*

17. **Park YJ, Shin HJ, Ryu H, Cheon SH, Moon SH.** The predictors of postpartum depression *Taehan Kanho Hakhoe Chi. 2004 Aug; 34(5):722-8.* (*Article in Korean)*

18**. O'Hara, M. W. & Swain, A. M.** (1996). Rates and risk of postpartum depression-a meta-analysis. *International Review of Psychiatry*, *8*, 37-54.

19. **Boyce P, Hickey. A** Psychosocial risk factors to major depression after childbirth. Soc Psychiatry Psychiatr Epidemiol. 2005 Aug; 40(8):605-12.

20**. J Yelland, G Sutherland** - BMC public , 2010

21. **C Reck, CM Klier, K Pabst, E Stehle** - Archives of women's , 2006

22. **A Buist, H Janson** - Child abuse & neglect, 2001 - Elsevier

23. **L Lilli** - Journal of , 2009 - Taylor & Francis

24. **M Furtal, C Goldfinger, SM Green,** - Clinical psychology & , 2020 - Wiley Online Library

25. **Owoeye AO, Aina OF, Morakinyo O.** Risk factors of postpartum depression and EPDS scores in a group of Nigerian women *Trop Doct. 2006 Apr; 36(2):100-3.*

26. **M Claesson**, A Josefsson - BMC public, 2010 - bmcpublichealth.biomedcentral.com

27**. T Field, D Sandberg, R Garcia** - Developmental, 1985 - psycnet.apa.org

28. **RL Miller, JF Pallant, LM Negri** - BMC psychiatry, 2006 - bmcpsychiatry.biomedcentral.com

29**. K Falah-Hassani, R Shiri, S Vigod**, - Journal of psychiatric, 2015.

30. **SA Keim, JL Daniels, N Dole, AH Herring** - Early human, 2011

31. **Hall, L. A., Kotch, J. B., Browne, D., & Rayens, M. K.** (1996).stressors and social resources on depressive symptoms in postpartum mothers. *Nursing Research, 45, 231-238.*

32. **ME Silverman, H Loudon, M Safier,** X Protopopescu - CNS, 2007 - cambridge.org

33. **Dubovsky, S. L. & Buzan, R.** *(1999). Mood Disorders. In* **R.E.Hales, S. C. Yudofsky, & J. A. Talbott (Eds.)**, *Textbook of Psychiatry 3rd ed.* Washington, DC: American Psychiatric Press

34. **Wisner, K. L., Parry, B. L., & Piontek, C. M. (2002).** Clinical practice. Postpartum depression. *N Engl J Med, 347,* 194-199.

35. **O'Hara, M. W. & Swain, A. M.** (1996). Rates and risk of postpartum depression-a meta-analysis. *International Review of Psychiatry, 8,* 37-54.

36. **Warner, R., Appleby, L., Whitton, A., & Faragher, B.** (1996). Demographic and obstetric risk factors for postnatal psychiatric morbidity. *British Journal of Psychiatry, 168, 607-611.*

37. **Beck, C. T.** (1996). A meta-analysis of predictors of postpartum depression. *Nursing Research, 45, 297-303*

38. **V Patel, N DeSouza, and M Rodrigues** Postnatal depression and infant growth and development in low income countries: a cohort study from Goa, India *Arch Dis Child. Jan 2003; 88(1): 34–37*

39. **Brown, G. W. & Harris, T. (1978).** Social Origins of Depression: A Study of Psychiatric Disorder in Women. New York: The Free Press.

40. **Sibel Ayvaz, Çiçek Hocaoğlu, Ahmet Tiryaki, Ismail Ak** The Incidence of Postpartum Depression in Trabzon Province and the Risk Factors During Gestation *Türk Psikiyatri Dergisi Turkish Journal of Psychiatry*

41. **Harvey ST, Pun PK.** Analysis of positive Edinburgh depression scale referrals to a consultation liaison psychiatry service in a two- year period *Int J Ment Health Nurs. 2007 Jun;16(3):161-7*

42. **Barnett, P. A. & Gotlib, I. H. (1988)** Psychosocia functioning and depression: distinguishing among antecedents, concomitants, and consequences. *Psychol.Bull. 104, 97-126.*

43. **Collins, N. L., Dunkel-Schetter, C., Lobel, M., & Scrimshaw, S. C. (1993).** Social support in pregnancy: psychosocial correlates of birth outcomes and postpartum depression. *J.Pers.Soc.Psychol. 65, 1243-1258.*

44.**Bartley, M. (1994).** Unemployment and ill health: understanding the relationship. *J Epidemiol.Community Health, 48, 333-337.*

45. **Patel, V., Araya, R., de Lima, M., Ludermir, A., & Todd, C. (1999).** Women, poverty and common mental disorders in four restructuring societies. *Soc.Sci.Med. 49, 1461-1471.*

46. **Beckwith, L., Howard, J., Espinosa, M., & Tyler, R.** (1999).Psychopathology, mother-child interaction, and infant development: substance-abusing mothers and their offspring. *Development and Psychopathology, 11,* 715-725.

47. **American Psyc1hiatric Association (1994).** *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition. Washington, DC.* American Psychiatric Association

48. **Webster, J., Pritchard, M. A., Linnane, J. W., Roberts, J. A., Hinson, J. K., & Starrenburg, S. E. (2001)**. Postnatal depression: use of health services and satisfaction with health-care providers. *Journal of Quality in Clinical Practice, 21(4), 144-148*

49. **Burt VK, Stein K**. Epidemiology of depression throughout the female life-cycle. *J Clin Psychiatry. 2002; 63(Suppl 7):9Y15.*

50. **Paul IM, Downs DS, Schaefer EW**, et al. Postpartum anxiety and maternal-infant health outcomes. Pediatrics 131 (2013): 1218-1224.

51. **Dennis CL, Coglan M, Vigod S**. Can we identify mothers at-risk for postpartum anxiety in the immediate postpartum period using the State-Trait Anxiety Inventory? J Affect Disord 150 (2013): 1217-1220.

52. **Bener A, Gerber LM, Sheikh J**. Prevalence Of psychiatric disorders and associated risk factors in women during their postpartum period: a major public health problem and global comparison. Int J Womens Health 4 (2012): 191-200.

53. **Clout D, Brown R**. Sociodemographic, pregnancy, obstetric, and postnatal predictors of postpartum stress, anxiety and depression in new mothers. J Affect Disord 88 (2015): 60-67

54. **Shlomi Polachek I, Huller Harari L, Baum M, et al**. Postpartum anxiety in a cohort of women from the general population: risk factors and association with

depression during last week of pregnancy, postpartum depression and postpartum PTSD. Isr J Psychiatry Relat Sci 51 (2014): 128-134

55. **Bener A, Gerber LM, Sheikh J**. Prevalence Of psychiatric disorders and associated risk factors in women during their postpartum period: a major public health problem and global comparison. Int J Womens Health 4 (2012): 191-200.

56. **Shlomi Polachek I, Huller Harari L, Baum M, et al.** Postpartum anxiety in a cohort of women from the general population: risk factors and association with depression during last week of pregnancy, postpartum depression and postpartum PTSD. Isr J Psychiatry Relat Sci 51 (2014): 128-134.

CLINICAL QUESTIONARIES

NAME

AGE/SEX

ADDRESS

IP No

PRESENTING COMPLAINTS

PAST HISTORY

Comorbidities

Previous surgeries

Similar episodes in the past

Previous baby with NICU admission

PERSONAL HISTORY

H/o mood swings

H/o anxiety disorders

FAMILY HISTORY

H/o similar illness in the family members

EXAMINATION

Blood pressure

Pulse rate

Respiratory rate

Conscious

Orientation to time , place and person

Pallor/cyanosis/icterus/pedal edema/ clubbing/generalised lymphadenopathy

CARDIOVASCULAR SYSTEM

RESPIRATORY SYSTEM

ABDOMEN

CENTRAL NERVOUS SYSTEM

INVESTIGATION

CBC

LFT

RFT

S.ELECTROLYTES

S.URIC ACID

URINE SPOT PCR

PERIPHERAL SMEAR

URINE ROUTINE – SUGAR
ALBUMIN

USG OBSTETRICS

ANTENATAL COMPLICATIONS

- Anemia Yes/No
- Antepartum haemorrhage Yes/No
- Cervical incompetence Yes/No
- Cephalo Pelvic disproportion Yes/No
- Eclampsia Yes/No

- Teenage pregnancy Yes/No
- Elderly Primi Yes/No
- Gestational Diabetes Mellitus Yes/No
- Heart disease Yes/No
- Hyperemesis Yes/No
- Long term infertility Yes/No
- Rh Incompatibility Yes/No
- Pregnancy induced Hypertension Yes/No
- Oligohydramnios Yes/No
- Polyhydramnios Yes/No

INTRAPARTUM COMPLICATIONS

Prolonged labour Yes/No

PREGNANCY OUTCOME

- Labour Natural
- Vaccum
- Forceps
- LSCS
- Stillborn
- IUD

POSTNATAL COMPLICATIONS

- Big baby
- Respiratory Distress Syndrome
- Birth Asphyxia

BABY DETAILS

Alive/Dead

Preterm:

Term:

Sex:

Birth weight

APGAR

NICU Observation: Yes/No

NICU Admission: Yes/No

POSTPARTUM COMPLICATIONS

- Post partum haemorrhage
- Retained Placenta
- Fever
- Wound Infection

DURATION OF HOSPITAL STAY

- <10 Days
- >10 Days

Hamilton Depression Rating Scale (HDRS)

PLEASE COMPLETE THE SCALE BASED ON A STRUCTURED INTERVIEW

Instructions: for each item select the one "cue" which best characterizes the patient. Be sure to record the answers in the appropriate spaces (positions 0 through 4).

1 DEPRESSED MOOD *(sadness, hopeless, helpless, worthless)*

0 |__| Absent.
1 |__| These feeling states indicated only on questioning.
2 |__| These feeling states spontaneously reported verbally.
3 |__| Communicates feeling states non-verbally, i.e. through facial expression, posture, voice and tendency to weep.
4 |__| Patient reports virtually only these feeling states in his/her spontaneous verbal and non-verbal communication.

2 FEELINGS OF GUILT

0 |__| Absent.
1 |__| Self reproach, feels he/she has let people down.
2 |__| Ideas of guilt or rumination over past errors or sinful deeds.
3 |__| Present illness is a punishment. Delusions of guilt.
4 |__| Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations.

3 SUICIDE

0 |__| Absent.
1 |__| Feels life is not worth living.
2 |__| Wishes he/she were dead or any thoughts of possible death to self.
3 |__| Ideas or gestures of suicide.
4 |__| Attempts at suicide (any serious attempt rate 4).

4 INSOMNIA: EARLY IN THE NIGHT

0 |__| No difficulty falling asleep.
1 |__| Complains of occasional difficulty falling asleep, i.e. more than ½ hour.
2 |__| Complains of nightly difficulty falling asleep.

5 INSOMNIA: MIDDLE OF THE NIGHT

0 |__| No difficulty.
1 |__| Patient complains of being restless and disturbed during the night.
2 |__| Waking during the night – any getting out of bed rates 2 (except for purposes of voiding).

11 ANXIETY SOMATIC (physiological concomitants of anxiety) such as:

gastro-intestinal – dry mouth, wind, indigestion, diarrhea, cramps, belching
cardio-vascular – palpitations, headaches
respiratory – hyperventilation, sighing
urinary frequency
sweating

0 |__| Absent.
1 |__| Mild.
2 |__| Moderate.
3 |__| Severe.
4 |__| Incapacitating.

12 SOMATIC SYMPTOMS GASTRO-INTESTINAL

0 |__| None.
1 |__| Loss of appetite but eating without staff encouragement. Heavy feelings in abdomen.
2 |__| Difficulty eating without staff urging. Requests or requires laxatives or medication for bowels or medication for gastro-intestinal symptoms.

6 INSOMNIA: EARLY HOURS OF THE MORNING

0 [ ] No difficulty.
1 [ ] Waking in early hours of the morning but goes back to sleep.
2 [ ] Unable to fall asleep again if he/she gets out of bed.

7 WORK AND ACTIVITIES

0 [ ] No difficulty.
1 [ ] Thoughts and feelings of incapacity, fatigue or weakness related to activities, work or hobbies.
2 [ ] Loss of interest in activity, hobbies or work – either directly reported by the patient or indirect in listlessness, indecision and vacillation (feels he/she has to push self to work or activities).
3 [ ] Decrease in actual time spent in activities or decrease in productivity. Rate 3 if the patient does not spend at least three hours a day in activities (job or hobbies) excluding routine chores.
4 [ ] Stopped working because of present illness. Rate 4 if patient engages in no activities except routine chores, or if patient fails to perform routine chores unassisted.

8 RETARDATION (slowness of thought and speech, impaired ability to concentrate, decreased motor activity)

0 [ ] Normal speech and thought.
1 [ ] Slight retardation during the interview.
2 [ ] Obvious retardation during the interview.
3 [ ] Interview difficult.
4 [ ] Complete stupor.

9 AGITATION

0 [ ] None.
1 [ ] Fidgetiness.
2 [ ] Playing with hands, hair, etc.
3 [ ] Moving about, can't sit still.
4 [ ] Hand wringing, nail biting, hair-pulling, biting of lips.

10 ANXIETY PSYCHIC

0 [ ] No difficulty.
1 [ ] Subjective tension and irritability.
2 [ ] Worrying about minor matters.
3 [ ] Apprehensive attitude apparent in face or speech.
4 [ ] Fears expressed without questioning.

13 GENERAL SOMATIC SYMPTOMS

0 [ ] None.
1 [ ] Heaviness in limbs, back or head. Backaches, headaches, muscle aches. Loss of energy and fatigability.
2 [ ] Any clear-cut symptom rates 2.

14 GENITAL SYMPTOMS (symptoms such as loss of libido, menstrual disturbances)

0 [ ] Absent.
1 [ ] Mild.
2 [ ] Severe.

15 HYPOCHONDRIASIS

0 [ ] Not present.
1 [ ] Self-absorption (bodily).
2 [ ] Preoccupation with health.
3 [ ] Frequent complaints, requests for help, etc.
4 [ ] Hypochondriacal delusions.

16 LOSS OF WEIGHT *(RATE EITHER a OR b)*

a) According to the patient:	b) According to weekly measurements:
0 [ ] No weight loss.	0 [ ] Less than 1 lb weight loss in week.
1 [ ] Probable weight loss associated with present illness.	1 [ ] Greater than 1 lb weight loss in week.
2 [ ] Definite (according to patient) weight loss.	2 [ ] Greater than 2 lb weight loss in week.
3 [ ] Not assessed.	3 [ ] Not assessed.

17 INSIGHT

0 [ ] Acknowledges being depressed and ill.
1 [ ] Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
2 [ ] Denies being ill at all.

Total score: [ ][ ]

Hamilton Anxiety Rating Scale (HAM-A)

Below is a list of phrases that describe certain feeling that people have. Rate the patients by finding the answer which best describes the extent to which he/she has these conditions. Select one of the five responses for each of the fourteen questions.

0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

---

1 Anxious mood [0] [1] [2] [3] [4]

Worries, anticipation of the worst, fearful anticipation, irritability.

2 Tension [0] [1] [2] [3] [4]

Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.

3 Fears [0] [1] [2] [3] [4]

Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.

4 Insomnia [0] [1] [2] [3] [4]

Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors.

5 Intellectual [0] [1] [2] [3] [4]

Difficulty in concentration, poor memory.

6 Depressed mood [0] [1] [2] [3] [4]

Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.

7 Somatic (muscular) [0] [1] [2] [3] [4]

Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.

8 Somatic (sensory) [0] [1] [2] [3] [4]

Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.

9 Cardiovascular symptoms [0] [1] [2] [3] [4]

Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting feelings, missing beat.

10 Respiratory symptoms [0] [1] [2] [3] [4]

Pressure or constriction in chest, choking feelings, sighing, dyspnea.

11 Gastrointestinal symptoms [0] [1] [2] [3] [4]

Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.

12 Genitourinary symptoms [0] [1] [2] [3] [4]

Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.

13 Autonomic symptoms [0] [1] [2] [3] [4]

Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.

14 Behavior at interview [0] [1] [2] [3] [4]

Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.

INFORMATION SHEET

We are conducting a study for **ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL**.

The privacy of the patient in the research will be maintained throughout the study. In the event of any publication or presentation resulting from the research; no personally identifiable information will be shared.

Taking part in the study is voluntary. You are free to decide whether to participate in this study or to withdraw at any time. Your decision will not result in any loss of benefits to which you are otherwise entitled.

The results of the special study may be intimated to you at the end of the study period or during the study if anything is found abnormal which may aid in the management or treatment.

Signature of investigator Signature of patient/guardian

ஒப்புதல்படிவம்

ஆய்வுசெய்யப்படும்தலைப்பு : மகப்பேற்றுக்குப்பின் தாய்மார்களுக்கு வரும் மன சோர்வு மற்றும் கவலை நோய் பற்றிய ஆய்வு.

இடம்:செங்கல்பட்டு அரசு மருத்துவமனை

பங்குபெறுபவரின்பெயர்:

பங்குபெறுபவரின்வயது: பங்குபெறுபவரின்எண் :

மேலேகுறிப்பிட்டுள்ளமருத்துவஆய்வின்விவரங்கள்எனக்கு விளக்கபட்டுள்ளது.நான்----------இவ்வாய்வில்பங்குபெற சம்மதிக்கிறேன்.
எந்தகாரணத்தினாலோ, எந்தசட்டசிக்கலுக்கும் உட்படாமல்நான் ---------- இவ்வாய்வில் இருந்து விலகிக்கொள்ளலாம் என்றும் அறிந்து கொண்டேன்.
இந்தஆய்வுசம்பந்தமாகவோ, இதைசார்ந்து மேலும்ஆய்வு மேற்கொள்ளும் போதும் இந்த ஆய்வில் பங்கு பெறும்மருத்துவர், என்னுடைய மருத்துவ அறிக்கைகளை பார்ப்பதற்கு என்அனுமதி தேவைஇல்லைஎன அறிந்துகொள்கிறேன். இந்த ஆய்வின் மூலம் கிடைக்கும் தகவலையோ, முடிவையோ பயன்படுத்திக் கொள்ளமறுக்கமாட்டேன்.
இந்த ஆய்வில் பங்குகொள்ள ஒப்புக்கொள்கிறேன். இந்தஆய்வை மேற்கொள்ளும் மருத்துவ அணிக்கு உண்மையுடன் இருப்பேன் என்று உறுதியளிக்கிறேன்
பங்கேற்பவரின்கையொப்பம்:

சாட்சியாளரின்கையொப்பம்

இடம்:
தேதி:
பங்கேற்பவரின்பெயர்மற்றும்விலாசம்:

ஆய்வாளரின்கையொப்பம்:
இடம்: தேதி:

REMARKS

The study entitled " **ASSESSMENT OF POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS DELIVERING AT TERTIARY CARE HOSPITAL**"by Dr. Kavitha V, II year Post graduate of Department of Obstetrics and Gynaecology at Chengalpattu Medical College and Hospital will be done according to the regulations of the Institutional Ethics Committee and I recommend it for acceptance.

V. Babitha 30/3/2024

Professor & Head,
Department of Psychiatry
Chengalpattu Medical College & Hospital
Chengalpattu.

PROFESSOR & HOD
Department Of Psychiatry
Chengalpattu Medical College & Hospital
Chengalpattu.