DETERMINING THE ASSOCIATION OF PSYCHO-SOCIAL WELLBEING AND POST-PARTUM DEPRESSION IN MOTHERS OLDER THAN 18 YEARS AS EVALUATED WITHIN 8 WEEKS AFTER DELIVERY, IN THE FREE STATE, SOUTH AFRICA

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ABSTRACT

The study investigated whether the psycho-social wellbeing of a pre-natal or postnatal mothers exacerbate post-partum depression. The study was conducted using 79 patients over 18 years of age who had delivered during the previous weeks. The sample was accessed from patients visiting their gynaecologist for the babies' inoculation and for the first consultation after delivery. A biographic, questionnaire, a psycho-social wellbeing scale and the Edinburgh Postnatal Depression Scale was completed by the patients under supervision of a receptionist who had been trained for this task by the researcher. The variables collected were: the scores on the two scales mentioned above as well as the respondents' age, the time period after the birth at which the consultation was taking place, whether the pregnancy was planned of unplanned, the use of antidepressants and substances (smoking, alcohol, painkillers) during the said period.

Using a quantitative descriptive and inferential design, the data was analysed by a professional statistician. The simple stepwise regression indicated that the only variable that significantly predicted post-partum depression was psycho-social wellbeing. The results indicate the need for educational intervention with patients and the medical facilitators during and after delivery.

INTRODUCTION

The birth of a baby is mostly a difficult experience for a mother. From the time of conception she may experience physical and emotional turmoil (Zietlow et al., 2014: 1873).

For some mothers these experiences are demanding to a point where it may lead to emotional and physical trauma, which can then lead to depression and anxiety. Although many mothers cope with these emotions after a period of adjustment, a percentage of mothers develop a psychiatric condition most commonly known as post-partum or postnatal depression (Fatehmeh et al., 2017: 57).

The term “partum” is derived from the Latin word which means “to bring forth” as is the case in the delivery of a baby. This research will only investigate the “post-partum depressive episode” (PPD)

The study proposes that mothers who come from adverse life situations where lack of emotional stability, psycho-social problems and absence of practical and emotional support throughout the pregnancy are prevalent, will likely be more prone to post-partem depression (Mc Donald et al., 2012: 316).

LITERATURE RESEARCH

THE DSM-5

The DSM-5 does not recognize “post-partum depression” (PPD) as a separate diagnosis; rather, patients must meet the criteria for a major depressive episode (MDE) and the criteria for the perinatal-onset specifier. The definition is therefore “a major depressive episode with an onset in pregnancy or within 4 weeks of delivery”. (DSM-5 APA, 2013: 160-162; Mc Donald et al., 2012: 316)

The DSM-5 (APA, 2013: 160-162) criteria for a major depressive episode are as follows:

a) “Five or more of the following 9 symptoms (including at least one of depressed mood and loss of interest or pleasure) in the same 2-week period. Each of these symptoms represents a change from previous functioning, and needs to be present nearly every day:

- Depressed mood (subjective or observed), most of the day, nearly every day
- Loss of interest or pleasure, most of the day, nearly every day
- Change in weight or appetite. Weight: 5 percent change over 1 month; (due to the psychical changes during pregnancy weight gain is to be expected as well as change in appetite and food cravings. This obviously needs to be taken into consideration.)
- Insomnia or hypersomnia
- Psychomotor retardation or agitation (subjective or observed)
- Loss of energy or fatigue
- Worthlessness or guilt
- Impaired concentration or indecisiveness
- Recurrent thoughts of death or suicidal ideation or attempt. (Post-partum mothers: thoughts of killing the baby (homicidal ideation) & of termination of pregnancy in the pre-partum phase)

b) Symptoms cause significant distress or impairment.

c) Episode is not attributable to a substance or medical condition.

d) Episode is not better explained by a psychotic disorder.

e) There has never been a manic or hypomanic episode. Exclusion e) does not apply if a (hypo) manic episode was substance-induced or attributable to a medical condition.

With post-partum depression, the specifier with or without psychotic features needs to be stated. Post-partum mood with psychotic features appear to occur in 1 in 500 to 1 in a 1000 deliveries. Once a woman has had a post-partum episode with psychotic features, the risk of recurrence with each subsequent delivery is between 30% and 50%."(DSM-5, APA, 2013: 187; Kato, Russo & Gavin, 2014: 484)

Local statistics may however vary as contributing circumstances may be different.

Additional research

The wide variety of research regarding this disorder presents different timeframes for the onset and duration of this condition. However researchers are in agreement regarding the symptomology of post-partum depression, indicating varied symptomology.

PPD has distinct symptoms which sets it apart from the normal baby blues. Comer (1995: 260) describes the list of symptoms as follows:

Symptoms of a Major Depressive Episode

- Sadness
- Despair
- Tearfulness
- Insomnia
- Inability to function
- Anxiety
- Panic attacks
- Disinterest in their baby
- Delusions and hallucinations in severe cases

Research also offers a variation of descriptions of the condition which may affect mother, child and family. Post-partum depression has negative effects on family and child health. It causes bonding impairment and these children may develop attachment insecurity and anxiety

According to Fiorelli et al., (2015: 1) “Post-partum depression is a frequently occuring & disabling condition which pathophysiology is still unclear.” PPD poses a series of health problems to both mother and child that may extend into their relationship and might have an effect on the rest of the family for many years and may have dire consequences for all (Corrigan, Kwasly & Groh, 2016; Camp, s.a.: 49.)

According to Corrigan et al. mothers who have borne a child feel overwhelmed and emotional (2016: 48).

Camp (s.a.: 48) reiterates that the transition to motherhood is marked with fatigue, frustration, emotional turmoil & anxiety which can lead to lifelong major depression and guilt. Bonding problems & even mortality of the baby may be a consequence.

It is thus clear that trauma experienced by the mother, might affect the baby negatively. (Corrigan, Kwasly & Crog, 2015:48; Jaronski & Pollard., 2014:189; Kato et al., 2014:484 and Zietlow et al., 2014:1873).

Prevalence

Available studies indicate prevalence rates of between 15-25%. In summary the incidence of PPD can be put at 15 to 25 % of birth-mothers. According to the DSM-5 (APA, 2013), approximately 6% of women will encounter a major depressive episode during pregnancy or in the weeks of months following childbirth. The term "*peripartum episodes*" has been used to refer to the major depressive episode occurring before delivery because 50% of these episodes begin prior to delivery. Peripartum depressive episodes are often accompanied by severe *anxiety* and even *panic attacks* (DSM-5, APA, 2013 DSM-5: 186; McDonald et al., 2012: 315).

As a percentage the prevalence seems insignificant but when converted to actual numbers, it becomes a significant problem, which requires accurate and speedy diagnosis, intervention and treatment. Corrigan et al., (2016: 49) posits that the time of detection or diagnosis is crucial: "Early post-partum stage is a crucial time for wellbeing and survival of mother and infant."

Etiology and clinical risk factors

PPD is often difficult to diagnose and to treat. The aetiology of PPD is not clear in spite of numerous studies and research.

However research does offer some insight into mitigating factors in the lives of PPD sufferers:

- Low income or socio economic status (Corrigan, 2016: 49)
- A temporal relationship exists between intimate partner violence and PPD in low income women (Cury et al., 2013: 1297)
- The problem goes unnoticed especially in case of low income mothers (Corrigan, et al., 2016: 50).

- There is a lack of knowledge about this serious condition among medical staff as well as mothers.
- Katon & Rosso (2014:753) conducted a comprehensive study which identified the following specific sociodemographic and clinical risk factors for PPD:
  In comparison with women without significant post-partum depressive symptoms, women with PPD were:
  - ✓ Significantly younger ($p < 0.0001$), more likely to be unemployed ($p = 0.04$), had more pregnancy associated depressive symptoms ($p < 0.0001$) and psychosocial stress ($p < 0.0001$), were more likely to be smokers ($p < 0.0001$),
  - ✓ More likely to be taking antidepressants (ADs) during pregnancy ($p = 0.002$), were more likely to drink alcohol during pregnancy ($p = 0.02$), and were more likely to have pre-pregnancy medical illnesses, including diabetes ($p = 0.02$) and neurologic conditions ($p = 0.02$).
- Katon & Rosso (2014:753) as well as Jaronsinsky & Pollard (2014:189) reported on the relationship between sociodemographic variables, social support, self-esteem, self-efficacy and risk of post-natal depression.

Intermediate Help - Screening

Research indicates that early detection of PPD is vital. According to Farr et al. (2016: 657) screening reported in USA puts the incidence of PPD as high as 37%. New Jersey law has mandated education of mother's regarding PPD before discharge from hospital.

Assessment by means of a tool such as the Edinburgh Post-Partum Depression Scale (Cox JL et al, 1987, Br J Psychiatry) could shed light on this serious issue, making early intervention possible. The literature proposed different opinions regarding the 'best time to do" the Edinburgh PPD scale (Tachibana et al., 2015:12).

At most of the Free State clinics and private practices, the patients are seen at 6 weeks after delivery, when the babies are brought in for their first inoculation. For the purposes of this study, screening took place during this time period. However, due to practical (transport) and personal reasons, not all patients arrived on the exact days booked. According to the DSM-V diagnostic criteria for MDD with pre-partum onset, symptoms ought to start 4 weeks before or after delivery. In this study we focused on

depressive symptoms that had occurred after delivery and the association of psycho-social circumstances on the incidence of PPD. In order to fulfil the full criteria of Major Depressive Disorder with peri-partum onset, the DSM-V required symptoms to have been present for at least two weeks continuously. By screening the mothers at 6 weeks after delivery, it allowed enough time for PPD to have developed.

REASEARCH PROBLEM

A thorough search of the EBSCO-HOST data base & the internet does not reveal the aetiology of PPD but only the accompanying clinical risk factors which act as moderators of the condition. The most prevalent of these factors seem to indicate that certain psycho-social indicators are concomitant to this disease. Therefore this study endeavoured to concentrate on specified psycho-social factors that co-existed with depressive symptoms during the post-partum period in our study population (Liu & Tronickb, 2013:482).

Early identification and knowledge of clinical risk factors could do much to assuage the problem. The Literature emphasizes the prominence of adverse psycho-social conditions as risk factors for development of PDD (Liu & Tronickb, 2013: 481).

Establishing the role of psycho-social circumstances as a risk factors in the onset of PPD in the Free State Province of South Africa would be extremely valuable in laying the groundwork for further research into this condition. It could potentially improve knowledge in the medical community and assist with the establishment of screening tools for PPD.

Our study focussed on the psycho-social clinical risk factors for the development of depressive symptoms during the post-partum period.

RESEARCH QUESTION

The following research question underscored this research:

1. Is there an association between low levels of psycho-social wellbeing and post-partum depressive symptoms among young mothers during the first six weeks after delivery?

RESEARCH PROPOSITION

The study hypothesised that low levels of psycho-social wellbeing predicted post-partum depression in women between 18 to 29 years of age. The level of significance was set at 0.05.

RESEARCH DESIGN

The study was completed by means of a quantitative inferential non-experimental research design.

Based on a post-positivistic paradigm the research was conducted according to a quantitative non-experimental method. Research studies are fraught with validity complications due to multiple external variables which concurrently influence PPD and are difficult to isolate. Therefore this study closely followed a design method that will ensure maximum internal validity of the study.

METHOD

In order to execute the study the following factors were enlightened and implemented.

The dependent variable (DV): The incidence of PPD in young first time mothers as measured by the Edinburgh Postnatal Depression Scale. (Appendix D)

Edinburgh Postnatal Depression Scale (EPDS): A screening tool for PPD (Cox, Holden & Sagovsky, 1987: 782)

The EPDS is a self-rated questionnaire that has been used in Europe and Australia for over 10 years to screen women for PPD. It asks women to rate how they have been feeling in the last 7 days and consists of 10 short statements of common depressive symptoms with 4 choices per statement. Each statement is rated on a scale of 0 – 3 with possible total scores ranging from 0 – 30.

Scoring the questionnaire only takes a couple of minutes with practice.

Questions 3, 5, 6, 7, 8, 9 and 10 are scored: statement 1 = 3 points, statement 2 = 2 points, statement 3 = 1 point and statement 4 = 0 points.

A cut-off score of 12.5 has been shown to detect major depression and a woman who meets this threshold can be further assessed

The independent variable (IV): Psycho-Social indicators were measured by an adapted version of the Psycho Social Wellbeing Scale (Viljoen, 2012:166) (Appendix C).

The Psychosocial scale is a semantic differential Likert scale designed using item analysis (Viljoen, 2012:163). Reliability as measured with the Cronbach's Coefficient Alpha is also an indicator of internal consistency of the scale. The scale has been used in different studies and steadily indicated a satisfactory Cronbach's Coefficient Alpha of 0.89. It definitely showed distinction between respondents with high or low levels of social wellbeing. A low score indicates psycho-social wellness.

External (confounding variables): as measured by a Biographic Questionnaire (Appendix B) (which includes): Planned or unplanned pregnancy 1) The use of Antidepressants during pregnancy 2.) Substance use: cigarette smoking, alcohol and codeine containing painkillers during pregnancy 3.) The type of delivery: Natural birth (vaginal) or elective caesarean section, and not controlled for by the sample selection: (Kerlinger, 1986:30)

Sample

Because of the multiple factors concomitant to PPD, a homogeneous sample (mothers from age 18 years and older) was selected so as to control the many external or confounding variables which might have influenced the internal validity of the study (Mc Millan & Schumacher, 2006;18) The sample comprised patients from gynaecology practices in the area of Bloemfontein.

A convenience sample of 100 patients were selected to participate in the study. Due to errors in questionnaire completion a response rate of 79% was obtained.

Inclusion criteria

- Mothers between ages 18 to 29 years.
- Mothers who had given birth in the past six weeks or more by means of vaginal delivery (natural birth) or elective Caesarean section.

- The participants were able to understand & speak and were also able to read & write either Sotho or English or Afrikaans.

Data collection

Written consent for the conduct of the study were obtained from the gynaecologists who participated in the study. The receptionists in each practice were trained regarding the instructions to the patients for completing the questionnaires. The study was approved by the Ethics Comittee of the Faculty of Health Sciences of the University of the Free State. Anonimity and confidentiality were ensured because respondents were not required to fill in their names on the questionares. The completed questionares were placed in a sealed container and only opened by the researcher and the data analyst.

Content of data and measuring instruments

- To determine biographic information = Biographic Questionnaire (Appendix B)
- To determine psychosocial Status = Psychosocial Wellbeing Scale [adjusted] (Appendix C) (Viljoen, 2012: 166).
- To determine PPD symptoms = Edinburgh Depression Scale (Appendix D) (Cox et al. 1987:782).
- Time duration: approximately 10 to 15 minutes to complete all of the above.

RESULTS AND ANALYSIS OF RESULTS

The results were analysed by a bio statistician providing descriptive statistics for the biographic information gathered from the study population. This analysis simultaneously presents description of the dependent, independent and confounding variables. Lastly the outcome of the hypothesis testing was done by means of a stepwise simple regression analysis and an analysis of variance.

- Age
- Number of weeks after birth
- Whether the pregnancy was planned or unplanned
- The use of antidepressants

- Substance use
    - Cigarettes
    - Alcohol
    - Painkillers containing codeine
- Vaginal or Caesarean delivery

DESRIPTIVE STATISTICS: CONFOUNDING VARIABLES
The following table present the distribution of the independent variable age.

Table 1: Age of the respondents in years

N	79
Missing	0
Mean	30.97
Median	31.00
Std Deviation	3.84
Skewness	0.611
Minimum	23
Maximum	43

Table 1 indicates that the mean age of the respondents were 31 years with an interval of 20 years (23 to 43 years). All respondents were of average child bearing age. The sample is reasonably age representative for a sample of pregnant women.

Table 2 presents the number of weeks post-partum at which time the respondents completed the questionnaire.

Table 2: Time after child's birth

	Frequency
Missing	1
Birth -5 days	2
1-5 weeks	8
6-10 weeks	23

11-15 weeks	4
16- 20 weeks	8
21-25 weeks	0
26-30 weeks	2
31-35 weeks	1
36 – 40 weeks	8

The results are presented as five weeks intervals. The respondents in the sample had visited consulting doctors at different stages during the post-natal period.

Table 3: Number of planned and unplanned pregnancies

	Frequency	**Percent**	**Valid percent**
Planned	56	70.9	70.9
Unplanned	33	29.1	29.1
Total	79	100.0	100.0

Table 4: Use of anti-depressants

Anti-depressants	**Frequency**	**Percent**	**Valid percent**
Yes	6	7.6	7.6
No	73	92.4	92.4
		100.0	100.0

Table 5: Use of substances during pregnancy: Cigarettes, alcohol, painkillers

Substance Use	**Frequent use**	**Percent**	**Valid percent**
Yes	9	11.4	11.4
No	70	88.6	88.6
Total	79	100.0	100.0

Cigarette smoking	Frequency	Percent	Valid percent
Yes	6	66.7	66.7
No	3	33.3	33.3
Total	9	9	100.0
Alcohol	**Frequency**	**Percent**	**Valid Percent**
Yes	2	22.2	22.2
No	7	77.8	77.8
Total	9	9	100.0
Pain killers	**Frequency**	**Percent**	**Valid percent**
Yes	3	33.3	33.3
No	6	66.7	66.7
Total	9	100.0	100.0

Table 4 shows that the largest proportion of respondents did not use any substances such as alcohol, painkillers or cigarettes. In total only 11% of the respondents used substances during pregnancy. Table 4 also reports that anti-depressants were used by 6 of the 11% of the sample; 2 of the 11% used alcohol; 6 of the 11% used cigarettes and 3 of 11% used painkillers containing codeine.

Table 6: What kind of delivery did respondents have

Frequency	Frequency	Percent	Valid percent
Vaginal	23	29.1	30.7
Caesarean	52	65.8	69.3
Total	75	94.9	100.0
Missing	4	5.1	

According to table 5, most of the respondents (65.8%) delivered their babies by Caesareans sections

THE INDEPENDENT VARIABLE: SCORES ON THE PSYCHO-SOCIAL WELL-BEING SCALE

The following section presents the reliability and distribution of the independent variable namely the Psycho Social Wellness Scale (PSWS) scores.

Table 7: Cronbach's coefficient alpha of the PSWS

N	Cronbach's Coefficient Alpha
	0.839

The Psycho Socal Wellness Scale (PSWS) as used in this research was highly reliable (Cohen, Manion & Morrison, 2010:521).

Table 8: means procedure for the scores on the Psycho-Social Well-Being Scale

	Statistic
Mean	17.95
Median	15
Std deviation	8.633
Skewness	1.510
Minimum	9
Maximum	48

The distribution of scores on the Psycho Social Wellness Scale indicates the sample as a whole has favourable levels of psycho social wellness (i.e. low scores on SWS indicate higher levels of psycho-social wellbeing). The mean of 17.95 is at the lower end of the scale midpoint (30) and the skewness (1.5) indicates that the distribution is skewed to the left which indicates that the sample in general had experienced higher levels of psycho-social wellness.

THE DEPENDENT VARIABLE – SCORES ON THE EDINBURGH POST NATAL DEPRESSION SCALE

The following section presents the reliability and distribution of the independent variable namely the Edinburgh Post-natal Depression Scale scores (EPND) as measured by the Cronbach's coefficient alpha as used in this study. The alpha indicates high reliability and consitency of the scale.

Table 9: Cronbach's coefficient alpha

N	Cronbach's Coefficient alpha
79	0.820

The measuring instrument as applied in this study is highly reliable (Cohen, Manion & Morrison, 2010:521).

Table 10: Means procedure for the EPND

	Statistic
Mean	8.99
Median	9
Std deviation	4.609
Skewness	0.201
Minimum	0
Maximum	21

The mean (8.99) of the scale is well below the midpoint (20). The skewness indicates a normal distribution. The sample has a near normal distribution of post-natal depressive symptoms.

INFERENTIAL STATISTICAL ANALYSIS
The relationship between psycho social wellbeing and post-natal depression

The data were analysed by means of a simple step-wise regression analysis delineated as models one to five. The independant variable with the least association with the dependant variable is removed one at a time in each model.

Model 1 included the following predictors: Method of delivery; use of antidepressants; age; substance use; planned or unplanned pregnancy.

In model 2, Method of delivery was removed.

In model 3 Use of anti-depressants was removed.

In model 4 Age was removed.

In model 5 (final model) planned/unplanned pregnancy was removed. The final model containing substance use and Psycho-Social Wellbeing indicated a 0.002 level of significance.

The data indicates that PSW (alpha= 000) and substance use (alpha= 089) together are the most important and significant predictors of post-natal depression. However substance use was not entirely significantly related to the dependant variable (Kerlinger, 1986:157).

Table 11: Models 1-5 of the simple stepwise regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.864	6.281		1.889	.063
	Psycho-Social Wellbeing Scale	.210	.060	.392	3.490	.001
	Age	.082	.133	.068	.617	.539
	1) Was this last pregnancy a planned pregnancy or was it unplanned?	-1.498	1.171	-.149	-1.279	.205
	2) Did you use any Antidepressants, in other words: Medication prescribed for Depression while you were pregnant?	-.831	1.870	-.049	-.445	.658

	3) During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)?	-3.385	1.633	-.237	-2.073	.042
	4) What kind of delivery did you have? Was it a natural (Vaginal) delivery or a booked Caesarean section?	.389	1.103	.039	.353	.725
2	(Constant)	12.354	6.086		2.030	.046
	Psycho-Social Wellbeing Scale	.213	.059	.398	3.606	.001
	Age	.083	.132	.069	.632	.529
	1) Was this last pregnancy a planned pregnancy or was it unplanned?	-1.549	1.155	-.154	-1.341	.184
	2) Did you use any Antidepressants, in other words: Medication prescribed for Depression while you were pregnant?	-.805	1.856	-.047	-.434	.666
	3) During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)?	-3.342	1.618	-.234	-2.066	.043
3	(Constant)	10.824	4.929		2.196	.031
	Psycho-Social Wellbeing Scale	.218	.058	.407	3.778	.000
	Age	.082	.131	.068	.623	.535
	1) Was this last pregnancy a planned pregnancy or was it unplanned?	-1.559	1.148	-.155	-1.358	.179
	3) During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)?	-3.362	1.608	-.235	-2.091	.040
4	(Constant)	12.779	3.785		3.377	.001
	Psycho-Social Wellbeing Scale	.220	.057	.411	3.843	.000
	1) Was this last pregnancy a planned pregnancy or was it unplanned?	-1.424	1.122	-.141	-1.269	.209
	3) During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)?	-3.173	1.572	-.222	-2.018	.047

5	(Constant)	10.085	3.146		3.205	.002
	Psycho-Social Wellbeing Scale	.209	.057	.389	3.670	.000
	3) During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)?	-2.614	1.516	-.183	-1.725	.089

a. Dependent Variable: Edinburgh Post Natal Depression Scale

CONCLUSION OF THE RESEARCH ANALYSIS

The step-wise regression analysis of our data indicates a significant relationship between the levels of psycho-social wellbeing and post-natal depression (alpha= 0.000). This indicates an inverse association between levels of social wellbeing and post-partum depression.

CONCLUSION REGARDING THE HYPOTHESIS

In our study, low levels of psycho social wellbeing (high scores on PSW) was associated with an increased risk for post-natal depression. Therefor Our research confirms what had been reported with previous research. Our study population presented with a low prevalence of post-natal depression and favourable levels of psychosocial wellbeing. This finding could be explained by the participants that were selected from private healthcare practices and are therefore not representative of the general population.

RECOMMENDATION

In line with the results it is recommended that intervention education should be provided to patients as well as medical staff and consultants during pregnancy and after delivery. Detailed information about psychosocial factors should be obtained during pregnancy and those with adverse psychosocial circumstances must be monitored more closely for post-natal psychiatric complications. The use of self-administered screening instruments like the Edinburgh Postnatal Depression Scale (EPDS) is recommended.

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ADDENDUM A

Biographic Questionnaire Please fill in your age….. How many weeks ago have you given birth……

Dear participant, please read carefully through the questions below and give your answer by ticking the appropriate box that follows. All the questions below refer to your last/most recent pregnancy.

1)	Was this last pregnancy a planned pregnancy or was it unplanned?		
		PLANNED	UNPLANNED

2)	Did you use any Antidepressants, in other words: Medication prescribed for Depression while you were pregnant?		
		YES	NO

3)	During your pregnancy, did you ever use any Substances (as indicated below, namely: cigarettes, alcohol or painkillers containing codeine)		

	YES	NO

If you have answered “YES” to question 3, please indicate which substances you’ve used.

➢	Cigarette smoking?	YES	NO
➢	Alcohol?	YES	NO
➢	Pain killers containing **codeine**, (Adcodol, Syndol, Myprodol, Stopayne, Stilpain, Genpayne)	YES	NO

4)	What kind of delivery did you have? Was it a natural (Vaginal) delivery or a booked Caesarean section?	VAGINAL	CAESAREAN

ADDENDUM B

Psycho-Social Wellbeing Scale [Adjusted Section of Original Scale]

Dear participant, please read through the questions and 'tick' the most appropriate box. Numbered 1 → 6 that is leaning most towards YOUR circumstances e.g. question 1) "during this time I experienced 'love and support'" ,tick '1' if truly loved and supported or '6' if you have suffered severe abuse or neglect. Boxes numbered 3 + 4 refers to "somewhere in the middle", or medium.

EMOTIONAL SUPPORT DURING MY PREGNANCY

1. During this time I experienced

Love and support	1	2	3	4	5	6	Abuse and neglect

2. I was

Part of a family	1	2	3	4	5	6	Missing family love

3. The people in my family were

Caring towards each other	1	2	3	4	5	6	Often fighting and arguing

SOCIO ECONOMIC SITUATION DURING MY PREGNANCY

4. Regarding money I was

Comfortable	1	2	3	4	5	6	In distress

5. The house I lived in was

Big enough	1	2	3	4	5	6	Crowded

6. The neighbourhood I lived in was

Good	1	2	3	4	5	6	Not Good

DEPRESSION (BEFORE MY PREGNANCY)

11. Before I became pregnant I felt depressed and down

Seldom	1	2	3	4	5	6	Often

12. As a teenager I felt that life was not worth living

Seldom	1	2	3	4	5	6	Often

13. Depression, anger or drinking was experienced by one of my blood family

Seldom	1	2	3	4	5	6	Often

14. I would rate my childhood as

Happy	1	2	3	4	5	6	Unhappy

ADDENDUM C

Edinburgh Post Natal Depression Scale

Describe your feelings during the last seven days: BY TICKING THE MOST APPR0PRIATE BOX

I have been able to laugh and see the funny side of things.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have looked forward with enjoyment to things.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have blamed myself unnecessarily when things went wrong.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have been anxious and worried for no good reason.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have felt scared and I panicked for no good reason.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

Things have been getting too much for me.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have been so unhappy that I have difficulty sleeping.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have felt sad or miserable.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have been so unhappy that I have been crying.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

I have thought of harming myself.

HIGHLY DISAGREE	**1**	**2**	**3**	**4**	**5**	**6**	**HIGHLY AGREE**

ADDENDUM D

Sample of letter for Management or Private Gynaecologist Approval Request to conduct research

[To whom it may concern]

P.O. Box 227

Bloemfontein

9300

Dear Doctor *(to whom it may concern)*

I, Dr F I Pieterse hereby require permission for the following study:

Registrar in Psychiatry at FSPC

MBChB 1996

MP: 0475661

Contact details: 0713654613

CONSENT TO PARTICIPATE IN RESEARCH

PROJECT TITLE: **DETERMINING THE ASSOCIATION OF PSYCHO-SOCIAL WELLBEING AND POST-PARTUM DEPRESSION AMONG YOUNG MOTHERS (18 TO 29 YEARS) DURING THE FIRST SIX WEEKS AFTER DELIVERY, IN THE FREE STATE, SOUTH AFRICA**

You have been asked to participate in the above research study.

You have been informed about the study by reading the participant information letter.

You have also been informed that you will not receive rumination for participation and that should you at any time, during completion of the questionnaires feel emotional or distressed that assistance will be available.

You may contact me at tswaipieterse@gmail.com any time if you have questions about the research.

You may contact the Secretary of the Ethics Committee of the Faculty of Health Sciences, UFS at telephone number (051) 4017795 if you have questions about your rights as a research subject.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to terminate participation.

If you agree to participate, you will be given a carbon copy of this document as well as the participant information letter, which is a written summary of the research.

The research study, including the above information has been described to me. I understand what my involvement in the study means and I voluntarily agree to participate.

_____ _____

Signature of Participant Date

_____ _____

Signature of Witness Date