## *Full Length Research Article*

# THE PREVALENCE OF DEPRESSION IN WOMEN ATTENDING ANTENATAL CLINIC AT UNIVERSITY TEACHING HOSPITAL

## [1],*Dr. Ravi Paul, [2]Tumbama Ronald and [3]Thankian Kusanthan

[1]Department of Psychiatry, School of Medicine, University of Zambia, Lusaka, Zambia
[2]University Teaching Hospital, Lusaka, Zambia
[3]Department of Gender Studies, School Humanities and Social Sciences, University of Zambia

### ABSTRACT

Major depressive disorder (MDD) is a psychiatric disorder characterized by a range of symptoms persisting for at least two weeks. According to the DSM-IV diagnostic criteria, clinical depression requires a minimum of five symptoms among which one should be a; depressed mood most of the day or nearly every day; or markedly diminished interest or pleasure in all or almost all activities of the day, nearly every day. Although the prevalence of depression is similar in pregnant, postpartum and non-pregnant women, the onset of new depression is higher during the prenatal period. Women of low-income and those living in low and middle income countries are known to beat particularly high risk. Early identification and treatment of antenatal depression may thus improve pregnancy outcomes and could serve as an early indicator of postnatal depression. Current estimates of the prevalence of depression during pregnancy vary widely. A more precise estimate is then required to identify the levels of disease burden and develop strategies for managing depressive disorders. In Zambia no studies have been done to determine the prevalence of antenatal depression. It is the possible that depression often goes unnoticed and therefore untreated. With this in mind, this study therefore aims at estimating the prevalence of depression during pregnancy. It also aims at examining and gaining a better understanding of the presentation of depressive symptomatology in this population.

## INTRODUCTION

Depression is a major contributor to disease burden worldwide with females twice as likely to have experienced a major depressive episode as males (Cohen *et al*, 2006; Weissman and Olfson, 1995).Maternal depression has implications for child health and it can adversely affect intellectual competence, growth, and well-being (Hendrick and Altshuler, 1998; 2002). The specific causes of depression remain unclear and a variety of factors such as hormonal changes, victims of abuse and oppression and powerlessness have been postulated to play a role in the development of depression in women which is the same as with the symptoms. Women with depressive illnesses do not all experience the same symptoms. In addition, the severity and frequency of symptoms, and how long they last, will vary depending on the individual and her particular illness. Signs and symptoms of depression include the persistent sad, anxious or "empty" feelings; feelings of hopelessness and/or pessimism; irritability, restlessness and

anxiety; feelings of guilt, worthlessness and/or helplessness; loss of interest in activities or hobbies once pleasurable, including sex; fatigue and decreased energy; difficulty concentrating, remembering details and making decisions; insomnia, waking up during the night, or excessive sleeping, overeating, or appetite loss; thoughts of suicide and suicide attempts; and the persistent aches or pains, headaches, cramps or digestive problems that do not ease even with treatment.

The specific cause of major depressive disorder is not known. As with most psychiatric disorders, major depressive disorder appears to be a multi factorial and heterogeneous group of disorders involving both genetic and environmental factors. Genetic factors play an important role in the development of depression. Evidence from twin studies suggests that major depression has a concordance of 40-50% were first degree relatives of depressed individuals are about 3 times as likely to develop depression as the general population. However, depression can occur in people without family histories of depression as well. There are various factors that serve as stressors in depressive disorder. For instance, although major depressive disorder can arise without any precipitating

*\*Corresponding author: Ravi Paul,*
*Department of Psychiatry, School of Medicine, University of Zambia, Lusaka, Zambia.*

stressors, stress and interpersonal losses certainly increase risk. For example, loss of a parent before the age of 10 years increases the risk of later depression. Cognitive-behavioral models of depression posit that negative cognitions and underlying all-or-nothing schemata contribute to and perpetuate depressed mood (Blazer, 2003).Other than that, chronic pain, medical illness, and psychosocial stress can also play a role in major depressive disorder. Older adults may find medical illness psychologically distressing, and these illnesses may lead to increased disability, decreased independence, and disruption of social networks (Allen, 2003). Chronic factors with symptoms such as pain associated with chronic medical illness may disrupt sleep and other biorhythms leading to depression. Other psychosocial risk factors for depression in late life include; impaired social supports, caregiver burden, loneliness, bereavement, and negative life events[1] (Brown *et al*, 1995).

Epidemiological surveys indicate that the lifetime prevalence of major depression is two times higher in adult women than in men (Weissman and Olfson, 1995).Therefore, it is not surprising that depression is one of the most frequently encountered medical complications during pregnancy and postpartum (Hendrick and Altshuler, 2002). In spite of the high risk of this illness in women, many clinicians fail to recognize, diagnose, and offer appropriate treatment for depression during pregnancy. This may be due, in part, to the fact that somatic symptoms of depression during pregnancy, such as changes in sleep and appetite, may be attributed to normal pregnancy-related changes in maternal physiology (Hendrick *et al*, 1998). Even when women at risk for depression are identified, studies have shown that very few receive treatment (Marcus, 2003).

In the United States of America, the lifetime incidence of major depressive disorder is 20% in women and 12% in men. The point prevalence is as high as 10% in patients observed in a medical setting. Klerman (1998) and Gershon *et al* (1987) reported a progressive increase in the incidence of major depression over the last 70 years, with high rates of affective disorders among relatives and a younger age of onset in successive cohorts. In 2010 however, the Centers for Disease Control and Prevention (CDC) released a report estimating the prevalence of current depression in adults from 2006-2008. Of 235,067 adults, 9% met the criteria for current depression, including 3.4% who met the criteria for major depression (Current Depression among Adults, 2010). Moreover, internationally reported adult prevalence rates of depression generally mirror those of the United States and estimates of 1-month prevalence of depression in community-dwelling elderly are relatively consistent (e.g., England, 2.9%; The Netherlands, 2.0%; Sweden, 5.6%; Nigeria, 1.6%). However, sparse data are available on the international incidence of major depression in children and adolescents. Helgason (1964) examined the entire Icelandic birth cohort of 1895-97 with a periodic follow-up until cohort individuals reached age 74-76 years. The lifetime estimates of risk for any affective disorder

were 14.8% for females and 9.8% for males. The World Health Organization (WHO) collaborative study on the assessment of depressive disorders found considerable similarity in depressive symptomatology across cultures in Canada, Iran, Japan, and Switzerland (Jablensky, 1981). On the other hand, the Stirling County Study which began shortly after World War II, offered a 40-year perspective of the prevalence and incidence of psychiatric disorders in an adult population in Atlantic Canada. It was found that the overall prevalence of depression remained stable at 5% across 3 separate samples in 1952, 1970, and 1992. In the 2000 sample, however, the prevalence had shifted from older to younger persons, and the female-to-male ratio had increased (Murphy *et al*, 2000). Aside from that, Copeland *et al.* (1999) found widely ranging prevalence's for depression in elderly persons in 9 European populations. The prevalence for females was higher than that for males, and there was no constant association between prevalence and age. Meta-analysis revealed an overall prevalence of 12.3% and frequencies of 14.1% for females and 8.6% for males.

Depression is also perceptible among pregnant women. Pregnancy is generally considered a period of emotional well-being for the woman and her family. However, for many women, pregnancy and motherhood are times of increased vulnerability to psychiatric conditions. Longitudinal studies have shown that pregnancy does not protect against the development of new onset major depression or relapse of existing major depressive illness (Cohen *et al.*, 2006). Women who discontinue or reduce their doses of antidepressants are at particularly high risk; bearing in mind that maternal depression has implications for child health and can adversely affect its' intellectual competence, growth, and well-being.

Although many women report experiencing negative mood symptoms during their pregnancies, the number of pregnant women who actually fulfill the diagnostic criteria for major depression is much smaller (Blazer, 2003; Allen, 2003; Brown *et al.,* 1993; Marcus *et al*., 2003; Klerman, 1998; Gershon, 1987; Current Depression Among Adults 2010). The best estimate of prevalence of prenatal depression was reported by the Agency for Healthcare Research and Quality (Gaynes *et al.*, 2005). These are; the point prevalence (i.e. the measure of a condition in a population at a given point in time) of major depression alone ranged from 3.1 to 4.9 percent at different times during pregnancy and 1.0 to 5.9 percent at different times during the first postpartum year; the point prevalence for major and minor depression ranged from 8.5 to 11.0 percent during pregnancy and 6.5 to 12.9 percent during the first year postpartum; and the period prevalence (i.e. the measure of a condition in a population over a period of time; a combination of point prevalence and incidence) of depression at any time from conception to birth was 14 to 23 percent; the period prevalence at any time from birth to three months postpartum was 11 to 32 percent.

This study therefore aims at estimating the prevalence of depression during pregnancy in women attending antenatal clinic at UTH. It further aims at determining the factors that are associated with depression in pregnancy, providing evidence based knowledge that will be helpful to manage depression, finding out the association of depression with

---

[1] In Zambia, other psychosocial and medical factors can contribute to high prevalence of depression in pregnant women: low social economic status, high illiteracy levels, poor access to medical care, and high prevalence of HIV/AIDS.

trimesters of pregnancy, marital status, parity and gestational age; finding out the relationship between depression and HIV/AIDS, hypertension (HTN), and Diabetes mellitus; determining the severity of depression and examining and gaining a better understanding of the presentation of depressive symptomatology in this population.

## MATERIALS AND METHODS

A descriptive study was conducted at clinic 2 (antenatal clinic) in the department of obstetrics and gynaecology of the University Teaching Hospital (UTH) in Lusaka. Beck self-rating depression Scale was to measure the level of depression. The sampling method used were in five week days (Monday to Friday) pregnant women came to the clinic. All pregnant women coming for antenatal clinic were given the Beck self-rating depression scale on each day. At the end of 1 week, 206 pregnant women were interviewed. Confidentiality was fully maintained at all cost as consent was obtained from participants who participated voluntarily and the Head of Department of Obstetrics and Gynecology. The subjects had the right to withdraw at any stage during the study.

## RESULTS AND DISCUSSION

In this study the prevalence of depression during pregnancy was successfully carried out and predisposing factors for depression were also identified. These are; the age of a woman, her gestational age, parity and presence of a medical condition during pregnancy. 64 subjects in the reproductive age group were recruited in the study at UTH were 28 pregnant were found to be depressed and 38 were not, putting the prevalence of depression at 42%. This shows that depression in antenatal women in Lusaka is very high compared to 10-12% prevalence around the world. A study to involve the whole country with a larger sample, however, would be better to make such a conclusion. 64% of the 28 women had mild depression, 32% had moderate depression and only 4% were severely depressed (Figure 1). Moderately and severely depressed women would require quick medical attention and social support, this would account for 16% of the total group. Mild depression, however, needs mostly social support and follow ups to mark their progression. 16% is very high prevalence and would require sensitizing health workers on the need to diagnose and treat it.
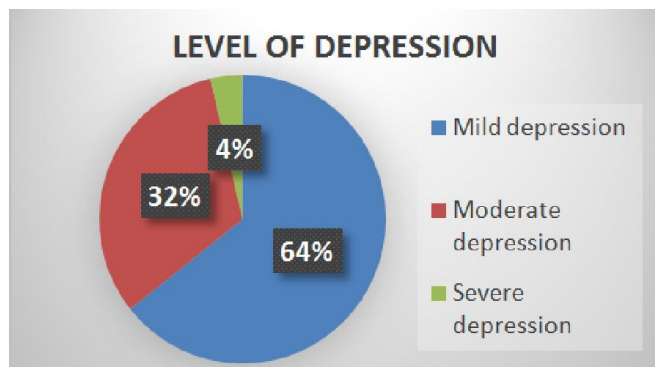
### Levels of Depression
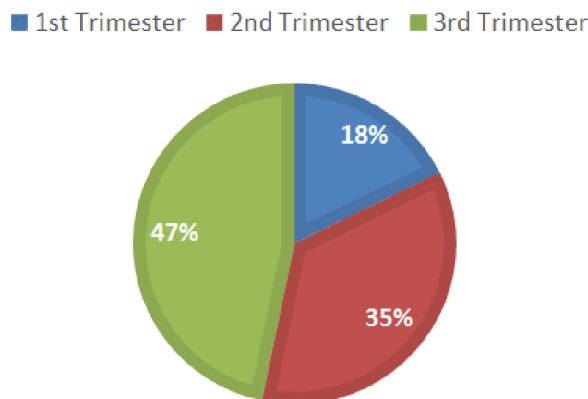


**Figure 1. Proportions of the severity of depression**

### Gestational Age



**Figure 2. Women's' trimester groupings**

### Parity



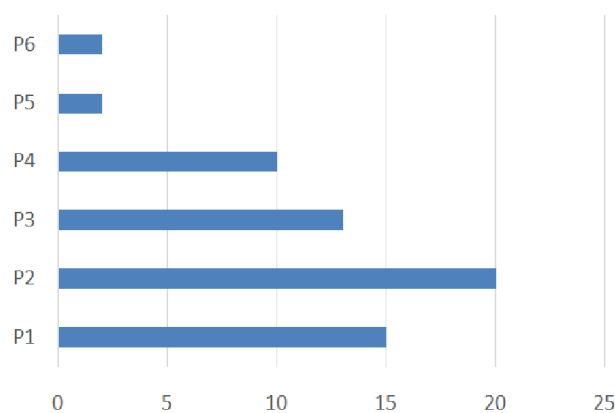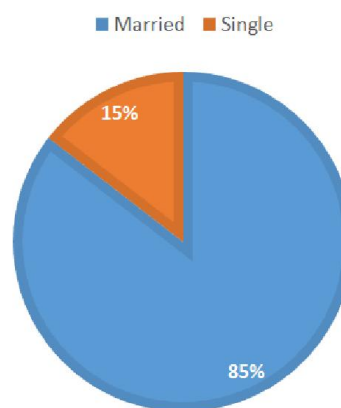**Figure 3. Parity of Women**

### Marital Status



**Figure 4. Statistics of participants marital status'**

Most women in the study were in their 3$^{rd}$ trimester (47%), 36% were in their 2$^{nd}$ trimester and 17% were in their first trimester33% were of a parity of 2, 24% had a parity of one and 21% had a parity of 3. Their ages ranged from 17 to 49. Most of them were in the age group 30-34 (38%) followed by 25-29 (34%). Most women in the study were therefore between 25 and 34 years old (72%) reflecting that it is the most active reproductive age range (Figure 1). 85% of them

were married and 15% were not married. Half of the participant had no known medical condition, 16% were hypertensive, 12% were HIV positive, 3% were diabetic, and 3% had anemia.
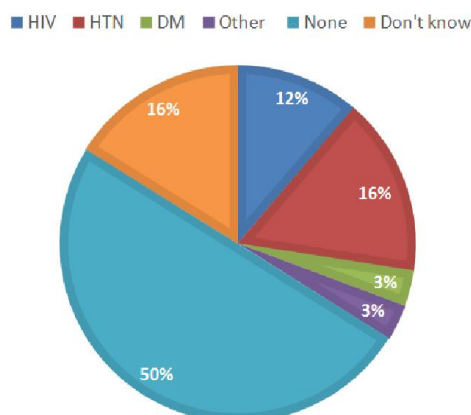
## Medical Condition



**Figure 5. Proportions of women's medical condition**

The association of depression with other variables was established from the study as among the depressed, 79% were married and 21% were single (Figure 6). This shows that marital status of a pregnant women can put her at a risk of depression because in the whole study the proportion of single women was 15% and had risen to 21% in the depressed group. This supports the idea that a good marriage can offer good social support and reduce the risk of depression which is not the case with single women who are either widowed or divorced as they are mostly depressed.

The relationship of depression with the presence of a medical condition was only significant with hypertension. The results showed that 70% of hypertensive women were depressed. Put in a different way, 25% of depressed women were also hypertensive compared to 16% of hypertensive women in the whole study. The presence of diabetes, anemia and HIV had little or no significance to depression. This was unlike other studies that show HIV positive people suffer more depression than the normal population. It is difficult to explain why most hypertensive women were depressed, it could however be attributed to the fear of a possible caesarian section or a still birth predisposing them depression. Preeclampsia in the previous pregnancies may also have presented with seizures and stillbirths putting women again to fear. HIV on the other hand does not pose a threat to the pregnancy and baby with the use of ARVs. The age distribution of depressed women were as follows: 25-29, 46%, 30-34, 29%, 20-24, 14% and 35-39, 11% (Figure 7). The total proportion of the age group 25-34 was 75%. The higher the gestational age, the higher the chance of developing depression. This is so as 57% of depressed women were in their 3rd trimester, 39% were in their 2nd trimester and only 4% were in their first trimester. Many factors could contribute to this. For instance, when a women is approaching term, there are many worries and concerns about delivery. Poor economic status can be a source of depression as regards to purchasing baby clothes and preparing for medical bills.
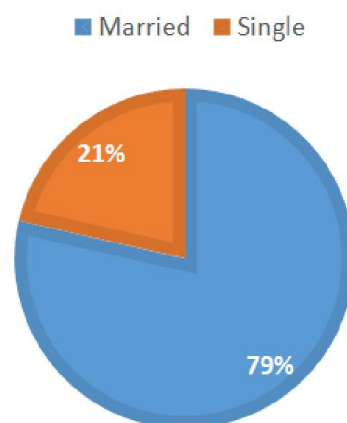
## Depression and Marital Status



**Figure 6. The relationship between marital status and depression**
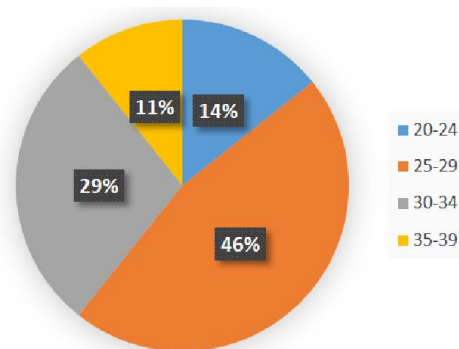
## Depression and Age



**Figure 7. Age distribution among depressed women**
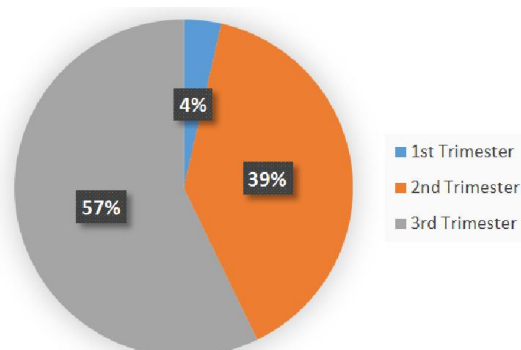
## Depression and gestational age



**Figure 8. Proportion of gestational age in women with depression**

A single woman maybe worried in case labor starts in the night and there is no one to rush her to the hospital. Other factors include problems that have been discovered through the antenatal period. These problems may have implications on the outcome of pregnancy and may cause worry and depression to a woman. Women with a parity of 2 further accounted for 43% of depressed women, followed by those with a parity of 1 accounting for 29% (Figure 9). These are young in parenthood and have more concerns about the outcomes of their pregnancy. The ones having their second pregnancy may be depressed if their first pregnancy was problematic and their outcome unfavorable.
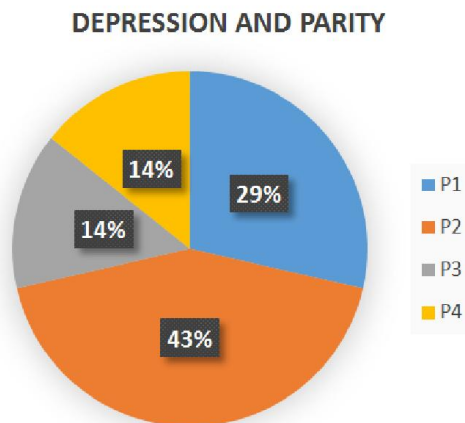
**Depression and Parity**



**Figure 9. Variation in parity of women with depression**

Despite the successful results during the study, collecting data was a challenge because not all women could read and understand English. This required personal supervision around all participants to interpret for them thus causing the failure to meet the expected sample size of 100. This was further was as a result to little time allocated to the study. Another challenge was getting permission to start collecting data from the HOD-Obstetrics and Gynecology. Collection of data was scheduled in November 2012 but it began only in February 2013. Aside from that, a lot of pregnant women were unwilling to participate in the study and it required more time to explain and remove their suspicions.

More than half however would voluntarily accept so only a few were assessed. The University Teaching Hospital seriously regards depression as one of the major causes of morbidity and mortality to both mothers and children. 42% depression level is high enough to arouse health workers to implement measures to control it in the mother. UTH should however make it mandatory to screen every woman for depression and treat those found with it. Aside from that, the Ministry of Health should consider doing a country wide survey/study of depression and put measures to sensitize the public to the symptomatology of depression and need to seek early treatment to prevent morbidity and mortality.

**Conclusion**

A research study to determine the prevalence of depression in antenatal women was carried out at UTH. 42% of pregnant women were depressed: of these 64% had mild depression, 32% had moderate depression and 4% had severe depression. Most depressed women were in their 3$^{rd}$ trimester (57%), the remaining 43% constituted 39% in the 2$^{nd}$ trimester and 4% in the 1$^{st}$ trimester.

Three quarters of depressed women had a parity of one or two. There was also a correlation between hypertension and depression as it was found that 70% of hypertensive women were depressed and 25% of depressed women were hypertensive.

But other medical conditions such as HIV and Diabetes had no association with depression. The highest age group with depression was 25-34 accounting for 75% of all depressed women.

## REFERENCES

Cohen, L. S. *et al.,* 2006. Relapse of Major Depression During Pregnancy in Women who Maintain or Discontinue Antidepressant Treatment. JAMA; 295:499.

Weissman, M. M. and Olfson, M. 1995. Depression in Women: Implications for Health Care Research

Hendrick, V. and Altshuler, L. 2002. Management of Major Depression during Pregnancy. Am J Psychiatry 159:1667.

Hendrick, V., Altshuler, L.L, and Cohen, L.S. 1998 .Course of Mood and Anxiety

Blazer, D.G. 2003. Depression in Late Life: Review and Commentary. *J Gerontol A BiolSci Med Sci*. 58(3):249-65.

Allen, J.P. 2003. "An Overview of Beck's Cognitive Theory of Depression in Contemporary Literature". Retrieved 2004-02-24.Disorders during Pregnancy and the Postpartum Period. *J Clin Psychiatry*; 59 Suppl 2:29.

Brown, G. P. *et al*. 1993. "Dimensions of Dysfunctional Attitudes as Vulnerabilities to Depressive Symptoms". *Journal of Abnormal Psychology*104 (3): 431–5. doi:10.1037/0021-843X.104.3.431. PMID 7673566. Retrieved 2008-10-30.

Marcus, S.M. *et al*. 2003. Depressive Symptoms among Pregnant Women Screened in Obstetrics Settings. *J Womens Health* (Larchmt); 12:373.

Klerman, G.L. 1998. The Current Age of Youthful Melancholia. Evidence for Increase in Depression among Adolescents and Young Adults. *Br J Psychiatry*. 152:4-14.

Gershon, E.S. 1987. Birth-Cohort changes in Manic and Depressive Disorders in Relatives of Bipolar and Schizoaffective Patients. *Arch Gen Psychiatry*. 44(4):314-9.

Current Depression Among Adults 2010. United States 2006 and 2008. MMWR Morb Mortal Wkly Rep**.** 1; 59(38):1229-35.

Helgason, T. 1964. Epidemiology of Mental Disorders in Iceland. A Psychiatric and Demographic Investigation of 5395 Icelanders. ActaPsychiatr Scand.;40:SUPPL 173:1

Jablensky, A., Sartorius, N., Gulbinat, W. and Ernberg, G. 1981. Characteristics of Depressive Patients Contacting Psychiatric Services in Four Cultures. A Report from the who Collaborative Study on the Assessment of Depressive Disorders. ActaPsychiatr Scand. Apr;63(4):367-83.

Murphy, J.M. 2000. Incidence of Depression in the Stirling County Study: Historical and Comparative Perspectives. Psychol Med. 30(3):505-14.

Copeland, J.R. *et al*. 1999. Depression in Europe. Geographical Distribution among Older People. 174:312-21.

Gaynes, B.N. *et al*. 2005. Perinatal Depression: Prevalence, Screening Accuracy, and Screening Outcomes. Evid Rep Technol Assess (Summ).

*******