

**EXPLORING THE PSYCHOLOGICAL FACTORS AFFECTING THE
PARTICIPATION OF PREGNANT WOMEN IN PHYSICAL ACTIVITIES IN
UGANDA**

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ABSTRACT

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Pregnancy is a time of social, psychological, behavioral and biological change. As such, it is not surprising that it has been identified as a contributing factor to the decline in exercise behavior among women. Psychological factors are among the major factors that affect pregnant women. This is brought about by the conditions related to conception, the experience of two people in one body, a change in physical appearance, doubts about maternal abilities, the capacity of the fetus to mature, and some experiences of emotional instability.

Despite the published guidelines that have stressed the importance of Physical Activity for pregnant women, little research has qualitatively explored the psychological factors affecting participation of women in PA during pregnancy. There is very little literature on the relationship between psychological issues and participation levels in physical activities. Moreover, most of the studies have only been done in developed countries rather than developing country like Uganda. This study therefore aimed at finding the change in physical activity during pregnancy and the psychological factors why pregnant women do not participate in physical activities, the effects of not participating in physical activities to the pregnant woman and the baby/fetus, and lastly, to identify the strategies that can be employed to help pregnant women actively take part in physical activities. This qualitative study used a phenomenology research approach together with a descriptive study design. A criterion and convenience types were used as sampling strategies together with a purposive random sampling technique which was employed to select the 10 respondents. Data was collected and analyzed using an interview guide and an Express scribe data analysis program respectively.

Results show that there is a noted relationship between psychological changes and participation in physical activities. Although knowledge of the importance of participation in physical activity among pregnant women was high (80%), this was not matched by actual participation in physical activity during pregnancy. There was a reduction in physical activities during pregnancy due to the psychological changes experienced. Although anxiety was identified as the leading psychological change experienced by respondents, fatigue was noted as the leading change that negatively affected the participation of pregnant women in physical activities. 100% of respondents had knowledge of the negative effects of being physically inactive during pregnancy and this ranged from general body weakness, failure to have a normal/ virginal delivery to prolonged labour. It was recommended that social support (spouse) should be emphasized as an intervention strategy to improve participation of pregnant women in physical activities. All stake holders should come on board and work together to help pregnant women improve their participation in physical activities.

Key words: psychological factors, physical activity, pregnant women

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DEFINITIONS OF OPERATIONAL TERMS

Pregnant women: Refer to all those females who have conceived ranging from 1 day to 40 weeks.

Physical activities: Refer to both leisure time and occupational/ work activities which involve bodily movements of larger muscle groups and results into energy expenditure.

ABBREVIATIONS

PA:	Physical Activity
BMI:	Body Mass Index
LTPA:	Leisure Time Physical Activity
WHO:	World Health Organization
UNICEF:	United Nations International Children's Emergency Fund
DHS:	Demographic and Health Survey
IFPP:	International Forum on Pediatric Pain
NGO:	Non Government Organization
TTM:	Trans-Theoretical Model
PCOS:	Poly Cystic Ovary Syndrome
CVD:	Cardiovascular Disease
GDM:	Gestational Diabetes Mellitus
ACOG:	American Congress of Obstetricians and Gynecologists
TBA:	Traditional Birth Attendant

CHAPTER ONE

1.0 BACKGROUND OF THE STUDY

1.1 *Introduction*

Pregnant women are advised to participate in condition-enhancing exercise as a part of a healthy lifestyle as it is safe for mother and fetus, mitigates the risk of abnormal pregnancy or delivery outcomes, improves and maintains good general fitness during pregnancy and prepares the body for the actual delivery (Josefsson & Bø, 2011). The need for physical exercise and the highlighted benefits can be linked to the documented physical changes that occur among pregnant women. Changes like increased need for oxygen which entails increased respiratory depth and an increased respiratory rate, the increased blood volume which leads to a higher heart rate and greater stroke volume all necessitate physical exercise of certain forms.

In spite of recommendations for healthy pregnant women to take 30 minutes or more of moderate exercise a day, most women reduce the level of physical activity during pregnancy (Hegaard, Kjaergaard, Damm, Petersson, & Dykes, 2010). The causes of reduced physical exercise during pregnancy are linked to social, physiological and psychological factors. For example, Hegaard et al. (2010) reported that pregnant women find the discomfort and complications associated with pregnancy, the growing body, and a sense of insecurity with physical activity are barriers to maintaining former levels of physical activity. Torset (2013) also cites that being pregnant is followed by several physiological changes and pregnancy symptoms, which have the potential to reduce quality of life and well-being for pregnant women.

The physiological changes in a pregnant woman's body are easier to observe but while the pregnant mother's body changes, their mind changes as well. These pregnancy related psychological changes include hormonal surges can affect the mood, the ability to think and to remember; intensely ambivalent emotions and fantasies about the process of labor and delivery, changes the sense of herself as she has to expand her sense of self to incorporate her child as a part of herself (Gould, 2003). The psychological changes during pregnancy also have a bearing on the willingness to carry

on with physical exercise just as Hegaard et al. (2010) documented that women who suffered psychologically challenging events perceived that they did not have the energy or desire for more physically intensive activities.

The psychological aspect of the considerations of pregnancy is based on the premises that this is a unique period in life when two persons are joined together in one body making it important how a pregnant woman deals with this dilemma of “joining” (Raphael-Leff, 1991). The author puts particular emphasis on conditions related to conception, the experience of two people in one body, a change in physical appearance, doubts about maternal abilities, the capacity of the fetus to mature, and some experiences of emotional instability. Pregnancy in itself constitutes a source of psychological stress (Velikonja, 1998). Perhaps in difficult circumstances and with emotionally vulnerable women especially those in rural parts of Uganda, these pressures become even stronger.

Uganda, a country of nearly 35 million (including 8 million women of reproductive age), has one of the highest rates of population growth in the world (UBOS, 2014; World Bank, 2014). In Uganda, maternal mortality remains high at 440 maternal deaths per 100,000 live births (Interparliamentary Union, 2011). The Interparliamentary Union report attributes most of this high maternal mortality rate to factors like pregnancy and childbirth unsafe abortion and obstetric complications such as severe bleeding, infection, hypertensive disorders, and obstructed labor some of which could be mitigated by regular physical exercise during pregnancy.

1.2 Statement of the Problem

The health benefits of physical exercise during pregnancy are well documented yet studies indicate a reduced level of physical activity with regard to frequency, duration and intensity among pregnant women (Owe, Nystad, & Bo, 2009; Duncombe, Wertheim, Skouteris, Paxton, & Kelly, 2007). Although numerous factors such as pursuing higher education and entering the workforce can disrupt or interfere with regular exercise (Malina, 2001), pregnancy has been associated with the sharp decline in exercise among adult women (Brown & Trost, 2003; Mottola, 2002). Even if a link exists between this reduced physical exercise during pregnancy and the physiological changes taking place in a pregnant mother's body (Torset, 2013; Hagaard et al, 2010), other scholars like Poudevigne and O'Connor, (2005) attribute this reduction to psychological factors. Thus the need to undertake this research.

1.3 Purpose of the Study

The purpose of this study was to qualitatively explore the psychological factors affecting the participation of pregnant women in Physical Activities in Uganda.

1.4 Objectives of the Study

The study was guided by the following main objectives;

- a) To explore and describe possible changes of physical activity patterns among pregnant women in Uganda
- b) To explore and describe the psychological changes experienced during pregnancy and how they affect their participation in physical activities
- c) To explore and describe the perceptions of pregnant women on the effects of the changes on their physical activity participation levels and the baby/fetus
- d) To identify the strategies that can be employed to help pregnant women improve on physical activities participation levels.

1.5 Justification of the Study

Only a small number of investigations have examined the relationship between changes in physical activity during pregnancy and changes in mood (Poudevigne & O'Connor, 2005) moreover the health benefits of physical exercise during and after pregnancy underscore the need to investigate its link to the changing psyche of a pregnant mother in order to extend the knowledge about this subject beyond the known relationship between reduced physical exercise and pregnancy.

In contrast, only 47% of Ugandan women receive antenatal care coverage (UNICEF, 2012). Furthermore, nationally, about half of pregnancies are unintended (1FPP, 2005). According to the Uganda Demographic and Health Survey (2011), more than 4 in 10 births are unplanned. Ugandan women, on average, give birth to nearly two children more than they want (Uganda Bureau of Statistics, 2012). In Uganda, 38% of all births in the five years preceding the 2000–2001 Demographic and Health Survey (DHS) were unplanned, compared with 29% in the five years preceding the 1995 survey (Ahmed, 2005).

Perhaps in Uganda the conditions related to conception is the leading cause of psychological stress among pregnant women. Most women conceive out of domestic violence in terms of sexual abuse such as rape (especially from their own husbands, relatives and strangers). Others have unplanned/unexpected /unintended pregnancies compared to women in Finland. This is mainly due to non-use and use of ineffective methods of contraception. The proportion of women aged 15–44 years who used modern contraception (such as the pill, barrier methods, sterilization or intrauterine device) ranged from 14% in the WHO African Region to 64% in high-income countries (WHO, 2004). So the emotional state-stress, which is a psychological factor that surrounds that condition makes women to isolate themselves from the community and friends. Perhaps their minds are occupied with how they are going to manage the pregnancy. This leaves them with no time to take part in physical activities.

In addition to that, women in Uganda do not get enough moral and physical support while pregnant as compared to Finland and the rest of the developed world. And with all the challenges of morning sickness and the weakness that comes along with pregnancy, a pregnant woman is expected to continue with her routine kind of working for more

than eight hours (if she is a career woman), come back home to face the house chores and taking care of other children. This leaves the woman exhausted with no time to engage in physical exercise. Research by Johnson and Allen (2013) suggested that both higher strain-based and time-based job demands experienced by the mother would reduce the mother's physical activity levels.

What we need to know?

In comparison with the literature available on psychological issues of exercise during pregnancy, there is very little literature on the psychological issues (Lokey, Tran, Wells, Myers, & Tran, 1991).

Continuous exercising during pregnancy improves the progress of labor contractions and the delivery of the child (Clapp, 1991; Grisso, Main, & Chiu, 1992; Kramer, 2002). Therefore a reduction or stopping exercising will delay the progression of labor contractions and delivery of the child. This in the end may be fetal to both the mother and the child.

The positive impact of moderate sport activity on foetal growth has been proven (Campbell & Mottola, 2001). Therefore, a reduction or stopping in Physical activity may cause a negative impact on the fetal growth.

1.6 Research Questions

The study answered the following questions;

- a) Does physical activity participation change during pregnancy?
- b) What psychological changes experienced during pregnancy and how they affect their participation levels in physical activities?
- c) What are the perceptions of pregnant women on the effects of the changes on their physical activity participation levels and the baby/fetus?
- d) What are the strategies that can be employed to support pregnant women improve on their participation levels in physical activities?

1.7 Significance of the Study

The study shall benefit a wide array of stakeholders in understanding the relationship between the psychological changes and the participation of pregnant women in physical activities

The study will provide evidence to better develop appropriate intervention strategies about promoting physical activities among pregnant women to the stake holders.

The stakeholders that shall derive learning from the study include; scholars, medical practitioners, health policy makers and the general public. The study shall also help the researcher to derive a deeper understanding of this subject in furtherance of her academic accomplishment in the area of sports and exercise psychology. The study will likely provoke further research on this particular area of study.

1.8 Delimitations of the Study

The study focused on only pregnant women in Uganda.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter features a summary of the reviewed literature organized according to the study objectives; possible changes of physical activity patterns during pregnancy, the psychological changes experienced during pregnancy and how they affect their participation in physical activities, The perceptions of pregnant women on the effects of the changes on their physical activity participation levels and lastly, the baby/fetus and the strategies that can be employed to help pregnant women improve on physical activities participation levels. Databases search included Medline, Psych Info, PubMed, and the Internet Google search engine. Studies were published in English and reviewed. Keywords used were; physical activity, pregnancy, prenatal, psychological changes/ factors

2.2 Physical Activity changes during pregnancy

This section summarizes scientific literature on the possible changes of leisure time and work-related physical activities during pregnancy. This section is organized into two sub-sections: leisure time physical activity and occupational physical activity.

2.2.1 Leisure time Physical Activity

Physical activity patterns often change the most during the third trimester of pregnancy, usually decreasing but sometimes increasing. For example, van Raaij et al (1990) reported that women spent less time on very low-intensity activities in late pregnancy than they did in early pregnancy, and they also spent more time on light and moderate intensity household activities. This has sometimes been referred to as a 'nesting effect' as pregnant women prepare their home for the arrival of a new baby. However, this may not be very applicable to an African woman most

especially to the middle and low class who are the majority. This is because in African cultures, unborn babies are not prepared for as the survival of the baby is not known.

The retrospective studies, consistently found that leisure time physical activity was decreased in association with pregnancy. The largest retrospective study surveyed 9953 pregnant women who participated in the 1988 National Maternal Health and Infant Health Survey. It was found that 55% of the sample reported exercising for 30 or more minutes at least three times per week before being pregnant. After the participants became pregnant, the percentage of active women decreased to 42% despite 7% of the women who were inactive before pregnancy becoming active during pregnancy (Zhang & Savitz, 1996). However, in Africa where the economy is dependent on agriculture yet women provide 85% of the agricultural labor to ensure that their households have food all year round. A pregnant woman may not have any time left for leisure time physical activity since she also has to attend to household chores.

The retrospective studies document decreases in the major components of physical activity both during the first trimester compared with pre-pregnancy and from the first trimester to the third trimester. Specifically, exercise intensity (Clissold, Hopkins, Seddon, 1991; Zeanah, Schlosser, 1993) exercise duration (Zeanah & Schlosser, 1993) and indices that incorporate both intensity and duration (Beilock, Feltz & Pivarnik, 2001) are decreased with pregnancy. However, this finding may not be verifiable to the general population of Uganda due to the poor health seeking behavior and poor service delivery especially among the rural women who contribute 85% to the entire population. A big proportion of Ugandan mothers may not know when they are pregnant while those who find out may seek antenatal care in the last trimester or at delivery.

Poudevigne and O'Connor (2006) reported that prior physical activity is an important factor, but why this is true is not fully understood. For example, a woman experienced with exercise may have more confidence in her ability to choose an appropriate mode and intensity of exercise and, therefore, may be more likely to continue her previous exercise patterns even if they conflict with suggestions

provided by her healthcare provider to not overdo exercise. Highly active women may be more aware of the health benefits of exercise while relatively inactive women may become completely sedentary in part due to misplaced health concerns (Poudevigne & O'Connor, 2006). While this may be true, the inadequate health care in Uganda does not allow women to know the importance of physical activity whether before or during pregnancy.

The psychobiological consequences of the pregnancy may contribute to whether a woman decides to be active during pregnancy. Reductions in physical activity for other women may be the result of cultural pressure such as influences of healthcare providers' attitudes toward exercise for pregnant women. Poudevigne and O'Connor (2006) further showed that most likely, a host of biological, psychological social and environmental factors interact to contribute to changes in leisure time physical activity during pregnancy.

2.2.2 Occupational Physical Activity

Only a few studies have examined changes in physical activity at work among working pregnant women. In general, the duration of work-related physical activity is decreased as pregnancy proceeds and the physical activity mode is altered (Poudevigne & O'Connor, 2006).

Saurel-Cubizolles and Kaminski (1987) obtained survey data from 2387 working women. Women involved in physically strenuous jobs were more likely to not work at all during the third trimester compared with women in less physically demanding jobs.

Women performing strenuous jobs also took sick leave more frequently, even in the absence of a gestational disease (Rabkin et al., 1990). Non-significant decreases in lifting, standing and climbing on the job were observed among pregnant women who continued to work and did not change duties. (Rabkin et al., 1990) However, there is evidence that women required to carry heavy loads at work often change their duties to something less intense.(Rabkin et al., 1990). None of these studies

examined the relationship between occupational activity and the psychological status of the pregnant women. In addition, there were no studies that looked at rural women engaged in agriculture. However, in Africa where women give the highest proportion of labour to agriculture of 85%, women usually continue to farm to ensure survival of their household members by providing food.

2.3 Psychological Changes affecting Participation of Pregnant Women in Physical Activities

There are so many reasons that may reduce or stop pregnant women from participating in physical activities. Among them are biological, environmental, social-economical, medical, cultural, psychological and many others. The main emphasis of this study is the psychological factors.

The psychological state of the pregnant woman determines to a larger extent the way she reacts to the variety of physiological, social, and sexual changes that the pregnancy brings about (Beldin & Brice, 1983). This largely contributes to the decline in their participation levels in physical activities. Hormonal changes are indeed at the root of the problem (Dalton, 1971).

2.3.1 Mood Swings /Disturbances

Psychologically, women could perceive their pregnancy as a stressful life event and such perceptions could modulate neuro-endocrine or neurotransmitter activity, and thereby contribute to mood disturbances. (Desai & Jann, 2000). Poudevigne and O'Connor (2006) added that biologically, pregnancy has dramatic effects on hormones that could influence mood. Large increases in estrogen and progesterone occur during pregnancy, and these are the two female sex steroids that are most commonly mentioned in relation to mood disturbances during pregnancy.

These investigations have revealed that there is higher rate of mood disturbance during first pregnancy than following pregnancy (Da Costa, Larouche, Dritsa, & Brender, 2000).

Studies examining mood during pregnancy have documented that anxiety and depression are co-morbid during pregnancy (Field et al., 2003).

The body of research concerning mood changes during pregnancy also has found that for many women, mood disturbances begin during pregnancy and continue into the postpartum period. The weight of the available evidence clearly indicates that mood disturbances are a significant health concern for many pregnant women and therefore it is important to better understand changes in mood with pregnancy because mood disturbances can have major negative consequences for a pregnant woman. (Poudevigne & O'Connor, 2006)

2.3.2 *Fatigue*

Although physical and mental fatigue are different, the two exist together. If a person is exhausted for a long time, they will also be mentally tired. Mental fatigue is more slanted towards feeling sleepy and being unable to concentrate properly. Fatigue has been less frequently studied among pregnant women than depression and anxiety moods. (Poudevigne & O'Connor, 2006) Nonetheless, the available findings indicate that feelings of fatigue appear to be among the most common symptoms experienced by pregnant women, with only a small percentage of women not experiencing any fatigue during pregnancy. (Chou, Lin, Cooney, Walker & Riggs, 2003)

Physiological changes with pregnancy that may contribute to the development of fatigue include a rapid change in energy requirements due to fetal development, weight gain, increased energy cost of motion and hormonal changes (Reeves, Potempa & Gallo, 1991) Coexisting factors may also alter the onset of fatigue such as age, diet, child care, work, alcohol consumption and smoking as well as the pre-pregnancy level of physical activity (Reeves., et al. 1991). Psychological factors thought to influence fatigue during pregnancy include physical self-esteem and other mood states such as anxiety and depression. (Reeves et al., 1991)

In the study conducted by Erica et al (2013) majority of the participants experienced fatigue during the first two trimesters. However, this varied in its intensity among participants and influenced their physical activity differently. Two women described their fatigue as extreme, debilitating and like nothing they had previously experienced: The remainder of the women described having less energy than usual. For these women, the fatigue caused a reduction in the intensity of the physical activity in which they engaged; however, it did not influence the type or the frequency of their chosen activities. Despite their fatigue, the participants placed importance on continuing to be physically active, and remained committed to their activity regimens, making adjustments to them when necessary.

Zib, Lim, and Walters (1999) reported in a prospective controlled study of 117 pregnant women that fatigue was the symptom most often reported during pregnancy, especially during the first trimester. In contrast, Pugh and Milligan (1995) reported a steady increase over the course of the pregnancy in fatigue using the Visual Analogue Scale for Fatigue (VAS-F). The authors also reported that fatigue scores during pregnancy were strongly correlated with depression ($r = 0.71$) and anxiety ($0.55 < r < 0.75$).

In another study, based on a sample of 74 predominantly Black pregnant women, Milligan and Kitzman (1992) reported that depression and anxiety were significantly related to fatigue at 28 and 36 weeks of pregnancy.

Elek, Hudson and Fleck (1997) conducted a study in which 24 pregnant women were sampled and measured fatigue with the VAS-F during the third trimester. The results indicated an increase in fatigue during that time.

Lee and Zaffke (1999) reported that fatigue measured by the POMS- fatigue scale was higher during the first trimester compared with the second and third trimesters in a sample of 33 pregnant women. The same authors found a significant increase in perceived fatigue severity in the first trimester compared with the non-pregnant state and that first trimester fatigue was significantly correlated with a younger age ($r = -0.50$).

Thus, overall, there is a consensus for the development of fatigue during pregnancy; however, it is not clear on how fatigue evolves over the course of the pregnancy. (Poudevigne & O'Connor, 2006) Furthermore, these authors reported that most studies have not distinguished between physical and mental fatigue during pregnancy. Both may be experienced and it is unknown whether exercise impacts both similarly.

2.3.3 *Attitude*

Women who had experienced a previous miscarriage have discussed its influence on their attitudes toward physical activity during their current pregnancy. Even though these women did not believe physical activity to be the cause of their previous miscarriages, they were more cautious than during their previous pregnancies when engaging in activity for fear of another miscarriage. Some women expressed frustration about not knowing how much activity was safe to engage in without putting themselves at risk for another miscarriage. However, as pregnancy progresses, the fear of miscarrying may dissipate after knowing what works for them in terms of level of activity (Erica et al., 2013).

Research by Assael, Namboozee, German and Bennet (1972) indicate that of pregnant rural Ugandan women with a variety of psychiatric disorders, depressive symptoms were found to be most common. (Wissart, Parshad and Kulkarni (2005) have found the incidence of depression to be at its highest in the first trimester, although unresolved intra psychic conflicts have been said to arise often during the second trimester, when the individual's defense mechanism and resources for coping appear to weaken

Studies have indicated that in later stages of pregnancy, women become increasingly introverted, passive, and dependent, depressed, lacking in confidence, and overwhelmed by fears connected with the role of motherhood. Such fears sometimes developed into clinical symptoms, often of anxiety (Thompson, Heinberg, Altabe & Tantleff-Dunn 1999). Some of these anxieties, for example , fearful for bodings concerning the baby's health-can be seen to be associated with the fears and regret sometimes experienced postpartum by women who have been

sterilized and who would thus be unable to replace a lost child (Thompson et al., 1999)

2.3.4 Depression

Definitions of depression range from episodes of unhappiness that affect most people from time to time, to persistent low mood and inability to find enjoyment (Stuart & Nanette, 2008). It is during pregnancy that women are at a high risk of being depressed (Rich-Edwards et al., 2006) Depression during pregnancy is a major concern of public health because the rate of depression during pregnancy tends to be high (Teixeira, Figueiredo, Conde, Pacheco & Costa, 2009; Pereira, Lovisi, Pilowsky, Lima, 2009), it is the highest risk factor for post-natal depression (Wissart et al., 2005) , and lastly, it causes massive effects on both the mother and the unborn child (Bansil et al., 2010).

Depression is also the most prevalent psychiatric disorder during pregnancy, and several studies have documented prevalence range from 4% to 25% (Pereira et al., 2009; Heron et al., 2004) with point prevalence of 15.5% during the 1st and 2nd trimester, 11.1% in 3rd trimester, and 8.7% in post-partum period.(Teixeira et al., 2009) Other studies have indicated depression prevalence of 9% to 28% and 25% to 50% of predominantly middle class and low income populations respectively (Hobfoll, Ritter, Lavin, Hulsizer & Cameron, 1995; Séguin, Potvin, St-Denis & Loiselle, 1999)

There are many factors that can lead to depression during pregnancy. These include; poor antenatal care, poor nutrition, stressful life events like economic deprivation, gender-based violence and polygamy, previous history of psychiatric disorders, previous puerperal complications, events during pregnancy like previous abortions, and modes of previous delivery like past instrumental or operative delivery, age, marital status, gravidity, whether pregnancy was planned or not, previous history of stillbirth, previous history of prolonged labor, and level of social support (Rich-Edwards et al., 2006; Pereira et al., 2009; Wissart et al., 2005)

In a prospective investigation of over 14 000 pregnant women, depression symptom scores were higher at 18 and 32 weeks of pregnancy than at 8 weeks and 8 months postpartum. (Evans, Heron, Francomb, Oke & Golding, 2001). Josefsson, Berg, Nordin & Sydsjö, 2001) showed that depression scores were higher during pregnancy than 6 months postpartum among 1558 pregnant women.

Research by Abraham, Taylor and Conti, (2001) reports that weight gain and a changed physical appearance during pregnancy correlates with depression. Symptoms of depression are: A low and sad mood, loss of interest in fun activities, changes in appetite, sleep, and energy, problems with thinking, concentrating, and making decisions, feelings of worthlessness, shame, or guilt, and lastly, thoughts that life is not worth living (Biddle, Fox & Boutcher, 2003)

When many of these symptoms occur together and last for more than a week or two at a time, this is probably depression. Depression that persists during pregnancy can make it hard for a woman to care for herself and her unborn baby.

The major adverse consequences of depression among pregnant women include; reduced physical functioning including poor sleep, reduced psychosocial functioning and quality of life, and an increased risk for suicide (Poudevigne & O'Connor, 2006). Other diverse effects include; increased risk of substance abuse, reduced ability to make and keep medical appointments and failure to comply with obstetrical evaluations. (Hedegaard, Henriksen, Sabroe & Secher, 1996)

It is also important to note that the findings from the research conducted by Anja, Mateja and Vislava (2008), indicate that regular sport activity benefits the psychological state of mind and the mental health of pregnant women.

2.3.5 Anxiety

Anxiety is defined as an emotional state characterized by feelings of tension, nervousness, worry, apprehension, and heightened autonomous nervous system activity (Biddle, Fox & Boutcher, 2003) while as pregnancy anxiety is defined as worries, concerns and fears about pregnancy, childbirth, and health of infant and future parenting (Huizink, Mulder, Robles de Medina, Visser, & Buitelaar, 2004)

Research done by Garcia Rico, Rodriguez, Diez and (2010) showed that anxiety levels were higher among pregnant women during their third trimester than average levels in the general population. Even in healthy women, pregnancy may give rise to many anxieties because of anticipated uncertainty associated with the whole process. Anxiety is the commonest change experienced during pregnancy, usually increases during the first trimester and usually brought about by worrying over the possibility for a miscarriage. (Leifer, 1977) However, during the second trimester it (Leifer, 1977). The main cause of anxiety during the 3rd trimester is the uncertainty over the outcome of the birth. For example; concerns about the health of the mother and the unborn child and the maternal responsibilities that awaits the mother (Leifer, 1977)

Evidences show that pregnancy anxiety not only affects pregnant women's health but also have an impact on labour outcomes such as preterm delivery, prolonged labour, caesarean birth, low birth weight (Catov, Abatemarco, Markovic & Roberts, 2010; Hernandez-Martinez, Val, Murphy, Busquets & Sans, 2011). Findings of Teixeira et al. (2009) revealed a varied prevalence of pregnancy anxiety at different trimesters of pregnancy with high levels in first and third trimesters. Research further showed that 14%- 54% of respondents reported feeling anxious at some time during pregnancy. The main cause of anxiety was associated to labour pain, birth-related problems and procedures (Serçekuş & Okumuş, 2009). Another study done by Henderson and Maggie (2013) showed that young maternal age and ethnicity are the risk factors of pregnancy anxiety. To be specific, a study done by Rubertsson, Hellstrom, Cross, and Sydsjo (2014) showed that pregnant women under the age of 25 years were at an increased risk of symptoms of anxiety. They further reported that anxiety symptoms during pregnancy increased the rate of preference for caesarean section. A study done by Arch (2013) concluded that younger age, nulliparous status and high levels of general and state anxiety predicted higher pregnancy-related anxiety.

Avoiding maternal anxiety may positively influence both maternal and fetal health. Maternal anxiety has been reported to increase fetal activity and reduce blood flow to the fetus by increasing uterine artery resistance. (Teixeira et al., 1999) Also,

maternal anxiety and stress appears to be related to reductions in both infant birth weight and gestational age at birth. (Teixeira et al., 1999)

2.3.6 *Body Image*

Body image is a broad term used to capture the cognitive, affective, behavioral, and perceptual aspects of one's experience of her/his body (Cash, Fleming, Alindogan, Steadman, Whitehead, & 2002). Body dissatisfaction is one facet of body image relating to the degree of dissatisfaction with particular aspects of the body (Thompson et al., 1999)

Prominent theories, such as Objectification Theory (Frederickson & Roberts, 1997) and Tripartite Influence Model (Thompson et al., 1999), argue that appearance-related socio-cultural values foster body image disturbances by strongly promoting an idealized physique – thin and toned for women and a lean, muscular shape for men – that departs markedly from the average physique, and which is unrealistic for most individuals to attain (Grogan, 2008). These models confirm the origin of body image issues

However, studies of other subgroups in which the human body undergoes considerable change (body shape and weight), such as pregnant women, may provide further insights into the development and maintenance of body dissatisfaction (Fuller-Tyszkiewicz, Skouteris, Watson & Hill, 2012). Pregnancy is characterized by numerous changes such as hormonal fluctuations, the experience of pregnancy related physical symptoms and changes to one's appearance (e.g., rapid weight gain, nausea, back ache, varicose veins, stretch marks, acne, and swollen ankles and feet), and changing relationship dynamics with partner, family, and friends (Skouteris, 2011).

Pregnancy is the only time in a woman's life when weight gain is encouraged and expected. In 1990, the Institute of Medicine (IOM) established recommendations for weight gain during pregnancy based on pre-pregnancy body mass index (BMI) (Institute of Medicine, 1990). The recommended weight gains according to pre-pregnancy BMI categories are as follows: 12.5–18 kg for women who start the

pregnancy underweight, 11.5–16 kg for normal weight women, 7–11.5 kg for overweight women, and a weight gain of at least 6.8 kg for obese women (Institute of Medicine, 1990).

Given that during pregnancy a woman's body increases in size, her body shape changes, and pregnancy-related physical symptoms become more pronounced, women who retain societal standards of appearance are likely to experience increased body dissatisfaction. It has been hypothesized that during pregnancy, because of the body changes that occur, women's appraisals of their bodies are activated (Cash, 1996). These appraisals draw upon extant body image attitudes and ideals. In drawing upon these ideals, the differences between how women 'perceive' their appearance and their 'ideals' of appearance are highlighted. (Cash, 1996) Given the current western ideals about body shape, which suggest that thin women are more beautiful, (Franzoi & Herzog, 1987) during pregnancy women find themselves falling further from the cultural ideal of beauty. Thus body image satisfaction may decline.

The extent to which pregnant women are able to reject the thin ideal and/or adopt more realistic appearance-related values during pregnancy may explain maintenance or reduction in body dissatisfaction. Hence, compared to other times in women's lives when body shape remains relatively stable, pregnancy may allow for a more powerful test of the factors leading to body dissatisfaction (Skouteris, 2011). There is strong evidence that body shape concerns are more common among prime-gravidas than multigravidas. (Lederman, 1996)

Findings from the few longitudinal studies that have tracked body image issues across pregnancy suggest that body image concerns may peak in early pregnancy and again in post-partum, and that there may be a period of relative satisfaction during mid to late pregnancy (Clark, Skouteris, Wertheim, Paxton & Milgrom, 2009; Duncombe, Wertheim, Skouteris, Paxton & Kelly, 2008) It is also evident that the salience of body shape and size is heightened in early pregnancy relative to late pregnancy (Clark, Skouteris, Wertheim, Paxton & Milgrom, 2009; Duncombe

et al., 2008), and women feel stronger, fitter, and less fat later in pregnancy compared with early pregnancy (Clark et al., 2009; Duncombe et al., 2008)

Pregnant women may feel too self conscious of their bodies to participate in physical activity such as swimming or group sport. Some pregnant women report feeling 'too fat' to exercise as well as too shy and too embarrassed (Jewson, Spittle & Casey, 2008)

Research done by Goodwin, Astbury and McMeeken (2000) showed a decline in body image satisfaction (BIS) from pre-pregnancy to early pregnancy (14– 19 weeks). In contrast, a study done by Richardson (1990) showed that body image improved among pregnant women as they were able to assimilate these changes with ease. This was because they viewed these changes as 'unique to the childbearing endeavor'. In another study, evidence indicates that body image during pregnancy may improve. Another study among overweight pregnant women found that many of them perceived pregnancy as a socially acceptable reason for their weight and reported feeling less pressure to be slim (Wiles R.1993). Thus, there may be conditions under which a decrease in body satisfaction does not occur during pregnancy.

Perceptions and preferences related to body shape and size are thought to differ for Caucasians and African Americans. Previous research suggests that African American women are much more likely to prefer a larger body size compared to Caucasian women and that there are cultural norms within the African American community that support higher satisfaction with weight and appearance (Lovejoy, 2001)

The consequences of a negative body image may include behaviors such as dieting, starving, and purging. Such negative attitudes toward weight gain can adversely affect maternal weight gain, which is a determinant of infant birth weight (Stevens-Simons & McAnarney, 1988). Similarly, disruptions to pre-pregnancy body image can negatively affect women's attitudes to breastfeeding and their Breast feeding perseverance thus potentially compromising infant health (Hughes, 2009), Therefore, the implications of a negative body image during pregnancy are of

concern, because such behaviors have been linked to inadequate weight gain, premature delivery, low birth weight, delayed development of the child and, in some cases, maternal and fetal death. (Franko & Walton, 1993)

2.3.7 *Self Esteem*

Self-esteem is a critical dimension of mental health. High self-esteem is associated with physical and mental well-being as well as good life adjustment (Biddle et al., 2003). Low self-esteem is associated with poor physical and mental health, and in particular mood disturbances (Biddle et al., 2003).

The large and rapid increases in body shape and size that occur during pregnancy are unlike any other time of life may lead to low self-esteem (Poudevigne & O'Connor, 2006). Movements and sensations of the fetus relate to the woman's body experience during pregnancy and could also affect self-esteem negatively by triggering fear or positively by triggering joy (Poudevigne & O'Connor, 2006) Physical self-esteem could be enhanced by mastering skills and interacting with the environment through participating in physical activity in a way that emphasizes a pregnant woman's sense of competence. (Poudevigne & O'Connor, 2006)

Among pregnant women, low self-esteem is a significant predictor of depression (Beck, 2002) and body fat accumulation during pregnancy (Casanueva, Labastida, Sanz & Morales-Carmona, 2000) Because low self-esteem also has been associated with adolescent pregnancy, there has been interest in developing programmes aimed at increasing low self-esteem in the hopes of reducing the rate of adolescent pregnancy. (Klerman, 2002)

However, there is need to know about other factors besides the psychological ones that affect pregnant women participation in physical activities. They include;

Environmental

Each woman experiences pregnancy in a unique way and her attitude towards it is strongly influenced by the environment she lives in. The pregnant woman's state of

mind is strongly affected by her social environment and having a solid relationship and communication with the people around especially her spouse. A study by Thorp and Dunstan (2009) showed that time spent in many workplace environments is sedentary due to technological changes in the domestic, community and workplace environments. The modern environment has been described as “obesogenic” (Wilkinson & Pickett, 2009), which refers to factors that contribute to increased levels of obesity in the population through less physical activity due to labour saving devices, increased passive entertainment and access to low cost energy dense Food (Swinburn, 2008).

Cultural

Culture is defined as a collective view of reality that exists among people and that shapes the norms, rules, cognitions, social practices, and behaviors of individuals and the “ways of life” of a society (Coakley, 2001). The extent of cultural influence is no less in sport and physical activity than in other domains because sport is itself a cultural product (Coakley, 2001). With regard to physical activity, culture is considered to constitute the framework that defines what are “appropriate” forms of physical activity and sport for individuals, and the activities that are considered to be “appropriate” may vary according to the gender, age, race, or socioeconomic status of the individual (McPherson, 1994). Historically, females have had many fewer opportunities to participate in physical activities, and female participation in team and contact sports, in particular, has only recently been possible in many cultures. This is due to the gender-related stereotypes and expectations (Coakley, 2001).

Cultural expectations may also restrict the participation of some of the women from certain forms of physical activity (Australian Bureau of Statistics, 2006). Societal level set gender roles and these can limit women’s ability to be physically active and maintain health. Unpaid work also factors heavily in women’s lives with many women fulfilling multiple care giving responsibilities, including for children and older relatives, and taking responsibility for meal preparation and cleaning. This can lead to women neglecting their own health and not having the energy or the time to participate in beneficial levels of physical activity (Jewson, Spittle & Casey, 2008). Perhaps pregnant women are not exceptional in this matter.

Lack of time

Women often cite a lack of time as a barrier to their participation in physical activity (Jewson et al., 2008) Work and study commitments contribute to a lack of time for physical activity for 19 percent of Australian women (Australian Bureau of Statistics, 2007).

A previous study has indicated ethnic differences in the contexts of participation in physical activity (Williams et al, 2006). For example, Taiwanese women are expected to meet all of the emotional and physical demands of their husbands and children, which frequently make it hard for them to find time for physical activity (Kane, 2013).

In addition to these commitments, women commonly have responsibility for organizing a household and others within it. Perhaps this is not any different from women when they get pregnant. The support of others within their household to facilitate women's participation in physical activity is a significant enabler as women are often more time poor than men (Craig & Bittman, 2005).

Parenting/ caring demands

The social construct of gender can mean that women do not reach adequate levels of physical activity due to their roles in paid and unpaid work. This extends to family commitments which are a barrier to physical activity for women more often than they are for men (Australian Bureau of Statistics, 2007). With caring for others a key part of many women's lives, time spent on self-care including physical activity can be limited. 14% of Australian women attribute insufficient time due to family commitments as their main reason for not participating in physical recreation (Australian Bureau of Statistics, 2007). People with at least one child at home were 20% less likely to be 'sufficiently' active than those without, and as women are more commonly the primary care givers of children, they are more likely to be physically inactive (Armstrong, Bauman & Davies, 2000).

Socioeconomic status

People with lower socioeconomic status (SES) are less likely to be physically active than those with a higher socioeconomic status (Owen & Bauman, 1992). In one

Victorian study, 80% of women in the lowest socioeconomic group were physically inactive compared with 67% of women in the highest socioeconomic group (Cadilhac et al., 2009). The circumstance surrounding women of varying socioeconomic status influences their participation in physical activity. For women of low SES, physical activity can be a necessity rather than a choice. Physical activity is required in their transport and within their paid work (Ball, Salmon, Giles-Corti & Crawford, 2006). Women of low SES often do not experience the same benefits of physical activity such as social interaction and are more likely to have negative perceptions of physical activity. Women from high SES groups have more opportunity to choose the form of physical activity they are involved in and this is often structured and occurs during their leisure time (Ball et al., 2006). Women with a lower SES may encounter a number of barriers to participation in physical activity. Areas of lower SES are often at a greater distance from metropolitan regions with less access to public transport and other services.

Existing health conditions

Existing health conditions can also be barriers to pregnant women to becoming involved in physical activity. Pregnant women with existing health conditions are advised to consult a health professional prior to becoming involved in any kind physical activity, potentially an additional barrier. Pregnant women's existing health conditions may also limit the range of choices of physical activity that they are able to participate in.

Biological/physiological changes include;

Increase in body weight

On average, a pregnant woman gains 10 -15 kg. As pregnancy progresses weight increases and changes occur in weight distribution and body shape. These result in the body's centre of gravity moving forward and the curvature of the spine increasing. This increase in body size can make most activities more uncomfortable. These changes can also alter balance and co-ordination, particularly in the second half of the pregnancy, and for these reason activities that require a degree of balance or rapid change in direction may not be involved in, thus a reduction in Physical Activity (Sports Medicine Australia, 1999).

Loosening of all ligaments

During pregnancy, joints will gradually loosen to prepare for birth. This may create an increased risk of injury. Those particularly affected are the pelvic joints. Therefore, any activity that involves jumping, frequent changes of direction, excessive stretching and Jerky ballistic movements are advised to be avoided thus a reduction in Physical Activity (Sports Medicine Australia, 1999)

Increase in resting heart rate

Due to the increase in resting heart rate and decrease in maximal heart rate during pregnancy, most of the physical activities that rapidly increase heart rate are advised to be avoided. However, in healthy pregnant women the intensity of exercise can be monitored by the mother's rating of perceived exertion (Sports Medicine Australia, 1999)

Decrease in blood pressure

During the second trimester of pregnancy, the development of blood vessels to supply the growing placenta will cause blood pressure to fall. From approximately the fourth month, pregnant women are advised and tend to avoid exercising because they experience dizzy spells. However, there are precautions that can be taken to prevent these dizzy spells and fainting. Pregnant women should avoid rapid changes of position, both from lying to standing and vice-versa. Stopping suddenly should also be avoided as cardiovascular adjustments take longer and may result in dizziness or faintness. During aerobics, prolonged periods of motionless standing and leg exercises done whilst lying on the back after the fourth month may cause dizzy spells as the weight of the fetus can slow down the return of blood to the heart (Sports Medicine Australia, 1999)

2.4 Effects of Physical Inactivity to the Mother and the Fetus/Child

The way a woman experiences herself and her state of mind not only affects her but also her child (Milaković, 1986). The child also takes part in the psychosomatics of its mother whose emotional states are transferred to the child through blood

excitation (Milaković, 1986). All impact on the mother also impacts her fetus. The normal, daily programme of the mother is transferred to the child (Milaković, 1986). The state of mind in pregnancy not only affects the mother but also her unborn child.

WHO (2009), identifies physical inactivity as among the five leading global risks for mortality in the world. The others include; high blood pressure, tobacco use, high blood glucose, and overweight and obesity. They are responsible for raising the risk of chronic diseases, such as heart disease and cancers. They affect countries across all income groups: high, middle and low. Statistics reveal that physical inactivity claims 3.2million deaths(5.5%) in the world, 1.6million deaths(6.6%) among middle income countries, 1.0 million deaths(3.8%) among the low income countries and 0.6 million deaths(7.7%) among the high income countries(WHO, 2009)

A study done by Parvin and Soheila (2015) showed that only 3-5% of pregnant women had physical activity with energy consumption and this affected their quality of life which included a reduced health, physical discomfort, mental and social problems.

Studies showed that physical inactivity during pregnancy is associated with health problems such as hypertension, gestational diabetes, musculoskeletal disorders, breastfeeding and weight loss, poor mental health, and offspring health and development (American College of Sports Medicine, 2006).

Study done by Kasik-Miller and Hueston (1998) showed that physical problems were observed among the physically inactive pregnant women. These included; more body aches, poor physical functioning, and more functional limitations

Physical inactivity leads to the onset on preeclampsia. This is a condition most common among pregnant women and it is characterized by high blood pressure, proteinuria and edema. Preeclampsia causes maternal mortality, perinatal morbidity and mortality, and fetal growth retardation. Regular participation in physical activities reduces the risk of preeclampsia. The risk reduces in proportion to the average time spent performing physical activities, intensity and total energy

expended. Physical activities may include; walking climbing stairs and the routine activities (American College of Sports Medicine, 2006).

A study done by Linne, (2004) showed that maternal physical inactivity is associated with obesity, gestational diabetes mellitus and Type 2 diabetes later in life. Gestational diabetes is a form of diabetes first diagnosed during pregnancy (American Diabetes Association, 2004) It is mainly caused by leading a sedentary life style and brought about by abnormal high maternal blood glucose and this results into insulin concentration(Dornhorst & Rossi, 1998). Gestational diabetes lead to high blood glucose concentration to the fetus leading to excessive growth and birth weight, which may result in difficult labor and delivery. The increase in body size usually consists of excessive body fat and the baby is born lethargic. In addition, baby growth is disproportional in that the shoulders grow bigger than the head, leading to difficult delivery through the birth canal, often resulting in a cesarean section delivery. Babies born to women with GDM may also be delivered with very low blood sugars due to high fetal insulin concentrations produced in response to excess maternal glucose diffusing into fetal blood. Once the umbilical cord is cut, the high maternal blood glucose supply is cut off, while the fetal pancreas continues to deliver high concentrations of insulin into the fetal circulation. This results in hypoglycemia at birth, requiring intravenous glucose supply (Canadian Diabetes Association, 2013)

Physical inactivity during pregnancy increases postpartum musculoskeletal issues. Almost all the women experience some kind of musculoskeletal discomfort during pregnancy. A study done by Noren, Ostgaard S, Johansson and Ostgaard H (2002) showed that 50–90% of pregnant women experience some type of back pain during pregnancy, pelvic floor muscle dysfunction and pregnancy related urinary incontinence. Many pregnant women who do not perform Kegel exercises during pregnancy are most likely to suffer from these problems due to the decreased neuromuscular control to the pelvic floor musculature (American College of Sports Medicine, 2006)

Physical inactivity lead to a decrease in mental health. Negative mood symptoms such as fatigue, anxiety, maternal stress, depression and low self-esteem are so

common during pregnancy. They are commonly triggered off by weight gain and body image, maternal stress and worry, sleep difficulties, change in routine, perceived lack of control, and changing role functions. A decreased mental health may result into drug abuse, failure to comply with medical appointments, fewer positive health practices, reduced role functioning, and loss of income. Disruptions may occur in family relationships, including infant attachment, and vulnerability to subsequent depression. (Lindgren, 2001)

It is important to know that participation in physical activity at levels that provide health benefits will not prevent all. Pregnant women from developing health conditions but can be an important aspect in the management of chronic conditions (Women's Health Victoria, 2010).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This section presents the research design, study population, sample size and sampling techniques/procedure, data collection methods and instruments. The chapter also presents planned procedure for ensuring the validity and reliability of the results as well as the limitations of the study.

3.2 Design

A research design is a basic plan which guides the data collection and analysis phases of the project (Koul, 2007). This qualitative study used a descriptive study design to explore the psychological factors affecting pregnant women and their effect on their participation in physical activities. Descriptive statistics were used to summarize collected data in a clear and understandable way.

3.3 Approach

A phenomenological approach has been used because it was considered adequate to provide depth and breadth understanding of the participants' lived experiences in regard to the variables.

3.4 Sampling Strategy and Sampling Procedure

The researcher used criterion type of sampling strategy in order to have only those participants who met the criterion-pregnant women in Uganda, and also convenience type of sampling (considered only those who were readily accessible – those attending antenatal clinic from health facility. A purposive random sampling procedure was used in this study.

3.5 Population Sample Size

The population sample for this study was 10 pregnant women

3.6 Recruitment of Participants

The participants were pregnant women seeking services from prenatal clinics, from St Francis hospital, Nsambya. Participants were identified by the researcher with the help of the medical personnel on duty through a review of all medical charts of patients (pregnant women). Women were recruited during their prenatal visit ranging from 10 week to 39 weeks of pregnancy or/ and from 1 week of pregnancy but with one or more previous pregnancies. Data was collected from only those who consented to participate in this study. 10 participants were recruited in the study.

3.7 Data Sources

The data used in this study was the primary data obtained directly from interviews of the selected respondents.

3.8 Data Collection Instrument

Individual in-depth face to face semi-structured interviews with open-ended questions were used to ensure in-depth and accurate responses (increase reliability and validity). It also allowed completion of responses and clarity. Open ended questions also allowed participants to come up with their own responses and allowed the researcher to document the opinions of the respondent in her own words. Data was recorded using an audio recording device. Demographic information about the respondents was also collected.

3.9 Role of the Researcher

The researcher in this study was at first an insider; through interviewing the respondents, by guiding the respondents and reduce on destructions. The researcher then switched to an outsider during reporting the responses and analyzing data.

3.10 Data Collection Procedures

Data was collected by first locating the sites which was St Francis Nsambya hospital. This was followed by gaining access and establishing a rapport by contacting the antenatal clinic in-charge through the hospital administrators. A purposeful random sampling was then employed to gain the required number of participants. Then data was collected using a face to face interview which lasted for approximately 30-45 minutes and interview information was recorded using an audio recorder. Finally, the researcher resolved other field issues which arose.

3.11 Data Analysis Procedures

Digitally recorded interviews were transcribed into 52 pages. After multiple readings of transcripts, a qualitative analysis was carried out involving reducing of data by the identification of key themes through coding and representing data. These themes were then entered into Express Scribe, a software package that helps researchers organize and analyze data. Finally, a comparison was done through a display using tables.

3.12 Strategies for Validating Findings

In order to build trust with the respondents and checking for misinformation especially from the respondents, the researcher prolonged her engagement and persistent observation in the field. This in turn helped the researcher to make decisions on what was relevant to this study.

As a way of soliciting for the participants' views of credibility of the findings and interpretation, at the end of each interview, the researcher would make general conclusions about the responses in relation to the objectives of the study and requested the respondents for the interpretation. This is called member checking. This also helped in checking for any missed information.

Lastly, the researcher made a rich and thick description of the study participants which allows readers to transfer information to other settings and to determine whether the findings can be transferred to other settings of similar characteristics.

3.13 Ethical Issues

The researcher gained support from the participants who conveyed to them that they were participating in a study, explained the purpose of the study, and did not engage in any deception about the nature of the study.

Consent forms were signed by the participants before the commencement of interviews, accepting to take part as respondents in this particular study. The researcher protected the anonymity of the informants by assigning each respondent a Finnish name

CHAPTER FOUR

4.0 PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS

In this chapter, findings of the study are presented, analyzed and interpreted in accordance with the objectives of the study and basing on the research questions. The major focus of the study was to explore the psychological factors affecting the participation of pregnant women in physical activities in Uganda. All data used to produce this information was derived from the research instrument that was used. The researcher employed three forms of data presentation namely; graphs, tables and content analysis each bearing a brief interpretation and inference. Data for this study was analyzed qualitatively using an express scribe program where codes were developed in line with the research objectives. The names of the participants have been changed with pseudonyms.

4.1 The Bio Data of Research Respondents

Although research respondents were of the same categories that is, pregnant women, they were of diverse characteristics. These women had remarkable differences in terms of marital status, age, employment status, level of education, number of pregnancies, stage of pregnancy, medical complications, number of living biological children and knowledge about participating in physical activities during pregnancy as shown below;

4.1.1. Marital status

Eight respondents were married while two respondents were cohabiting. This showed that majority of the respondents were married. According to study findings, there was no correlation between marital status and engagement in Physical activities during pregnancy. According to the majority of our participants, there was no evidence of husbands supporting their wives in households chores or even encouraging them to participate in physical exercise as noted by Babbo;

“In Uganda, men are men. Even if they are capable of doing something, they will leave all the work to the woman. So even

if my husband goes back home earlier than I do, he waits for me to do the cooking, to do everything. So I t is like I am taking care of him as well. I prepare for him breakfast in the morning before I go to work. Therefore marital status did not enhance participation in physical exercise.”

This finding was in line with several other investigations that showed no significant association between marital status and physical activity. In a study by Ainsworth, and Macera (2012), marital status was not related to exercise among women aged 20- 65 years that were members of the Northern California Kaiser Permanente Medical Care Program. This lack of association between physical activity and marital status was also shown in women aged 40 plus years enrolled in the U.S. Women’s Determinants study (Brownson et al., 2000). Rankin (2002) in his study; ‘The effect of Antenatal Exercise on Psychological Well-being, Pregnancy and Birth outcome’ also revealed that there was no significant relationship between marital status and participation in physical activities

4.1.2. Age

Different age groups participated in the study and as such, expected to have differing views. Seven (70%) of the respondents were in the age group of 30-34 years old and only three (30%) of the respondents were between the age group of 25-29 years old. However, as reported by the respondents, age did not have influence on pregnant woman’s involvement in physical exercise. This could have been due to the small sample size of the study where various age groups were not represented. For instance pregnant women of 15-19, 20- 24, 35-39, 40-44 and 45-50 years were not among the randomly sampled pregnant women. Otherwise Armstrong, Bauman and Davis (2000) revealed that participation by pregnant women in physical activity declines with age. However, the low participation in physical activity revealed in this study could have been due to the age groups of respondents as Mackinnon et al. (2003) found out the largest drop down in physical activity participation among pregnant women age groups 18-29 and 30-44 years.

4.1.3. Employment status

In this respect, the researcher was interested in knowing how respondents' lifestyles interconnect with the participation levels in physical activities. Eight of the respondents were employed while a small number of two were not employed. However, Celina's unemployment was due to pregnancy related issues thus reducing her physical activity participation levels. *"The reason as to why I stopped working is so private You see I am pregnant and so I could not continue with working"* We do not provide evidence but participants' perceptions revealed that there was no marked difference amongst employed and unemployed women in terms of participation in physical exercise. This concurs with Schneider and Becker (2005) findings of there being no correlation between employment status (employed and un-employed) and participation in physical activities.

It was noted that; women who reported being unemployed appeared to be physically active in their houses doing household chores without pay as noted by Noora who was an 'unemployed' respondent; *"I do a lot of digging and the garden is not so near, it is very far so I walk a long distance... I walk a distance of approximately 4 km to get to my garden."* Therefore, according to the respondents, work whether outside the home or at home negatively affected their engagement in physical activity. This is in line with Weir et al. (2010) findings in their study that work was the most commonly cited external barrier to physical activity. It was perceived to have a negative impact on available time and energy levels, the ability to commit to a regular exercise class, and also meant having to prioritize in relation to other day to day life activities.

However, the type of employment/ household activities one was engaged in determined one's level of participation in physical activity. Some women were involved in high level physical activity as noted by Dahlia; *"My work involves walking. In a day I can walk a total of 5 to 10km depending....."* On the other hand, other women's employment required them to sit in office the whole day as noted by Babbo, *"So the only physical activity I do at work is moving from the office to the toilet quite often, you know..."*

When asked about leisure time, 100% of the respondents reported that they did not have leisure, all their time was used up by housework. This was in line with

Schneider and Becker (2005) results that showed that those with strenuous jobs and frequent over time work were significantly less likely to engage in leisure time physical activities. They went ahead to explain that non manual workers were likely to have an active lifestyle (engage in physical activities). That manual laborers and employees working longer hours were significantly less likely to engage in physical activities.

On the other hand, Respondents aired out that their finances (proceeds from employment) tended to affect their participation in physical activity. However, they further reported that pregnancy affected their income in one way or the other. Pregnant women needed to save a lot of money to cater for all the hospital bills before during and after delivery. They also noted that they needed to do huge shopping in preparation to receive the baby and yet some of their husbands were not financially supportive. According to the perceptions of the respondents, the high demands reduced on the pregnant women's disposable income thus negatively affecting their engagement in physical exercise which needed to be paid for as noted by one respondent,

“Swimming here is very expensive. Each day you go for swimming, you pay 10,000 Uganda shillings that is the least you can pay. And you know you cannot swim for the whole day, so you are going to swim for one hour or just a few minutes and 10,000shs is gone, and you do not have anything to eat at home. So when I think about all that, with the big shopping I have to do for my coming child, and because I also have to buy medicine”

In addition, psychological changes were greatly induced by the level of the pregnant woman's income as one respondent said; *“Yes, I keep on wondering if I will be able to meet the entire hospital bill after delivering my child...”* Respondents who employed people to work for them when affected by the psychological changes indicated a poor performance in their businesses. They experienced a decline in their sales thus affecting their financial position.

4.1.4. Education level

Every year spent at school incrementally shapes that person's thinking and analysis of their environment and as such, knowledge level for respondents was vital in this study. Seven (70%) respondents attained university degree, two (20%) respondents attained the tertiary diploma, and only one (10%) respondent had attained the primary certificate as shown in figure 1. On the whole, everyone was able to articulate themselves insightfully. This indicates that most pregnant women had acquired formal education. Study findings revealed that a pregnant woman's level of education did not have a bearing on her participation in physical exercise since

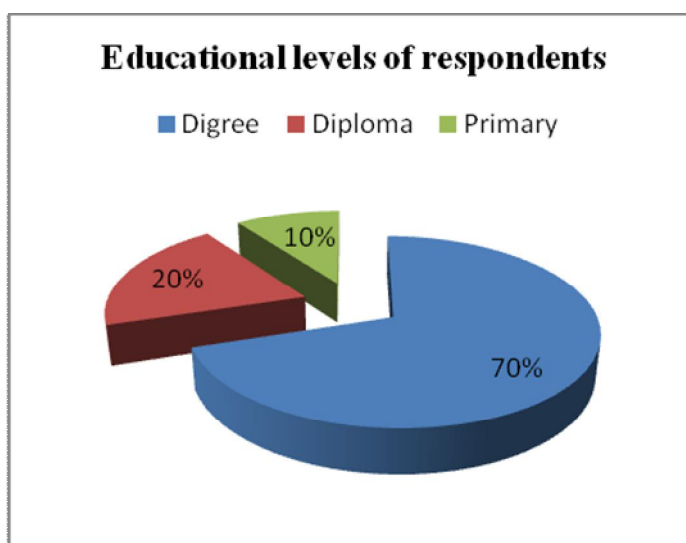


Figure 1: Respondents by Education level

this topic was not among the topics covered in school at increasing level of education. The main mode of message dissemination about pregnancy was through Antenatal care classes. Findings from the study revealed that 80% of the

respondents had got the information about

physical activity in pregnancy from Antenatal classes. This finding was against Ashton (2012) finding that participation in physical activity directly correlates with education levels and socioeconomic status. In addition, Schneider and Becker (2005) results showed that the percentage of those engaging in physical activities was more than twice as high among people with school-leaving qualifications qualifying for university graduates than for those leaving school after nine years (lowest secondary level without vocational training). This finding could apply in countries where the physical activity health clubs especially for pregnant women are available and affordable. Secondly, if the information of the importance of physical activity and which particular physical activities a pregnant woman would do is liberally disseminated and Antenatal care class involved practical physical activities.

4.1.5. Number of the pregnancy

The researcher was interested in knowing if the participants have a wide range of previous experiences. Out

of the ten respondents who participated in the study, seven (70%) were carrying their third pregnancy, one (10%) was carrying her second pregnancy, and another

one (10%) was carrying her 4th pregnancy and

lastly, one (10%) was carrying her fifth pregnancy as shown in figure 2. This indicated a differing wide range of pregnancy experiences among the respondents.

According to the demographic data from the respondents, prior experience with pregnancy did not have any influence on a woman's level of participation in physical activity. This implied that each pregnancy presented itself uniquely and was handled in a unique manner.

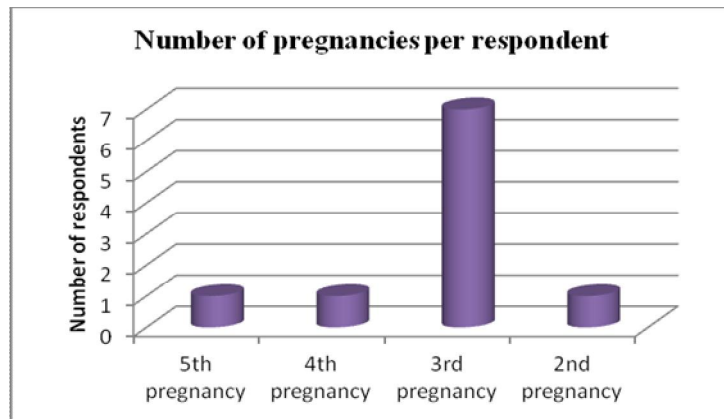


Figure 2: Respondents by Number of Pregnancy

4.1.6. Stage of the pregnancy

Half of the respondents (50%) were in the second trimester, while three (30%) were in the first trimester and only two (20%) were in their third trimester as shown in the figure 3. Thus all stages of pregnancy were represented. According to the majority of our respondents, there was a noted impact of the gestation age on the level of physical exercise. Women in the 1st and 3rd trimester had a reduced involvement in physical exercise.

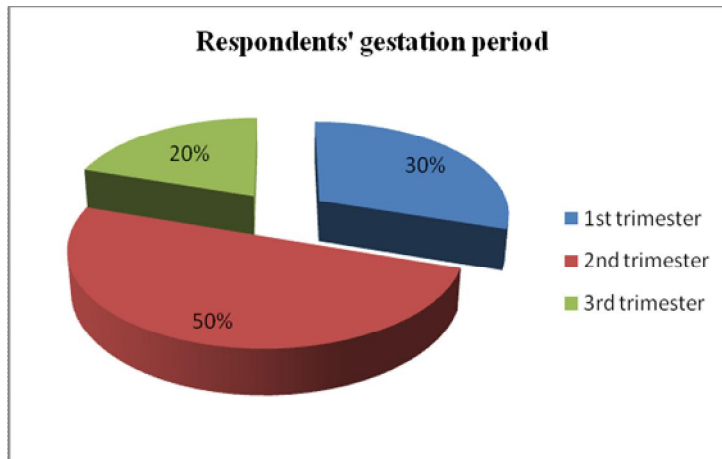


Figure 3: Respondents by Gestation Period

Mood disturbances, depression, anxiety and body size change leading to low self esteem were the main hinderances to active participation in physical exercise. These factors were reported to be at a higher level during the 1st and 3rd

trimester as 100% of those affected with mood disturbances reported high level of mood disturbance in the 1st trimester. While 50% and 10% of those who reported anxiety reported high level of anxiety to have happened in the 1st and 3rd trimester respectively. 90% of those who reported to have been affected by fatigue reported that it happened in the 3rd trimester while 67% of those who reported depression said it affected them in the 3rd trimester.

4.1.7. Medical complications

Half of the respondents (50%) reported to have experienced medical complications and half (50%) had never experienced any medical complications during their previous pregnancies. While almost all the respondents (90%) reported not to have any medical complications, only 1(10%) respondent reported to have a known medical complication during the current pregnancy. We do not provide evidence but participants' perceptions revealed that previous and current medical complications may have had a strong bearing on pregnant women's level of participation in physical activity. Abigail had this to say "... I no longer walk long distances like I used to. Because of my condition definitely...." and Sonia said "...I have been trying to do some physical exercise though minimal because of the complication I have." While Babbo said; "My boss limited me to moving in the fields. So the only physical activity I do at work is moving from the office to the toilet quite often...." This was because all respondents never got to know the cause of either previous or current pregnant related complication. This made them take

precautions including avoiding or minimizing physical exercise expecting the complication to reoccur. This implies that the impact of medical complications on the respondents' level of participation in physical exercise was escalated by psychological factors.

4.1.8. Living biological children

Half of the respondents 5(50%) had two living biological children, 3(30%) respondents had only one living biological child and only 2(20%) had three biological children as shown in figure 4. This indicates that all respondents had living biological children. According to the majority of our respondents, presence of children in a home

increased the woman's work load thus limiting her time for engaging in physical exercise. Sonia noted that; *"I have a maid but definitely as a mother I make sure that my baby has had supper, bathed and in good condition."*

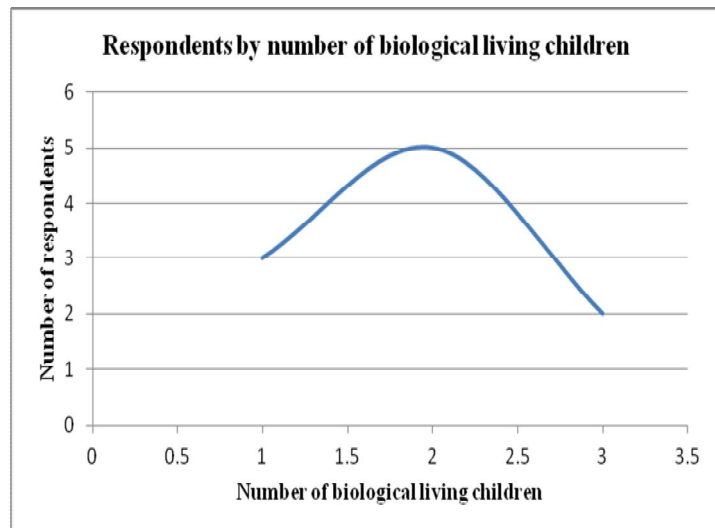


Figure 4: Respondents by Number of Biological Children

However, the number of biological children did not have a correlation with the level of physical activity one engaged in. Whether one, two or three children, they all needed attention from their pregnant mother. Weir et al. (2010) had similar finding in their study that participants with children often cited barriers to physical activity which included lack of time, lack of suitable childcare, guilt, and wanting to spend time with their family.

4.1.9. Knowledge about participating in physical activities during pregnancy

Eight (80%) respondents had heard information while only 2(20%) had never heard of any information about participating in physical activities during pregnancy as Dahlia noted; *“No, I have never heard of such information. We are not given such information in our hospitals”*.

Table 1: Knowledge of participation in physical activity during pregnancy

Heard of information	Number of respondents	Percentage of respondents
Yes	8	80%
No	2	20%
Total	10	100%

This implies that Antenatal classes were not found in all health care facilities. Majority of the respondents that is, 6 (75%) of those who had the information

indicated that they heard of such information from mid wives, nurses and doctors during the antenatal visits in hospitals. One (12.5%) read about the same information from the books and another one (12.5%) got to know about the information from their teachers at the university. Respondents who got the information from health facilities reported that they only got information about the benefits of engaging in physical activities. As reported by the respondents, there is little information availed to pregnant women at antenatal clinics and engaging them in physical activities is not emphasized. Abigail had this to say; *“They teach about it but they do not emphasize it so much”*. It is important to note that having heard about the importance on physical exercise did not translate into actual practice. There seemed to be other overriding factors that influenced engagement in physical activity during pregnancy.

4.2 Physical Activity Changes during Pregnancy

In order to ascertain whether physical activity changed during pregnancy, the researcher designed the interview guide in such a way; that respondents would provide information about their typical week before and after conception. This helped the researcher to make comparisons and later make a conclusion whether physical activity changed or did not change during pregnancy. Physical activity

participation during pregnancy was categorized into work, leisure, transportation, child care and adult care, indoor and outdoor activities.

Our data revealed that before conception, all respondents used do their normal routine work with ease. However, during pregnancy, there was a sharp decline noted in their normal routine work. The following characterized the typical week of the respondents during pregnancy; they woke up quite late, do work sluggishly, very sleepy, supervise work and rest more than work. Most of the respondents attributed this to tiredness/fatigue and general body weakness.

The researcher went ahead to find out from the respondents if there was a significant change in their participation in physical activity before and during pregnancy. According to the majority of respondents, there was a very significant change in their participation levels in physical activities before and during pregnancy. They indicated a steady decline in their performance especially as the pregnancy progressed. They reported to having started waking up late in the mornings, hiring maids to do for them the house work, doing less work, less walking, decline in performance at work, while others completely gave up on participating in physical activity which was not the case before conception. Sonia said; *“.....when am pregnant I normally tend to get tired easily and quickly so I reduce on the activities I do especially like washing. I continue to wash but not the big volumes as I used to do because of the bending.”* However, there are a few respondents who appreciate the importance of physical activities during pregnancy as much as they found it so difficult and tasking to engage in as noted Melissa;

“.....I restrict myself from so much walking because when I walk a lot I get so tired. But also, I have realized that actually sometimes when my legs are aching and my back is aching and I take a walk, the following day I feel much better. Even though during the time of walking I find a lot of difficult, but then I feel much better the following day.....Yes, exercising is beneficial to my health.”

4.2.1 Work Related Physical Activity

Most of the physical activities engaged in were work related. These included; office work, field work, walking, house work (preparing meals, sweeping, washing, cooking, ironing, mopping, gardening, and washing dishes) and sewing. There were a few respondents who did not change their physical activity/ working routine and they attributed this to lack of choice. Dahlia had this to say:

“I have to do work normally because I am expected to deliver at my work place. I am expected to produce results.....The kind of our working environment is exercise itself because when you are working; you are moving visiting households to see whether they are doing the right thing you are walking. I do not need to spare another time to go and walk. I do a lot of walking.”

This shows that majority of the respondents participated in some kind of physical activity before conception and later alone during pregnancy, they reduced/ stopped participating in physical activities.

In support of the findings, studies done by Poudevigne and O’Connor (2006); Saurel-Cubizolles and Kaminski (1987) indicate a reduction in work/occupational physical activity during pregnancy

4.2.2 Leisure Related Physical Activity

In terms of leisure time physical activity; a good number of respondents indicated that they use that time only to rest, sleep, drink, and eat. Others reported that they do not have leisure time. Lilliana had this to say: *“In Africa we do not have leisure time. You have to do house work most of the time from Monday to Monday. Our resting means sleeping and that is when you feel so tired.”* This shows that there is no single physical activity involvement by all respondents in terms of leisure.

However, study done by Zhang and Savitz (1996) indicate a decline in leisure time physical activity in terms of Frequency intensity and time among pregnant women

However, in Africa where the economy is dependent on agriculture yet women provide 85% of the agricultural labor to ensure that their households have food all year round. A pregnant woman may not have any time left for leisure time physical activity since she also has to attend to household chores.

4.2.3 Transport Related Physical Activity

Majority of respondents indicated that they use public transportation that is, taxis (mini bus) and bodaboda (motorcycles), private means (personal driving) and walking. A few respondents who engaged in walking attributed this to the kind of working environment that required them to walk, the transport system of the areas and the poor financial status. For instance, the working environment fostered some respondents to exercise through walking long distances in order to perform their duties. Dahlia had this to say:

“My work involves walking. In a day I can walk a total of 5 to 10km. There are times where you are going somewhere and the vehicle cannot reach there. So you are required to park the vehicle and then walk for 2 hours to reach that place and then walk back 2 hours.....”

Other respondents had to walk some distance from their home to the main road or taxi park where they then use the public means of transport. This is due to the fact that majority did not have private cars. While some respondents engaged in walking simply because they did not have money for transportation due to their poor financial positions, as noted by Noora

“I walk a lot to the garden and my work place.....I even do not have that money to spend on transport. In our village there are only bicycles and boda-boda and they are quite expensive for me. Unless when I am too tired, that is when I use those means.”

This indicated that majority of respondents had to walk as a result of lack of choice and those who engaged in walking did so at a slow pace, irregularly and for a short period of time. They attributed this to a number of factors which included; the environment (working and staying within the same compound and home being located next to the main road), owning personal cars, fatigue and general body weakness. Edina had this to say: *“I no longer have the energy to walk so I use a boda-boda whenever I need to go somewhere.”*

Our data revealed that the environment did not favor the respondents to use active transportation. For example the taxis and bodabodas that could be found anywhere and their fares were low thus affordable and convenient. More so, the bodabodas in

particular were just a call away. Therefore, in terms of transportation, majority of the respondents were engaged in limited physical activities during pregnancy.

4.2.4 Child Care Related Physical Activity

90 % of the respondents agreed that they get involved in child care so often. The kind of physical activities indicated in terms of child care included; feeding, bathing, playing, preparing meals, taking children to school. Abigail had this to say: *“With my children, I have to take care of them whether I am pregnant or not.....They are my kids.”* However, all indicated a gradual decline in their involvement in child care during pregnancy. They attributed this to tiredness and general body weakness as the pregnancy progresses. As a result, they employed house helpers/ maids who did most of the child care services on their behalf and the respondents only come in to help where need be. Melissa had this to say:

“.....I get involved in preparing them, but I also have a house help at home because they are very active. And now that pregnant, sometimes I find difficulty in bending to shower then or dressing them up or playing with them. So my house help, helps me a great deal. But I get involved in preparing their snacks that they are going to take to school; their juice, their tea and ensuring that they are eating well.”

This indicated that majority of the respondents were involved in some child care physical activities at one point although the level reduces as they tend to get assistance from the house helpers especially as the pregnancy progresses. Celina said;

“When you are not pregnant a child can come and call your name so often, jump around you and it is normal. But when you are pregnant you are easily irritated, you are pregnant and this one come starts jumping around, calling you, you get somehow irritated and your moods change.”

The reduction was reported to be due to psychological changes that happen at different stages of the pregnancy. Like Mackinnon et al. (2003), explained that with increasing trends of women with children being employed outside of the home while still maintaining the role of primary care-giver for the family; the consequence of which is limited discretionary time for many things including physical activity.

However, they continue to note that it is likely that current surveys fail to adequately measure the amount of physical activity involvement in household duties undertaken by most women; thus, these surveys may be consistently underestimating the amount of physical activity performed by women.

4.2.5 Adult Care Related Physical Activity

All respondents agreed to have been involved in physical activities in one way or the other through adult care. Respondents noted that they take full responsibility of their husbands since majority of them were either married or cohabiting. Taking full responsibility of their husbands was more of an obligation to the respondents. Babbo had this to say: *“In Uganda, men are men. Even if they are capable of doing something, they will leave all the work to the woman.....”* While Abigail noted that; *“With my husband.....that is a must. I iron for him, I prepare breakfast for him.”*This was emphasized by Melissa who narrated;

“In Uganda it is part of my culture as a Muganda, That wives we have got to take care of our husbands very well, sometimes they end up being pampered so much like babies. Because when he wakes up, I prepare his breakfast, even when you think he can actually make his own breakfast. You iron his clothes; you make sure that his shoes are ready so that he is ready to go for his work. You actually even do all those small things like making sure that the hankie is clean and being ironed. And above all, because we are married, it does not mean that I am pregnant, so we would not engage in sexual activities. So it is also my responsibility as a married wife, so I do not deny my husband when it comes to that area.”

The activities respondents reported to have engaged in included; ironing, washing, preparing meals, prepares warm water for him to shower, clean his shoes and sex. However, most of these activities were static activities which would not allow the women to be mobile thus reducing on the level of physical activity of pregnant women. Probably if single pregnant women were enrolled in this study, a comparison would be made. However, the married women’s limited engagement in physical activity was confirmed by Schneider and Becker (2005) in which the study

indicated that those engaging in physical activity were the unmarried. This may be due to the adult care work that married women are engaged in.

4.2.6 Indoor and Outdoor Physical Activities

All respondents were involved in some sort of indoor and outdoor physical activities. These included majorly; house work (sweeping, cleaning of the home, washing dishes, gardening, laundry, cooking, slashing), playing with children, jogging,

All respondents noted that as much as they did these activities, they found them more difficult when pregnant. Therefore some gave up on these activities as the pregnancy progresses due to increased discomfort but others persevered and devised means of performing them more comfortably by squatting, sitting and standing.

In general, the researcher observed that majority of the respondents participated in some form of physical activities. However, there was a noted change of physical activity participation among pregnant women. This was partly attributed to the Body- physical changes that affected pregnant women and not only psychological changes. Physical changes that had been experienced during pregnancy included; increase in body size, increase in body weight, loss of figure/shape, darkening of the skin colour, development of big and painful pimples, swelling of the body like legs and nose. These change in physical activities made pregnant women not to meet the physical activity recommended guidelines. For example; Less FIT (frequency, intensity and time) they participated in physical activities irregularly, they walked for less than the recommended time which is 30 minutes and their participation intensity was so low. A few respondents indicated no significant changes in their participation in physical activities before and during pregnancy. They attributed this to having normal pregnancies. On the other hand however, physical activity is related psychological changes during pregnancy as Surkan et al. (2000) found out that lack of energy (fatigue) and anxiety were associated with low physical activity levels.

4.3 Psychological Changes and how they affect Participation Levels in Physical Activities during Pregnancy

Under this objective, the researcher aimed at establishing the psychological changes experienced by the respondents and find out whether they have any effect on their participation levels in physical activities. In general, the respondents confirmed that mood disturbance, anxiety, depression, low self-esteem, fatigue, poor attitude and stress were among the psychological changes they experienced during pregnancy. Respondents went ahead to confirm that these psychological changes had negative effects on their level of participation in physical activities.

4.3.1 Mood Disturbance

Majority of the respondents (90%) indicated that mood disturbances were very common during pregnancy. However, only one (10%) of the respondents had never experienced any mood disturbance. Of those who experience mood disturbances, 66.7% reported that it affected them throughout the pregnancy while 33.3% reported that it affected them mainly during the 1st trimester as shown in figure 8. Those who experienced mood disturbance indicated that it was characterized by self-isolation from people, hatred, bitterness, annoyance out of the blue, tough, short temperedness, easily irritated, over strictness, and quarrels. They reported that Mood disturbance was triggered off by anything that hindered their peace like the morning sickness, vomiting, spitting, body changes, and nagging husbands. Celina had this to say:

“Something minor annoys me.....one time I called my husband and requested him to buy and bring me chap but instead he brought chicken. I was so bitter with him. It was simple I got hold of it and just placed them aside. I started to quarrel and asked him if he did not hear what I wanted. So he responded that the chap was not there and that is why he improvised and instead bought chicken. I was so bitter and out of anger I forcefully asked him to eat it.”

Respondents indicated that most of the times they do not have any control over their moods. Sometimes they never realize that their moods were changing. It is other people who tell them about their mood swings and therefore it is so hard to do a self-assessment. Melissa had this to say:

“.....I try as much as I can to control my mood but sometimes it is beyond my control... but off course it is very difficult to assess myself... it is the people telling me.... Sometimes I even never realize that my moods are changing”

Out of the 9 respondents who reported to have been affected by mood disturbances

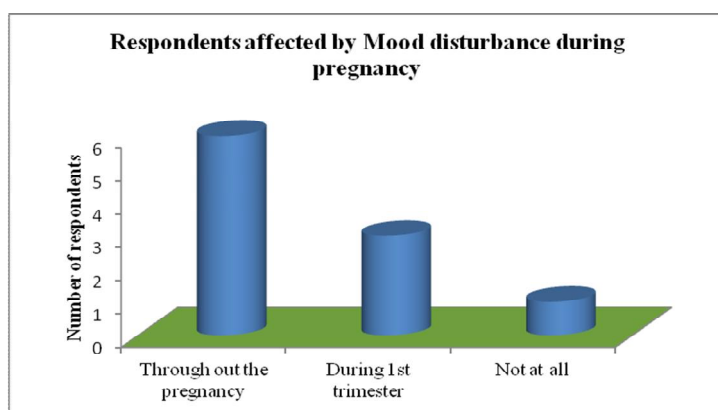


Figure 5: Mood Disturbance during Pregnancy

during pregnancy, 8 (89%) of them reported that mood disturbance reduced their participation in physical activity. They all noted that it was very hard to interact, play and share with people if one was experiencing low moods

or mood swings. Celina noted;

“Yes they affect me. For example when the husband annoys you..... You expect some care but he does not respond in return, if you had planned to take an evening walk you get so pissed off and disappointed and you end up giving up on the walk. Or if I was planning to prepare him some tea, I instead change my mind as revenge and I decide not to do so.”

This is illustrated in figure 6 below;

Therefore, results from the perceptions of the respondents show that mood disturbances affect physical activity participation. In support of the above findings, a study done by Poudevigne and O’Connor (2006) demonstrated a consistent correlation between mood disturbance and physical activity

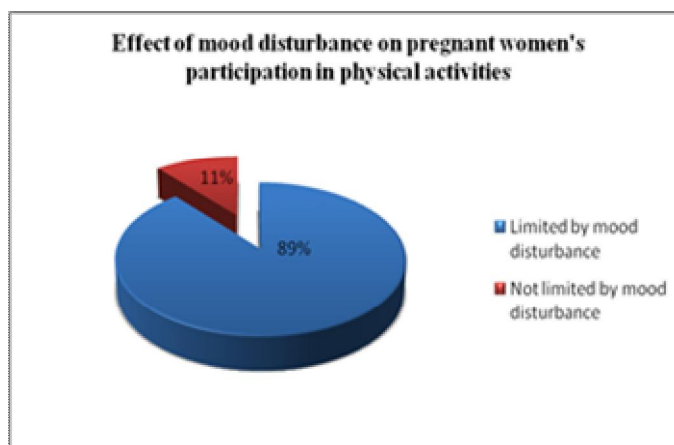


Figure 6: Respondents limited by Mood Disturbance to Participate in Physical Activities

participation among pregnant women.

In contrary, an earlier study done by Poudevigne and O'Connor (2005) showed that there is no significant correlation between mood disturbance and physical activity participation among pregnant women. The difference in results could have been caused by the pregnancy stages. In their study, participants were from 12 weeks, through the whole pregnancy, yet this study includes participants from all the three pregnancy stages. Another cause could be the difference in socioeconomic and ethnicity backgrounds of participants in both studies. The previous study composed of only middle class Caucasian women while the current study composed of high, middle and low class Ugandan women, thus a cross representation of all social classes.

4.3.2 Anxiety

All respondents (100%) admitted to having experienced anxiety at one point during pregnancy. Anxiety levels begin to rise from the time they get to know that they are pregnant, throughout the whole pregnancy. Dahlia had this to say:

“Being anxious is part of pregnancy. Actually when you get pregnant you start wondering; what sex am I carrying! How will this kid be! I am anxious about everything. At every stage I am anxious. Like when you are 1 month you are like when will I turn 3months, when you are 3 months you are like when will the baby start to kick....You are anxious about when the baby will start turning. Basically at every stage even at the moment of delivery, I am anxious. So that is part of the game, part of the pregnancy package throughout.”

40% of the respondents reported that anxiety levels were always high during the 3rd trimester while 60% reported that anxiety levels were high throughout the gestation period as shown in figure 8. Some respondent reported that anxiety during the first trimester was due to unplanned pregnancies as Melissa was quoted;

“.....At the very start when you have just conceived, for example, my 2nd child I did not plan to get pregnant, so by the time I knew that I was pregnant, I was what! I was really low, I was anxious”.

Our study revealed that Anxiety experienced included both positive and negative

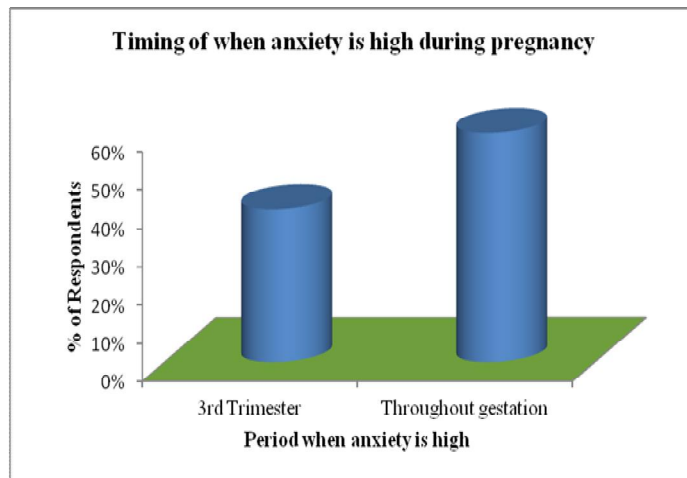


Figure 7: Period when Anxiety is experienced during Pregnancy

anxiety. Positive anxiety was about the Expected Due Date, seeing their babies for the first time, buying nice clothes for the baby, eating, knowing the sex of the baby, each passing week, resemblance,

skin complexion and raising the baby in good

health. While negative anxiety included; baby's health, mother's health, failure to have normal delivery, huge hospital bills, labor pains, progress of labor, inability to carry full term pregnancy and still births.

Almost all the respondents indicated that when they were faced with anxiety, they had no choice. They just had to bear with the condition until the end. Only one respondent noted that when she was faced with negative anxiety, she found courage and strength from God. This indicates that perhaps one's religious faith had a role to play in controlling negative psychological changes. Melissa had this to say;

"I get anxious even when I think about how I am going to be able to carry the pregnancy up to the end. When I think about what is going to happen in hospital. When I think about the huge medical bills that I have to pay, all that worry me and they definitely make me anxious. But at the same time, I keep on encouraging myself, most especially in the word of God, knowing that yes I can do everything through Christ who strengthens me".

Our data indicated that respondents who experienced medical complications from previous pregnancies had higher levels of anxiety throughout the current pregnancies and it greatly affected their participation in physical activities unlike their counterparts.

Although a bigger number of respondents were not able to explicitly explain how anxiety decreased their physical activity participation levels, some respondents

expressed themselves that the reduction in the level of physical activity was due to the ever enlarging stomach, mouth, nose and cheeks which affect their body image and social physique anxiety sets in. This caused them to start shying away from people thus stopping to engage in physical activities especially in the presence of other people. Aada said;

“You cannot wear a swimming costume because you fear even yourself, you think that how will the people look at you, which is all low self-esteem. You even fear to hurt the baby. You are told to do this, you wonder that what if it hurts my baby! And sometimes it is because we do not know, we are not educated, you do not know the benefits.”

The findings are consistent with the studies of Sedaghati et al. (2006); Teixeira et al. (2005); Glynn et al. (2008); Nordhagen et al. (2002); Somayeh, Moazami and Bijeh (2014) indicating that anxiety significantly affect physical activity participation. However, the previous last study focused on only the birth anxiety leaving out so many sources of anxiety during pregnancy.

4.3.3 Depression

All respondents reported to have experienced depression at one point during pregnancy. Some respondents indicated to have experienced depression during the first trimester, others during the 3rd trimester, and others throughout the pregnancy. They all agreed that the level of depression experienced was moderate. Causes of depression included; Un-full filled expectations from other people especially the spouses, unplanned pregnancies, increased body size and loss of body figure/shape, fatigue, failure to understand oneself, negative reports from health care providers, previous medical complications, unmet Expected Due Date and inadequate financial status to meet the increasing needs brought in by the pregnancy. Sonia was quoted; *“.....it is especially when I look forward for shopping for my baby and feel like I am stressed, am not financially stable to cater for all the requirements.”*

Our data revealed that because depression made one lazy, sleepy and weak this hindered pregnant women from participating in physical activity as Edina was

quoted; *“When I get so bitter and annoyed I just give up on anything that I am supposed to do and instead I go to bed and sleep. So there is a big negative effect.”*

Secondly, when the ones’ expectations were not met, one tended to lose morale of engaging in physical activities as Celina was noted; *“.....when the husband annoys you, you expect some care but he does not respond in return, if you had planned to take an evening walk you get so pissed off and disappointed and you end up giving up on the walk”.*

In support of our findings, research done by Dishman (1998) showed a significant correlation between depression and physical activity participation during pregnancy.

4.3.4 Low Self Esteem

Eight out of ten respondents reported to have experienced low self-esteem during pregnancy. Out of those respondents who experienced low self-esteem, majority of them reported to have experienced it during the last trimester. Low self-esteem was mainly caused by; Self-doubts about having a virginal/normal delivery, ability to “push”, ability to contain the labor pains as Aada said; *“I doubt if I will be to have a virginal birth and push the baby.”* Another cause of low self esteem was forgetfulness noted by Babbo as; *“....because you know what is associated to pregnancy; like over forgetting. So I think am not able to perform like I used to perform”* Another cause is when people around under rate one’s potential because of the pregnancy. This was emphasized by Dahlia;

“....especially depending on the people around you. Some people think a pregnant woman cannot do certain things. So sometimes you feel like I also cannot do that because I am pregnant. So low self-esteem comes up depending on the expectations of the people they put upon you. The words they speak, “this one cannot do this” because you are pregnant.....”

Unplanned pregnancies, shyness about the ever protruding big tummy and change in physical appearance were other causes of low self esteem raised. Celina said; *“This time round my skin has been affected so much. I have developed big pimples.*

Right now they are even small compared to what I used to have in the earlier months. They were even so painful.”

Therefore all these changes that lead to low self-esteem during pregnancy make one to lose the sense of self-worth and creates fear within oneself. The tendency of fearing to hurt both the mother and the baby plus the difficult of exposing one’s body due to lack of confidence all exclude a pregnant woman from participating in physical activities. Dahlia was quoted;

“Sometimes i even fear.....i feel like am not fit for this. Before I was pregnant we used have corporate runs, all the corporate guys around town we would gather, then we walk up hill and long distances. Now when I got pregnant I was like how will people see me with my pregnancy that I am also walking up hill, coming back. May be I no longer fit in that group? So somehow i try to pull back because of the pregnancy. I remember I participated in one when I got pregnant but then I saw that may be I was not fitting the other ones. So I withdrew, I pulled out, so I did not go back to the corporate walk anymore.”

4.3.5 Fatigue

Research findings revealed that 90% (9 out of 10) of the respondents reported to have experienced fatigue during pregnancy. Majority of the respondents experienced fatigue throughout the pregnancy, yet others got fatigued during the second trimester and shot higher during the 3rd trimester. Some respondent reported being more fatigued especially on those days when they did not go to work like on weekends. This indicated an interconnection between fatigue and physical activity. Respondents reported usually get back pain, find it hard to sit/ lay down for a long period of time, always get heated up, uncomfortable, general body weakness and tiredness as noted by Celina; *“....just mere preparing breakfast of frying eggs, boiling tea, and by the time I finish I am feeling so tired like someone who is from a hundred meter run. At that moment I feel as if I want to sleep”*

Dahlia explained the major cause of fatigue among pregnant women. She said that their bodies had a lot of work to do and therefore lack of enough rest caused

fatigue. She added that this was even made worse for the case of working pregnant women as quoted;

“That is very common because your body alone has a lot of work to do. It is involved in a lot of work when you are pregnant. Now if you add us working women; you are supposed to work the same hours and yet again when you go to the hospital they tell you that you need enough rest and you cannot get enough rest because again you are expected to wake up at 6am as you used to do before pregnancy, so fatigue usually comes in .by the end of the day you feel you are really down. You are fatigued”.

Noora and Melissa attributed fatigue to older age. *“For the first pregnancies I did not experience fatigue but with this I have felt fatigue more. May be it is because of the age”*

However, respondents seemed not to have a solution for fatigue as a number of them noted that they always slept whenever they got fatigued. This explains why according to the respondents fatigue negatively affected the pregnant women’s level of participation in physical activities since sleeping meant that there was limited/ no time left to engage in some kind of physical activities. Respondents explained that with fatigue, they no longer engaged in any kind of physical activities like they used to do before conception. They reported to always feel tired thus failing to perform. Aada and Celina reported to have gone ahead to hire other people to do their work. Celina reported; *“Getting fatigued all the time affects me greatly because it really hinders me from doing some work I used to do when I was not pregnant. I find myself hiring other people to do for me my work”* In general, fatigue was reported to have affected the respondents’ level of physical activity more than any other psychological change. When one is fatigued, all they think of is rest, sleep or sit, so one ends up not engaging in any form of physical activity.

In conclusion, all respondents (100%) agreed that all the psychological changes experienced during pregnancy affected their participation levels in physical activities negatively. Therefore to a larger extent, there is a relationship/correlation between most psychological changes and physical activity participation by pregnant women. Dahlia cited out the major cause of these negative effects as failure to control these changes when they occur (lack of coping strategies). Anxiety was

identified as the leading psychological change experienced by respondents, however, there was no clear evidence whether anxiety had any effect on the participation levels in physical activities. Fatigue was noted as the leading psychological change that negatively affected the participation of pregnant women in physical activities.

However, Babbo and Noora accepted that they were affected by the identified psychological changes but this did not affect their participation in occupation physical activities (performance at work) simply because they did not have a choice. This showed that apart from the psychological changes that were experienced, there were other factors that affected pregnant women participation in physical activities. These included; Lack of time, knowledge about the exact physical activities that should be done during pregnancy, physical body changes, more financial demands and nutritional needs were other factors raised. Therefore this triggers a need to sensitize and create more awareness about participating in Physical activities among pregnant women. Perhaps this could increase on the number of pregnant women taking part in physical activities.

4.4 Effects of Physical Inactivity to the Mother and the Unborn Baby

All the respondents agreed that there were negative effects of being physically inactive during pregnancy. This showed that they were aware of the consequences of physical inactivity. These effects included; General body weakness, a mother becoming heavier, Unhealthy mother, Failure to have a normal/ virginal delivery, prolonged labour and having Unhealthy baby.

General body weakness was reported to have been caused by being inactive as Melissa noted that; *“Personally, if I do not get involved in physical activities, I tend to be weak, I tend to be lazy”* This contributes to one’s feeling heavier as noted by Edina as; *“I think if I was doing more exercise I would benefit more. I would become light even if am pregnant”*. This makes the mother unhealthy and unproductive both at work and at home. This was confirmed by Noora who said;

“When I am doing my digging and walking, it helps me to be healthy because I see my neighbor she does not want to do anything and most of the times she is weak. But to me it is

only once that I fail to perform but when I try to do something I get even better, not like her.”

When the mother is unhealthy, the baby becomes weak and unable to push itself out during labour and delivery thus leading to prolonged and painful labour which may turn into a C-section which is more painful and takes long to heal as noted by Celina; “*When you are not active even the baby will not be active. When you sleep the baby sleeps, so you give birth to a weak child*”

However, Dahlia noted and agreed that physical activities during pregnancy are good because they help to relieve stress and makes one feel good. But she argued that the controller of the all process and lives is God not exercises.

“But to me right now I know that it is God who has the control because when I compare all the pregnancies I have, for example, the 1st pregnancy I did all the exercises in this world. I fully participated in exercises but when it came to giving birth I failed to have a normal delivery and it was a C-section. And were you do not do exercise it is the same.....but I have seen my friends who have not done any exercises at all and they have a normal delivery. They just go in labour, a few hours the baby is out....”

She concluded by saying that exercise has very little contribution to the end result. This indicates that perhaps there are other factors like faith or one’s belief that need to be studied in relation to psychological well-being during pregnancy.

4.5 Strategies to Improve on Pregnant Women’s Physical Activities Participation Levels

At the end of each interview, participants were asked about the strategic ideas pertaining to physical activity participation. Their recommendation included education, support from the spouse and family, health care providers’, local and religious, media, government and Non-Government Organisations. All the respondents focused primarily on the spouses’ support.

4.5.1 Spouses and Family

Most of the respondents agreed that their husbands are the best placed and should be the first people to help them to be more physically active and achieve all that they need during pregnancy. Husbands should extend a helping hand to their wives while doing work. For example; caring for children, house work, gardening and washing together to minimise fatigue. In addition, this can be a motivator as they would be working together and work becomes easier, fun and more involving than working alone. Most of the respondents indicated that their spouses did not help them, with the exception of a few who noted that their husbands only came in to help when the work is extremely too much as noted by Noora;

“Work becomes so easy if we work together than working alone..... He only helps me when I have a big garden to clear. At times he can give me some money like 10000/= to hire someone to clear the garden for me.”

Pregnant women reported that engagement in physical activity would be made easier if their husbands accompanied them as they performed any form of physical activity like walking together as Sonia said; *“If it is time for walking; if we walk together I feel I would go an extra mile than when I am alone. So I think my husband would be the best person to assist me in this.”*

4.5.2. Education/Information Dissemination

While pregnant women pointed out that their husbands were better placed to support them in physical activity engagement, husbands need to acquire the information about the need for physical activity during pregnancy such that they get to know how, when, where and what to do. This will allow husbands to more supportive in reminding their wives to do some physical activities and more so doing the activities together.

By understanding the needs of a pregnant woman, husbands would be empowered to understand the financial needs of their wives facilitating them to engage in some physical activities. This is because physical exercises with instruction are not free of charge. They can also provide transport to and from the physical activity areas.

That is why Abigail noted; *“If the husband does not know the importance of physical activity, he may not give the financial support that one needs”*.

However, since information about pregnancy is mainly disseminated during Antenatal visits, husbands should go together with their wives so as to know more about pregnancy and how they can come on board to help. This will also place the husbands in a better position to help especially when the wife gets weak. The husband can learn the exercises to do and can as well remind the wife. Abigail was quoted;

“Husbands should accompany their pregnant wives for antenatal care because when he listens to the lessons, he is in a better position to help especially when the woman gets weak. He can remind you of what was taught in the antenatal classes and encourages you to practically work out”

It should be noted that the Uganda’s health policy is advocating for men’s involvement in antenatal care. Health centers in some districts have set by-laws; if a pregnant woman does not go with a husband they do not get any service. This is all because the government wants husbands to come on board to support their pregnant wives.

Not only the spouses, but also other people like the family members, friends and in laws should support pregnant women and thus need the information. This will also help them to understand psychological changes experienced thus minimize depression.

4.5.3. Hospitals/ Doctors/Nurses/Mid Wives

It should be noted that most of the respondents indicated that they are ignorant about what physical activities they should do and those to be avoided, how to perform those activities and the associated benefits. All the respondents indicated that the doctors can help in promoting pregnant women to be more physically active since they directly handle them. This can be through;

Embedding physical activity within the antenatal care services such that whoever attend antenatal gets to know more information about exercising. However, Dahlia noted that Uganda’s health services are still lacking.

Education/sensitization; through antenatal classes mid wives should teach the pregnant women all the information about physical activities. For example; the benefits of physical activities, effects of physical inactivity, what physical activities they should do and those they should avoid.

Babbo noted that all pregnant women treasure their unborn babies so anything doctors tell them to do (like exercising) in order to have healthy babies, they are more than will to respond.

Abigail noted that there is need to always emphasize the importance of engaging in physical activity during pregnancy and make it a culture such that the concept sticks in the mothers' minds.

“If they can really emphasize it....tell people how important it is to get involved in physical activities..... sometimes they just mention it and they do not tell us the disadvantages of not getting involved. And sometimes they do not tell us what we should”

Hospitals, with the support of doctors and mid wives should organise physical activity lessons as the first activity to all pregnant women before they go for their routine check-ups. It is so important to exercise as a team/group

However, some respondents noted that there are antenatal classes they attend and physical activity is never mentioned at all. To some respondents, physical activity is just mentions but with no demonstrations on how to do those activities. Perhaps the mid wives are ignorant about physical activities.

Physical activity should be taught in both wings (private and general) without discrimination such that all pregnant women can get access to this information.

Melissa noted;

“....I have realized that actually in the general wing, there is a lot of teaching compared to the private wing. Because, at the private wing you are seeing you private doctors, sometimes they are very busy, they are just giving you a few minutes and they do not take you through that training. While in the general wing, they do it to everybody who comes”.

Hospitals should organise physical exercise class for pregnant women. Practical drills should be held with demonstrations. This can help mothers to visually learn what should be done so that they can as well do the same activities at home. Lilliana noted; *“...They should take us through those physical drills that we are supposed to do that can help us....”*

Noora noted that the mid wives would have been in a better position to help mother know the importance of physical activities but they are too tough.

“The doctors and mid wives would have helped but they are too tough....that is why I do not come to hospital for these antenatal. I have only come today because I am about to give birth. I only needed a general check-up. I would even not have come here but it is because of my husband who has insisted that I should come....I would have gone to the Traditional Birth Attendants because for them they are never tough with us, but these mid wives with those white belts, I hate them so much”

Perhaps this may explain why some Ugandan pregnant women do not go for antenatal care. Therefore health workers who work directly with pregnant women in antenatal clinics should be sensitized on how to gently handle mothers with a good attitude whenever they go for the care.

4.5.4. Government

Most of the respondents believed that the Ugandan government has a lot to do to help mothers be more physically active.

Education; the government should invest money in sports disciplines such as physical education and health sciences such that upon graduation, they are competent enough to disseminate and promote physical activities. Celina noted; *“...Invest money in doctors and physical education teachers to educate, elaborate and emphasize the point of participating in physical activities during pregnancy.”*

On-job trainings: The government should come up to offer free short courses about physical activity during pregnancy to all medical officers who directly deal with pregnant women such that they are knowledgeable and can pass on the same

information to the mothers during antenatal visits. This should be backed up by an increase in the medical officers' salaries as a way of motivating them, as mentioned by Aada; *"....give the mid wives some salary increment because the only language they understand is money....."*

The Government should plan and put up gazetted areas where the pregnant women can go and get involved in physical activities for free of charge. For example; play parks, and swimming pools

".....swimming here is very expensive. Each day you pay 10,000/=. And you know you cannot swim for the whole day, so you are going to swim for one hour or just a few minutes and 10,000shs is gone, and you do not have anything to eat at home. So when I think about all that, with the big shopping I have to do for my coming child, and because I also have to buy medicine. So if the government can take care of all that, then probably more women would get involved in physical activities."

The government should offer free antenatal, maternity and medical services to all Ugandan pregnant women so as to shelve off the worries, stress and burden of the hospital bills, as noted by Melissa;

"Making these things of antenatal and giving birth free because it worries us a lot. I am not going to be able to get involved in physical activities if I am worried. I am worried about the money that I have to pay in hospital, am worried about the money I have to spend buying medicine; the vitamins that they recommend we should take. So if all that can be taken care of by the government, it would really help a lot."

This could indirectly promote physical activity participation by pregnant women

The government should extend the physical activity services nearer to the local communities such that they are more easily accessible to the people. For example building gyms and other exercise facilities in communities and offering these services at a subsidized cost. Edina noted;

"...in our communities these health clubs are missing. In city centers like in Kampala where they exist, they are privately owned and they are every expensive. And not every pregnant woman can afford...The government should help to extend the gym services and the machines"

to the local communities such that I do not walk long distances in search for gyms.”

The government should work hand in hand with hospitals to put up exercise centres/ health clubs within the hospitals specifically for pregnant women, so that if a mother cannot exercise at home, she can at least exercise for that one day she attends antenatal care. However, Dahlia indicated that this may be impossible as quoted saying; *“You know Uganda we are still very backward, so the government I think has never thought about it and cannot give it a priority....”*

The government should emphasize policies that promote physical activity among pregnant women in all regions. It should make it a mandate for all pregnant women to engage in some kind of physical activity during antenatal visits. The challenge is that the policies are only emphasized in some parts of the country as noted by Dahlia;

“Uganda’s policy is emphasizing husbands to go with their wives for antenatal and the reason why they are pushing this so much, in some places they have even by-laws by the way, in some health centers in some districts; if a pregnant woman does not go with a husband you do not get any service”

Publications: The government should make publications in newspapers, books, magazines; supply them to the public at a free or reduced price, sponsor radio and television sports programs as a way of disseminating information about participating in physical activity to the general public. Abigail noted;

“...make a publication in the newspapers they own like the new vision. They can secure just one page for pregnant women issues like advices concerning nutrition, exercises and indicate the benefits of exercising. Those who cannot read newspapers can instead watch from the TV programs, those who do not have TVs can listen from the radio. That kind of alteration of programs on TVs and radios can help a great deal and make a great difference in the women’s lives.”

4.5.5. Non-Government Organisations

All the respondents accepted that the NGOs have a lot to do to help pregnant women be more physically active. Melissa noted that; *“NGOs have the greatest*

role to play in supporting pregnant women because the government has a lot to do yet the NGOs can be specific to their mission and target women...”

The NGOs should lead campaigns in communities at the grass roots, especially in the villages about the need to attend antenatal care as soon as one gets to know that she is pregnant, organise and come up with specific physical activities for pregnant women and teach them to community members and Dahlia noted that;

“...Here in town we tend to know what to do but when you in the villages you find a woman who is 8 months of pregnancy but has never gone to any hospital for any check-up..... NGOs can go deep down in the villages on the grass roots and educate the women.”

NGO’s can network with the communities and hospitals through volunteer work, as a way of disseminating the information about participating in physical activities during pregnancy as noted by Babbo;

“In hospitals, where the government fails to get the midwives to help in teaching the women, these NGOs can recruit volunteers and train them to teach practical exercise among pregnant women. This is because very few people can accept to volunteer in the government unlike with NGOs where many people can volunteer. So it is very easy for the NGOs to recruit volunteers and send them to different hospitals on antenatal days to teach women about physical activities.”

4.5.6. Local and Religious Leaders

Respondents believe that both the local and religious leaders have a big role to play because of their ability to reach out to so many people as noted by Melissa;

“I believe there is a lot that the local leaders can also do because they have an opportunity of reaching out to so many people. For example the religious leaders; every Friday you find many Muslims in a mosque, every Saturday you will find very many seventh Day Adventists, every Sunday you will find Christians in churches and that is a very good time to pass on such information.....”

The religious leaders should reach out and preach to the medical practitioners who work directly with people the gospel of love and care to all human race, to be

mindful of their behaviours as they handle the delicate pregnant women. This because some of their bad attitude can push away pregnant women from attending antenatal care yet it is from the antenatal clinics that women receive information about physical activities, as noted by Noora; “...*Maybe the religious leaders should teach those tough doctors and midwives to behave very well when handling us pregnant women....*”

Education for all is very vital in promoting physical activity. This can be achieved through a collaboration with the government in organising workshops and seminars for all local leaders such that they too can disseminate the information about physical activity since they reach directly to the grass root people through village meetings. They can work as inter-mediate to bridge the gap between the pregnant women at the local level up to the national level. Religious leaders’ emphasis should not only be put on preaching the word of God, but on a holistic healthy people. Celina noted;

“The local leaders can also help, by calling up village meetings and educate us more about those physical activities. Even the religious leaders can do the same. Education is the most important aspect especially the benefits of exercising while pregnant.”

However, Celina concluded by highlighting the setback for this cause as follows; “...*In our country, the education about this issue is so minimal.*”

4.5.7. Media

All respondents agreed that the media has a lot to do in promoting physical activity among pregnant women because it reaches everywhere. However, a few respondents noted that some pregnant women especially those from rural areas may not have access to Television and radio sets and at the same time may not afford to buy newspapers

Television and Radio stations should come up with sports programs where they host sports people who have great knowledge about physical activities and encouraging women to get involved. Live-aired demonstration programs about participating in physical activities specifically for pregnant women should be

thought about like aerobics. This would answer the question being asked by most of the pregnant women of “how” as noted by Abigail;

“The radios and T.V stations should also come in and help to air physical activities especially in the morning like aerobics. They only air programs for the general physical activities, and not specific for pregnant. Yet if they try to air these activities, I can as well wake up early in the morning, watch TV and do what they do. Even if I watch them for two days I can go on and do them even for other days.”

Most of the respondents reported that the media is trying to promote sports however, very little time is allocated to sports programs and the focus is mainly on general sports like soccer and worst the energy is centered on European not the local sports.

In conclusion, In order to promote physical activities among Ugandan Pregnant women, a collective effort of all stake holders should be considered rather than a single intervention strategy, as quoted by Dahlia;

“You know I have been working with communities that any intervention needs concerted efforts. When you talk about the government, the government can never do anything and it succeeds if other parties are missing. For example politicians, religious leaders, and all sorts of people need to be brought on board to know the importance of physical exercise especially during pregnancy. I think all development players need to be brought on board so that in every corner all sorts of people are preaching the same gospel.”

Therefore, perhaps the most effective strategy is to cause all the above stake holders work together in promoting physical activities among pregnant women.

A study done by Lewis, Marcus, Pate and Dunn (2002) showed that both Cognitive and behavioral strategies can help in increasing physical activity participation in sedentary populations. These include; increasing knowledge about activity, understanding the risks of not being active, caring about the consequence of one not being active on others, comprehending the benefits of activity, increasing opportunities to be active, substituting alternatives (for example., engaging in

activity at times when it is not usually done such as when one is under stress or tired), enlisting social support, rewarding oneself, committing oneself to being active, and reminding oneself about being active. According to the respondents, many of these strategies have been identified and could be delivered to them through health care providers, and ideally from their spouse/partner.

CHAPTER FIVE

5.0 RECOMMENDATIONS, FUTURE WORK, LIMITATIONS AND CONCLUSION

The purpose of this study was to qualitatively explore the psychological factors affecting the participation of pregnant women in Physical Activities in Uganda.

The results of the study are generally consistent with the previous research indicating a significant decline in physical activity participation during pregnancy, an effect of psychological factors during pregnancy, and a correlation between psychological factors and participation in physical activities.

5.1 Recommendations

The practical implications of these findings suggest that practitioners should provide interventions on how to cope with the psychological changes experienced and the adoption of a more active lifestyle during pregnancy especially during antenatal care

5.2 Further Research

Since there are a few studies as regard to this area, therefore, further research should be conducted to provide more knowledge on this issue. More longitudinal studies (from 1st, 2nd, through the 3rd trimester) with a bigger sample size should be conducted.

More intervention studies should be undertaken especially in developing countries like Uganda aimed to tackle the psychological wellbeing of all women in the reproductive age group in order to boost physical activity participation.

5.3 Strengths

There was a good representation of pregnancy stages/ trimesters in this study since some respondents were in their 1st trimester, others in their 2nd trimester and others in their 3rd trimester. Therefore the study was able to capture the experiences relating to pregnancy and physical activity throughout the whole pregnancy period

The study was not limited by language since respondents were allowed to use the languages they were more comfortable with. Both English and Luganda languages were used during the interviews. This helped the respondents to understand the interview questions and to clearly articulate their experiences

5.4 Limitations

Despite the strengths of this study, several limitations of this work should be acknowledged. Apart from the psychological factors, there may be other factors that affect pregnant women participation in physical activities that are not addressed in this particular study

The small sample size of 10 respondents, yet there were many pregnant women in Uganda

The generalizability of this study may be limited, as 90% of the respondents were from Kampala District, representing almost only the central region yet Uganda as a country is composed of 70 districts. This was because the sample respondents were got from only St Francis Hospital Nsambya which is found in the heart of Kampala district. Therefore it is not known if responses would differ for pregnant women in other regions of Uganda

5.5 Conclusion

As expected, the results showed that there is a significant relationship between pregnant women participation in physical activities and psychological changes experienced. The results of the study are generally consistent with the previous research indicating a significant decline in physical activity participation during pregnancy, an effect of psychological factors during pregnancy, and a correlation between psychological factors and participation in physical activities.

Health professionals may have an important contribution to the adoption of a more active lifestyle during pregnancy especially during antenatal care

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APPENDIX I

Consent form



Faculty of Sport and Health Sciences
Department of Sport Science

Research consent form

Exploring the psychological factors affecting the participation of pregnant women in Physical Activities in Uganda

Researcher Winfred Nakazibwe (+358 414978274 & 256712421165)
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I am a Master's Degree student at Jyväskylä University conducting a research titled: **Exploring the psychological factors affecting the participation of pregnant women in Physical Activities in Uganda**

You are chosen and requested to participate in an interview relating to your psychological changes during pregnancy and their effect to the participation levels in physical activities.

The interview is designed to be up to 30 minutes in length and information will be recorded. Please feel free to express your feelings and expand on the topic or talk about related ideas. Also, if there are any questions you feel you cannot answer or that you do not feel comfortable answering, feel free to indicate this and you will move on to the next question.

There is no risk anticipated in participating in this interview. All the information will be kept confidential. Only the researcher and faculty supervisor mentioned above will have access to this information. This interview is designed to learn first-hand information about this topic. Upon completion of this project, all data will be filed and archived, and destroyed after five years.

If you agree to take part in this study, acknowledge that you have read the above form, and consent to participate in today's interview, please sign below.

Participant's name and signature

Place/Date

Researcher's name and signature

Appendix 11

Interview guide

Demographic information

1. What is your marital status?
2. How old are you?
3. What is your employment status during?
4. If Yes, What kind of work do you do?
5. What is your level of Education?
6. What is the number of this pregnancy?

Or

What is the number of previous viable pregnancies?

7. What is the stage of your pregnancy?
8. Do you have any medical complications with this pregnancy?
9. If Yes, what is that medical complication?
10. Have you had any medical complications with the previous pregnancy/pregnancies?
11. If Yes, What was the medical complication?
12. How many living biological children do you have?
13. Have you ever heard of information about participating in Physical Activities during pregnancy?
14. If Yes, from which sources?

Objective one

1. Did you participate in Physical Activities before conception?
2. If yes, what kind of Physical Activities did you involve in?
3. Do you participate in Physical Activities during pregnancy?
4. If yes, what kind of Physical Activities do you involve in? (The interviewer may probe the interviewee to specify what she does with each category in case there is any) e.g.

At work, Leisure, Transportation, Childcare, Adult care, In-door and out-door house hold activities;

5. Do you think there is a significant change in your participation in Physical Activities before and during pregnancy?

6. If Yes, the interviewer probes for an explanation of the changes

Objective two

Psychological changes experienced during pregnancy

Mood disturbance/swings

Have you ever felt fine at one moment and in tears the next / feelings being up and down?

If yes, probe to elaborate more and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Fatigue

Have you ever felt extremely tired/ exhausted even when you have not done much work?

If yes, probe to elaborate and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Anxiety

Have you ever developed a persistent feeling of fear, worry and unease about pregnancy?

If yes, probe to elaborate and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Depression

Have you ever been in a state of low mood which probably affected your thoughts, behaviors, feelings and sense of wellbeing?

If yes, probe to elaborate and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Low self esteem

Have you ever lost a sense of self-worth/ felt worthless?

If yes, probe to elaborate and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Poor attitude

Have you ever developed a negative feeling about this pregnancy?

If yes, probe to elaborate and at what stage of the pregnancy did you felt it most high?

How does this feeling affect your participation levels in physical activities during this pregnancy?

Are there other psychological changes experienced/ anything else affecting your mind?

If yes, probe to state and explain

Apart from the above psychological changes, which other changes have you experienced which have affected your participation levels in Physical activities during this pregnancy?

Objective three

Do you think it is better for you and your baby to participate in physical activities during pregnancy as before?

If yes, the interviewer may probe to know how better?

OR

Do you think there are negative effects of physical inactivity during pregnancy to the mother and/or the fetus?

If the respondent's answer is yes, could you please describe the effects?

Conclusion

In your own opinion, what do you think should be done to support pregnant women like you to actively participate in Physical activities despite the prevailing psychological changes/barriers?

Thank you for participating in this study

THE END