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Effectiveness of Antenatal Support Programs and Perceived Psychological Well-Being of Expectant Mothers in Selected Hospitals in Nairobi County Kenya

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A B S T R A C T

Maternal health is crucial not only for the life of the mother but also for the preservation of human posterity. This study investigated effectiveness of antenatal support programs and perceived psychological well-being of expectant mothers in selected hospitals in Nairobi County, Kenya. The study addressed the following objectives; to determine the effectiveness of antenatal care programs on the psychological wellbeing of expectant women in selected hospitals in Nairobi County Kenya, to establish the influence of social support and psychological wellbeing among expectant women in selected hospitals in Nairobi County Kenya, to assess the influence of health education on psychological wellbeing among expectant women in selected hospitals in Nairobi County Kenya, to examine the effect of routine prenatal care on psychological wellbeing among expectant women in selected hospitals in Nairobi County, Kenya. Eight public maternity hospitals and health centers in Nairobi were targeted. Within the 8 public hospitals in Nairobi, a total of 388 expectant women were the target population of antenatal clinics. The sample size of the study was 197 participants. Primary data was collected through a questionnaire. Self-administered questionnaires were given to antenatal mothers in hospitals for them to fill; while nurses responded through interview guides. Data entered into SPSS software for analysis version 26, were checked for completeness, inconsistencies, and missing values. The study found that antenatal care programs exhibited a significant positive correlation with psychological well-being ($r = 0.446$, $p = 0.000$). The regression model further emphasized the importance of antenatal care programs in promoting mental well-being during pregnancy ($\beta = 0.293$, $p = 0.001$). Social support had positive effect on psychological well-being ($\beta = 0.179$; $p = 0.000$). Health education was also found to have a positive effect on psychological well-being ($\beta = 0.282$, $p = 0.000$), and rising psychological well-being influenced prenatal attention ($\beta = 0.268$, $p = 0.002$). The study recommended that hospital management may enhance and expand existing antenatal care programs to encompass holistic well-being of pregnant women.

Keywords: Antenatal Support, Psychological Wellbeing, Expectant Mothers

1. Introduction

This study investigated effectiveness of antenatal support programs and perceived psychological well-being of expectant mothers in selected hospitals in Nairobi County, Kenya. It presents the background of the study, statement of the problem, the objectives, methodology and it further shows the findings of the study, followed by the discussions and conclusion respectively.

1.1 Background

Antenatal care for expectant mothers are fundamental, owing to the reason that pregnancy causes physiological and psychological changes that make a woman more vulnerable to anxiety, depression and other negative health possibilities (Callanan, 2022; Afen et al., 2022). Antenatal care helps expectant mothers get ready for their babies which educates them on how to recognize risk factors throughout pregnancy (Fareed & Ismail, 2019). Maternal health is crucial not only for the life of the mother but for the preservation of human posterity. Pregnant women who regularly receive antenatal care and various psychology supports are more likely to deliver their babies in a healthy way (Gupta, 2014).

According to van Pelt et al. (2023), in 2001, the World Health Organization (WHO) recommended a minimum of 4 antenatal care consultations for women who are pregnant, of which the first visit should occur in the first 3 months of pregnancy. These visits comprise of several precautionary interventions like tetanus toxoid immunization, iron supplements, malaria prophylaxis, and deworming; and to take critical measure against possible complications, like sexually transmitted infections (Nonyane., 2016: Kearns et al., 2014). The World Health Organization (WHO, 2018) postulates that antenatal care is the care provided by skilled health professionals to pregnant women to ensure the health of mother and child during pregnancy and childbirth. It is the routine health control of assumed healthy pregnant women without symptoms, so as to diagnose diseases or complicating obstetric conditions without symptoms, and as well to provide information about lifestyle, pregnancy and delivery of babies. Antenatal care also empowers pregnant women with some basic knowledge of self-care since they are not always with the medical experts (McNellan, 2019). Research has indicated that antenatal

care enhance psychological wellbeing. Women and their spouses believe that various social support improve their psychological wellbeing and provide them a sense of normality (Wadephul et al., 2016). Russell et al. (2020) postulates that psychological well-being may be seen as the absence of mental diseases, which also includes; autonomy, perceived self-efficacy, subjective well-being, competence, an individual's ability to realize their emotional and intellectual potential, and intergenerational independence are all concepts of mental health (Gaikwad, 2018).

In China, Zhou et al. (2021) conducted a research study on the relationship between perceived social support, antenatal depression, and fear of childbirth (FOC) in healthy primipara women. The study embraced a descriptive cross-sectional design, and the participants were 609 primipara women (⩾18 years old) who had received routine prenatal care and visited a tertiary care hospital in Xi’ an.The mean scores of depression, social support, as well as FOC of women were 9.50 (5.19), 70.91 (9.25), and 70.43 (20.88), respectively. The study found that perceived social support played a mediating role between antenatal depression and FOC. The study also found that FOC was prevalent among healthy primipara women, with 22.3% of women scoring ⩾85 on the 33-item Wijma Delivery Expectancy/Experience Questionnaire (WDEQ). The study provides evidence that perceived social support can help to reduce FOC in healthy primipara women. Similarly in Pakistan, Siddique et al. (2022) indicated that the government did not develop adequate initiatives to improve the maternal health of women, particularly among those with no education. They further reported that only 15% of women had adequate antenatal visits. Bivariate analysis showed that women who had higher income status, higher education, and were working in managerial positions had significantly adequate antenatal health care ($P<0.05$). The study recommended that the government may take adequate initiatives to formulate policies that could improve women’s status specifically among women who had no education, had less decision-making power, lack of economic resources, as well as faced violence. According to Ginja et al. (2018), 12% of expectant women in the UK suffer from depression, while 13% experience anxiety, with many feelings both. Within the first year after childbirth, depression and anxiety rates among women jump to 15 to 20%. In Malaysia, mothers who attended regular Antenatal care (ANC) visits had a better pregnancy outcome than those who did not (Keya, Fernandez, Kharkwal & Habib, 2021).

Regionally, pregnant mothers do not follow recommended prenatal and postnatal care schedules, as reported by Esopo, Derby, and Haushofer (2020). Psychologists, doctors, and others in the Nigerian community who care about pregnant women's health and happiness have long worried about their mental health. According to Fagbenro, Ehigie and Folasade (2018), for expectant women to be healthy, psychological interventions should be tailored to the stages of pregnancy, particularly the first 3 months. Expectant women face significant psychosocial challenges due to the impact of poverty, IPV, and HIV (Mathebula, 2022). In South Africa, Matlebula (2022) pointed that screening studies for common maternal mental health disorders showed that mental health disorders impact 21%–39% of pregnant women, several of the pregnant women screening positive for anxiety and depression. A South African antenatal depression and adversity study suggested a 33% prevalence of diagnosed common maternal mental health disorders, with a prevalence of suicidal ideations and behavior of 18%. Also, Matlebula (2022) investigated how antenatal care visits in hospitals, private clinics, and low-income communities in Soweto affect the mental health of pregnant women. Data was collected from 14 clinical staff members through a snowballing sample ($N = 14$) who provided antenatal care to expectant women. Psychological well-being among expectant women was examined through semi-structured phone interviews. Data transcription and analysis were carried out using NVIVO's thematic method of phenomenological analysis. In the study, the significance of clinical providers in addressing mental health needs of expectant women during antenatal care is underscored, particularly in Soweto.

In Kenya, a study was carried out by Karwitha (2019) which was on project management practices influence on the performance of antenatal care services projects in Kenya. A sample population of 156 was arrived at by calculating the target population of 262 with a 95% confidence level and an error of 0.05 using the below formula taken from Kothari (2004). The research adopted a stratified and simple random sampling technique. The study revealed that a unit increase in planning practices would lead to 0.941 increase in performance of antenatal care services projects in Kenya. This variable was significant since $p=0.013$ is less than 0.05. It was further reported that 55.6% indicated that project funding influence performance of antenatal care services projects in Kenya to a great extent, 33.3% indicated to a very great extent, 6.3% indicated to a moderate extent, 3.5% indicated to a low extent while 1.4% indicated not at all. This study focused on management practices on the performance of antenatal care, while the current study investigated effectiveness of antenatal support programs and perceived psychological well-being of expectant mothers in selected hospitals in Nairobi County, Kenya.

Statement of the Problem

A growing body of global evidence has revealed that perinatal populations experience higher levels of psychological distress, anxiety, and depression. Adolescent mothers in low-income areas, particularly in urban informal settlements, face challenges in accessing and utilizing ANC services due to social determinants (Kumar & Huang, 2021). In Nairobi's urban, Women experience domestic abuse during pregnancy at a rate of 16%, prenatal depression at a rate of 4–16%, and postpartum depression at a rate of 15-20% (Madeghe, Kogi-Makau, Ngala & Kumar, 2021). Many women feel stress during their pregnancies and deliveries because they lack psychological support, such as that of their partners, family members, and friends. These make a woman more susceptible to depression, which has negative impacts on the health of both the mother and the fetus for the majority of women in Nairobi area hospitals (Osok, Kigamwa, Stoep, Huang & Kumar, 2018). Similarly, the psychological challenges in Nairobi healthcare facilities include a shortage of MCH services for expectant/parenting adolescents, as well as a lack of mental health programs and training on parenting and mental health for healthcare staff (Kumar et al., 2021). Perinatal mental health is not given much attention by facilities providing basic MCH care as other urgent health issues always come first (Mutahi et al., 2022).

Healthcare facilities, intended to function as symbols of optimism and support, regrettably exacerbate these psychological difficulties. The systemic challenges are diverse and encompass several areas. One of the concerns pertains to the absence of mental health programs focused on treatment within healthcare facilities, as well as the neglect of parenting and mental health curriculum content for healthcare professionals. The issue of perinatal mental health, despite its seriousness, is sometimes overshadowed in healthcare institutions that primarily focus on providing basic maternal and child health treatments. The prominence of urgent physical emergencies tends to mask the gradual and less visible nature of mental health concerns.

Therefore, the study sought to examine the effectiveness of antenatal support programs on the perceived psychological well-being of expectant women in selected hospitals in Nairobi County, Kenya.

Objectives of the study

1. To determine the effectiveness of antenatal care programs on the psychological wellbeing of expectant women in selected hospitals in Nairobi County Kenya,
2. To establish the influence of social support and psychological wellbeing among expectant women in selected hospitals in Nairobi County Kenya,
3. To assess the influence of health education on psychological wellbeing among expectant women in selected hospitals in Nairobi County Kenya
4. To examine the effect of routine prenatal care on psychological wellbeing among expectant women in selected hospitals in Nairobi County, Kenya.

2. Methodology

A mixed methods approach was used in this study, which combined elements of both qualitative and quantitative research. This dual approach is especially useful in studies like this one, where it is critical to investigate the depth and breadth of complex phenomena, such as the impact of various antenatal support systems on psychological well-being. By capturing both numerical data and detailed personal experiences. The mixed methods design allows for a comprehensive understanding. The study was based in Nairobi City County, where valuable information was gathered from eight prominent hospitals known for their antenatal clinic services. The participants were nurses and antenatal mothers aged between 15 and 49 years, across marital, educational, and occupation statuses, in Nairobi, Kenya. The study unit of analysis was 8 maternity public hospitals and health centres in Nairobi, 8 nurses were purposively selected and with the application of Yamane (1967) formula on 388 pregnant mothers, the sample size of the study was 197 participants. The inclusion criteria of the study included: working as a registered nurse or midwife in one of the selected hospitals in Nairobi County, having at least one year of experience in providing antenatal care services, and having completed training on antenatal support programs. The exclusion criteria included: being a student nurse or midwife and not having sufficient experience in providing antenatal care services, and being a nurse or midwife who is not directly involved in providing antenatal care services. The study used a self-administration approach for antenatal mothers in hospitals, with responses facilitated by a 'drop and pick later' method. The questionnaire was methodically divided into two sections. Section A was to gather demographic data from participants. Section B, was the antenatal support programs questionnaire. A multiple regression model was used to investigate the effectiveness of independent variable on the dependent variable. A 95% confidence interval (CI) with a P-value threshold of 0.05 was used to determine statistical significance. In this study, stringent ethical guidelines were adhered to, ensuring the confidentiality and privacy of participants' information throughout the study.

3. FINDINGS

This section presents the findings of the study in line with the objectives and then follow by the discussions as well as the conclusion which also highlighted some recommendations.

Effectiveness of Antenatal Care Programs on the Psychological Wellbeing of Expectant Women in Selected Hospitals in Nairobi County, Kenya.

The first objective of this study was to determine the effectiveness of antenatal care programs on the psychological wellbeing of expectant women in selected hospitals in Nairobi County.

Regression Model

1	(Constant)	-0.158	0.219		-0.72	0.034
	Antennal Care Programs	0.275	0.078	0.293	3.522	0.001
	Social support	0.18	0.079	0.179	2.29	0.000
	Health education	0.289	0.099	0.282	2.906	0.000
	Routine prenatal care	0.256	0.087	0.268	2.949	0.002

The regression model was presented as follows.

$Y = -0.158 + 0.275ACP + 0.18SS + 0.289HE + 0.256RPC$

Where:

Y = Psychological well-being

ACP = Antenatal Care Programs

SS = Social support

HE = Health education

RPC = Routine prenatal care

The regression analysis revealed that the variables, namely antenatal care programs, social support, health education, and routine prenatal care, were significant predictors of psychological well-being among expectant women. R Square reveals that only 23.5% of psychological well-being variance can be predicted by variable values. Statistical significance was found ($F = 11.619$, $p < 0.01$), which means the model predicted psychological well-being overall. The individual contributions of the predictor variables towards predicting psychological well-being were significant ($p < 0.01$). The regression coefficients reveal how strong and in which direction the relationships between Antenatal Care Programs, Social support, Health education, and Routine prenatal care are linked to Psychological well-being. With the predictor variables at zero, the expected value of the outcome variable is represented by the constant term (-0.158). Once other variables are held constant, the relationship between the predictor variable and the outcome measurement becomes apparent through the coefficient assessment, illustrating how much the outcome will change with every one-unit increase in the predictor variable. With increased antenatal care programs, there is a positive effect on psychological wellbeing ($\beta = 0.293$, $p = 0.001$). With higher levels of social support, had positive effect on psychological well-being ($\beta = 0.179$; $p = 0.000$). Health education was also found to have a positive effect on psychological well-being ($\beta = 0.282$, $p = 0.000$), and rising psychological well-being influenced prenatal attention ($\beta = 0.268$, $p = 0.002$).

4. Discussions

Antenatal care, helps expectant mothers get ready for their babies and educates them on how to recognize risk factors throughout pregnancy (Fareed & Ismail, 2019). This may be accomplished in large part through antenatal care, which helps ensure a healthy pregnancy and gives the baby a healthy start in life. Expectant women who had access to comprehensive antenatal care programs may experience higher levels of psychological well-being. Zhou et al. (2021) in China emphasized the role of perceived social support in reducing fear of childbirth (FOC) and antenatal depression. The mean scores of depression, social support, as well as fear of childbirth of women were 9.50 (5.19), 70.91 (9.25), and 70.43 (20.88), respectively. Maaly Ebrahim et al. (2018) showed the positive impact of antenatal nursing interventions on childbirth fears and psychological well-being. Battulga et al. (2021) conducted a comprehensive analysis of existing literature and found a positive correlation between social support and subjective well-being (SWB) among pregnant women. Ginja et al. (2018) revealed that social support was associated with improved mental health and self-confidence among first-time pregnant women.

Additionally, underscoring the importance of providing pregnant women with health-related knowledge. The study findings align with the notion that health education plays a crucial role in enhancing the psychological well-being of expectant women. Permatasari et al.'s (2021) research, which focused on nutrition and reproductive health education in Indonesia, demonstrated that such educational interventions resulted in improved knowledge, attitudes, and practices among expectant women.

Based on routine prenatal care, the findings of this current study are consistent with the study of Lorenz et al. (2022) who research on the GeMuKi intervention program highlighted that routine check-up visits during pregnancy provide an opportune setting to discuss various lifestyle topics. The study findings also align with Matlebula's (2022) study in South Africa give emphasis to the significance of clinical providers in addressing the mental health needs of expectant women during antenatal care. Ebrahim et al.'s (2018) investigation into antenatal nursing interventions revealed that a psycho-educational nursing intervention led to decreased childbirth fears, improved psychological well-being, and better obstetrical outcomes when compared to the control group. Peahl et al.'s (2021) study focused on tailored prenatal care recommendations and their importance in pregnancy. While not directly related to psychological well-being, it emphasizes the importance of tailoring prenatal care to individual needs, which is a key aspect of routine prenatal care.

Regarding social support, the study by Khusen and Suryadi (2021) specifically highlights the positive correlation between perceived social support and psychological well-being among primigravida pregnant women, which corroborates the idea that social support is beneficial for first-time mothers. Battulga et al. (2021) conducted a comprehensive analysis of existing literature and found a positive correlation between social support and subjective well-being (SWB) among pregnant women. Ginja et al. (2018) revealed that social support was associated with improved mental health and self-confidence among first-time pregnant women.

5. Conclusion

These findings highlight the importance of comprehensive antenatal care programs that address the physical, emotional, and psychological needs of expectant women. They emphasize the need for social support networks and interventions that promote social connectedness among pregnant women. The findings underscore the significance of integrating effective health education programs into antenatal care services to empower pregnant women with the necessary knowledge and skills. Further, the findings pointed the importance of prioritizing and maintaining comprehensive routine prenatal care

services to support the psychological well-being of pregnant women. Therefore, it is recommended that hospital management may enhance and expand existing antenatal care programs to encompass holistic well-being of pregnant women. They may promote interdisciplinary collaboration to provide comprehensive care that includes psychological support. They may strengthen health education initiatives within antenatal care services, focusing on emotional and psychological aspects of pregnant women.

A qualitative study may be conducted to explore factors contributing to effective antenatal support programs among pregnant women.

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