Original Article

Patterns and Predictors of Quality of Life (QoL) Among Postnatal Women: Findings from a Nigerian Teaching Hospital

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ABSTRACT

Postnatal period, encompassing six weeks following childbirth is crucial for both the mother and the baby. A woman's postnatal well-being is influenced by physical health, mental well-being, social relationships, environmental conditions, and self-esteem. This study seeks to determine the pattern and determinants of Quality of Life (QoL), among women attending postnatal clinic in a Nigerian Teaching Hospital. A descriptive cross-sectional design using simple random sampling method was adopted. The study was conducted at the University of Medical Sciences Teaching Hospital Ondo between January and October 2023. Statistical significance was considered at a p-value less than 0.05. The QoL assessment showed that 81.2% of the respondents reported good physical health, 87.1% had stable psychological health, 90.6% had strong social well-being, and 82.4% had general satisfaction with their environment. Overall, the data showed positive trends in physical, psychological, social, and environmental well-being. The study found that respondents with vaginal delivery had a higher odd of above average quality of life, which was 14 times higher than those with Caesarean or instrumental delivery. (OR 14.206, p= 0.002) Additionally, the odds of above average quality of life increased by 1.644 points per unit increase in self-esteem. (OR 1.644, p <0.001). However, those who didn't plan their pregnancy had a lower odd of above average quality of life, which was 0.165 times lower than those who planned their pregnancy. (OR= 0.165, p=0.010). The majority of respondents reported above-average QoL, with significant correlations found between various domains, with self-esteem, vaginal delivery, and family planning being key determinants.

Keywords: Nigeria, Postnatal, Quality of Life, Self-esteem

INTRODUCTION

The postnatal period is a critical phase in a woman's life that can significantly affect her overall well-being and quality of life (QoL). This is a period encompassing six weeks after the delivery of the baby, during this time, women may experience a wide range of physical, emotional, and psychological changes as they adjust to the responsibilities of motherhood.[1] Research has shown that various factors such as physical health, mental well-being, social relationships, and environmental conditions play a pivotal role in shaping postnatal QoL. Additionally, self-esteem, which reflects an individual's self-perception and sense of worth, has emerged as a crucial determinant of a woman's mental health and her ability to cope with postnatal challenges.[2] Numerous studies have highlighted that women with higher self-esteem are more likely to experience positive mental health outcomes, lower

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rates of postpartum depression, and a greater sense of competence in parenting.[3] Conversely, low self-esteem can exacerbate feelings of inadequacy, anxiety, and depression during the postpartum period, negatively impacting their QoL. Furthermore, the mode of childbirth, particularly vaginal delivery versus Caesarean section, has been identified as a significant predictor of health-related QoL, with vaginal delivery often associated with faster recovery, less pain, and better emotional outcomes.[4] Social support, access to healthcare, and the ability to manage physical and emotional stressors are also recognized as critical predictors of postnatal well-being.[5]

Despite growing research on postnatal health, there remains a need to explore in greater detail the patterns and predictors of good QoL among postnatal women, especially in diverse cultural and socioeconomic settings.[6] Moreover, the relationship between self-esteem and postnatal QoL warrants further investigation to better understand how interventions targeting self-esteem could enhance maternal health outcomes.

Despite the critical importance of the postnatal period, many postnatal women face challenges that negatively impact their quality of life (QoL), including limited healthcare access, socio-cultural pressures, economic hardships, and insufficient support systems. While maternal antenatal health has been prioritized, the postnatal phase remains underexplored, especially in terms of QoL.[7] Factors such as postpartum depression, childbirth complications, and regional healthcare disparities further contribute to suboptimal postnatal Quality of life. With limited research on these issues, targeted interventions are lacking. Hence the need for this study.

This study therefore seeks to determine the pattern and determinants of above average QoL among women attending postnatal clinic in a Nigerian Teaching Hospital

MATERIALS AND METHODS

Study Location

The study was conducted at the University of Medical Sciences Teaching Hospital, Medical Village Ondo which is about 42 kilometers away from the state capital Akure, Ondo State. The hospital is the only teaching hospital in Ondo State with 274 beds and four major Antenatal and Postnatal clinic days.

Study Population

The study populations were patients attending the postnatal clinics between January and October 2024. About 15 patients attend postnatal clinics per week.

Study Design

The study employed a descriptive cross-sectional design and was conducted with the use of a validated questionnaire,

Instruments

Rosenberg's self-esteem scale

The scale was developed by Dr. Morris Rosenberg, and it is a commonly used self-esteem measure in research.[8] The Rosenberg Self-Esteem Scale is a 10-item self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance.[9] The items are answered on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree).[10] The scale generally has high reliability: test retest correlations are typically in the range of 0.82 to 0.88, and Cronbach's alpha for various samples are in the range of 0.77–0.88.[11] The total score of the scale is 40.

WHO Quality of Life Brief

The WHOQOL-BRIEF is a 26-item instrument consisting of four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items); it also contains QOL and general health items.[12] Each individual item of the WHOQOL-BRIEF is scored from 1 to 5 on a response scale, which is stipulated as a five-point ordinal scale. The scores are then transformed linearly to a 0–100-scale.[13] The physical health domain includes items on mobility, daily activities, functional capacity, energy, pain, and sleep. The psychological domain measures include self-image, negative thoughts, positive attitudes, self-esteem, mentality, learning ability, memory concentration, religion, and the mental status. The social relationships domain

contains questions on personal relationships, social support, and sex life. The environmental health domain covers issues related to financial resources, safety, health and social services, living physical environment, opportunities to acquire new skills and knowledge, recreation, general environment (noise, air pollution, etc.), and transportation.[14] In this study respondent who scored 50% and above and below 50% in each domain and the total domain were considered above average and below average QOL respectively.

Declarations and ethics statements

Ethical approval

Ethical approval was obtained from the Ethics and Research Ethics Committee of the University of Medical Sciences Teaching Hospital Ondo City, Ondo State (UNIMEDTH/REC/24/035).

Ethical Issues and Clearance

The ethical approval was secured from the institution Ethical review and Research Committee.

Informed consent from participants

Participation was voluntary, and informed consent was obtained from participants.

Sample Size

The sample size for this study was computed using the formula below.[15]

$N = Z^2pq / d^2$

Where

N= the minimum sample size if the population is >10, 000.

Z =the standard normal deviation usually set at 1.96 corresponding to a 95% confidence interval

p = The prevalence of good level Quality of Life was 26.6 % — '(16)

q = 1 – p.

d = degree of accuracy desired set at 0.05

The minimum study sample size from the prevalence was 300

However, the study population is below 10,000, the true sample size (nf) is estimated from the above, as follows:

$$n_f = \frac{N}{1 + (N)/(n)}$$

Where n_f =the desired sample size when population is less than 10,000.

N= the desired sample size when the population is more than 10,000= 300

n = the estimate of the population size, with the value of 600 which is the population of postnatal women that attended the clinic between January and December 2023.

$$\text{Therefore } n_f = \frac{300}{1 + (300)/(600)}$$

$$n_f = 200$$

The minimum sample size for the study was 200 postnatal women attending the University of Medical Science Teaching Hospital Ondo between January and October 2023. However, in order to increase the power of the study, 360 questionnaires were randomly distributed using balloting method.

Procedure

Having retrieved the lists of the postnatal women attending each postnatal clinic after the delivery from the Department of Health Information Management to know the number of patients expected at the clinic, the objective of the study was discussed with the client while waiting to see the doctor. Assertion of confidentiality was given and the benefits of the study were explained. Consent for participation was obtained with the Informed Consent from patients who meet the inclusion criteria and gave consent. An average of 2 or 3 patients were randomly selected per clinic. The selected respondents were given self-administered questionnaires and then collected back by the researchers and research assistants. Each questionnaire was checked during submission for adequate completion and the patients who did not properly fill out the questionnaire were persuaded to do so. The questionnaires were written in English and patients who needed interpretations were assisted by the researchers and Research assistants.

Data Analysis

The Statistical Package for Social Sciences (SPSS

version 26) was used for Data analysis. The socio-demographic details of respondents were reported using descriptive statistics such as frequency and percentage. Chi-square and multivariate statistical techniques such as binary logistic regression were employed to identify the factors that were significantly associated with above average Quality of life or otherwise. The confidence interval was set at 95% while statistical significance was considered at a *p-value* less than 0.05.

RESULTS

Socio-demography of the Respondents

In this study, 340 questionnaires were properly filled out of the 360 distributed given a response rate of 94.4%. Table 1 shows the socio-demographic characteristics of respondents. All the respondents in the study were married (100%). A majority (81.2%) identified as Christians. In terms of education, 56.5% had completed secondary school and 85.9% belonged to the Yoruba ethnic group. Additionally, 98.8% of respondents reported no family history of mental illness. Furthermore, 82.4% of the pregnancies were planned. A significant portion, 94.1%, reported that none of their children had chronic illnesses. Regarding baby gender preferences, 58.8% had no preference, In terms of delivery, 50.6% had experienced spontaneous vaginal delivery (SVD).

Prevalence and Pattern of Quality of Life among the respondents

Figure 1 reveled Prevalence and Pattern of Quality of Life among the respondents. The Quality of life (QOL) assessment revealed that 88.2% of respondents scored above average. (Fig 1.) . A significant majority, 81.2%, report above average physical well-being, indicating that most maintain good physical health. In terms of psychological health, 87.1% of individuals are classified as above average suggesting that the majority are in a stable and healthy mental state. Social well-being is particularly strong, with 90.6% experiencing above average social quality, which reflects robust social connections and support networks. Additionally, 82.4% of individuals rate their environment as above average showing general satisfaction with their surroundings. (Fig 2) Overall, the data reveals positive trends in physical, psychological, social, and environmental well-being (Table 2).

Association Between sociodemographic variable and above average Quality of Life among the respondents

Table 3 shows the Association between sociodemographic Characteristics and Quality of Life. The chi-square test result indicates that there is a statistically significant association between respondents who planned the pregnancy (94.3%) with above average QOL and respondents who do not plan the pregnancy (60.0%).($\chi^2 = 55.954$, $p = 0.001$). Significant proportion of respondents who delivered by vaginal delivery (95.3%) had above average QOL compared to respondents who had instrumental / Cesarean section (81.0%). The association is statistically significant. ($X^2 = 16.969$, $p=0.001$) Respondents who don't have preference for gender of the baby (94.0%) had higher proportion of above average QOL than respondents with preference for gender (80.0%) ($X^2=15.549$, $p=0.001$).

The mean of self-esteem is higher (28.1±5.0) among respondents with above average QOL than respondents with below average QOL (15.30±4.27), the observation was statistically significant (T=15.365 p=0,001) similarly, the mean age of respondents with above average QOL(30.56± 6.16) than respondents with below average QOL the observation was statistically significant (T=3.096 p = 0.002) Finally, the mean value for the numbers of children among respondents with above average QOL is lower (2,07±1.22) than 2.65±1.45 among respondents with below average QOL the observation was statistically significant (T 2.051 $p=0.041$) (Table 4)

The Determinants of above average quality of Life among the Respondents

The Odd of above average Quality of Life among the respondents was 14 times higher in those who had vaginal delivery than respondents who had either Caesarian section or instrumental delivery. The association is statistically significant. (OR 14.206, p= 0.002) In addition, the odd of above average

quality of life among the respondents increased by 1.644 odd per unit increase on the scale of self-esteem. The association in statistically significant (OR 1.644, pvalue <0.001). The Odd of above average Quality of Life among the respondents was 0.165 times lower in respondent who didn't planned their pregnancy than respondents who planned their pregnancy. The association is statistically significant. (OR= 0.165, *p=0.010*)

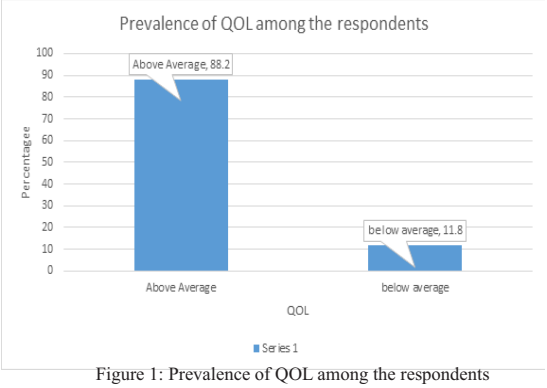

Figure 1: Prevalence of QOL among the respondents

Table 1 Sociodemographic Characteristics of the respondents

Variables	Frequency(n)	Percentage (%)
Marital status		
Married	340	100.0
Religiosity		
Christianity	276	81.2
Islam	64	18.8
Educational status		
None	4	1.2
Primary	24	7.1
Secondary	192	56.5
Tertiary	120	35.3
Tribe		
Yoruba	292	85.9
Igbo	44	12.9
Hausa	4	1.2
Positive family history of mental illness		
No	336	98.8
Yes	4	1.2
Are you living with your husband		
No	8	2.4
Yes	332	97.6
Was the pregnancy planned		
No	60	17.6
Yes	280	82.4
Any chronic illness in any of the children		
No	320	94.1
Yes	20	5.9
Do you have preference for the sex of the		
baby	200	58.8
No	140	41.2
Yes		
Present mode of delivery		
SVD	172	50.6
CS and instrument	168	49.4

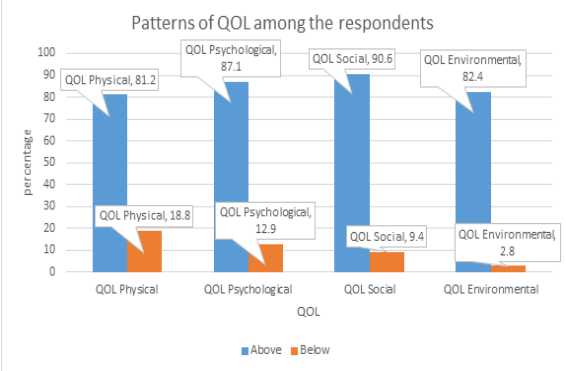

Figure 2: Patterns of Quality of Life among the Respondents

Table 2 Correlation between the domains of Quality of Life

	Physical	Psychological	Social	Environment
Physical	1	r=0.449 p<0.001	r=0.534 p<0.001	r=0.492 p<0.001
Psychological	r=0.449 p<0.001	1	r=0.532 p<. 0001	r=0.577 p<.0001
Social	r=0.534 p<0.001	.r=0.532** .p< 0,001	1	r .572** .p<0001
Environment	.r 0. 492** P< .000	r.<577** p<.000	r=0.572** .p<0.00	1

Table 3: Analysis of the Association between sociodemographic Characteristics and Quality of Life among the respondents

Variables	Below average	Above average	X^2	*df*	P-Value
Educational status					
None	0(0.0%)	4(100.0%)	5.563	3	0.135
Primary	0(0.0%)	24(100.0%)			
Secondary	28(14.6%)	164(85.4%)			
Tertiary	12(10.0%)	108(90.0%)			
Tribe					
Yoruba	32(11.0%)	260(89.0%)	2.461	2	0.292
Igbo	8(18.2%)	36(81.8%)			
Hausa	0(0.0%)	4(100.0%)			
Positive Family history of MI					
No			0.540	1	0.463
Yes	40(11.9%)	296(88.1%)			
	0(0.0%)	4(100.0%)			
Are you living with your husband					
No					
Yes	0(0.0%)	8(100.0%)	1.092	1	0.296
	40(12.0%)	292(88.0%)			
Was the pregnancy planned			55.954	1	*0.001*
No	24(40.0%)	36(60.0%)			
Yes	16(5.7%)	264(94.3%)			
Present mode of delivery					
SVD	8(4.7%)	16(95.3%)	16.969	1	*0.001*
CS and instrument	32(19.0%)	13(81.0%)			
Do you have p reference for and sex of the baby					
No	12(6.0%)	188(94.0%)	15.549	1	*0.001*
Yes	28(20.0%)	112(80.0%)			

Table 4: Analysis of the Determinants of High quality of Life among the Respondents

S/N	Variable	Old Ratio	Pvalue	Lower	Higher
1	Present mode of delivery				
	Cs and instruments	1			
	SVD	14.206	***0.002***	2.617	77.120
2	Do you have preference for the sex of the baby				
	Yes	1			
	No	0.502	0.440	0.880	2.883
3	Age	1.060	0.553	0.874	1.285
4	Was the pregnancy planned				
	Yes	1			
	No	0.165	**0.010**	0.0 42	0.653
5	How many children are alive	0.968	0.925	0.490	1.914
6	Self esteem	1.644	***<0.001***	1.393	1.910

DISCUSSION

The study determined the pattern and determinants of above average QOL among women attending postnatal clinic in a Nigerian Teaching Hospital. The relationship between vaginal delivery and quality of life among postnatal women is significantly positive, as evidenced by various studies. Women who undergo normal vaginal delivery report higher health-related quality of life (HRQoL) scores compared to those who have cesarean sections. For instance, a study found that the mean HRQoL score was 91.42 for vaginal deliveries versus 81.89 for cesarean sections.[18] Additionally, a meta-analysis indicated that HRQoL scores were significantly higher for vaginal deliveries, particularly in physical functioning and vitality.[4] Factors such as spousal support and regular sleep patterns further enhance HRQoL in postpartum women.[19] Vaginal delivery yields higher HRQoL scores across various domains, including physical and emotional health.[20] Studies consistently show that women with vaginal births experience less body pain and better mental health outcomes.[20,21] Promoting vaginal delivery can improve overall maternal health and quality of life, suggesting a need for informed decision-making

regarding childbirth.[22] Conversely, while vaginal delivery is associated with better HRQoL, cesarean sections may be necessary for certain medical conditions, highlighting the importance of individualized care in maternal health decisions.[23]

Vaginal delivery may contribute to a higher quality of life compared to Cesarean section (C-section) among Nigerian women for several reasons, particularly in the context of physical recovery, emotional well-being, and socio-cultural factors.[24] Vaginal delivery generally leads to faster physical recovery, as it involves less healing time compared to C-sections, which are major surgeries. Women who deliver vaginally often return to their daily activities sooner and face fewer complications like infections or blood clots, which boosts their long-term health outcomes.[25] Additionally, in many parts of Nigeria where healthcare resources are limited, C-sections are more costly due to the need for specialized care, medications, and extended hospital stays.[26] Vaginal delivery is less resource-intensive, potentially easing the financial burden on families.[27] Long-term health issues are also reduced with vaginal delivery, as C-sections can result in internal scarring (adhesions) and complications in future pregnancies, such as placenta previa or uterine rupture, which can significantly affect a woman's quality of life.[28] Furthermore, vaginal delivery tends to offer better emotional and psychological outcomes, facilitating immediate bonding and breastfeeding, which are essential for the mother's mental health and emotional connection with the baby.[29] The risk of postpartum depression is also lower compared to C-sections, as the natural process of vaginal delivery can enhance feelings of empowerment.[30] Culturally, vaginal delivery is often viewed as the preferred or "natural" method in many Nigerian communities, and women who give birth this way may feel more socially accepted, boosting their emotional well-being.[31]

The relationship between self-esteem and quality of life (QOL) among postnatal women is significant, as higher self-esteem correlates with improved mental well-being and overall life satisfaction. Studies indicate that mothers with elevated self-esteem report better parenting competence and lower levels of postpartum depression, which in turn enhances their QOL.[33] Furthermore, self-esteem serves as a predictor of psycho-emotional changes, with higher self-esteem linked to reduced anxiety and depressive feelings.[34] Additionally, a positive correlation exists between self-esteem and sexual life quality, suggesting that improved self-esteem can enhance various aspects of postnatal life.[53] Higher self-esteem is associated with lower postpartum depression rates.[54] Increased self-esteem correlates with better perceived parenting competence.[56] QOL is affected by socio-demographic factors, with significant differences noted in psychological and social domains.[55] Self-esteem positively influences sexual life quality, indicating a broader impact on QOL.[53] Conversely, low self-esteem can lead to increased vulnerability to postpartum blues and mental health issues, highlighting the need for targeted interventions to support new mothers in enhancing their self-esteem and overall quality of life during this critical period.[35]

The relationship between self-esteem and quality of life among postnatal women is significant and closely intertwined, as both psychological and physical well-being are profoundly influenced by self-perception during the postnatal period.[36] Women who have higher self-esteem are generally better equipped to manage the emotional shifts that come with childbirth, such as feelings of joy, anxiety, and even postpartum depression.[37] Positive self-esteem fosters mental health, allowing women to feel more capable, confident in their roles as mothers, and resilient when facing challenges.[38] Conversely, low self-esteem can intensify feelings of inadequacy, contributing to emotional distress and worsening mood disorders. Physically, self-esteem affects how women perceive their health and recovery after childbirth.[39] Those with positive body image and higher self-esteem are more likely to engage in healthy behaviors, such as seeking medical help, maintaining good nutrition, and managing their postpartum recovery effectively.[40] In contrast, low self-esteem can lead to neglect of self-care, which can negatively impact their health and overall quality of life. Socially, a woman's confidence in her ability to interact with her partner

and maintain relationships is deeply influenced by self-esteem.[41] Women with higher self-esteem often experience stronger communication, enhanced relationships, and reduced feelings of isolation, all of which contribute to a better quality of life.[42] On the other hand, low self-esteem can lead to withdrawal, difficulties in bonding with the baby, and strained relationships with loved ones.[43] In terms of parenting, higher self-esteem is associated with greater confidence in parenting skills, facilitating better bonding with the baby and an overall sense of fulfillment.[44] Low self-esteem may lead to doubts about one's ability to care for the child, causing anxiety and reducing the mother's sense of achievement.[45] Overall, self-esteem plays a crucial role in shaping a postnatal woman's emotional, physical, and social quality of life, with higher self-esteem correlating with better mental health, physical recovery, and more fulfilling interpersonal relationships(36).

A planned pregnancy can significantly improve the quality of life among postnatal women in several ways.[46] First, it enhances emotional preparedness, and reducing stress and anxiety as women are more mentally and emotionally equipped to handle the responsibilities of motherhood. This emotional readiness can also lower the risk of postpartum depression, while ensuring a strong support system during the postpartum period.[47] Secondly, planning a pregnancy often leads to better health outcomes. Women can optimize their health before conception, reducing the risks of complications during pregnancy and childbirth, leading to faster recovery and fewer long-term health issues.[48] Third, financial and social stability are improved as planned pregnancies allow families to be economically prepared, minimizing the financial burden of child-rearing. Career planning can also be aligned with pregnancy, allowing for a smoother work-life balance postnatally.[49] Additionally, a planned pregnancy enhances the overall parenting experience by giving parents time to prepare for the challenges of parenthood, strengthening relationships and making the postnatal period more rewarding.[50] Mentally, it offers a sense of control, boosting self-esteem and reducing the risk of postpartum depression.[51] Lastly, access to healthcare is improved, as women with planned pregnancies are more likely to seek early prenatal care, ensuring better outcomes for both mother and baby through timely interventions when necessary.[52]

CONCLUSION

Most respondents reported an above-average quality of life (QoL), and significant correlations were found between various QoL domains. Physical health is strongly linked to psychological well-being, with better physical health enhancing mental health and poor health contributing to anxiety or depression. Similarly, strong social relationships support psychological well-being, while environmental factors like access to healthcare and safety positively influence both social ties and physical health. Vaginal delivery is also associated with higher health-related QoL compared to cesarean sections, improving recovery, emotional well-being, and reducing long-term complications. Moreover, self-esteem plays a critical role in QoL among postnatal women, as higher self-esteem is linked to better mental health, physical recovery, parenting competence, and stronger relationships. Planning a pregnancy further enhances these outcomes by promoting emotional preparedness, better health, financial stability, and improved access to healthcare, ultimately boosting the overall quality of life.

Recommendations

To improve the quality of life for postnatal women, it is essential to enhance access to healthcare services, including comprehensive education on the benefits of vaginal delivery and early prenatal care. Mental health support should be integrated into postnatal care, providing counseling and interventions for anxiety, depression, and emotional stress. Strengthening social support networks through peer groups and spousal education can also improve psychological well-being. Promoting vaginal delivery when safe, along with boosting self-esteem and parenting competence through targeted programs, can further enhance overall well-being. Supporting planned pregnancies and addressing environmental factors by ensuring access to clean,

safe living conditions will contribute to better physical and mental health outcome

Limitation of study

The study utilized a cross-sectional design, which provides a snapshot of the QoL of postnatal women at a single point in time. This limits the ability to infer causality between predictors and the quality of life outcomes. Longitudinal studies are needed to better understand the directionality and changes in QoL over time.

Each author believes that the manuscript represents honest work.

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Share upon reasonable request Data Sharing Policy

The data is presently unavailable in the public domain because authors do not have permission to share data yet. So data would be made available only on request.

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Authors' Contributions

Gbala Michael Olumide1, Falade Joshua, Adeyemo Mathew, Akinyoade Richard, Akinkunmi Francis, Ayodeji Oladiran1, Olaogun Ibukun1, Babatunde Olofinbiyi conceptualized the topic, and Gbala Michael Olumide1, Falade Joshua, collected the data and wrote the first manuscript while others read and corrected it. The manuscript has been read and approved by all the authors.

Competing Interests

All authors of this paper declare that there is no conflict of interest related to the content of this manuscript.

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