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Running title: Psychological Distress and Self-Esteem among Nursing Mothers.

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ABSTRACT:
Psychological distress is a state of emotional suffering characterized by symptoms of depression and anxiety. There is an association between maternal psychological distress and reduced caregiving behavior. Reduced maternal care to babies is also associated with the low self-esteem of the mothers. The study assesses the prevalence of psychological distress and its relationship with self-esteem among nursing mothers attending the immunization clinic in Ekiti State University Teaching Hospital Ado-Ekiti. This is a descriptive cross-sectional study with 458 nursing mothers recruited. A pretested, adapted, structured interviewer-administered questionnaire was used; data were analyzed using SPSS version 25. Descriptive statistics and inferential statistics were done using the Chi-square and the Spearman correlation coefficient. The level of significance was set at $p < 0.05$. The mean age of the respondents was 31.7±4.8 years, 398 (86.9%) had tertiary education, 440 (96.0%) were married and 15 (3.3%) were single mothers. Sixty-seven (14.6%), 28 (6.1%), and 24 (5.2%) had mild, moderate, and severe psychological disorders, respectively. Those with low and high self-esteem were 222 (48.5%) and 236 (51.5%) respectively. There was a statistically significant relationship between psychological distress and self-esteem with about 29.6% of the variability in psychological distress being explained by self-esteem alone in the nursing mothers ($p< 0.01$). Stress of child nursing leads to psychological distress for some nursing mothers and this was significantly associated with self-esteem.

Keywords: Stress; Psychological distress; Self-esteem; Nursing mothers; Ekiti State

INTRODUCTION:

The birth of a child and becoming a mother are wonderful and exciting experiences that most females look forward to. However, for nursing mothers, these come with a lot of responsibilities, challenges, and stress as they require the acquisition of skills and knowledge by the mothers to transit successfully [1-3]. Some women can go through this transition successfully especially, where there is social support like surrogate parenting by grandmothers. This was common in African settings and it reduces the stress of child-rearing for the mothers [4]. However this trend of having extended family as social support is changing and the responsibility of the mothers are more [4]. The enormous task of becoming a mother can lead to psychological distress after delivery, consequently, affecting their mental health status and their maternal roles leading to being psychologically distressed [1, 5].

Psychological distress is a state of emotional suffering characterized by symptoms of depression and anxiety [5]. It differs from organic mental disorders, in the sense that it is a reactive disorder affected by external stressors which are more prevalent among women [6]. Psychological distress is determined by the level of stress perceived and by the individual ability to cope with exposure to stressful situations. Individual coping ability differs, some cope better because of previous experiences and/or skills acquired in the past [7]. Psychological distress symptoms include fatigue, restlessness, apathy, changes in sleep, difficulty concentrating [5]. The nursing mothers present in the clinics with these symptoms and other co-morbidity, so most times if not all the times the mental health status go unrecognized, undiagnosed, and untreated[1,8]. For any woman to transit this period successfully, her psychological state is important, and this is enhanced by her self-esteem [4].This untreated malady leads to a poor outcome for mothers and their babies [1].

A study in Brazil revealed that about a quarter (24.4%) of the nursing mothers has a common mental disorder, and this negatively affects childcare and feeding practice [10]. Some women said they produced insufficient milk or they didn't feel like breastfeeding when they were going through stressful situations as documented in a qualitative study done by Emerson JA et al in Congo [11].

Several studies have indicated a link between maternal psychological distress and reduced caregiving behavior. For example, studies from Ghana, and Côte d'Ivoire showed a higher incidence of febrile illness in infants [12], poor infant growth and cognitive development [13], and lack of attachment between mother and child [5]. It is documented in the literature that mothers with depressive symptoms stopped exclusive breastfeeding earlier compared to

their counterparts [14, 15] or stop breastfeeding completely. Their children were less likely to have up-to-date immunizations [16]. Babies that were exclusively breastfed for less than 6 months are prone to developing psychological disorder later in life [9, 17, 18].

There is an inverse relationship between psychological distress and self-confidence in mother. In other word, mothers with high psychological distress tend to have low self-confidence [4]. Psychological distress experienced by mothers while nursing can affect their sense of adequacy to cope with the stress of maternal role thereby leading to low self-esteem [2].

Branden defined self-esteem as the disposition to experience oneself as competent to cope with the basic challenges of life and as worthy of happiness [19]. Self-esteem is a combination of self-confidence and self-worth. People with a lack of skills or knowledge to cope with stressful events are likely to experience negative self-perception and subsequently low self-esteem [19]. It has been documented elsewhere that mothers with high self-confidence are less likely to have psychological distress [2]. There is a dearth of literature in Nigeria on the prevalence of psychological distress among nursing mothers, probably because mental health status is not part of the periodic evaluation in the clinics. The mental health status of mothers is not part of the routine evaluation in our ante-natal, post-partum, and immunization clinics. Neither do we check mental health status when they report in the out-patient clinics with other co-morbidity. It is important to know the prevalence of psychological distress among nursing mothers and how it can be managed. However, there is a need to determine how self-esteem affect psychological distress among nursing mothers also. Hence the objectives of this study were to assess the prevalence of psychological distress among nursing mothers in the immunization clinic and the relationship between psychological distress and self-esteem.

METHODOLOGY:

Study location

This study was carried out in the immunization clinic of the Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti, and the capital of Ekiti State, Nigeria. EKSUTH is a referral center for the primary and secondary facilities within Ekiti and other neighboring states. The clinic offers a full range of immunization for infants and other age groups. This study was conducted from July 2020 to September 2020. Ado-Ekiti has a population of 480,000 [20]. The population of the caregiver of infants in Ado-Ekiti was estimated to be 19,200, which is about 4.0% of the Ado-Ekiti population. The immunization clinic runs every day of the week and an average of 120 clients are seen weekly.

Study design and sampling:

This was a descriptive cross-sectional study. The study population consisted of nursing

mothers attending the immunization clinic. The purpose of the study was explained to the nursing mothers. Those nursing mothers that agreed to participate were recruited. Convenience sampling method was used to select each of the consented nursing mothers that attended immunization clinic with a child between the ages of 0 to 18 months. The mothers with acutely ill children were excluded from the study.

Sample size and data collection:

A total sample size of 458 was obtained using the Fishers formula [21] with a prevalence of 48% for psychological distress among nursing mothers obtained from a previous study[22], confidence interval of 95%, and the margin of error of 0.05 with a non-response rate of 10%.

A pretested, structured interviewer-administered questionnaire was used. The questionnaire was adapted from previous literature [23, 24, 25] and consists of three sections: socio-demographic characteristics, psychological distress, and self-esteem. The questionnaire was administered by three trained Resident Doctors in the Department of Community Medicine. Kessler Psychological Distress Scale (K10) [23] was used to measure psychological distress while Rosenberg Self-esteem Scale (SES) [24] was used to measure the self-esteem of the participants.

Kessler Psychological Distress Scale (K10): This is a 10-item questionnaire intended to yield a measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4 weeks period.[23] This is a self-report measure of assessing distress. All items were answered using a 5-point Likert scale: none of the time (1 point), a little of the time (2 points), some of the time (3 points), most of the time (4 points), all of the time (5 points). Scores ranged from 10 to 50. Participants who scored under 20 were well, score 20-24 had a mild mental disorder, score 25-29 had moderate mental disorder while a score of 30 and over had a severe mental disorder. K10 has been used in Nigeria in a study in the East by Onyechi with internal reliability consistency of 0.93 with Cronbach alpha [23]. Rosenberg Self-esteem Scale: This is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. All items were answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. The scores were as follows: “Strongly disagrees” 1 point, “Disagree” 2 points, “Agree” 3 points, and “Strongly agree” 4 points. The highest possible score was 40 points and the lowest 10 points. Scores were on a continuous scale and higher scores indicated higher self-esteem. For this study, those with scores equal to the mean and above were classified as high self-esteem and those with scores below the mean were classified as low self-esteem. The scale has a reported reproducibility coefficient of 0.92 and a test-retest correlation of 0.85 over two weeks.

Okwaraji reported the Cronbach alpha scale in their study in Nigeria to be 0.84 and the two-week test-retest reliability coefficient was 0.76 [24].

Data analysis and ethical approval:

Data were analyzed using SPSS version 25. Descriptive statistics such as mean, and frequency were done. Inferential statistics were carried out using a Chi-square by finding the association between socio-demographic characteristics and psychological distress. Chi-square was also used to determine the association between categories of psychological distress and self-esteem. The correlation between psychological distress and self-esteem was done using the Spearman correlation analysis. The level of significance was set at 0.05

Ethical approval (protocol number EKSUTH/A67/2020/09/001) was obtained from the Research Ethics Committee of the Ekiti State University Teaching Hospital. Informed consent of the participants was received before recruiting participants.

RESULTS:

General characteristics: The results for the socio-demographic characteristics of the respondents are presented in Table 1. Majority of the respondents 283 (61.8%) were in the age range 30 to 39 years with a mean age of 31.7±4.8, 398 (86.9%) had tertiary education and 417 (91.0%) were Christians. The dominant ethnic group among the respondents was the Yoruba 412 (90%) and 234 (53.1%) were self-employed.

The results obtained for the Obstetric characteristics of the respondents are presented in Table 2. Of the 458 respondents 173 (37.8%) were primiparous and 372 (81.2%) of them planned their pregnancy. Most of the respondents 299 (65.3%) delivered via spontaneous vagina delivery (SVD) and most of the delivery 352 (76.8%) took place in a government-owned hospital. Most of the respondents 358 (78.2%) had someone (either relative or friend) to assist them during the early puerperium stage.

Psychological Distress and Self-esteem of the Respondents:

The majority of the respondents 339 (74%) had normal psychological assessment, while 67 (14.6%) had a mild psychological disorder, while 28 (6.1%) and 24 (5.3%) had a moderate and severe psychological disorder, respectively (Table 3). The mean for the self-esteem of the respondents was 32.3±3.7, 222 (48.5%) had low self-esteem and 236 (51.5%) had high self-esteem.

Table 1: Socio-demographic Characteristics of the Respondents

Variables	Frequency (%)
Age ranges of mothers (n = 458)	
20 - 29 years	146 (31.9)
30 - 39 years	283 (61.8)
40-49 years	29 (6.3)
Mean age	31.7±4.8
Educational Status (n = 458)	
None	11 (2.4)
Primary	4 (0.9)
Secondary	45 (9.8)
Tertiary	398 (86.9)
Religion (n = 458)	
Christianity	417 (91.0)
Islam	37 (8.1)
Others	4 (0.9)
Ethnicity (n = 458)	
Yoruba	412 (90.0)
Igbo	29 (6.3)
Hausa	6 (1.3)
Others	11 (2.4)
Employment Status (n = 449)	
Self employed	234 (53.1)
Privately employed	70 (15.3)
Government employed	94 (20.5)
Unemployed	51 (11.1)
Marital Status (n = 458)	
Married	440 (96.0)
Single	15 (3.3)
Divorced	3 (0.7)

Table 2: Obstetric Characteristics s of the Respondents

Variables	N (%)
Parity (n = 455)	
1	173 (37.8)
2 – 3	246 (54.3)
4 and above	36 (7.9)
Planned pregnancy (n = 458)	
Yes	372 (81.2)
No	86 (18.8)
Mode of Delivery (n = 458)	
SVD	299 (65.3)
C/S	159 (34.7)
Place of Delivery (n = 458)	
Government Hospital	352 (76.8)
Private Hospital	66 (14.4)
Mission Home	31(6.8)
At Home	9 (2.0)
Assistant from Relatives (n = 458)	
Yes	358 (78.2)
No	100 (21.8)

Table 3: Levels of Psychological Distress of the Respondents

Measure of Distress (n = 458)	Frequency (%)
Normal	339 (74)
Mild Mental Disorder	67 (14.6)
Moderate Mental Disorder	28 (6.1)
Severe Mental Disorder	24 (5.3)

Socio-demographic characteristics associated with psychological distress among the Respondents:

As shown in Table 4, age and marital status were a significant association with the psychological distress of the mothers in this study. Looking at the age, the respondents in the age group 20-29 years, 12 (8.2%) of them had severe psychological distress while 12 (4.2%) in the age group 30 -39 years had severe psychological distress with (p=0.02). Equally, the result showed that 13.5% of the single mothers have severe psychological distress while 5% of the married mother had severe psychological distress with a p-value of 0.04, however the magnitude of the single mother in was quite small.

The results presented in Table 5 indicated statistically significant relationship between the psychological distress and self-esteem with p-value of 0.002. The higher the psychological distress the lower the self-esteem of the nursing mothers, with 18 (75.0%) of those with severe psychological distress having low self-esteem, and 32 (47.8%) of those with mild psychological distress with low self-esteem.

Correlation between Psychological distress and Self-esteem:

There was a weak negative correlation between psychological distress and self-esteem ($r_s = -0.17$). Furthermore, there was a statistically significant negative correlation between psychological distress and self-esteem with 29.6% of the variability in psychological distress being explained by self-esteem alone in the nursing mothers with $p < 0.01$ as shown in table 5.

Table 4: Socio-demographic characteristics associated with psychological distress among the Respondents.

Variables	Normal	Mild	Moderate	Severe	χ 2	p-value
Age						
20-29 years	98 (67.1)	26 (17.8)	10 (6.8)	12 (8.2)	**5.905***	**0.015**
30-39 years	218 (77.0)	37 (13.1)	16 (5.7)	12 (4.2)		
40-49 years	23 (79.3)	4 (13.8)	2 (6.9)	0		
Ethnicity						
Yoruba	303 (73.5)	64 (15.5)	23 (5.6)	22 (5.3)	11.788*	0.23
Igbo	23 (79.3)	1 (3.4)	4 (13.8)	1 (3.4)		
Hausa	3 (50.0)	1 (16.7)	1 (16.7)	1 (16.7)		
Others	10 (90.9)	1 (9.1)	0	0		
Education						
None	8 (72.7)	0	1 (9.1)	2 (18.2)	15.287*	0.226
Primary	4 (0.9)	0	0	0		
Secondary	30 (66.7)	7 (15.6)	6 (13.3)	2 (4.4)		
Tertiary	297 (74.6)	60 (15.1)	21 (5.3)	20 (5.0)	11.503	0.243
Employment						
Self employed	187 (77.0)	31 (12.8)	16 (6.6)	9 (3.7)	6.323	0.710
Private	48 (68.6)	12 (17.1)	5 (7.1)	5 (7.1)		
Government	70 (74.5)	15 (16.0)	4 (4.3)	5 (5.3)		
Unemployed	34 (66.7)	9 (17.6)	3 (5.9)	5 (9.8)		
Marital Status						
Single	10 (66.7)	3 (20.0)	0	2 (13.3)	**13.151***	**0.041**
Married	329 (74.8)	62 (14.1)	27 (6.1)	22 (5.0)		
Divorce	0	2 (66.7)	1 (33.3)	0		
Religion						
Christianity	309 (74.1)	58 (13.9)	25 (6.2)	24 (5.8)	11.215*	0.082
Islam	29 (78.4)	7 (18.9)	1 (2.7)	0		
Others	1 (25.0)	2 (50.0)	1 (25.0)	0		

Likelihood ratio *

Table 5: Relationship between Psychological distress and Self-esteem among the Respondents

Psychological Distress	Self-esteem		Chi-Square	p-value
	Low	**High**		
Normal	152 (44.8%)	187 (55.2%)	14.476	0.002
Mild	32 (47.8%)	35 (52.2%)		
Moderate	20 (71.4%)	8 (28.6%)		
Severe	18 (75.0%)	6 (25.0%)		

Correlation between Self-esteem and Psychological Distress

R(%)	rs	p-value
29.6	-0.17	0.01

r = Spearman's correlation coefficient, R or r2 = Coefficient of determination

DISCUSSION:

In this study, 26% of the nursing mothers had some degree of psychological distress, ranging from mild to severe. These findings corroborate with other studies that have been done on nursing mothers which reveal significant psychological distress [26-28]. This may have occurred because childbirth usually brings about important life changes and challenges among nursing mothers, hence exposing them to experience psychological distress [29]. However, increased maternal distress has been linked to poor supportive maternal behaviour, making it difficult for mothers to recognize infant cues [30]; and it has been observed that supportive maternal behaviour is essential and sensitive to the infant's physical and emotional needs[31]. This suggests that a nursing mother with severe psychological distress may find it difficult to exhibit maternal behaviour that will be beneficial to the infants being nursed by her, which will, in turn, affects the infant's health physically and psychologically.

From this study, there is no significant statistical association between the demographic factors and psychological distress except with age and marital status. Looking at the age range, the respondents within 20-29 years are more likely to have psychological distress compared to other age groups (p=0.015). This finding agrees with some studies that age can determine or serves as a risk factor of one's level of psychological distress [32, 33]. This shows that the older the nursing mothers are the better the self-efficacy in taking care of their babies and the more psychologically sound they are. This most likely might be that the Nursing Mothers with an increase in age gain experience which impacts their ability to cope with their role as nursing mothers and their self-esteem. This study also collaborates with this, in that, with an increase in self-esteem the psychological distress decreases because three out of ten decreases in psychological distress can be explained by self-esteem. However, in another study, contrary to the findings of this study, higher maternal age may increase the risk of psychological distress [34]. So, age differences are factors to watch for when considering the mental health status of nursing mothers.

The proportion of psychological distress among the single nursing mothers was more in this study compared to the married nursing mothers, although the magnitude of single nursing mothers was quite small. This finding is similar to the study by Babatunde T et al in a work among immigrant women in South-East London [25]. This is likely because the infant's father is not available to support emotionally, financially, and physically. Furthermore, a similar study by Gondwe et al suggested that lower psychological distress among married mothers might be related to presence of support from the father or partner [35]

To address psychological distress, the coping skills of an individual have been recognized as a good strategy. Coping with stress is essential

for human survival. It involves the process of managing external or internal demands that are perceived as taxing on personal capacities and resources [36]. In addition, good self-esteem has been recognized as a coping strategy to managing stress or distress. This study has shown an inverse relationship which suggests that with an increase in the self-esteem of the respondents, the psychological distress decreases. A nursing mother who has good coping skills, for example, high self-esteem stands the chance of having a better mental health status than a nursing mother with low self-esteem.

Conclusion: Psychological distress and low self-esteem tended to occur among nursing mothers, they are associated with several public health concern. Nursing mothers of younger age and being a single mother were found to be significantly associated with psychological distress. This study also found that there is a link between psychological distress and self-esteem. Those with high self-esteem may likely pull through the stressful period without having psychological distress.

Recommendation: Identified risk factors for psychological distress among nursing mothers can be targeted for early intervention. Healthcare practitioners attending to nursing mothers should pay attention to their self-esteem. Building social skills, self-esteem of nursing mothers will go a long way to lessen their psychological burden or distress.

Public health relevance: The implication of the psychological stress among nursing mother includes: It reduce the maternal mental health status; If not pick early, it can be severe with other serious complication; it can affect the work and invariably the income; it can affect the care of the child (child growth and development) [10, 37, 38].

Limitation of the study: The study was limited in some analysis by the relatively few numbers of mothers in some sub-groups (single and divorce mothers). However this limitation was accommodated in the analysis.

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