Problem Solving Orientation, Social Support, Self-Esteem, Intimate Partner Violence, And Postpartum Depression Among Abused Adolescent Mothers in Gashua and Nguru Towns, Yobe State, Nigeria

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Abstract- ***Teenage pregnancy constitutes both physiological, social and public health problems that resulted into postpartum mood disorder. Research reveals that adult pregnancy is associated with postpartum depression. Intimate partner violence, poor problem-solving orientation predicts depression. Lack of self-esteem and poor social support predict postpartum depression across mixed studies. Study which combined all these factors together at the same time has not been extended among adolescent mothers in Nigeria. This cross-sectional study examined the relationship of these factors and postpartum depression among adolescent mothers. Using systematic random sampling, 75 (majority 14-19 years) teenage mothers from six weeks after childbirth were screened and used for this study. Participants from Gashua and Nguru local government areas completed a self-report questionnaire containing measures of postpartum depression, problem solving orientations, intimate partner violence, self-esteem, and social support. Regression analysis shows significant negative relationship between positive problem orientation, self-esteem, social support and postpartum depression. Positive significant relationship was found between negative problem orientation, intimate partner violence and postpartum depression. The result has implication to the policy maker in the federal and state ministry of health and educational health institutions, professionals across educational and clinical settings.***

Indexed Terms- ***Intimate partner violence, Postpartum depression, Problem-solving orientation, Self-esteem and Social support***

I. INTRODUCTION

Becoming a parent at any age level is stressful with changes in life experience. Pre and post pregnancy during adolescent stage could be a critical life time experience. Adolescent period is a time of rapid physical and emotional changes with curiosity and confusion. Adolescent parents are commonly referred to the parents that fall within the age bracket of ten or thirteen and nineteen years (Ekeng, Samuel, Esien, 2014; WHO, 2012, 2022). Pregnancy is usually a welcome positive family development but accompanied with unpleasant changes. Low self-esteem, intimate partner violence, and poor social support are common in the lives of numerous postpartum women (Adamu & Adinew, 2018). Mood disorder like depression is one of the emotional reactions to the adolescent postpartum mothers characterized by having poor self-esteem, negative thinking, distrustful, and detested feeling, anger, fatigue, social and personal relationship difficulties. Past study was carried out among pregnant teenagers established that adolescent pregnant girls are more vulnerable for depression compared to adult women (Thomas, Rickel, Butler, & Montgomery, 1990). Relationship among adolescent mothers is impaired by an emotional disruption, withdrawal feeling, feeling of lack of affection for themselves and others (Beck, 2001; Florence, 2013; Denis et al., 2012).

Study carried out in the low- and middle-income countries reported that approximately 16 million adolescent girls give birth annually and about 3 million teen girls (15-19years) involve in dangerous abortions yearly (Ekeng, Samuel & Esien, 2014). Same source revealed that adolescent pregnancy complications including emotional problem like depression lead to the loss of lives of the majority girls within the age range of 15-19 in the third world countries. An estimation of more than 50% of still birth and new born deaths rate occurred among infants of adolescent mothers compared to the infants of women at aged of 20-29 years (Ekeng et al., 2014; Chibanda et al., 2014). America is at the top of teenage pregnancy with almost 1,000,000 as reported by Williams (2010, s/f Alabi & Oni, 2017). Study reported that, Nigeria has the highest teenage birth rate in Africa (Maduforo & Oluwatoyin, 2011). Pregnancy during adolescent is a period for increased susceptibility to physical and psychosocial problems resulting to reproductive mental health complications like mood disorders such as postpartum depression (Tissot et al., 2013). Motherhood and fatherhood in the adolescent stage comes with the new several tasks and challenges that are very overwhelming and scary. For the adolescent parents that has low self-esteem, ineffective problem-solving orientation and lack of parent's social support may suffer depression and other emotional problems (Mayor, 2004; Vasilevskaia, 2010; Agbo & Choji, 2014; Beydoun et al., 2010; Hasegawa et al., 2015; Pakvilai, 2003). Teenage mothers with postpartum depression have been reported to have negative interactions with their infants and families. There are also negative effects on their children's general behavioral and developmental functioning with decreased emotional, cognitive, and social evaluation and suicidal ideation (Musyimi, Mutiso, Nyamai, et al., 2020; Tissot et al., 2013; Chibanda et al., 2014).

II. CONCEPTUAL REVIEW OF LITERATURE

2.1 POSTPARTUM DEPRESSION

The onset of depression during the first year postpartum period is known as postpartum depression (Valentine, Rodriguez, Lapeyrouse & Zhang, 2011; Patino, Lara, Benjet, Alvarez del Rio., & Bartolo, 2024; Beck, 1993). It has a similar features and episodes of depression in another time, but qualified as postpartum depression when it happens from four weeks after delivery (American Psychiatric Association, 2022). Studies have shown that postpartum depression is more common among women that are expose to intimate partner violence and relationship between intimate partner violence and postpartum depression was reported across tremendous studies (Rodrigue, Lapeyrouse & Zhang, 2011; Lobato et al., 2012; Wu et al., 2012; Zlotnick, Nicole & Parker, 2010; Tissot et al., 2013; Beydoun et al., 2010). It is assumed that any adolescent mother that is exposed to intimate partner violence with low positive problem-solving orientation and high negative problem-solving orientation will be likely suffer postpartum depression. Women who are maltreated during pregnancy are also more likely to fight with a diversity of emotional health difficulties, such as depression before and after childbirth, low self-esteem and anxiety (Gebrekristos, Groves, McNaughton Reyes, et al., 2020; Bacchus et al., 2006; Fareo, 2015). Maternal mood disorders commonly happened among abused women of all ages and greatest number of studies that examined the relationship between women violence and depression during and after pregnancy have shown a significant negative relationship between women violence and depression. However, such studies among adolescent mothers are very scanty. This study tent to extent it among adolescent mothers in Nigeria.

In one of the recent studies reviewing evidence on adolescents' experience of intimate partner violence during gestation period using systematic review design among pregnant adolescents within aged range of 10–19 years. Peer-reviewed studies from both quantitative and/or qualitative; methods were done across years of publication. Nine studies out of 570 abstracts screened that were published between 2007 and 2020 reported that, the prevalence of IPV during pregnancy among adolescents ranged from 8.3% to 41%. Mental health symptoms, particularly depression, and anxiety, were associated with adolescent IPV during pregnancy and qualitatively linked to poor coping strategies when dealing with IPV (Adjimi, Ranganathan & Stock, 2024).

2.2 PROBLEM SOLVING ORIENTATION (PSO)

Problem solving orientation refers to positive and negative cognitive-behavioral reaction of a person

when faced with problems (Eskin et al., 2014). It consists of positive problem orientation (PPO) and negative problem-solving orientation (NPO). Positive problem orientation involves a general tendency to perceive problems as a challenge, and a belief that problems can be solved. Negative problem orientation (NPO) is a negative or inhibitive cognitive-behavioral approach with a tendency to see problem as a threat to somebody's life and doubting somebody's own abilities to solve the problems successfully. Individual with this type of orientation can easily become frustrated, distressed in handling problems. Problem solving orientation stem from the model of social problem-solving of (D'Zurilla 1986), D'Zurilla and Nezu (1982). The model asserts that successful problem-solving ability assist in the effective problems solving and their resulting emotional effects. In the same way, poor problem-solving may precipitates a person to emotional difficulties due to symptom's exaggeration, which resulted in negative emotional reactions (Rachel et al., 2012).

Persons with positive problem-solving orientation (PPO) often involves a positive mental problem-solving ability like favorable evaluation of a problem, belief in resolving problems, problem solving self-efficacy and commitment in problem solving (Bandura's 1977; D'Zurilla et al., 2004). On the other hand, somebody with negative problem-solving orientation (NPO), frequently engage in unconstructive mental problem-solving such as low self-esteem, disbelief in his ability to resolve conflicts. Problem solving orientation is matched with the self-efficacy model of Bandura's (1977) similar to self-esteem which believed that self-efficacy is an individual's belief in his or her ability to succeed in a particular situation of problem.

Relationship between problem-solving orientation (PPO, NPO) and depression has been well established across various studies (Gellis& Bruce, 2010; Gellis& Kenaley, 2008; Hasegawa et al., 2015; Emam, 2013; Eskin et al., 2014; Rachel, Lorna., Jane, 2012). Some studies suggest that depression has a tendency to weaken daily problem-solving orientation (Yeng-Chieh, Rebok, Gallo, Jones & Tennstedt, 2011). A significant relationship was also established between problem solving orientation and depression (Hasegawa et al., 2015). A significant relationship between students' social problem-solving abilities and depression was also reported by Ranjbar et al. (2012). Research was carried out between children and adolescents and shows that deficits in social problem-solving ability may be associated with increased risk for depression and deficits in problem solving ability is related to the risk of depression in both old age and adolescence, (Becker-Weidman et al., 2010). D'Zurilla et al. (1998) revealed that association exists between negative problem-solving orientation and depression. Therefore, an inability to sustain a positive problem-solving orientation may also be a leading factor in predisposing depression. This was supported by the study of Haaga et al., (1993) which reported that the levels of depression among college students have been found to be significantly related to problem-solving orientation. Similarly, Reinecke et al. (2001) indicated that negative problem-solving orientation and avoidant or impulsive problem-solving style are associated with depression among inpatient adolescents.

2.3 SOCIAL SUPPORT (SP)

Social support is a construct with many dimensions consisting interpersonal relationship that involve the expression of positive affect of one person to another, the affirmation of another person's behaviors or perceptions, and the giving of symbolic or material aid to another (Chinwe, Onyemaechi, Afolabi et al., 2017; Khan, 1979). It can be perceived and or received social support (Lin, 1986). Perceived support is referring to one's interpretation of other people's behaviors while received support is an actions others performed in giving assistance (Turner, Grindstaff, & Phillips, 1990). The importance of social support in the mental health of postpartum women cannot be over-emphasized, especially due to the increased physical and emotional demands of childbearing and parenting (Mburia-Mwalili et al., 2010). Family and peer's supports are important to adolescents because as children move in and progress through adolescence, after the role of the family, the peer group becomes increasingly salient as a resource supporting in the accomplishment of developmental tasks. Teenage mothers with low levels of social support are at greater danger for postpartum depression (Borg Xuereb., Borg Xuereb, & Jomeen, 2023; Campbell et al, 2000; Beeble et al., 2009).

Studies have shown that social support is a predictor and also a protector against depression for the women that were exposed to violence (Ahinkorah, 2021; Mburia-Mwalili et al., 2010). Social support is associated with a decrease in depressive symptoms among women who experienced intimate partner violence (Kim, Connolly, & Tamim, 2014; Beeble, et al., 2009; Mburia-Mwalili et al., 2010). In a pilot study conducted by Hudson, Elek and Campbell-Grossman (2000) for examining the relationship between depression, self-esteem, loneliness, and social support in pregnant adolescents found high depression scores (53%) among adolescents' girls and depression was associated with increased decreased social support. Mothers who experienced intimate partner violence with higher levels of social support have fewer depressive symptoms (Beeble et al., 2009). Studies suggest that adolescents may also be vulnerable to the effects of stress because they have not yet developed fully mature cognitive, coping, and problem-solving skills (Tissot et al., 2013).

2.4 SELF-ESTEEM (SE)

Rosenberg (1965) defined self-esteem as a positive or negative attitude that individual has about self. Individual with high self-esteem is an indication that he has respects to himself and considers himself worthy and capable, as well as recognizes his limitations with the expectation for progress and improvement. Contrarily, Low self- esteem indicates that the individual lacks respect for himself, self-rejection, self-dissatisfaction, and self-contempt and with negative self well wishes (Rosenberg, 1989; Florence, 2013). Adolescent self-esteem could be referring to as the emotional evaluation teenagers make about themselves in form of approval or disapproval (Florence, 2013). Low maternal self-esteem leads to the feelings of incompetence which has an effect on the postpartum mothers resulted to maternal depression (Denis, Ponsin & Callahan, 2012). Self-esteem has been reported as one of the predictors for postpartum depression (Denis, Ponsin & Callahan, 2012; Pakvilai, 2003).

Past studies revealed that self-esteem has a negative relationship with postpartum depression (Fontaine& Jones, 1997; Hall, Kotch, Browne, & Rayens, 1996). In a recent study carried out by Goto, Piedvache, Hangai et al., (2022) indicated a significantly higher scores for depression among adolescent mothers with low self-esteem. This has been proven in another past study which reported that mothers with low self-esteem were 39 times more likely to have high levels of depressive symptoms than those with high self-esteem (Hall, Kotch, Browne, & Rayens, 1996). Therefore, low score in postpartum depression indicates high self-esteem while the high scores in depression indicate low self-esteem. In another study on the effects of self-esteem on postpartum depression, another source also reported that 42% of 738 of mothers aged 12-42 years at 1-2 months' postpartum period recorded high symptoms of postpartum depression because of their low level of self-esteem (Chinwe et al., 2017).

One of the recent cross-sectional studies determining the frequency of PPD and psychosocial factors (self-esteem, social support, depression using (Edinburgh postnatal depression Scale ≥ 9) among adolescent mothers during the COVID-19 pandemic revealed a significant factor for experiencing PPD (EPDS ≥ 9). Regressions showed lower maternal efficacy and self-esteem, greater dissatisfaction with social support. Adjusted multiple analysis indicated that lower self-esteem was the only factor to maintain its association with PPD (Patino, Lara, Benjet et al., 2024).

A study examined the role of self-esteem, social support and age on postpartum depression. Two hundred puperal mothers in five hospitals for postpartum check-ups. Using cross-sectional survey, the mothers were individually administered the Index of Self-esteem, Edinburgh postnatal depression scale and social provision scale. The study employed a three-way ANOVA with unequal sample sizes was used for data analysis and the outcome of the research indicated that 58% of the participants showed postpartum depression, mothers with low self-esteem experienced more postpartum depression than mothers with high self-esteem. The findings also revealed that mothers with low social support experienced more postpartum depression than mothers with high social support. Furthermore, insignificant differences in postpartum depression between younger and older mothers was found (Chinwe, Onyemaechi, Afolabi & Mike, 2017).

In a meta-analysis study on the relationship between postpartum depression and self-esteem among 84 published studies, six studies indicated that self-esteem was one of the strongest predictors of postpartum depression with a medium effect size and correlation coefficient ranging from .45 to .47 (Beck, 2001). Recent study showed that postpartum mother with low self-esteem lack competence and worthy of child caretaking and feeding ability. This was justified in a study carried out on the relationship between maternal self-esteem, maternal competence, infant temperament and post-partum blues. Correlation analyses of the study showed a link between post-partum blues intensity and low maternal self-esteem. This is an impression of lacking competence in caretaking and feeding abilities (Denis, Ponsin & Callahan, 2012).

2.5 INTIMATE PARTNER VIOLENCE (IPV)

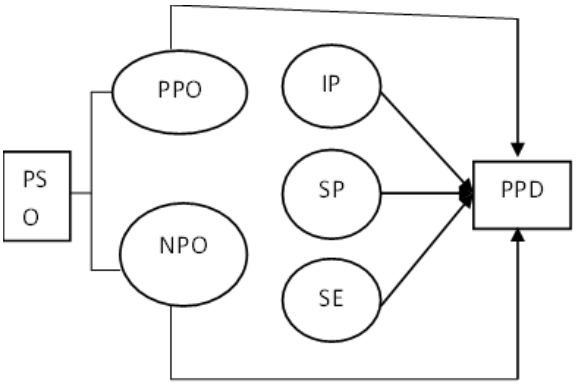
Intimate partner violence is a worldwide problem with serious emotional problems like depression. It is a social and a public psychological health issue from the late 1960s and 1970s. Currently, getting to 5.3 million women suffered violence of different kind every year. Roughly 1.5 million of these abuses are physical beating or rapes (Lobato et al., 2012; Thomas, Lewis, Martinez, et al., 2019). Nearly 2 million injuries and 1, 300 deaths take place every year due to spouse violence. Nigeria is not excluded, more than half of the women suffers family violence ranging from physical, sexual, psychological and even economically. Women in Nigeria are being beating, sexually abused and even killed by family member daily for simple excuses, or visiting other family members without permission from their husbands (Oluremi, 2015; Sardinha, García-Moreno, & Guthold, 2022). Intimate partner violence has direct physical consequences, it also affects the psychological and physiological state of individual's health. Women violence during pregnancy resulted to postpartum depression, infant's low-birth-weight, maternal and neonatal mortality, premature delivery, ruptured placenta, fetal trauma and high chance of getting preterm delivery, (Rosen et al., 2007; Shah& Shah, 2010).

Premature parenthood is a transition to mental health reproductive complication such as postpartum depression due to increase demands surrounding early childcare. Particularly, the mothers subjected to violence of any kind are susceptible to physiological and emotional complications (Adjimi et al., 2024). This leads many adolescent mothers to experience stress beyond their control. Intimate partner violence, inadequate or lack of effective problem-solving orientation, low self-esteem and poor social support may likely weaken the resilience of the teenage mothers and make them vulnerable to emotional problem like depression (Adamu & Adinew, 2018). Therefore, the need to examine these factors and their association to maternal depression cannot be over emphasized, especially among abused adolescent mothers. However, little or non-study investigated the relationships of these five variables at the same time, particularly among teenage mothers. This study examined these variables concurrently and their relationship with postpartum depression among abused teenage mothers. Hence, this study attempts to answer these questions:

Research question;

1. Is there any relationship between positive problem-solving orientation and postpartum depression among adolescent mothers?
2. Is there any relationship between negative problem-solving orientation and postpartum depression among adolescent mothers?
3. Is there any relationship between self-esteem and postpartum depression among adolescent mothers?
4. Is there any relationship between intimate partner violence and postpartum depression among adolescent mothers?
5. Are there any relationships between perceived social support and postpartum depression among adolescent mothers?

Conceptual Framework



Note: PSO (Problem Solving Orientation consists of PPO: Positive Problem Orientation and NPO: Negative Problem Orientation), IPV: Intimate Partner Violence, SP: Social Support, SE: Self-Esteem, PPD: Postpartum Depression

The framework above shows the relationship between the two dimensions of problems solving orientation (PSO) and postpartum depression (PPD) and also the relationship between IPV, SP, SE and PPD. The previous studies demonstrated a relationship between problem solving orientation and depression outside postpartum period, but the problem-solving orientation of the postpartum adolescent mothers in handling mood disorders like depression has not been adequately addressed. More also, inadequate motherly problem-solving orientation are associated with inadequate child care skills, resulting into failure in child cognitive, social and intellectual development due to maternal depression (Hasegawa et al., 2015; Mahmood & Nadiya, 2017).

III. METHODOLOGY

3.1 Research Design

This study adopted a descriptive cross-sectional survey research design with the used of questionnaires for measuring the relationship between the independent variables (self-esteem, intimate partner violence, positive problem-solving orientation, negative problem-solving orientation, and social support) and dependent variable (Postpartum depression). Means, standard deviation and regression analysis were used for data analysis

3.2 Population, sample and sampling

The total populations of this study were 115 abused adolescent mothers drawn from register books of hospitals, police stations, Mosques, Churches and health department of the two local government headquarters in Gashua and Nguru metropolitans. These two towns were located at the northern senatorial district of Yobe state with an estimated of about 153,015 and 146,231 people respectively (NPC, 2006). These two towns were selected through purposive sampling because of the availability of target sample area and health centers where most of the records of the abused women that went for treatments are available. These population of 115 obtained were screened for maternal or postpartum depression and 101 were having symptoms of postpartum depression. The study questionnaires were distributed among these 101 participants who met the criteria for this study. Out of this number, only 91 responded and returned the questionnaires. 75 were correctly filled, returned and used throughout the study analysis. Other remaining 16 questionnaires were returned but rejected due to damaged. Purposive and convenient sampling technique were used for selecting the participants. This is because the sample (abused adolescent women) are not easy to be obtained in the areas. The samples were further identified and cross-checked through using the register book (sampling frame) of each organization reached. Each organization was chosen through purposeful sampling where the researcher can get the sample.

3.3 Instrument

3.3.1 Problem solving orientation (PPO, NPO). Positive problem-solving orientation (PPO) and negative problem-solving orientation (NPO) were all measured by the social problem-solving inventory revised short form scale SPSI-RF (D'Zurilla et al. 2002; 1986). The scale measures five dimensions of problem-solving ability, but this study examined only two dimensions of the scale, the positive problem orientation (PPO) and negative problem orientation (NPO). The two dimensions consists of 10 items with 5 items per dimension. Each item is rated on a five Likert scale ranging from 0 (not at all true of me) to 4 (extremely true of me). The sum of the scores on the items for each scale constitute the scale's total score. The scale has been reported to have good alpha Cronbach's reliabilities of PPO $\alpha = .76$ and NPO $\alpha = .91$ (Vasilevskaia, 2010). 76% and 80% (Emam, 2013). In this study the alpha reliability is NPO = .756.

3.3.2 Self-Esteem Scale (SE). Self-esteem was measured using a self-developed Self-Esteem Scale (SES) (Rosenberg, 1965). This is a 10-items scale structured in a 5-point Likert format with scores ranging with five response categories ranging from 1 (strongly agree) to 5 (strongly disagree). Scores range from 10-40, with higher scores indicating lower levels of self-esteem and conversely for lower scores. This scale has demonstrated satisfactory validity and reliability with Cronbach's alpha for the scale at .86 (Pakvilai, 2003).

3.3.3 Postpartum depression (PPD). Postpartum depression was measured by Edinburgh postnatal depression scale (EPDS) (Cox et al., 1078). It is self-report questionnaire with 10-items. The items in this scale were scored from 0–3 and the total scores (30) are determined by summing up together the score for each of the 10 items. Scores from 10 and above indicate depression in this study. The Cronbach's alpha reliability of the scale has been demonstrated across studies, such as .80 (Cheadle et al., 2014), .86 (Zhang & Jin, 2014), .88(Chibanda et al., 2014) and .90 (Ukaegbe et al., 2012). In this study, the Cronbach's alpha is .899.

3.3.4 Intimate partner violence (IPV). Intimate partner violence was measured by Revised Conflict Tactic Scale (CTS2; Straus et al. 1996) which is a revised version of the CTS which has been widely used in assessing physical, psychological, and sexual attacks on a partner in a marital, cohabitating, or dating relationship. The CTS2 has demonstrated excellent reliability and validity (Straus et al. 1996). In this study intimate partner violence (IPV) after childbirth was measured through the Revised Conflict Tactics Scale. This study gives more emphasis on physical violence. This specific subscale covers 10 dichotomous items and the participants were asked on yes or no questions on physical violence in the preceding 12 months. The number "NO" was scored 1, while "YES' carried 2 scores on the questionnaire. The total scores of the items for each participant were summing up range from 1 to 20. High score indicated more abused. The Cronbach's alpha reliability of this instrument in this study is .781.

3.3.5 Social support (SS). Social support was measured by the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The scale has 12-item which was developed to measure the adequacy of perceived support from three bases subscales that consists of family (four items), friends (four items), and significant others (four items). Each item was scored on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Subscale scores and total score were obtained. The possible subscale scores for each source of support ranged from 4 to 28 and the total score ranged from 12 to 84. Higher scores indicated increase levels of perceived social support and lower scores indicates the decreased levels of perceived social support. A high coefficient alphas reliability of .85 to .91 of the scale was reported with the good stability with a test-retest scores ranged from .72 to .85 (Zimet and colleagues, 1988). The alpha reliability in this study is .894

Table 3.1 Response rate of the questionnaires

Response	Frequency	Rate (%)
Distributed questionnaires	101	100
Returned questionnaires	91	87.8
Returned and used questionnaires	75	74.2
Returned but rejected	16	15.8
Not returned	10	20.8

3.4 Procedure

Each participant was given adequate explanation on how to participate and fill the instruments. The participants cooperated and returned 91 out of the 101 distributed questionnaires. All these 91 respondents were screened and found that 75 have postpartum depression according to EPDS. 16 were returned but rejected and 10 did not their own. Therefore, this study used 75 (74.2%) returned questionnaires and were used for the study analysis throughout. Most of the participants were secondary school students and some are the cases of drop out from the school due to pregnancy without marriage. Data Analysis was done using multiple regression analysis and descriptive statistics via SPSS version 21.

3.5 Ethical consideration

The right, privacy and the confidentiality of the participants were respected and the details of the research procedure were explained to the respondents and agreed to participate. Permission was given by the authorities of the two main areas of the study (specialist hospital, Gashua and federal medical center Nguru). Now it is the time to articulate the research work with ideas gathered in above steps by adopting any of below suitable approaches:

IV. RESULT AND DISCUSSION

4.1 Sociodemographic Characteristics

Table 4.1: Socio-Demographic Characteristic of the Participant (N=91)

Variables	N	Percentage
Marriage		
Married	82	90.1
Divorce	6	6.6
Widow	3	3.3
Employment status		
Employed	34	37.4
Unemployed	57	62.7
Age		
14 - 19	75	82.4
20 - 24	11	12.1
25 - 30	5	5.5
Educational background		
A - Level	13	14.3
O - Level	78	85.7
Mode of Delivery		
Normal	86	94.5
Cesarean section	9	9.9

The demographic variables as indicated in table 4.1 above shows that out of the 91 participants, majority were married (90.1%) and were withing the age range of 14-19 years. This indicates that most of the participants were adolescent and married in the early age. This is associated with their religion and culture. The educational of the participants were low and many had normal delivery. Most of them were unemployed and were fully house wives.

4.2 Screening for Postpartum depression

Table 4.2: Screening Result for Postpartum Depression at Different Cut off Scores in EPD (N=91)

EPDS Scores	Depressed	%
≥ 10 (mild)	11	12.1
≥ 12 (moderate)	13	14.3
≥ 13 (severe)	51	56.0
	75	
	Non-depressed	%
	16	17.6
Total	91	100

Based on the EPDS cut of point, those that scored 10 but less than 12 were 11 and were considered having less depression, but those that scored greater than 12 or equal to 13 were severely depressed. Therefore, based on this study's screening, 75 participants out of 91 screened were postpartum depressed. These 75 with the symptoms of postpartum depression were used throughout for the data analysis of this study.

4.3 Research question 1:

Is there any significant relationship between positive problem-solving ability and postpartum depression among adolescent mothers?

The statistical means and standard deviation of each construct can be seen in Table 4.3.

Table 4.3 Constructs and their descriptive statistical mean and standard deviation

S/n	Constructs	N	Means	STD
1	Postpartum depression	75	1.90	.483

2	Positive problem orientation	75	2.10	.776
3	Negative problem orientation	75	2.65	.787
4	Self-esteem	75	1.94	.333
5	Intimate partner violence	75	1.65	.232
6	Social support	75	5.15	1.16

Table 4.3 shows the negative problem orientation (NPO) mean score for abused postpartum teenage mothers was higher (2.61) as compared to the positive problem orientation (PPO) mean score of (2.10) and self-esteem (1.94). It also revealed that the mean score for negative problem-solving orientation was higher than the mean score of the intimate partner violence (1.65). This result indicated that mothers who were abused has a weak positive problem-solving orientation and strong negative problem-solving orientation toward problems solving leading to lower mean score for the self-esteem. This is because all the participants were found depressed after screening and depression signified negative interpretation of self, situation and behavior (Chibanda et al., 2014; Chinwe et al., 2017; Denis, Ponsin & Callahan, 2012; Bandura, 1977). The mean score for the social support is higher (5.14) which is the reason for the lower mean score for intimate partner violence (1.65) in this research. The social support alleviates or lessens the effects of the intimate partner violence which is congruent with the past study (Ahinkorah, 2021; Trabold, 2017).

Table 4.4 Multiple regression results between PPO, NPO, SE, IPV, SSP and PPD

Constructs	Unstandardized coefficient B	Standardized coefficient Beta	T	Sig.
Postpartum depression (DV)				
Positive problem orientation (PPO)	-.154	-.248	-2.391	.020
Negative problem orientation (NPO)	.161	.261	2.497	.015
Self-esteem (SE)	-.098	-.068	-.656	.514
Intimate partner violence (IPV)	.634	.304	2.935	.005
Social support (SP)	.087	.205	1.987	.051
R	R^2	Adj. R^2	R^2 Change	F-Change
.553	.306	.256	.306	.000

df1 = 5. df2 = 69. Durbin Watson = 1.691

Table 4.4 revealed that there exists a significant negative relationship between positive problem orientation (PPO), self-esteem (SE) and postpartum depression (PPD), while significant positive relationship exists between negative problem orientation (NPO), intimate partner violence (IPV), social support and postpartum depression. The correlation coefficient between postpartum depression

and positive problem orientation is .020 The obtained correlation of coefficient is significant at the 0.05 level of significance. So, as the level of positive problem orientation increases the level of postpartum depression decreases among abused postpartum women. High level of positive problem orientation (PPO) is related with low level of postpartum depression (PPD). Abused postpartum adolescent mothers with high level of postpartum depression has low positive problem orientation toward problem solving as shown by this study. Similarly, this research showed a significant negative relationship between self-esteem (SE) and postpartum depression (PPD) with the correlation coefficient of .514 which is significant at 0.05 level of significant.

However, the research showed a significant positive relationship between negative problem-solving orientation (NPO) and postpartum depression. The correlation coefficient between negative problem orientation (NPO) and postpartum depression is .015 The obtained correlation of coefficient is significant at the 0.05. Therefore, as the level of NPO increases so as postpartum depression increases among abused postpartum depressed women. High level of NPO is related with high level of postpartum depression as well. A postpartum woman with high level of postpartum depression has a high negative problem-solving orientation as shown by this study. More also, a positive significant relationship between intimate partner violence, social support and postpartum depression were obtained. The correlation coefficient between intimate partner violence (IPV) and postpartum depression is .005 The obtained correlation of coefficient is significant at the 0.5 level of significance. While the correlation coefficient of social support is .051 which is significant at 0.05 level. This study indicates that women that were abused by their partner were more likely to suffer from postpartum depression. As the level of intimate partner violence increases so as the postpartum depression increases also. The positive correlation in social support in this may attributed to the fact that this study measured perceived social support not social support as whole.

Multiple regression analysis was conducted in determining the relationship between positive problem orientation, negative problem orientation, self-esteem, intimate partner violence, social support and postpartum depression. The results as indicated in table 4.4 with predictors that were significant (0.000), R = .553, R^2 =.306, Adj. R^2 =.256, F-Change $_{(6.087)}$ = Sig .000 The multiple correlation coefficients between the predictors and the criterion variable were .600. The predictor accounted for 30.6% of the variance in postpartum depression. Based on the Cohen (1988) classification of R^2, this study has a moderately value of R^2 30.6% The significant F-test shows that the relationship (9.55, p =.000 <0.001) signified the overall significant prediction of independent variables to the dependent variable. Among the two predicting variables IPV is the variable that best predict the criterion with the value (ß = .304 t = 2.935 p = .000 <0.001), then the NPO with a value (ß = .261, t = 2.497, p=.003<0.005). In this study, the results show that adolescent mothers with high negative problem-solving orientation, low self-esteem and low positive problem orientation are more likely to develop postpartum depression and postpartum adolescent mothers that were abused are also more likely to suffer postpartum depression. However, high positive problem-solving orientation and high self-esteem are associated with low postpartum depression and abused postpartum depressed adolescent mothers with high positive problem-solving orientation and high perceived social support are less likely to develop postpartum depression. These findings are in line with the previous studies (Ngozi, 2013; Florence, 2013; Rachel, Lorna, Jane, 2011).

The multiple regression analysis in table 4.4 indicates that there are significant relationships amongst the variables, suggesting possible predictive abilities of the independent variables on postpartum depression among adolescent mothers. The analysis revealed that positive problem orientation, negative problem orientation, self-esteem, intimate partner violence and social support are collectively composite constructs that can significantly predict postpartum depression among adolescent mothers. The table shows a multiple regression coefficient of .608 and a regression square of .306 indicating that 30.6% of variance determining postpartum depression is accounted for by the combination of the effect of positive problem orientation, negative problem orientation, self-esteem, intimate partner violence and social support of adolescent mothers. As for the extent to which each of

the five independent variables contributed to the prediction, it could be inferred from the same regression table 4.4 that intimate partner violence is a better predictor of postpartum depression of the adolescent mothers.

This finding is consistency with the previous studies (Maddoux et al., 2014; Emam, 2013; Becker-Weidman et al., 2010; Yen et al., 2011; Vasilevskaia, 2010; Borg et al., 2023; Gebrekristos et al., 2020). Their research findings revealed that positive and negative problem orientation are predictors to postpartum depression among both pregnant and postpartum mothers. A possible explanation could be as a result of unexperienced of motherhood care, societal perception of teenage pregnancy, adolescent motherhood, and the stress and anxiety attached to the baby care. For instance, and in most cases the penalties of being pregnant while at school as a teenager are usually dismissal after going through a series of stigmatization, shameful and distressing process. The adolescent is perceived by the people as somebody with low moralities, valueless and may spoil her mates or peer group. More also, due to the unavoidability of the pregnancy, the teen mother before delivery will become a victim of mockery, abuses and stigmatizing. Therefore, substantial numbers of teenage mothers feel defamed and are at increased risk of social isolation and abuse leading to pre and postpartum depression. This was tallied with the outcome past studies (Becker-Weidman et al., 2010; Chibanda et al., 2014)

Self-esteem was also revealed as another predictor of postpartum depression as was confirmed by the past studies that low self-esteem predicts depression across populations (Goto et al, 2020; Pakvilai, 2003; Ngozi, 2013; Florence, 2013). As a result of the shameful circumstances associated with being pregnant an adolescent mother, it is possible that the emotional evaluation teenagers make about themselves generally would be generally that of disapproval. This is often aggravated by parents who usually perceive such individuals as a failure to the family and so are believed to be incapable, insignificant, unsuccessful, and unworthy. This perception may then be transferred to the concerned adolescent who may then had felt rejected, self-dissatisfaction, self-contempt and may then developed a low self-esteem and finally depressed. These young women may then need special attention during and after pregnancy to develop concrete strategies to care for themselves and their children. Therefore, our perception and attitude towards the pregnant and adolescent mothers should be positive.

Intimate partner violence contributes immensely to the disease burden and emotional disorders, especially depression (Chibanda et al., 2014; Sampson et al., 2014). This was supported by this study which indicated that adolescent women exposed to violence suffered postpartum depression. This contributes to the higher mean score in the negative problem-solving orientation and lower mean score in the positive problem-solving orientation leading to the overall weakening of the problem-solving orientation and lower self-esteem of the participants of this study which justified their depression after delivery. This study finding is congruent to the finding that depression weakened problem solving ability (Pech & O'Kearney, 2013; Emam, 2013; Yen et al., 2011; Yen et al., 2011; Vasilevskaia, 2010; Adjimi et al., 2024; Borg et al., 2023).

By this study, it indicated that orientation of the abused adolescent postnatal mother is a key to their vulnerability to maternal mental health problems, especially depression. This leads to poor or law self-esteem, particularly if there is no family or caregiver support, especially in this part of the country (north-easter) where insurgencies of Boko Haram are the order of the day. Many husbands of the postnatal women were killed and were left widows.

CONCLUSION

This study findings emphasize the importance of assessing postpartum women with depression. There is evidence to suggest that long-term effects of postpartum depression on mothers may be devastating. Thus, integration into social networks and provision of high levels of social support are key to mental health, well-being and improved self-appraisal/self-esteem. The results of this study may assist in the interventions that address orientation towards problem-solving, individual's self-esteem, and social support may be beneficial in increasing women's resilience and capabilities to control violence and the everyday life stresses which can resulted into positive impact on

levels of maternal mental health problems symptoms and child behavior outcomes. Therefore, the findings from this study have implications for the school authorities, school counselors, parents, hospital authority, security agencies and even the government. The adolescent mothers are encouraged by this study to be screened routinely and treated in a humane manner and respectable manners so that the unborn child can be free from psychological negative consequences. It should be noted that adolescent mothers are not of their own pregnant but as a result of unprotected sexual relations with a male in most cases.

SUGGESTIONS

Dismissal for out of marriage adolescent pregnancy should be discouraged and stopped through effective problem-solving orientation from the adolescent mothers and their caregivers. Clinical psychologist, hospitals, School counselors and professional social workers should take into consideration the findings of this study to assist the pregnant adolescent to develop effective self-esteem to safeguard them from depression and poor problem-solving orientation. They should be encouraged to be as self-actualized and fulfill their educational visions. Lastly, parents should be advised that discriminating against and rejecting their adolescent children for being pregnant worsens psychological conflict within them such as depression. Parents should therefore be more concerned and protective of their children in such conditions encouraging them to further their educational prospects with consciousness of the future. In this manner the parents protect and guide their children appropriately. There is a need to identify adolescent mothers who have low self-esteem and experience high negative stressful life events because they are at increased risk for postpartum depression.

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