



**PSYCHOLOGICAL DISTRESS AMONG PATIENTS WITH SICKLE CELL DISEASES:  
THE IMPLICATION OF SELF-ESTEEM AND THOUGHT PATTERNS**

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**ABSTRACT**

Numerous studies have established high prevalence of psychological distress among people with terminal diseases, however, there are limited focus on sickle cell diseases. There are paucity of studies that had examined the relationship between cognitive factors and psychological factors among patient living with sickle cell diseases (SCD). This study therefore examined how self-esteem and thought patterns influence psychological distress among SCD patients. Adopting an expost facto design, 150 patients living with SCD (23 males and 127 females) whose ages ranged between 10 and 30 years, ( $M=15.14$ ;  $SD=2.83$ ) were selected using purposive sampling techniques. Patients were selected from Lautech Teaching Hospital, Osogbo, Osun State, Nigeria. Hypotheses were formulated and tested with 2 x 2 Analysis of Variance. Results revealed that self-esteem significantly influenced psychological distress ( $F(1, 146) = 7.71, p < .05$ ). Thoughts pattern also significantly influenced psychological distress ( $F(1, 146) = 02.45, p < .05$ ). However, there was no significant joint influence of self-esteem and thought patterns on psychological distress among SCD patients ( $F(1, 146) = 1.15, p > .05$ ). The study concluded that patients with low self-esteem presents more symptoms of psychological distress than patient with high self-esteem. In addition, patients with dysfunctional thought patterns report higher psychological distress than patients with functional thought pattern. It is therefore recommended

that services of clinical or health psychologist should be integrated into clinical process or procedure of management of SCD patients.

**Keywords:** Thought patterns, self-esteem, sickle cell disease, psychological distress.

## INTRODUCTION

Sickle Cell Disease (SCD) is a serious, genetic disease affecting the blood and various organs in the body, most importantly the red blood cells, causing episodes of sick periods, which produce series of pain and other symptoms (Kanter & Kruse-Jarres, 2013). However, Nigeria is a country with population of over 170 million with an annual growth rate of 3.2%, has been reported to have the largest population of people with sickle cell disorder, with about 150,000 births annually (World Health Organization, 2006). At least 40 million Nigerians are carriers when compared with 2 million Americans (Akinyanju, 2010). Over 150,000 Nigerians are born each year with sickle cell disease when compared with 2,000 in America (Akinyanju, 2010). The prevalence of sickle cell disease condition seems to be increasing geometrically, even among educated elite that are supposed to be informed and in other communities despite access to effective basic health care. However, a palpable lack of information and education about the disorder within the communities has encouraged the growth of myths, misinformation, inappropriate treatment, frustration and stigmatization (Akinyanju, 2010).

The World Health Organization (WHO) regional office for Africa expressed in their report that SCD strategy is needed as official recognition of the fact that this disease is an important cause of child mortality in many African countries (WHO, 2010). The establishment of that fact has kindled the desire in many Africans to do something about sickle cell disorder. Steps that needs to be taken for realization of this goal often appears to be deceptively easy and it is usually not fully thought out and remains a subject of confusion and controversy even among doctors and other health care workers (Akinyanju, 2010). In this regard, policy makers have increased and engaged government on the eradication of the disorder by enactment of legislation while the wider context of control is invariably shunned, due to this lack of adequate information; several families in Nigeria have lost loved ones to this red blood cell disease (Akinyanju, 2010).

Studies have showed that Sickle cell patients suffer varieties of psychological problems due to the consequences of the sickle cell disease, this situation lays a huge burden in the overall functioning of individual living with sickle cell disorder (Ohaeri & Shokunbi, 2002). Despite these, an effort to create more awareness about the presence and effect of SCD among the general populace is paradoxically increasing frustration and stigmatization in the absence of a commensurate improvement of services (Otevwoyere, 2014). With the intention of fixing the lacuna, this study is thereby focused on contributory influence of Self-esteem and Thought patterns on Psychological distress experienced by Sickle Cell Disease. Porter (2000)., reported that distress remained a significant predictor of pain after omitting stressors related to SCD., the outcome of this study is therefore expected to give a niche to extent of such pain.

Lerutla (2000) defined psychological distress as the emotional condition that one feels when it is necessary to cope with upsetting, frustrating or harmful situations. Mirowsky and Ross (2003) assert that psychological distress is an unpleasant subjective state of depression and anxiety (being tense, restless, worried irritable and afraid), which has both emotional and psychological manifestations. Common shared symptoms of psychological distress include but not limited to sleep and appetite disturbances, fatigue, reduced behavioral activity with anhedonia, social withdrawal, changes in weight, and decreased libido (APA, 2004).

Sickle cell records have shown that the SCD patient experience an increased prevalence of psychosocial crises which include but not limited to job loss, loss of roles in the family system, decreases in social functioning, and increased healthcare costs (Kemier & Furnée, 2002). Again, the study of Jenerette, et al (2014)., conducted among 90 young adult patients with Sickle Cell Disease (SCD) suggests that the care-seeking intervention (CSI) was associated with significant increased awareness of perceived total stigma and stigma by doctors compared with the attention control group.

Levenson, (2008) study on depression and anxiety in adults with sickle cell disease (SCD) using 308 SCD adults revealed that major percentage of the population were depressed and other percentage had any other forms of anxiety disorder. Psychological distress has also been identified over times to have been influenced by other psychological factor such as self-esteem.

Self-esteem is the evaluative aspect of the self-concept that corresponds to an overall view of the self as worthy or unworthy (Heatherton & Wyland, 2003). Rosenberg, (1965) defined self-esteem as a person's positive or negative, favorable or unfavorable attitude towards himself or herself which is closely associated with personality functioning. For better understanding of this

concept in this research, self-esteem may be referred to as how one values him or herself, how one perceives his or her value to the world and how valuable he or she thinks he or she is to others.

Studies have shown that low self-esteem predisposes to depression and disordered eating (Whisman & Kwon, 1993). Also high self-esteem promotes initiative and confident action in either constructive or distractive ways (Salmivalli et al, 1999).

Management of self-esteem has been one of the major discussions in the field of psychology and most researchers are trying all possible best to see how self-esteem can be developed. A number of previous studies provide support for an inverse relationship between self-esteem and psychological distress (Frone, 2000).

Sumer et al (2005) examined the predictive power of personal resources, severity of earthquake experience and coping self-efficacy on general distress. Their results showed that personal resources, earthquake experiences, CSE, and gender have direct effects on psychological distress.

MacInnes (2006) study among fifty-eight (58) participants diagnosed with severe and enduring mental health problems revealed that respondents with enduring mental or emotional problems were more likely to have lower self-acceptance and self-esteem, and higher levels of anxiety, depression and psychological distress than other respondents.

Ashtarian and Moshki (2010) investigated the perceived health locus of control, self-esteem and its relation to psychological well-being in Iranian students. Their results found a negative relationship between perceived internal locus of control and self-esteem with psychological well-being.

Thought pattern is a particular thinking style or pattern adopted by an individual consciously, subconsciously and unconsciously. It can be divided into Rational/Positive or Irrational/Negative thought patterns. Rational thought patterns allow for a restoration of one's perception of self as positive while Irrational thought patterns cause an individual to focus on flaws. Thought patterns are a central idea in cognitive theory and therapy; it has been shown to play a primary role in numerous disorders, including SCD (Trower, & Dagnan, 1999). (Stebbins & Pakenham (2001) found that thought patterns are related to psychological distress, in the sense that a higher adherence to irrational schematic beliefs was linked with higher levels of psychological stress. Their work also found that maintaining thought patterns was damaging for physical and psychological health.

Several studies have also shown that 'negative thinking or passive adherence' is positively associated with pain severity and health service utilization (emergency visits, hospitalizations, etc.) in both children and adults, and prospectively Gil et al, 1993). Harris et al (2006) and Sporrle et al., (2006 reported that employees' cognition is considered to be important causes of their emotional reactions and their behavioral reactions. An experimental test of a core REBT hypothesis evidenced that irrational beliefs lead to physiological distress as well as psychological arousal, (Montgomery, et al., 2007). Response expectancies and irrational beliefs also showed to predict exam related distress (Opris & Macavei, 2007).

Losada, (2010) study among 334 dementia caregivers suggested that family can have positive influences on distress when the family is perceived as a source of support. Their study further provides support for the importance of conceptualizing family as a multidimensional construct with both positive and negative effects on caregivers' emotional distress and suggests that families affects emotional distress through thoughts pattern rather than through burden appraisals.

The increasing rate in psychological distress has then been worrisome, within the Nigerian context and at the global level. Huge necessity and importance of research into the understanding of the role of psychological variables to the understanding and management of psychological distress among people with sickle cell disease has also been established from available literature as little empirical finding is documented. Hence, the present study examined Psychological distress among patients with sickle cell diseases: the implication of self-esteem and thought pattern. Based on the reviewed literatures, the following hypotheses were formulated.

- 1 There will be a significant influence of Self Esteem on Psychological distress among sickle cell patients.
- 2 There will be a significant influence of Thoughts pattern on psychological distress among sickle cell patients.
- 3 There will be a significant joint influence of Self-esteem and thoughts pattern individually influence psychological distress among respondents diagnosed of Sickle Cell Disorder.

## METHODS

### Design

This study adopted an expo-facto- survey design, the independent variables were self-esteem and thoughts pattern, and the dependent variable was psychological distress.

### Study Area/Setting

The study was conducted at Ladoke Akintola University Teaching Hospital (LAUTECH) Osogbo Osun State. LAUTECH is a Teaching Hospital founded in 1928 by the British Colonial Administration to cater for the medical needs of black people in the area, then known as Osun and Ife/Ijesha medical areas. The hospital was adopted for the study because it was strategically located to cater for the general and mental health of over 5 million populace of the state, despite the state population, the hospital also attends to patients from neighboring states which leads to automatic increase of patient that is been attended to in different clinic in the hospital.

### Participants

**Table 1: Frequency and Percentage Summary of the Bio-socio Factors.**

Characteristics	Options	Frequency	Percentage
Gender	Male	23	15.70%
	Female	127	84.70%
	Total	150	100%
Family Structure	Polygamous	30	20%
	Monogamous	120	80%
	Total	150	100%
Marital Status	Single	147	98%
	Married	03	2%
	Total	150	100%
Age Range	10-12	28	18.7%
	13-18	114	76%
	19-30	08	5.3%
	Total	150	100%

The study was conducted among registered Sickle Cell Disease out-patients attending clinic at Lautech Teaching Hospital Osogbo Osun State. A total number of 150 patients participated in the study and the result revealed that 15.70% (n = 23) of the respondents who participated in the study were male patients diagnosed of SCD, while 84.70% (n = 127) of the respondents were female patients diagnosed of SCD. Furthermore, 20% (n = 30) of the respondents were from polygamous family while 80% (n = 120) of their counterparts were from monogamous family. 98% (n = 147) of the respondents who participated in the study were single, 02% (n = 03) of the respondents who participated in the study were married, while none of the respondents was divorced or separated patients diagnosed of SCD. 18.7% (n = 28) of the respondents who participated in the study were within the school-aged i.e. 10-12 years of age, 76% (n = 114) of the respondents who participated in the study were within the adolescent age range, that is, 13-18 years of age, while 05.3% (n = 08) were within young adulthood age range, that is, 19-30. The following criteria were considered while carrying out this study.

Eligible participant for this study were patients aged between 10-30 years, diagnosed with SCD, receiving treatment for SCD in the teaching hospital, being able to read or understand what is read for him or her and also consented to partake. While participants were excluded if they did not consent to participate in the study or did not complete the questionnaire .

### **Sampling Techniques**

Purposive sampling technique was adopted in the selection of SCD patients into the study. This form of sampling techniques enabled the researchers engaged SCD patients receiving treatment during the data collection durations.

### **Research Instruments**

A questionnaire made up of widely used and psychometrically sound measures were used for the data collection in this study. The questionnaire was made up of four sections, Section A-D; **Section A: Socio-Demographics:** Measured respondents' data such as: age, gender, marital status, highest educational attainment, occupation, and religion, among others.

**Section B:** Kessler Psychological Distress Scale (K10) was developed by Kessler and Mroczek (1994) to test manifestations of psychological distress. The scale consists of 10 questions on non-specific psychological distress and is about the level of anxiety and depressive symptoms a person may have experienced in the most recent four-week period. Reliability tests were done on the K10 using the 2000 Collaborative Health and Wellbeing Survey 4. The values of the kappa and weighted kappa score range from 0.42 to 0.74. In the present study, the reliability co-

efficient obtained was 0.72. This indicates that K10 is a moderately reliable instrument. The scale was interpreted using guide from the scale manual.

**Section C:** Rosenberg Self-Esteem (RSE) is a 10 items scale developed by Rosenberg (1965) to measure self-esteem, but was revised and revalidated by Harborg in 1993. It is a scale that attempt to achieve a one-dimensional measure of global self esteem. Rosenberg (1965) reports a reliability coefficient of .82 and Cronbach alpha of .77; Silbert and Tippett (1965) report a test-retest reliability of .85; McCarthy and Hoge (1982) report coefficient of .74; Shahani, Dipboye, and Philips (1990) report alpha coefficient of .80 while Harborg (1993) reports coefficient alpha of .88. while the present study reported a reliability coefficient of 0.76.

**Section D:** Shortened General Attitude and Believe Scale (SGABS) is a 26 item self-report inventory development by Lindner, Kirby, Wertheim, and Birch (1999) to assess maladaptive cognitions, including rational and irrational beliefs based on Rational Emotive Behavioral Therapy (REBT) theory of emotional disorder. Lindner et al. (1999) reported a construct validity and a test-retest reliability of 0.91 for total irrationality and Cronbach  $>.79$  for the subscales. Sparkes (2011) also reported an excellent reliability score with a Cronbach alpha of .90.

## Procedure

Approval for this study was obtained from the Ethical Committees of Lautech Teaching Hospital Osogbo, Osun State. Approval to conduct the study with SCD patients attending their clinic clearance certificate with protocol number LTH/EC/2018/03/354 was given. After the approval, individuals who met preliminary eligibility criteria was contacted and informed about the study, and asked to complete informed consent form. Participants were made aware of the confidentiality procedure and that their contributions were completely anonymous. The procedure for obtaining informed consent was included in the proposal submitted to the ethical committee. Respondents who consented to participate were asked to complete a structured questionnaire for the study with the assistance from the members of staff and the parents of patient that could not comprehend the questions in the questionnaire due to their age, health status or mood. They assisted the researcher in guiding the respondents in responding to the asked questions based on how the researcher's interpreted it to them. It took the researcher six weeks and four days to collect and collate the data. The total number of 150 questionnaires were retrieved and analyzed.



## Data Analyses

The collected data were subjected to SPSS (version 20) statistical analysis. To test the extent and direction of the studied variables, 2 x 2 ANOVA (Analysis of Variance) was employed in testing the hypotheses.

## RESULTS

**Table 2:** 2 x 2 ANOVA Showing the significant influence of Self-esteem and Thoughts pattern on Psychological Distress

Source	SS	Df	MS	F	P
Self Esteem (C)	391.02	1	391.02	7.71	<0.01
Thoughts pattern (D)	157.69	1	157.69	2.45	< 0.05
C* D	58.52	1	58.52	1.15	> 0.05
Error	7409.50	146	50.75		
Total	203010.0	150			

The result presented in table 1 above revealed that self esteem significantly influenced psychological distress among patients diagnosed of sickle cell ( $F(1, 146) = 7.71, p < 0.05$ ). This confirmed hypothesis. However, thoughts patterns significantly influenced psychological distress among patients diagnosed of sickle cell disorder ( $F(1, 146) = 2.45, p < 0.05$ ). Hypothesis 2 is also confirmed by this outcome. Furthermore, respondents' self-esteem and thoughts pattern did not interactively influence psychological distress significantly among patients diagnosed of sickle cell disorder ( $F(1, 146) = 1.15, p > 0.05$ ), therefore, Hypothesis 3 was rejected

To ascertain the magnitude of means differences, which further revealed the direction of the significant F-value, the descriptive statistics was conducted.

**Table 2.** Descriptive Analysis Showing the Interactive Mean Relationship among the study variables

Self-esteem Grp	Dysfunction Thought. Grp	Mean	Std. Deviation	N
Low SES	Rational thought pattern	36.75	08.96	40
	Dysfunctional thought pattern	37.60	08.05	50
	Total	37.22	08.42	90
High SES	Rational thought pattern	32.00	05.13	20
	Dysfunctional thought pattern	35.50	03.96	40
	Total	34.33	04.65	60
Total	Rational thought pattern	35.17	08.16	60
	Dysfunctional thought pattern	36.67	06.60	90
	Total	36.07	07.28	150

SES = self esteem

The result presented in table 2 showed that individuals that are low in self-esteem significantly experienced higher psychological distress ( $\bar{x} = *37.22$ ; SD = 08.42) compared to individuals that are high in self-esteem ( $\bar{x} = *34.33$ ; SD = 04.65). It was also revealed that individual with rational thought patterns significantly reported lower psychological distress ( $\bar{x} = *35.17$ ; SD = 08.16) compared to individuals with dysfunctional thought patterns ( $\bar{x} = *36.67$ ; SD = 06.6).

The interaction effect of both self-esteem and dysfunctional thought patterns was not interpretable because of the none-significant interactive influence of the both variables on psychological distress

### Discussions

The study examined the influence of self-esteem and thoughts pattern on psychological distress of SCD patients in Osun State. These variables were investigated and their predicting influence was empirically verified. The variables were thoughts pattern, self-esteem and psychological distress.

Outcome revealed that self-esteem significantly influence psychological distress among respondents diagnosed of Sickle Cell Disorder, such that, respondents with low self-esteem significantly scored high on psychological distress scale than respondents with high self-esteem. The outcome of this finding was consistent with the findings of Frone, (2000), Greenberg, et al, (1992) who established a negative relationship between self-esteem and psychological distress

i.e. the higher the level of respondents' self esteem, the lower the psychological distress reported or the lower the level of respondents' self esteem, the higher the psychological distress reported. The study of Ashtarian et al (2010) also established that perceived health locus of control, self-esteem significantly correlate psychological well being individually among Iranian students. Furthermore, they found a positive relationship between perceived internal locus of control and self-esteem with psychological well being. The result indicated that participants with better self-esteem have better psychological wellbeing. The correlation of this study in relations with previous studies could be as a result of validity and reliability of the adopted scales for the research

The study further revealed that thoughts pattern individually influence psychological distress among respondents diagnosed of Sickle Cell Disorder, however, respondents with dysfunctional thoughts pattern significantly scored high on psychological distress scale compared with respondents with functional thoughts. In other words, dysfunctional thought significantly influence psychological distress significantly among patients with sickle cell disease. The finding supports the study conducted by Montgomery, (2007) and Gil et al, (1993) which concluded that 'negative thinking and passive adherence' is positively associated with pain severity and health service utilization (emergency visits, hospitalizations, etc.) in both children and adults prospectively.

Self-esteem and dysfunctional thought did not have interactive influence on psychological distress among patients diagnosed of sickle cell disorder. The study outcome negates the study of Losada, et. al., (2010) and Frone, (2000) that dysfunctional beliefs and self-esteem individually and significantly influence psychological distress. This result could be as a result of the methods and participants used in carrying out this present study.

### **Conclusion**

The study confirmed that self-esteem and dysfunctional thought patterns individually influenced psychological distress among patients diagnosed of Sickle Cell Diseases. However, patients with low self-esteem presents more symptoms of psychological distress than patient with high self-esteem. In addition, patients, with dysfunctional thought patterns reports higher psychological distress than patients with functional thought pattern. On the other hand, self-esteem and dysfunctional thought did not interactively influence psychological distress significantly among patient diagnosed of Sickle Cell Diseases.

The study revealed that self esteem and dysfunctional thought plays significant role in enhancing or alleviating the psychological distress experienced by people diagnosed of SCD. The policy makers; such as, members of the board in the state Hospital Management Board should integrate psychological treatment to the standard medical treatment received by people diagnosed of SCD.

Based on the finding of this study, the following recommendations were made.

1. It is recommended that in attempt to conduct psychological interventions to allay psychological distress among patients with SCD, keen attention should be paid to patients level of self-esteem and pattern thoughts in solving the menace of psychological distress.
2. Considering the established prevalence of psychological distress among SCD, service of clinical or health psychologist should be integrated into clinical process of procedure of management of SCD patients.

Lastly, the study has some limitations which include the following, the study mainly covered the patients of Lautech Teaching Hospital Sickle Cell Disease Clinic, Osun state, Nigeria. The scope of the study however is limited when compared to the 36 states in Nigeria. Further attempt could be made by other researchers to increase number of patients from other geo-political zones within Nigeria. Also, The current study was built with designs and appropriate statistical analysis which are perfect to examine the study, purpose and objectives at the time of study. Respondent Driven Sampling (RDS) was sampling design that may have enable adequate and rich engagement of people diagnosed of SCD, but was unable to be adopted due to reinforcement needed to exchange coupons from the seeds (prospective referred respondents). Lastly, the study activities were strictly conducted in English, leaving out respondents who can read and write in Yoruba language. Subsequent scholars or researchers are encouraged to interpret the used instruments into local language so as to have much rich-robust data-information.

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