

## Suicide in Sickle Cell Patients with Pentazocine Dependence: Prevalence and Risk Factors

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### ABSTRACT

*Chronic disease and substance addiction each acting singly can increase the risk of suicide beyond that of the general population. Nigeria is recorded as having the largest depot of sickle cell disease (chronic disease) in the world and also has a significant number of substance addicts.*

*The aim of this study was to find out the prevalence of the risk of suicide in a pentazocine dependent sickle cell population particularly as sickle cell disease is already a public health burden in Nigeria as well as to identify the risk factors for suicide. The study was conducted amongst sickle cell patients attending the out-patient department of the University of Benin Teaching Hospital, using a structured questionnaire comprising a section on social demographic data and ICD 10 diagnostic criteria in addition to a sheet that elicited information on suicidal thoughts and attempts, emotional feeling state, etc. One Hundred and Sixty Eight (168) patients were recruited by purposive sampling method over a one week period but only 125 successfully completed the questionnaire to meet the basic requirement for analysis. Those who were too ill or showed reluctance despite assurances of confidentiality were excluded. Participants were aged 18 to 45 years. They were largely in the 18-30 year age group 100 (80%) and had a preponderance of male 68 (54.4%) over females 57 (45.6%). Educational status, tertiary education 49 (39.2%), secondary 41 (32.8%), primary 13 (10.4%), no formal education 22 (17.6%). Thirty One (24.8%) of the total population of 125 met with the diagnostic criteria for dependence syndrome. Suicidal ideation in this population was 19.5%, attempted suicide 9.6%, as against 2.9% in the general population and 8% in sickle cell population without substance addiction problem. Sad mood was present in 22 (71%) of the respondents, stigma 16 (51.5%) and hostile attitude 12 (38.7%). Pentazocine addiction may have conferred the slightly higher rate of suicidal attempts on patients with sickle cell disease.*

**Keywords:** *Suicide, Sickle cell, Pentazocine.*

### INTRODUCTION

Sickle cell disease is an inherited chronic haemolytic anaemia whose clinical manifestations arise from the tendency of the haemoglobin [Hbs] to polymerise and deform red blood cells into the characteristic sickle shape<sup>1</sup>. Nigeria has one of the highest concentrations of this disorder in the world<sup>2,3</sup>. For this reason, challenges that are either peculiar to or arise in Sickle Cell Disease [SCD] patients must be of concern as this adds to the burden of healthcare. Suicide, the act of taking one's life deliberately<sup>4</sup> often begins with thoughts of dissatisfaction in life, hopelessness and a feeling of worthlessness. These ideations then culminate in suicide attempts. Depression is characterized by low mood and reduced energy. There is often hopelessness and reduced activity. Not

infrequently too there may also be suicidal ideas. There is a strong relationship between suicidal ideas (thought of suicide), suicide attempts (failed attempts at completed suicide) and depression<sup>5</sup>. Rates of successful suicide are also relatively high among the chronically ill compared to other populations though treatment improves the outcome<sup>6</sup>.

The chronic nature of sickle cell disease may predispose to suicide and depression. The desperate desire to reduce pain in sickle cell crisis and the consequent addiction to pain relievers e.g. pentazocine may worsen the picture. The aim of this survey is to find the prevalence of suicidal thoughts, suicidal attempts and other variables with established relationships such as depressed mood in patients with SCD that abuse pentazocine. It is hoped that findings from this peculiar population will add to epidemiological data base for Sickle Cell Patients particularly in Benin City and will also provide a scientific platform for subsequent comparisons with other populations elsewhere, with other Sickle Cell populations within and outside the country or even with patients with other

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haemoglobinopathies with pentazocine addiction specifically.

## **MATERIALS AND METHODS**

### **Location**

The University of Benin Teaching Hospital is located in the western part of the city of Benin. The city has access roads linking the western, eastern and southern part of the country.

### **Method**

This descriptive study was carried out at the University of Benin Teaching Hospital, a tertiary hospital and referral centre to several General Hospitals in South-South region of Nigeria. A total of 168 patients with homozygous sickle cell disease attending sickle cell clinic were recruited. Purposive sampling technique was used and the duration of data collection was one week. All the patients that attended the clinic during the data collection period had a chance of being selected for the interview. This was enough to eliminate examiner bias. All consenting patients were subsequently administered a questionnaire to fill. For an average Senior Secondary School leaver in the study population the questionnaire took about 7-8 minutes to fill. It was therefore not cumbersome and did not overtly add to patients stress.

The inclusion criterion was the homozygous sickle cell irrespective of whether it was the S or the C recessive gene. The procedure was non-invasive so verbal consent as obtained was adequate. The exclusion criterion was "patient too ill to participate".

### **Data Collection**

Data were collected by using questionnaire comprising socio demographic variables and specific questions on the use of pentazocine. The tenth version of the International Classification of Diseases (ICD10) was the main instrument (for addiction). The questionnaire also contained two other sections. The first was the social demographic data collection sheet and the other was a response sheet that elicited information on emotional feeling state, stigma, thoughts of suicide and suicide attempts.

Questionnaires were pre-tested among medical students of the University of Benin of same age group, irrelevant questions and ambiguous ones were excluded or adjusted respectively. An interviewer was trained on the use of the questionnaires. One Hundred and Twenty Five (125) questionnaires were properly completed and returned for analysis. Data were statistically analyzed with SPSS version 11(2001) in frequency and simple percentages. P value were necessary was set at 0.05. The data were presented in frequency tables as deemed appropriate.

## **RESULTS**

One Hundred and Twenty Five respondents had their questionnaires analyzed. The age range was between 18 and 45 years. The largest group was within 13 to 30 years age bracket this was 80% of the population. Thirty One to 40 years had 20 respondents which accounted for 16% of the study population. Those above 40 years of age, were only 5 representing 4%. Males were over represented in the study as they were 68 in number (55.6%), as against females 57 (45.6%). Those with tertiary education were 49, making 39.2% of the study population, secondary education, 41m (32.8%), primary education 13 (10.4%), while those without any form of formal education were 22 (17.6%). One Hundred and Twenty (96%) were Christians, 2 (1.6%) were Muslims and 3 (2.4%) were African Traditional Religion worshippers. Participants were mostly students 74 (59.2%). The unemployed were 30 (24%), health workers 10 (8%), and non health workers 18 (14.4%). The health workers and non health workers made up the employed category 28 (22.4%). Out of the 125 patients that successfully completed their questionnaires properly for analyses, 31 representing 24.8% met with the diagnostic criteria for dependence [addiction] using the 10<sup>th</sup> version of the International Classification of Diseases [ICD 10].

The emphasis of this research is on this sub population which will subsequently be referred to as the total population N (31). Other results are presented in frequency tables below.

Table 1: Perception of People's Attitude towards Patient (N = 31)

	Frequency	%	Cumulative %
Hostile	12	38.7	38.7
Friendly & Supportive	9	29	67.7
Indifferent	10	32.3	100
Total	31	100	

Table 2: Frequency of Stigma, Feeling of Suicide, Attempted Suicide and Sad Mood among the Subjects

	YES		NO	
	Frequency	Cumulative %	Frequency	Cumulative %
Stigma	16	51.5	15	48.5
Feeling of Suicide	6	9.5	25	80.5
Attempted Suicide	3	9.6	28	90.4
Sad Mood	22	71	9	29

## DISCUSSION

The World Health Organization {WHO}<sup>7</sup> records that a prior suicide is the single most important risk factor for suicide in the general population and it records also that up to 800,000 people commit suicide yearly with many more who attempt it<sup>8</sup>. Addiction to substance confers higher risk of suicide<sup>9</sup> than what you find in the general population. The same opinion holds for chronic illnesses, terminally ill and chronic pain<sup>10</sup>. Overall 2.9%<sup>11</sup> of the adult population attempt suicide over a lifetime of 70 years and suicide rate was reported in such population as 1%<sup>12</sup>. It will generally be expected that a combination of sickle cell [a chronic illness] and pentazocine addiction should confer a significant predisposition to suicide [ideas and attempt].

In the sickle cell population, episodes of suicidal ideation was reported as 29% and lifetime suicide attempt [at least once] was 8%<sup>6</sup>. The research was carried out on 67 sickle cell patients which is about half the number of participants in this study but twice the number that responded to the items on suicide. The results are somewhat similar. In this study, suicide attempt was present in 9.6% while 19.5% felt like committing suicide. The slightly higher rate in this study may be attributable to addiction to pentazocine. Closely related to it is the fact that 71% of respondents felt unhappy. This category may not all translate into clinical depression [which has a documented strong relationship with suicide]<sup>5</sup> but the sad mood definitely will impact on patient's rational judgment, should he decide on suicide. It

is also important to note that aside the chronicity of sickle cell disease and the addiction to pentazocine in this study [which are proven risk factors for suicide and suicide attempt], there are other parameters that cannot be ignored. Thirty eight per cent of respondents felt that people's attitude to them was hostile and 32.3% felt indifferent. Those who felt happy and felt supported were in the minority 29%. Beyond that 51.5% of the respondents felt stigmatized by their dependence on pentazocine. Stigmatization, perception of hostile attitude from others because of addiction to pentazocine may just as well be as relevant in considering suicide in this specialized population as sad mood, pentazocine dependence and sickle cell disease are.

## Conclusion

Pentazocine addiction may explain the slightly higher risk of suicide on patients with sickle cell disease. Quite important too is the combination of the patient's perception of hostile attitude of others toward him, stigmatization and sad [depressed] mood because of the abuse of pentazocine. It is necessary therefore that in treating patients with sickle cell disease having abuse problem with the use of pentazocine, the possibility of suicidal thoughts must be borne in mind. Counselling of care givers [including medical staff] both within and outside the hospital must also be done in order to minimize stigmatization and the possibility of becoming hostile to the patient.

## Limitation of Study

The statistical relations between chronic disease,

substance use and the risk of suicide was not tested for and may serve as focus for future studies.

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