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Impact of Social Support on Clinical Outcomes in Adult Patients with Haematological Malignancies: A Prospective Longitudinal Single Center Study in Southern Nigerian

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ABSTRACT

Background: Social support plays a crucial role for patients with haematological malignancies as they navigate their illness course.

Objective: The aim of this study was to examine the impact of social support on the clinical outcomes in this patient population.

Materials and Methods: This was a prospective longitudinal study carried out at the hospital's department of Haematology and Blood Transfusion. A hundred and forty two patients were recruited consecutively over a period of 24 months. Data obtained were analyzed using Statistical Package for the Social Sciences (SPSS) version 23.

Results: Patients had a median age of 52.6 years (range, 18 - 84 years), and most were males (55.6%), and married (65.5%). A majority of the patients had leukaemias (47.9%) followed by the lymphomas (21.5%) and multiple myeloma (14.8%). A significant number of patients, 71.8% (n =102) had some form of limited social support. 8.8% (n = 9) of patients received full financial support from the National Health Insurance Agency (NHIA) and this was associated with significant favorable clinical outcomes for these set of patients (p = 0.003). Limited social support from other sources was generally associated with poor clinical outcomes (p > 0.05).

Conclusion: A major player impacting favorable significant clinical outcomes in patients with haematological malignancies is financial support in our environment. With full financial support patients are able to sustain the economic burden and financial toxicities associated with the management of haematological malignancies.

KEYWORDS:
Social support, Clinical Outcome, Haematological Malignancies, Nigeria.

INTRODUCTION

Social support is a complex and interactive construct which has long been suggested to have direct and buffering effects on well-being and emotional adjustments of individuals suffering from malignancies.[1] It is a critical resource when patients with cancers undergo medical care. It entails the provision of information, material assistance, emotional, moral and spiritual supports from family, friends, peers and other social networks. It reflects the individual's perception or experience of being loved, being protected, being catered for and being a member of a social network with all its contributions and responsibilities.[2] It has been estimated that as many as 50% of cancer patients experience symptoms of depression and/or meet criteria for clinical depression.[3] Psycho-oncological studies have shown that the availability of social support systems to patients with malignancies is associated with improved disease-coping abilities, decreased disease-related stress, increased well-being and health-related quality of life, and high self esteem.[4,5]

Studies have further shown that patients with malignancies, who have higher levels of these kinds of support and social bonding are likely to have a better quality of life and lower mortality rates.[6,7] While in contrast, those who do not have social support networks have poorer oncologic outcomes, a

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higher prevalence of cancer progression, and a lower overall survival rate.[6,7] A study done in the Massachusetts General Hospital from 2014 through 2017, showed that patients with haematological malignancies had a higher likelihood of death or readmission within 90 days of discharge when they had limited social support, highlighting the importance of social support for patients with haematological malignancies.[8]

Haematological malignancies are a common, heterogeneous and complex group of clonal diseases that originate from an aberrant haemopoietic system. They can be classified into acute, rapidly fatal conditions if therapy is not immediately instituted and chronic indolent malignancies that wax and wane in their clinical presentations over time. They constitute 16% of all malignancies at the centre of this study with a mortality rate of 53%.[9,10]

Worldwide, patients with haematological malignancies, most often, undergo more intensive treatments than patients with solid tumors from diagnosis to the end of life.[11] The management of these malignancies are often long, stressful and can prove quite tasking emotionally, physically, financially and logistically, for the diagnosed individual, necessitating the need for strong social support systems.[12]

A recent study done at this centre revealed a high prevalence of discharge against medical advice amongst adult patients with haematological malignancies majorly due to lack of financial support.[13]

There is a gross lack of organization of social support systems by institutions and government in our clime, leaving the family, relatives and friends as the main providers of limited social support to patients with haematological malignancies. Haematological malignancies are prevalent in our communities with a high mortality rate [9,10] and it has been postulated that the availability of social support can help improve the quality of life and reduce the burden of the disease for affected patients. It will also lead to enhanced psychological and functional wellbeing with improved clinical outcomes in this population of patients. [6,7]

The aim of the study was to highlight the social support systems available to patients with haematological malignancies at the Delta State University Teaching Hospital, Oghara Delta State.

The objective of the study was to determine the impact of social support systems on the clinical outcomes for adult patients with haematological malignancies seen at the Delta State University Teaching Hospital, Oghara, Delta State.

MATERIALS AND METHODS

Study Design

The study was a longitudinal prospective study carried out at the department of Haematology and Blood Transfusion of the Delta State University Teaching Hospital, Oghara, a tertiary health institution located in Ethiope-West local government area of Delta State, South – South Nigeria. It is a state government owned teaching hospital with over 300 bed capacity.

Study population

Participants in this study were patients diagnosed with haematological malignancies and were eligible if they were adults aged 18 years and above and gave voluntary informed consent. The recruitment was carried out consecutively between January 2023 and february 2025.

Data collection

All participants self-reported socio-demographic data at presentation, including age, sex, ethnicity, religion, residence, occupation, education, and relationship status. We used the researcher-administered structured questionnaires to obtain availability and type of social support systems encountered by the patients during the course of management.

Data analysis

To analyze the collected data, Statistical Package for the Social Sciences SPSS version 23.0 (IBM SPSS Statistics) was utilized. Continuous variables were reported as means and medians with interquartile ranges and categorical variables as frequencies and percentages. Univariate statistics were analyzed using the chi-square or Fisher's exact test for categorical variables and Student's *t*-test for continuous variables as appropriate. A significant p value was set less than 0.05.

RESULTS

A total of 142 patients with haematological malignancies were diagnosed during the period of the study. They comprised seventy-nine (55.6%) males and sixty-three (44.4%) females giving a ratio of 1:1.25. The patients were aged between eighteen (18) and eighty-four (84) years with a mean age of 52.6 years. The modal age class was 41-60 years comprising 36.6%. Ninety-nine of the patients (65.5%) were married, while twenty-nine (20.4%) and twenty (14.1%) were single and widowed respectively. Eighty-five patients, representing 59.9% were self-employed, thirty-one (21.8%) were retirees, and 13.4% and 4.9% were students and formally employed respectively. (Table 1)

Table 1: Patient Characteristics

	Frequency	**Percentage (%)**
Gender		
- Female	63	44.4
- Male	79	55.6
Age		
- 20 years and below	9	6.3
- 21-40 years	28	19.7
- 41-60 years	52	36.6
- 61-80 years	46	32.4
- 81 years and above	7	4.9
- Mean ± SD	52.6 ± 17.8	
Marital status		
- Single	29	20.4
- Married	93	65.5
- Widowed	20	14.1
Occupation		
- Student	19	13.4
- Self-employed	85	59.9
- Employed	7	4.9
- Retired	31	21.8

Table 2 shows the frequency distribution of the different types of haematological malignancies. Chronic Lymphocytic Leukaemia, (CLL) was the most common haematological malignancy (19.7%), followed by the Non-Hodgkin Lymphomas (NHL), 15.5%, and Multiple Myeloma (MM) 14.8%. The least common haematological malignancies were Polycythemia Rubra Vera (PRV) and the Myeloproliferative/Myelodysplastic Syndrome (MPL/MDS) at 0.7% each.

Table 2: Types of Haematological Malignancies

	Frequency	**Percentage (%)**
ALL	13	9.2
AML	10	7.0
BL	3	2.1
CLL	28	19.7
CML	17	12.0
ET	6	5.6
HL	6	4.2
MDS	10	7.0
MM	21	14.8
MPNMDS	1	0.7
NHL	22	15.5
PMF	2	1.4
PRV	1	0.7

Key: ALL- Acute Lymphoblastic Leukemia; AML- Acute Myeloid Leukemia; BL- Burkitt Lymphoma; CLL- Chronic Lymphocytic Leukemia; CML- Chronic Myeloid Leukemia' ; ET- Essential Thrombocythemia; HL- Hodgkin Lymphoma; MDS-Myelodysplastic Syndrome; MM- Multiple Myeloma; MPN/MDS- Myeoproliferative Neoplasms/Myelodysplastic Syndrome; NHL- Non-Hodgkin Lymphoma; PMF- Primary Myelofibrosis; PRV- Polycythemia Rubra Vera.

Majority (71.8%) of the patients received various types of support while forty (28.2%) provided supports (No support) all by themselves. Figure 1.

Of the 102 patients who received support, 99 (97.1%) received support from their family alone, 12 (11.8%) received support from their friends, 4 (3.9%) received support from Church and 9 (8.8%) received support from the National Health Insurance Agency (NHIA).

A total of ninety-nine (97.1%) patients received emotional support, 93 (65.5%) received financial support while 40 (28.2%) patients self-supported themselves. Ninety (88.2%) received both emotional and financial supports while only one person, representing 1% received support from both friends and the NHIA. (Table 3)

Table 3: Frequency distribution of subjects according to support received

	Frequency	**Percentage**
Received support from family (n=102)		
- Yes	99	97.1
- No	3	2.9
Received support from friends (n=102)		
- Yes	12	11.8
- No	90	88.2
Received support from Church (n=102)		
- Yes	4	3.9
- No	98	96.1
Received support from NHIA (n=102)		
- Yes	9	8.8
- No	93	91.2
Received support from family/friends		
- Yes	11	10.8
- No	91	89.2
Received support from family/Church		
- Yes	4	3.9
- No	98	96.1
Received support from family/NHIS		
- Yes	8	7.8
- No	94	92.2
Received support from family/friends/NHIS		
- Yes	1	1.0
- No	101	99
Received emotional support		
- Yes	99	97.1
- No	43	42.1
Received financial support		
- Yes	93	91.2
- No	49	48.0
Received both emotional and financial supports		
- Yes	90	88.2
- No	12	11.8
No Support (Self support)		
- Yes	40	28.2
- No	102	71.8

Table 4 shows the relationship between the support received by the patients and clinical outcome. From the table, only reception of support from the NHIA was associated with a significant clinical outcomes.(p-value = 0.003).

Table 4: Association between support received and clinical outcome

Received support from family (n=102)			0.901	0.563
- Yes	60 (98.4)	39 (95.1)		
- No	1 (1.6)	2 (4.9)		
Received support from friends (n=102)			0.266	0.758

- Yes	8 (13.1)	4 (9.8)		
- No	53 (86.9)	37 (90.2)		
Received support from Church (n=102)			0.400	0.527
- Yes	3 (4.9)	1 (2.4)		
- No	58 (95.1)	40 (97.6)		
Received support from NHIA (n=102)			9.736	0.003*
- Yes	1 (1.6)	8 (19.5)		
- No	60 (98.4)	33 (80.5)		
Received support from family/friends			0.901	0.563
- Yes	60 (98.4)	39 (95.1)		
- No	1 (1.6)	2 (4.9)		
Received support from family/Church			0.901	0.563
- Yes	60 (98.4)	39 (95.1)		
- No	1 (1.6)	2 (4.9)		
Received support from family/NHIA			0.082	1.000
- Yes	60 (98.4)	40 (97.6)		
- No	1 (1.6)	1 (2.4)		
Received support from family/friends/NHIA			0.082	1.000
- Yes	60 (98.4)	40 (97.6)		
- No	1 (1.6)	1 (2.4)		
Received emotional support			0.458	0.498
- Yes	59 (72.0)	40 (66.7)		
- No	23 (28.0)	20 (33.3)		
Received financial support			0.214	0.643
- Yes	55 (67.1)	38 (63.3)		
- No	27 (32.9)	22 (36.7)		
Received both emotional and financial supports			0.628	0.428
- Yes	61 (74.4)	41 (68.3)		
- No	21 (25.6)	19 (31.7)		
No Support (Self support)			0.628	0.428
- Yes	21 (25.6)	19 (31.7)		
- No	61 (74.4)	41 (68.3)		

* Result is significant at 95% level of confidence

Table 5 shows the relationship between patients' bio-data and support received. From the table, only age was significantly associated with reception of support (p-value = 0.014) with patients between the ages of 41-60 years significantly less likely to receive support. Similarly, occupation was significantly associated with reception of support (p-value = 0.001) with students and retired patients being significantly more likely to receive support while self-employed participants were significantly less likely to receive support.

Table 5: Association between bio-data and social support received.

	Did not receive support	**Received support**	**|Adjusted residuals|**	**χ^2 value**	**p-value**
Gender				3.177	0.075
- Female	13 (32.5)	50 (49.0)			
- Male	27 (67.5)	52 (51.0)			
Age				12.580	0.014*
- 20 years and below	0 (0.0)	9 (8.8)	1.9		
- 21-40 years	10 (25.0)	18 (17.6)	1.0		
- 41-60 years	21 (52.5)	31 (30.4)	2.5*		
- 61-80 years	9 (22.5)	37 (36.3)	1.6		
- 81 years and above	0 (0.0)	7 (6.9)	1.7		

Marital status				4.036	0.133
- Single	8 (20.0)	21 (20.6)			
- Married	30 (75.0)	63 (61.8)			
- Widowed	2 (5.0)	18 (17.6)			
Occupation				21.362	<0.001*
- Student	1 (2.5)	18 (17.6)	2.4*		
- Self-employed	36 (90.0)	49 (48.0)	4.6*		
- Employed	0 (0.0)	7 (6.9)	1.7		
- Retired	3 (7.5)	28 (27.5)	2.6*		
-					

* Result is significant at 95% level of confidence

The relationship between types of HM made and support received is shown in table 6.. From the table, a diagnosis of HM was significantly associated with reception of social support (p-value = 0.026) with patients with AML more likely to receive support.

Table 6: Association between types of haematological malignancies (HM) and reception of social support.

HM	**Did not receive support**	**Received support**	**|Adjusted residuals|**	**χ^2 value**	**p-value**
ALL	1 (2.5)	12 (11.8)	1.7	22.296	0.026*
AML	0 (0.0)	10 (9.8)	2.1*		
BL	0 (0.0)	3 (2.9)	1.1		
CLL	5 (12.5)	23 (22.5)	1.4		
CML	10 (25.0)	7 (6.9)	3.0*		
ET	4 (10.0)	4 (3.9)	1.4		
HL	1 (2.5)	5 (4.9)	0.6		
MDS	5 (12.5)	5 (4.9)	1.6		
MM	6 (15.0)	15 (14.7)	0.0		
MPL/MDS	0 (0.0)	1 (1.0)	0.6		
NHL	7 (17.5)	15 (14.7)	0.4		
PMF	1 (2.5)	1 (1.0)	0.7		
PRV	0 (0.0)	1 (1.0)	0.6		

* Result is significant at 95% level of confidence

Key: ALL- Acute Lymphoblastic Leukemia; AML- Acute Myeloid Leukemia; BL- Burkitt Lymphoma; CLL- Chronic Lymphocytic Leukemia; CML- Chronic Myeloid Leukemia' ; ET- Essential Thrombocythemia; HL- Hodgkin Lymphoma; MDS- Myelodysplastic Syndrome; MM- Multiple Myeloma; MPN/MDS- Myeoproliferative Neoplasms/Myelodysplastic Syndrome; NHL- Non-Hodgkin Lymphoma; PMF- Primary Myelofibrosis; PRV- Polycythemia Rubra Vera.

DISCUSSION

The objective of this study was to determine the impact of social support systems on the clinical outcomes of patients with haematological malignancies at the Delta State University Teaching Hospital, Oghara. We hypothesized that patients receiving structured financial and emotional social support would have significantly improved clinical outcomes compared to those with limited or no support. In this study a large number of patients received one form of social support or combinations of social supports which were found to be very limited in relation to the overriding financial needs of the patients.

Our findings from this study indicate that support from the insurance authority, potentially funding the management of the patients was associated with positive and significantly improved outcome for such patients. Patients with haematological malignancies have high healthcare utilization due to the rapidly aggressive nature of some of the diseases, the chronic and indolent presentations of others and toxicities associated with the treatments given.[13] Also, massive supportive care plays a critical role in the management of these malignancies with attendant massive cost implications which oftentimes are beyond the capacity of the patients in our environment.

In our study, other forms of social support did not impact the patients significantly as they were found to be limited and inadequate in meeting the requirements for optimal management of the patients. Limited social support has been documented to be associated with worse overall survival and increased likelihood of death or readmission within 90 days of index hospitalization in patients with HM [8] and solid cancers.[15] recent study carried out at the index centre revealed that 39% of patients with haematological malignancies discharged themselves against medical advice with financial constraints accounting for 95.8% of the reasons for the discharges.[16]

Adequate, effective and efficient social support systems especially financial support positively impact patients health-seeking behaviors, ability to access the healthcare system, ability to receive aggressive therapies, novel therapies, provide supportive care, overall patient psychological well-being, or stress-related biological changes affecting tumor proliferation.[17,18]

Findings from this study underscore the importance of evaluating social support in patients with haematological malignancies. This can help clinicians identify a vulnerable group of patients at high risk of poor outcomes. A few aspects of social support, such as familial relationships, are not modifiable factors, interventions utilizing support from peers, trained healthcare professionals such as, psychologists, social workers, or care navigators may provide patients with an extra layer of needed support to improve their quality of life and care. Ultimately, social support interventions tailored to the needs of patients with aggressive haematological malignancies have great potential to help improve outcomes in this vulnerable population.[8]

CONCLUSION

The major player impacting significant clinical outcomes in patients with haematological malignancies is financial support in our environment. With full financial support patients are able to mitigate/sustain the economic burden associated with the management of haematological malignancies. Other forms of social support, when adequate and effective, potentially impact clinical outcomes for patients with haematological malignancies.

AUTHORS CONTRIBUTIONS

Conception and design of research: DIM

Drafting of manuscript: DIM and OEM

Data collection: DIM, OEM and OOT

Statistical analysis: DIM

Revision of manuscript: DIM, OEM and OOT

Ethical approval: The study was approved by the Health and Research Committee of the Delta State University teaching Hospital (DELSUTH HREC) with approval number; HREC/PAN/2024/141/0494

Informed consent: An informed consent was obtained voluntarily and without coercion from the patients, and their privacy was ensured.

Declaration of Helsinki: This study was conducted according to the principles of Helsinki Declaration.

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Conflict of Interest: The authors have declared no conflict of interest.

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