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Social Support and Fatigue on Adults Living with HIV/AIDS at a Central Hospital in Zimbabwe: A Correlational Study

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Abstract:

The purpose of this study was to determine the relationship between social support and fatigue on people living with HIV/AIDS stage 3 and 4, Harare Central Hospital in Harare. The study sought to answer whether social support mitigates fatigue in people living with HIV. A descriptive correlational study design was used in this study. Systematic interval sampling was used to select 80 ambulatory adults, 25 to 50 years old living with HIV/AIDS at stage 3 and 4. Data were obtained through a structured interview questionnaire. The Pearson's product-moment correlation coefficient between social support and fatigue was ($r=-0.66$; $p<0.01$). This implied that as social support increased, fatigue among people living with HIV/AIDS decreased. The coefficient of determination, $R^2 = 0.44$ ($F=60.4$) indicated that social support was responsible for 44% of the variation in fatigue. The regression analysis was statistically significant as evidenced by a significant Fisher statistic. On the other hand ($\beta=-0.8$, $SEB=0.11$) implied that for every unit increase in social support, fatigue decreased by 0.8. Social support may be instrumental in enhancing functioning of the four adaptation modes crafted by Roy in the adaptation model which are physiologic components, self-concept, role function and interdependence. With enough support, adaptation is possible at every stage that is from tiredness to exhaustion.

1. Introduction

Human Immunodeficiency Virus (HIV) is a long term infection. An individual with this infection often use a lot of energy as the immune system is in a continuous fight with the virus¹. HIV infection can therefore contribute to fatigue as the body uses a lot of energy trying to fight the infection².

Fatigue also referred to as tiredness, exhaustion, lethargy and listlessness is defined as generally a feeling of lack of energy and motivation that can be physical, mental or both^{3, 4}. Fatigue is a symptom and not a disease³. When someone experiences physical

fatigue, they cannot continue functioning at normal levels as to their ability whilst with mental fatigue one is more slanted towards feeling sleepy and being unable to concentrate properly⁴.

The symptom of fatigue is common among people living with HIV². Out of the many symptoms of HIV infection, fatigue is one of the most common¹. According to one study prevalence of fatigue in HIV patients was 69%⁵. Worldwide fatigue is affecting at least 42% of these patients⁵. Before the advent of the highly active anti – retroviral therapy (HAART) fatigue was a common symptom associated with HIV/AIDS due to profound immune- suppression⁶. Fatigue is however, common not in people who are not on anti- retroviral drugs only, but also on those who are taking the drugs². In this era fatigue in HIV patients is related to anti- retroviral drugs⁷. Findings from other researches now suggest that fatigue is now a relatively common problem in HIV patients⁷.

A cross sectional study was conducted on 100 HIV infected patients of which 91% were on HAART compared to 166 who were uninfected controls⁶. More than 50% of the infected patients reported excessive fatigue and 28% had severe fatigue⁶.

There are many reasons why HIV infected people experience fatigue. Anxiety, depression, insomnia, pain and other infections or illnesses are some of the reasons for HIV associated fatigue². Many antiretroviral medications also cause fatigue. A low CD4 count is the main reason for fatigue⁷.

This symptom causes many problems in people living with HIV/AIDS. Fatigue can be a very debilitating symptom of HIV infection⁶. The feeling keeps one from socializing, exercising and even carrying out the basic functioning of everyday life¹. Fatigue is one of the common symptoms of HIV that has great effect on quality of life². This symptom may therefore contribute to one withdrawing from friends and activities once enjoyed².

Despite the significant prevalence of fatigue, the symptom remains significantly under reported and under managed⁵. Fatigue lacks acknowledgement by nurses and other health care professionals⁸.

Social support was defined as the network of family, friends, neighbors and community members that are available in times of need so as to give instrumental, emotional, information and appraisal support⁹. The critical qualities within the social network are the exchange of intimate communications and the presence of solidarity and trust¹⁰. As historically presented by Durkheim, social ties unite individuals and bind them together¹¹. A high level of social support has been found to be associated with improved quality of life. Social support enhances physical and mental health of persons with HIV¹². A study conducted in Ethiopia on patients entering HIV care, moderate and varying levels of social support were found¹².

Research has indicated that a supportive social environment especially from family and friends was significantly associated with quality of life¹¹. A person who has a high level of social support tends to fare better than one who is isolated¹¹. Social support may act as a resource, providing encouragement to the recipient and promoting a sense of belonging¹⁴.

In this study social support for HIV infected patient at stage 3 and 4 will be studied in relation to the fatigue levels experienced. Social can be provided in considering emotional, instrumental, informational and appraisal support. Emotional support involves the expression of concern, being loved, cared for, valued and esteemed¹². Instrumental support involves provision of tangible material aid and services in times of need¹⁵. Informational support involves communication of necessary information so that one believes that she belongs to a social network¹⁶. Appraisal support involves expression of love, admiration and respect¹⁵.

Zimbabwe is one of the countries in Southern Africa worst affected by HIV/AIDS¹⁷. Despite the drop in prevalence of HIV, the prevalence remains high in the country. HIV stages three and four are symptomatic stages. Opportunistic infections are often experienced at these stages in HIV disease¹⁸. In Zimbabwe support groups exist which are a resource of social support to HIV patients. Nurses have a role to assist patients to identify and explore resources for support in order to be able to cope with HIV/AIDS illness. Nurses need to promote feelings of self –worthy and provide social interaction through motivating, educating and empowering the people the individuals count on.

The purpose of this study was to examine the relationship between social support and fatigue on people aged between 25 and 50 years living with HIV/AIDS at Harare Central Hospital Opportunistic clinic. The adaptation model by Calista Roy (1976) was used to guide this study.

2. Materials and Methods

The study was carried out through a non-experimental descriptive correlational design to describe the relationship that exists between independent variable, social support and dependent variable, fatigue. The study was conducted at Harare Central Hospital Opportunistic Infections (O.I) clinic. Face to face interviews with subjects were conducted in a private room. Data was collected from this site over a period of the three weeks. The chosen institution offers services for people living with HIV/AIDS at all stages. The target population in this study was the ambulatory HIV patients at stage 3 and 4, of age between 25 to 50 years, attending HARARE Central Hospital OI Clinic for their monthly reviews. HIV stages of patients were confirmed using the patient's notes, which were assumed to be updated and done in accordance with WHO staging of HIV infection.

For sample size calculation, a power of 0.80, effect size of 0.5 and significance level of 0.01 was used. A sample size of 80 participants was used. They systematic probability sampling method was used in this study. The identified population included an estimate of 450 patients. To obtain the equal interval the investigators divided 450 by 80. Every 5th patient leaving the nurse's observation room to join the queue to the doctor's room was selected to participate in the study. The first person was randomly selected using random numbers assigned to every individual meeting the inclusion criteria. In this study, the demographic variables included age, sex, income, occupation, marital status, ethnicity chronic illnesses, whom participant lived with and if participant was taking ART or not. The independent variable was social support and the dependent variable was fatigue.

The study used a structured interview questionnaire. This was chosen owing to the subjective nature of the research question. Questions were asked orally face-to-face which was ideal for high response rate. The interview was ideal also for the blind and illiterate and gave room for clarification and presentation done in order as set up by the investigator. Both closed and open ended questions were used. To ensure validity and reliability, the instrument was pre-tested in a pilot study. Content validity was enhanced through analysis of the instrument by experts. A reliability test was done for both the fatigue and social support instrument. The fatigue instrument had a reliability value of 0.8778 which was good and the social support instrument had a reliability score of 0.6708 which was fairly good.

The study was ethically approved by the Medical Research Council of Zimbabwe and Harare Central Hospital. Consent forms highlighted confidentiality and confirmed that the respondent's identity will remain anonymous. Participants were notified that they can terminate the interview at any given moment without questions or any negative consequences.

Data storage was done in a manner to assure confidentiality and privacy. Study-related documents were kept under lock and key. For data analysis, data was organized first and entered into the computer to ensure accuracy of results. Descriptive statistics were used to describe the demographic data, the independent and dependent variable. Inferential statistics were used to analyse the relationship between social support and fatigue.

3. Results

Participants in the study were aged between 26 and 50 years. Age was normally distributed with a mean of 38.9 years (SD=5.4). There were more females, 52 (65%) than males. Thirty-five (43.8%) were married, 28 (35%) were widowed and 3 (3.8%) were divorced. While 8(10%) were not affiliated to any religion, 57 (71.3%) were protestants or Pentecostal worshippers. One (1.3%) participant had never been to school. The rest had some form of formal education. Nine (11.2%) had tertiary education qualifications. Most, 67 (83.8%) were of the Shona tribe. While 3 (3.8%) were professionals, 32 (40%) were involved in technical employment. Thus, most participants had an income ranging between 0 – 500 000 Zimbabwean Dollars (Z\$). Five (6%) stayed alone. The rest stayed with a relative: parents, a spouse or child. The majority of the participants, 59 (73.6%) had no other chronic illness apart from living with HIV/AIDS. Sixty-one participants (76.2%) were on antiretroviral medicine despite all having been in WHO (World Health Organisation) HIV clinical stages III, 52 (65%) and IV, 28 (35%). Demographic characteristics of the participants are summarised in table 1 below.

Variable	Frequency	Percentage
Gender		
Male	28	35
Female	52	65
Marital Status		
Single	5	6.2
Married	35	43.8
Widowed	28	35.0
Separated	9	11.2
Divorced	3	3.8
Religion		
Roman Catholic	14	17.5
Protestant	26	32.5
Pentecostal	31	38.8
Traditional	1	1.3
Moslem	0	0.0
None	8	10.0
Highest level of education		
Never been to school	1	1.3
Grade 7	18	22.5
Ordinary Level	50	62.5
Advanced Level	2	2.5
Tertiary	9	11.2
Ethnic group		
Shona	70	88
Ndebele	5	6
Kalanga	5	6
Occupation		
Unskilled	29	36.3
Skilled	13	16.1
Technical	32	40.0

Professional	3	3.8
Other	3	3.8
Income (Z\$)		
0 – 500 000	60	75.0
>500 000 – 1 000 000	14	17.5
>1 000 000 – 2 000 000	2	2.5
>2 000 000 – 3 000 000	2	2.5
Whom participant stays with		
No one	5	6.0
Parents	5	6.0
Spouse	6	7.5
Children	23	28.8
Spouse and children	34	42.2
Relative	5	6.0
Relative and children	2	2.5
Chronic illness		
None	59	73.6
Diabetes	5	6.0
Hypertension	1	1.4
Epilepsy	2	2.5
Tuberculosis	8	10.0
Heart disease	1	1.3
Asthma	4	5.0
Cancer	0	0.0
Whether taking antiretroviral drugs		
No	19	24
Yes	61	76
HIV stage		
Three	52	65.0
Four	28	35.0
Total	80	100

Table 1: Demographic characteristics (N=80)

3.1. Fatigue

Different elements of fatigue were probed. One (1.3%) participant always had fatigue while 8 (10.0%) never had fatigue since the diagnosis of HIV infection. On the other hand, 43 (53.8%) were sometimes tired while none of the participants was always tired. Forty-two (52.2%) had difficulty getting to sleep at night most of the time. Pertaining to lethargy, 53 (66.3%) sometimes felt lethargic. In the previous month 20 (25%) had never felt fatigued, 14 (17.5%) had felt fatigue once, 21 (26.2%) had felt fatigue between 2-3 times and the remainder 25 (31.3%) had experienced fatigue more than three times in the single month. However, the fatigue episodes had lasted less than one day among 51 (68.3%) of the participants. The results are summarized in table below. Fatigue total scores out of 76 ranged between 1 and 42. Five (6.3%) participants had total fatigue scores above 38. The mean fatigue score was 24.1 (SD=10.4).

Variable	Frequency	Percentage
Lack of energy		
Never	8	10.0
Sometimes	39	48.7
Most of the time	32	40.0
Always	1	1.3
Frequency of tiredness		
Never	12	15.0
Sometimes	43	53.8
Most of the time	25	31.2
Always	0	0.0
Weakness		
Never	17	21.3
Sometimes	42	52.2
Most of the time	21	26.2
Always	0	0.0
Exhaustion		
Never	13	16.3
Sometimes	46	57.5
Most of the time	21	26.2
Always	0	0.0
Boredom		
Never	14	17.5
Sometimes	44	55.0
Most of the time	21	26.2
Always	1	1.3
Difficulty getting to sleep at night		
Never	10	12.5
Sometimes	28	35.0
Most of the time	42	52.5
Always	0	0.0
Lethargy		
Never	14	17.5
Sometimes	53	66.3
Most of the time	13	16.2
Always	0	0.0
Fatigue in the previous month		
Not at all	20	25.0
Once	14	17.5
2-3 times	21	26.2
More than 3 times	25	31.3
Duration of the fatigue in days		
Less than 1 day	51	63.8
2-3 days	21	26.2
4-6 days	3	3.8
More than 1 week	5	6.2
Total	80	100

Table 2: Fatigue among participants: (N=80)

3.2. Impact of Fatigue on Performance of Activities of Daily Living

The impact of fatigue on performance of daily living is summarized in table 3 below. Thirty-eight (47.5%) participants sometimes had difficulties bathing on their own. However, 58 (72.5%) did not have problems at all with dressing and grooming and 69 (86.2%) did not have problems with feeding. Two (2.5%) always had problems expressing sexuality. While 46 (57.4%) sometimes had problems with mobilizing and 45 (56.1%) sometimes had exercising problems, toileting seemed to be non-problematic to many participants as 65 (81.3%) never had toileting or elimination problems. On the other hand 49 (61.2%) never had problems communicating.

Variable	Frequency	Percentage
Hygiene/bathing		
Not at all	36	45.0
Sometimes	38	47.5
Most of the time	6	7.5
Always	0	0.0
Dressing and Grooming		
Not at all	58	72.5
Sometimes	21	26.2
Most of the time	1	1.3
Always	0	0.0
Eating and drinking		
Not at all	69	86.2
Sometimes	11	13.8
Most of the time	0	0.0
Always	0	0.0
Expressing sexuality		
Not at all	21	26.2
Sometimes	44	55.0
Most of the time	13	16.3
Always	2	2.5
Mobilizing		
Not at all	31	38.3
Sometimes	46	57.4
Most of the time	3	3.8
Always	0	0.0
Exercising		
Not at all	31	38.8
Sometimes	45	56.1
Most of the time	3	3.8
Always	1	1.3
Communicating		
Not at all	49	61.2
Sometimes	27	33.8
Most of the time	4	5.0
Always	0	0.0
Sleeping		
Not at all	24	30.0
Sometimes	35	43.8
Most of the time	21	26.2
Always	0	0.0
Toileting/eliminating		
Not at all	65	81.3
Sometimes	13	16.2
Most of the time	2	2.5
Always	0	0.0

Table 3: Impact of fatigue on performance of activities of daily living: (N=80)

3.3. Impact of Fatigue on Quality of Life

The impact of fatigue on dimensions of quality of life in most cases was not always. Problems were mostly felt either sometimes or most of the time. For instance, 37 (46.2%) sometimes had problems meeting basic needs and 39 (48.8%) sometimes had problems with general well-being. The responses are summarised in table 4 below.

Variable	Frequency	Percentage
Meeting basic needs		
Not at all	16	20.0
Sometimes	37	46.2
Most of the time	27	33.8
Always	0	0.0
Sense of belonging		
Not at all	34	42.5
Sometimes	42	52.2
Most of the time	4	5.0
Always	0	0.0
Safe and caring connection		
Not at all	39	48.8
Sometimes	35	43.7
Most of the time	6	7.5
Always	0	0.0
Well being		
Not at all	13	16.2
Sometimes	39	48.8
Most of the time	28	35.0
Always	0	0.0
Total	80	100

Table 4: Impact of fatigue (N=80)

3.4. Social Support Scores

Social support scores out of a maximum possible of 63 ranged between 1 and 51. The modal score was 24 which was scored by 11 (13.8%). The mean score was 30.1 (SD=8.3).

3.5. Correlation between Social Support and Fatigue

The Pearson's product-moment correlation coefficient between social support and fatigue was ($r=-0.66$; $p<0.01$). This implied that as social support increased, fatigue among people living with HIV/AIDS decreased. The coefficient of determination, $R^2 = 0.44$ ($F=60.4$). This indicated that social support was responsible for 44% of the variation in fatigue. The regression analysis was statistically significant as evidenced by a significant Fisher statistic. On the other hand ($\beta=-0.8$, $SEB=0.11$) implied that for every unit increase in social support, fatigue decreased by 0.8.

4. Discussion

4.1. Socio-demographic Data

This study sought to examine the relationship between social support and fatigue in people 25 to 50 years old living with HIV/AIDS. The study sample consisted of 80 participants with a mean age of 38.9 years. There were 28(35%) males and 52(65%) females with an age range of 24 years and a mode of 43 years. These findings were consistent with previous studies with regards to age and sex differences. Women are reported to have experienced higher fatigue than men¹⁹. Women are more likely to report fatigue than men²⁰. In this study high scores of fatigue were predominantly among participants above 40 years. This could imply that a significant proportion of HIV/AIDS adult patients might be experiencing fatigue. Half of the men had their fatigue scores lower than the mean score of 24 yet only 19(36.5%) had their fatigue scores below mean. Results also showed that 77(96.3%) of the participants were involved in some kind of job. The higher fatigue scores could mean that work was an added stressor to the respondents who still needed to work very hard and be able to look after their dependents despite the fatigue they may experience.

Only 2 (2.5%) of the participants had their income above the poverty datum line for Zimbabwe. AIDS is said to cause loss of income and production of a household member¹⁷. The same sentiments were echoed that fatigue interferes with an individual's ability to work²². The reduction in income levels could be attributed to inability to perform daily work owing to fatigue. Fatigue was also high among participants with other chronic illnesses. Out of the 5 that had an additional chronic illness, 4(80%) had high levels of fatigue. This concurred with findings from studies which reported that fatigue is a serious problem for individuals experiencing illness like diabetes, cancer, HIV/AIDS and heart diseases^{23,24}.

Sixty one(76.3%) participants were on ARVs. Wolfe reported that among multiple causes of fatigue, ARV drugs particularly Zidovudine because it causes anemia, may result in fatigue²⁶. However, in this study only one participant was on Zidovudine and a number of subjects reported that their fatigue decreased on commencement on ART. This could be the reason why with some participants, fatigue was low even without adequate social support. Fifty-two (65%) participants were at HIV stage 3 and 28(35%) were at stage 4. According to Pratt HIV stages 3 and 4 are the symptomatic stages²⁵. Incidences of fatigue was said to range between

48% and 57% at stage 3 and 4 in Zimbabwe²⁶. This implies that fatigue prevention strategies are needed even before HIV patients get to stage 3 and 4.

4.2. Fatigue

In this study 16(20%) rated their fatigue at 8 out of 10. Fifty three percent (42) of the participants rated their fatigue levels above the mean score of 5.3. This meant that fatigue was a common problem amongst the interviewed people. This is in tandem with a previous report which stated that fatigue is a common problem in HIV positive patients⁸. Forty- four (55%) reported problems in expressing sexuality. Fatigue impact negatively on performance of activities of daily activities at home and at work²². This might mean fatigue if unattended or ignored may interfere with performance of activities of daily living and this may affect an individual's quality of life. Findings revealed that 28(35%) of the participants felt unwell most of the time and 42(52.5%) had lost their sense of belonging. Fatigue has been reported to have profound impact on quality of life by reducing an individual's functionality²³. There is great need for strategic collaborative interventions to decrease levels of fatigue and improve quality of life among these clients. Fatigue if severe might affect survivability²⁷. This means high levels of fatigue increase morbidity levels among HIV patients and as it stands it could be one of the symptoms underreported by the HIV/AIDS patients. It is imperative that families, relatives and communities be equipped with knowledge, skills and attitudes which are necessary for assisting HIV/AIDS patients so that their fatigue is well controlled.

4.3. Social Support

In this study, resource persons were inclusive of parents, children, spouses, spiritual advisors, relatives, friends, neighbors and coworkers. Social support scores ranged from 1 to 51 with a mean score of 30 and 33(41.3%) of participants above the mean score. The majority, 64(80%) did not belong to any support group. Nurses have a role to forge linkages between patients, families, communities and other health care professionals, through referral system²⁸. In this study several participants expressed that they were unaware of the existence of support groups, which is a glaring gap either in the existence of the groups or their publicity. Those who belonged to support groups reported that they were satisfied with the information and task support they often received. Insel and Roth also stated that it is the emotional stimuli that one faces day in and out particularly the distress ones that are potentially harmful²⁹. Seven (8.8%) of the subjects reported they felt they were not loved and cared for at all. Twenty (25%) of the subjects reported that they felt loved always. These findings imply that HIV positive clients need to be loved and respected and this helps them to recognize their innate strengths, encourages acceptance and buffers against negative effects of stressful life events as stated¹³. The majority 35(43.8%) lacked support with goods like clothes, food and blankets. Twenty-four (30%) of subjects reported that they never received financial aid when in need and 11 percent reported that they were never assisted with practical tasks when in need. Material aid and tangible services assist with management of stress and illness²². HIV patients with fatigue needed to establish a balance between rest and activity²². There is great need to encourage HIV positive clients to join support groups for support. It is argued that appraisal support conveys affirmation of one's feelings and behaviour⁹. Appraisal support is important to HIV positive patients because it provides information to the patient that they are esteemed and valued. This calls for the nurses, advocacy role in creating support partnership forums so that those in need get the desired assistance.

4.4. Relationship between Social Support and Fatigue

The relationship between social support and fatigue was analyzed using the Pearson correlation coefficient. A strong negative correlation($r = -0.66$, $p < 0.01$) was obtained. This meant that when social support increased, fatigue levels decreased. Regression analysis showed that R squared was 0.437 and this meant that 43.7% of the variation in fatigue levels could be explained by the levels of social support. This is congruent with previous findings by Jasson, Witter, and Torontes-Harding who reported that social support was correlated with important mental and physical health outcomes of functionality³¹. A person who has social support tends to fare better than one who is isolated¹³. This finding may mean that supportive relationships with all different stakeholders facilitate well-being and physical comfort and contribute to both healing and health. This then implies that non-pharmacological nursing interventions like social support need to be emphasized. This restores quality of life for HIV positive patients experiencing fatigue as well as help to decrease fatigue.

In this study social support was viewed as an external stimuli and fatigue as the focal stimuli. Social support may be instrumental in enhancing functioning of the four adaptation modes crafted by Roy in the adaptation model which are physiologic components, self-concept, role function and interdependence³². Through the functioning of the interdependence mode of adaptation, HIV positive patients maybe in a good position to strengthen their relationships with relevant persons in their communities. With enough support, adaptation is possible at every stage that is from tiredness to exhaustion.

4.5. Study Limitations

The instruments used in this study were developed by the researchers hence prone to bias. However validity was also enhanced by consultations with experts in the area of study and a pilot study fostered both validity and reliability of the instrument.

4.6. Conclusion

Fatigue remains a common and complex problem for people living with HIV/AIDS in Zimbabwe. Both men and women experience fatigue but women are said to be experiencing it more frequent than men. Social support has been identified as a factor which affects

fatigue. Adequate social support may help improve quality of life of HIV positive clients and also enable them to rest adequately. In this study social support and fatigue had a negative linear association ($r = -0.66, p < 0.01$) and this model revealed that 43.7% of the variation in fatigue levels can be explained by social support. Investment in social support can significantly reduce the impact of fatigue and safe family income that has been channeled towards managing high morbidities that go with high levels of fatigue.

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