

Perceived stress and its influencing factors among persons living with HIV/AIDS (PLHA) in Kannur district, Kerala, India

Sobhith V. K¹, Daniel Solomon M²

¹Research Scholar, Department of Social Work, Bishop Heber College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, ²Associate Professor, Department of Social Work, Bishop Heber College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India

ABSTRACT

Context: The human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) epidemic remains a major healthcare problem for the humanity. It is important to understand the level of stress among people living with HIV/AIDS (PLHA), which may have an influence on their living. **Aims:** The main aim of the study is to assess the perceived stress and the factors influencing. **Settings and Design:** Descriptive study. The details of a total of 750 PLHAs registered in the district were collected, and the researcher selected 210 samples using the simple random sampling method. **Methods and Material:** The researcher used the standardised Perceived Stress Scale developed by Sheldon Cohen in 1983. **Statistical Analysis Used:** The data analysis was done using descriptive statistics and tests. **Results:** While analysing the perceived stress of the respondents, more than half 61% of the respondents have reported a moderate level of perceived stress. The study also depicts that perceived stress is being influenced by gender, marital status, occupation, number of dependents, and monthly income of PLHA. **Conclusions:** PLHAs in the selected geographic area experience a significant level of perceived stress, which indicates the need for programmes to address it.

Keywords: People living with HIV/AIDS (PLHA), perceived stress, social support, Sheldon Cohen's PSS scale

Introduction

The timeline of the world has been marked by so many fatal diseases including acquired immunodeficiency syndrome (AIDS). Being a sexually transmitted disease, caused by human immunodeficiency virus (HIV) and impairing the functioning of the immune system, the disease seems to affect the infected person physically, psychologically, socially, and spiritually. Thirty-nine million people living with HIV/AIDS (PLHA) lost

their life, and currently, about 36.7 million people are living with the disease across the globe.^[1] The India HIV Estimation 2019 report depicts that there was an estimated 23.48 lakh PLHIV in India.^[2] As per the state epidemiological fact sheets, NACO reports that overall, a total of 23,376 HIV/AIDS cases were estimated across Kerala.^[3] The district level HIV estimation report 2019 claims that a total of 1279 PLHAs are reported in Kannur district.^[4] The National HIV/AIDS Strategy advises placing more focus on community-based care for those who are infected with HIV and have AIDS. Primary care lessens the strain on limited, expensive, and already overburdened hospital resources, and patients prefer to receive their care locally. As a result, primary care physicians are being given a bigger responsibility in the treatment of HIV-positive patients. With a focus on case-finding, continuity of care, and problem-solving, the traditional primary

Address for correspondence: Mr. Sobhith V. K, Research Scholar, Department of Social Work, Bishop Heber College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. E-mail: sobhithjgd@gmail.com

Received: 24-03-2023

Revised: 27-06-2023

Accepted: 29-06-2023

Published: 22-04-2024

Access this article online

Quick Response Code:



Website:

<http://journals.lww.com/JFMPC>

DOI:

10.4103/jfmpe.jfmpe_534_23

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Sobhith VK, Solomon MD. Perceived stress and its influencing factors among persons living with HIV/AIDS (PLHA) in Kannur district, Kerala, India. J Family Med Prim Care 2024;13:1219-22.

health care strategy of health promotion and disease prevention applies well to HIV/AIDS.^[5]

HIV-infected people are facing physical and psychological stress due to the disease. As a person is exposed chronically to the stressful events, it reduces immunity, which may even contribute to the poor management of the disease. It is seen that the physiological and immunological responses to stressful events are mostly due to the individual's assessment of the event, the perceived stress.^[6] The purpose of this study is to identify various factors associated with perceived stress in a sample of HIV-infected people. Studies related to mental health aspects of HIV are coming up in large numbers. These studies have reported the effects of factors like stress, negative life events, stigma, anxiety, depression, and other socio-environmental factors on the course and progression of HIV to AIDS. The doctors treating HIV disease have noticed that stress affects the immune system. This is known since long time, and thus, PLHAs are being advised to avail counselling services and there are many studies which show that stress has an impact on immune function and also that reducing stress has a beneficial effect on immune function. Perceived stress is an individual's own perception about the stress felt. Stress points towards a lack which exceeds the resources available at any given time. Stress can include physical, psychological, or environmental factors that can make a person distressed. It is good to know about the psychological stress as it may have an influence on the progression of the disease from HIV to AIDS. It will for sure provide a considerable insight into the effectiveness of medical professionals, behavioural scientists, and social workers for prevention and management of psychological distress among HIV-infected people.^[7] From a cross-sectional descriptive study conducted in Nepal by Binod Kumar Deo *et al.*,^[8] it is found that most of the respondents were found to be moderately stressed and disease and social discrimination were identified as major stressors. A comparative study conducted by Krishnamurthy in Mysore explains that both asymptomatic and symptomatic PLHAs had significant stress, with the symptomatic group having a higher level than the asymptomatic one.^[7] A study conducted by Matthew E. Levy in USA found that more than one-third of the respondents had high perceived stress.^[9]

Subjects and Methods

Stress can be a vital factor influencing our immune system. There is a high chance for PLHAs to be influenced by stress as their immune system is compromised due to the disease. Understanding the level of stress and the factors associated with stress can be helpful to formulate strategies to address the same. The main aim of the research is to study the perceived stress and the factors influencing among PLHAs and to provide suitable suggestions to reduce the stress level of PLHAs. Approval for the study is taken from the institutional research committee after discussing the ethical considerations. The study design used for the present study was cross-sectional (descriptive) research design. The researcher identified an organisation working for the welfare of PLHAs in Kannur district, and a total of 750 PLHAs

registered in the district who have been traced were included in the sample frame. From the universe, 210 samples were selected using the simple random sampling method. The researcher used the standardised Perceived Stress Scale (PSS) by Sheldon Cohen^[10] in 1983. The data were analysed further, and the findings were discussed in detail.

Results

The age of the respondents was analysed; one-fourth (25.2%) of the respondents were below 40 years, less than one-fourth (22.9%) of the respondents were in between 46 and 50 years, one-fifth (20%) of the respondents were in between 51 and 55 years, less than one-fifth (18.1%) of the respondents were in between 41 and 45 years, and (13.8%) of the respondents were above the age of 55 years, and the mean age of the respondents was 47 years. Regarding gender, nearly three-fourth (72.4%) of the respondents were female and nearly one-fourth (27.6%) of the respondents were male. About the marital status of the respondents, nearly half (48.6%) of the respondents were married. Nearly two-fifth (42.9%) of the respondents were widows/widowers, and less than one-tenth (8.6%) of the respondents were unmarried. The analysis of the income status of the respondents revealed that around half (50.5%) of the respondents did not have any income at all. Nearly one-fourth (22.4%) of the respondents had an income of more than 8000 rupees. Less than one-fifth (17.6%) of the respondents had an income between 1000 to 3000 rupees. The remaining less than one-tenth (9.6%) of the respondents had a monthly income between 4000 to 8000 rupees, and the average income of the respondents was 3442 rupees per month. While analysing the perceived stress of the respondents, more than half of the respondents (61%) have a moderate level of perceived stress, less than half of the respondents (39%) have a low level of perceived stress, and none reported high perceived stress.

Table 1 illustrates the perceived stress levels of respondents according to their marital status, education, domicile and ART status. 86.3 % of the married PLHAs, 83.3% of the single PLHAs and 78.9% widow/widowers reported to have moderate stress. While considering educational status, 100% of the respondents who are illiterate (all 4 respondents), 81.5% of the respondents with primary education, 84.8% of the respondents with secondary education, 100% of respondents with higher secondary education (all the 14 respondents) and 46.2 % of the graduate respondents reported moderate stress. Meanwhile, 80.5% of rural PLHAs and 92.7% of urban PLHAs have moderate stress. 82.2 % of the PLHAs who are taking ART and all those who are not taking ART have reported moderate stress. Table 2 shows the relationship between monthly income and perceived stress which enunciates a weak negative relationship. While analyzing the Table 3, we see that there is a significant gender difference in perceived stress, where females have more perceived stress than their male counterparts. From Table 4, it is observed that there is a variance among occupation and perceived stress which further indicates that unskilled workers and home makers have

Table 1: Independent variables and perceived stress

Characteristics	PSS category		Total	P
	Low stress	Moderate stress		
Marital status				
Married	14 (13.7%)	88 (86.3%)	102	0.399
Single	03 (16.7%)	15 (83.3%)	18	
Widow/widower	19 (21.1%)	71 (78.9%)	90	
Education				
Illiterate	-	04 (100%)	04	0.002*
Primary	10 (18.5%)	44 (81.5%)	54	
Secondary	19 (15.2%)	106 (84.8%)	125	
Higher secondary	-	14 (100%)	14	
Graduation	07 (53.8%)	06 (46.2%)	13	
Domicile				
Rural	33 (19.5%)	136 (80.5%)	169	0.063
Urban	03 (7.3%)	38 (92.7%)	41	
ART				
Yes	36 (17.8%)	166 (82.2%)	202	0.356
No	-	08 (100%)	08	

Table 2: Relationship between monthly income of the respondents and perceived stress

Variables	Correlation value	Strength of relationship	Statistical inferences
Monthly income and Stress	-0.303**	Weak negative relationship	$P < 0.01$ High Significant

There is a high significant relationship between the monthly income of the respondents and the perceived stress

Table 3: Difference between gender of the respondents and perceived stress

Variables	Gender	n	Mean	Std. deviation	Std. error mean	Statistical inferences
Perceived Stress	Male	58	12.41	5.181	0.680	$Z = -4.509, P < 0.01,$ High Significant
	Female	152	16.26	6.330	0.513	

There is a high significant difference between gender of the respondents and the perceived stress. It is clearly evident from the mean score that females have a high level of perceived stress when compared with males

Table 4: Variance among occupation of the respondents and perceived stress

Perceived stress and occupation	Sum of squares	df	Mean	Mean square	Statistical inferences
Perceived Stress					
Between Groups	285.453	2	G1=15.88	142.727	$F = 3.732,$ $P < 0.05,$ Significant
Within Groups	7915.542	207	G2=13.19 G3=15.86	38.239	

G1=Homemaker/nil, G2=Skilled, G3=Unskilled, There is a significant difference between the occupation of the respondents and the perceived stress. It is evident from the mean score that unskilled workers and homemakers or those who do not have an occupation have reported more perceived stress than skilled workers.

Table 5: Variance among marital status of the respondents and perceived stress

Variables	Marital status	Sum of squares	Df	Mean	Mean square	Statistical inferences
Perceived Stress	Between Groups	333.959	2	G1=18.17	166.980	$F = 4.394, P < 0.05,$ Significant
	Within Groups	7867.036	207	G2=14.06 G3=15.89	38.005	

G1=Unmarried, G2=Married, G3=Widow/widower. There is a significant difference between the marital status of the respondents and the perceived stress. It is evident from the mean score that unmarried people reported more perceived stress, widows/widowers reported lesser, and the least was reported among the married people.

reported more perceived stress than skilled workers. Table 5 exhibits the variance among the marital status of the respondents and perceived stress which clearly elucidates that unmarried respondents have reported more perceived stress than married and widow/widower respondents.

Discussion

As HIV/AIDS is a disease which has a high medical, social, and economical impact on the infected, its prognosis and treatment are considered as a burden. The study attempted to assess the perceived stress among the PLHAs. 61% have reported moderate stress. A study conducted in Nepal reported that most of the respondents were moderately stressed, which is in line with our study findings.^[8] In Ethiopia in 2014, a study was conducted among HIV positives, which reports that around 46.8% people reported moderate stress.^[11] The study results can be explained in the context of support groups and their meetings as the study population who are regular in their support groups which may be acting as a protective factor from high levels of stress and at the same time indicate the need for more strengthening of the same. It has been inferred from the study that female PLHAs have more stress than their male counterparts, which backs the results of previous studies. A study conducted in Ethiopia reports that females are more distressed compared to males.^[11] Gender difference in the perceived stress level can be considered as a reflection of social stigma which may be associated with the mode of transmission of HIV. It is reported that as the number of dependents increases, there is a slight increase in the level of perceived stress. As dependents increase, there can be a sense of insecurity in taking care of them, which may in turn increase the stress level of the respondents. As the variable has not been studied in detail in most of the studies, comparison is not possible, which indicates the need for further studies including number of dependents and family burden as separate variables. A slight decrease in the level of perceived stress is noted with an increase in the monthly income. This is in line with the study findings in which the PSS level is influenced by the monthly income.^[12] Present study findings support a study conducted in China in 2012, which states that the higher the socio-economic status, the lower the perceived stress level.^[13] The findings also support a study result where the care givers of HIV-positive people with a low socio-economic status perceive 3.9 times more stress than others.^[14] There is a significant difference observed in the occupation and the perceived stress, which further explains that the home makers and unemployed category of people significantly experience stress compared to the other categories. This can be read along with the previous results of monthly income and

stress and need to be addressed effectively.^[14] Income generation programmes can play a vital role for them as the number of dependents and the monthly income influence the stress level. Vocational training may be required as the unskilled labourers and those who are not working are more stressed. A previous study suggests the need for vocational training for adolescent girls and young women PLHAs.^[15] Through skilling them, their chances to get a job and regular income will increase. It will give them courage and confidence to lead their life satisfactorily. It is noted that there is a significant difference in the marital status and the perceived stress, which is supported by studies.^[16] Unmarried people are more stressed than married and widowed respondents, which points towards the social stigma towards the modes of transmission of HIV. Though stigma reduction activities are happening in the society, which shows some good results also, there may be deep-rooted influences of stigma which need to be addressed continuously and effectively.

Conclusion

The study findings clearly show the perceived stress level of PLHAs during the study period in the selected geographical area. It is already known that the stress is influenced by numerous factors, which is true in the case of PLHAs also as they try to cope with the disease and lead a normal life. To conclude with, results show that there are variables correlate significantly with perceived stress in a population of HIV-infected individuals. Gender, marital status, occupation, number of dependents, and monthly income influence the perceived stress of the individual. Future research will enable to explore in depth into factors associated with the stress of PLHAs as suggested by this study. Studies on the HIV community over an extended period of time have revealed substantial relationships between stress, physical and occupational performance, and general health.^[17] Primary care emphasises healing rather than curing and is patient-centred. The identification of asymptomatic seropositive individuals, the provision of early treatment interventions, the early detection of opportunistic infections and HIV-related cancers, and the continued management of chronic illness are all responsibilities of primary care physicians. Palliative and terminal care are best provided at the primary care level for the majority of patients.^[18] Primary care doctors can help HIV/AIDS patients and their loved ones by providing emotional support and by educating the community at large on the social implications of the disease through understanding various factors like stress which influence them.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

- Wani MA. Social support, self-esteem and quality of life among people living With HIV/AIDS in Jammu and Kashmir India: Apoyo social, autoestima y calidad de vida entre las personas que viven con el VIH/SIDA en Jammu y Cachemira, India. *Ann Psychol* 2020;36:232-41.
- NACO. NACO HIV Estimation Report 2019. India: National AIDS Control Organisation; 2019.
- NACO. State Epidemiological Fact Sheets Vol II West and South regions. India: National AIDS Control Organisation; 2017.
- NACO. District Level HIV Estimates and Prioritisation in India 2019. India: National AIDS Control Organisation; 2019.
- McMurchie M. The role of the primary care physician. *J Acquir Immune Defic Syndr* (1988)1993;6(Suppl 1):S77-83.
- Hand GA, Phillips KD, Dudgeon WD. Perceived stress in HIV-infected individuals: Physiological and psychological correlates. *AIDS Care* 2006;18:1011-7.
- Krishnamurthy VS. Psychological stress among asymptomatic acute HIV Group, clinically symptomatic condition group and aids indicator condition group. *Int J Curr Res* 2016;8:38607-11.
- DeoBK, Shyangwa MP, Shrestha SN, Singh J, Amaya MN. People living with HIV: Perceived stress, coping mechanism and quality of life. *Health Renaiss* 2016;8:181-5.
- Levy ME, Anastos K, Levine SR, Plankey M, Castel AD, Molock S, *et al.* Depression and psychosocial stress are associated with subclinical carotid atherosclerosis among women living with HIV. *J Am Heart Assoc* 2020;9:e016425. doi: 10.1161/JAHA.120.016425.
- Cohen S. Contrasting the hassles scale and the perceived stress scale: Who's really measuring appraised stress? *Am Psychologist* 1986;41:716-8.
- TesfayeSH, Bune GT. Generalized psychological distress among HIV infected patients enrolled in antiretroviral treatment in Dilla University Hospital, Gedeo zone. *Glob Health Action* 2014;7:23882. doi: 10.3402/gha.v7.23882.
- Koopman C, Gore-Felton C, Marouf F, Butler LD, Field N, Gill M, *et al.* Relationships of perceived stress to coping, attachment and social support among HIV positive persons. *AIDS Care* 2000;12:663-72.
- Su X, Lau JTF, Mak WWS, Chen L, Choi KC, Song J, *et al.* Perceived discrimination, social support, and perceived stress among people living with HIV/AIDS in China. *AIDS Care* 2013;25:239-48.
- Biswas B, Saha R, Haldar D, Saha I. Level of stress perception and predictors of higher stress perception among informal primary caregivers of Eastern Indian people living with HIV/AIDS. *Int J Community Med Public Health* 2019;6:4374-80.
- Kasirye R, Nakijoba B. Vocational skills training; A complimentary strategy in addressing structural factors associated with HIV risk among AGYW in rural districts in Uganda. *J Psychiatry Behav Sci* 2020;3:1034.
- Huang Y, Luo D, Chen X, Zhang D, Huang Z, Xiao S. HIV-related stress experienced by newly diagnosed people living with HIV in China: A 1-year longitudinal study. *Int J Environ Res Public Health* 2020;17:2681. doi: 10.3390/ijerph17082681.
- Saadat M, Behboodi ZM, Saadat E. Comparison of depression, anxiety, stress, and related factors among women and men with human immunodeficiency virus infection. *J Hum Reprod Sci* 2015;8:48-51.
- Kasten MJ. Primary care of the person living with HIV. *Pathogens* (Basel, Switzerland) 2022;11:380. doi: 10.3390/pathogens11040380.