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Original Research Article

Assessment of activity limitation and participation restriction of PLHAs with reference to the international classification of functioning, disability and health

Varun Vijay Gaiki[1]*, Manasi Khardekar[2]

[1]Department of Community Medicine, Malla Reddy Institute of Medical Sciences, Hyderanad, Telangana, India
[2]Gandhi Medical College and Hospital, Secunderabad, Hyderabad, Telangana, India

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***Correspondence:**
Dr. Varun Vijay Gaiki,
E-mail: dr_varungaiki@yahoo.co.in

ABSTRACT

Background: There are limited studies from India on use of ICF in finding out the Disability experienced by PLHIV. We undertook this study to understand the level of disability experienced by the PLHIV attending tertiary healthcare setting. This study mainly focuses on the self-care domain of ICF classification.
Methods: Cross sectional, hospital based, conducted with permission from institutional ethics committee. Predesigned standardised ICF questionnaire, with only self care part of it was administered and participants assessed for activity limitation and participation restriction domains of self care.
Results: Inactivity limitation block, with regards to washing oneself, caring for body parts and dressing none reported any problem. In regulating menstruation 15 (6.67%) had moderate, 15 (6.67%) had severe and 3 (1.33%) had complete problem while 67 (29.67%) had no problem. In participation restriction, it was observed that participants had difficulties in regulating defecation 47 (20.8%) moderate, 33 (14.66%) severe, 9 (4%) mild whereas 6 (2.67%) complete problem. Overall prevalence was 42.67%. in block of participation restriction, on performance qualifier, overall 149 (66.67%) had problem in eating, 77 (34.22%) had moderate, 36 (16%) severe, 34 (15.1%) had mild and 3 (1.33%) had complete problem. In drinking overall 29.78% participants experienced problems, out of which 31 (13.7%) had moderate, 23 (10.22%) mild 12 (5.33%) and 1 (0.44%) had complete problem.
Conclusions: Significant amount of activity limitation in self care observed with reference to toileting, eating drinking. Hence, this parameters to be stressed on in planning National program on AIDS.

Keywords: Activity limitation, Participation restriction, PLHIV, ICF

INTRODUCTION

India, as many other countries launched National AIDS control program in 1987, within a year of identifying 1st case of the disease in female sex worker of Chennai, which in the period of about 25 years of implementation has undergone vast changes, not only to decrease the burden of disease and new infection cases, but also to improve quality of life of the PLHA.[1,2] India, which follows a concentrated epidemic, makes third largest burden of cases with HIV positivity.[2]

The international classification of functioning, disability and health (ICF) provides a standard framework for the description of health and health-related states with a multipurpose classification of various domains under the classification.[3] ICF classifies functioning and disability associated with health conditions. It offers useful framework of health and health related consequences of

disease based on three concepts: impairments, activity limitations and participation restrictions. Limited information is available on the activity limitation and participation restriction prevalent among PLHIV and the impact of these impairments on their functional performance and participation in various occupations of daily living.[4,5] There are limited studies from India on use of ICF in finding out the Disability experienced by PLHIV. We undertook this study to understand the level of disability experienced by the PLHIV attending tertiary healthcare setting. This study mainly focuses on the self care domain of ICF classification.

METHODS

A cross sectional study was planned among patients visiting tertiary health care center located in Hyderabad district. The study participants were the People attending OPD of Malla Reddy hospital, Jeedimetla, Hyderabad, a tertiary health care hospital attached to a medical college from the period of December 2014 to June 2017.

Table 1: Inclusion and exclusion criteria for the study.

Inclusion criteria	Exclusion criteria
People living with HIV/AIDS and above 15 years of age	People living with HIV/AIDS and less than 15 years of age.
Not terminally ill	Terminally ill
Willing to give consent.	Not willing

After obtaining institutional ethical permission study participants were enrolled for study, with written informed consent.

Interview schedule was prepared based on the WHO-ICF Checklist.[3] The ICF Checklist is a practical tool to elicit and record information on the functioning and disability of an individual. In the present study, only self care domain of ICF was assessed. Data collected was entered and analysed in Microsoft excel 2010. Data was analysed with descriprive statistics like frequencies, percentages.

RESULTS

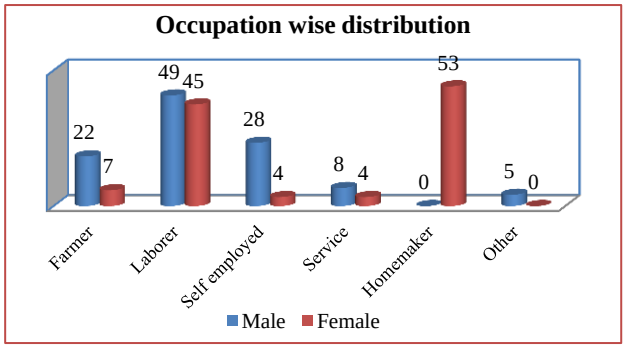

Figure 1: Bar charts depicting age and gender wise distribution of study participants.

It is evident from Figure 1 that, majority of the male PLHIVs was labourers followed by self-employed. However, majority of female PLHIVs were home makers, followed by labourers.

Table 2: Distribution of study participants as per their residence.

Residence	Frequency	Percentage
Urban	68	30
Rural	157	70
Total	225	100

From Table 2, it is evident that, majority of participants were form rural area and only one third of the study participants PLHIVs were from urban residential background. This is mainly because of the catering area of the hospital, which id mainly rural in nature.

Table 3: Marital status of study participants.

Marital status	Sex		
	Male No (%)	**Female** No (%)	**Total** No (%)
Single	09 (8.03)	00 (0)	9 (4)
Married	101 (90.18)	92 (82.14)	193 (85.78)
Widow/ Widower	01 (0.89)	18 (15.93)	19 (8.44)
Divorced / Separated	01 (0.89)	03 (2.65)	04 (1.78)
Total	112 (100)	113 (100)	225 (100)

It can be observed from Table 3, no female participant was unmarried. However 9 males were unmarried very few, were divorced or separated and widow or widower Majority (101/112) males and (92/113) females were married and staying together with their partners.

When self-care was assessed on Capacity Qualifier the Activity limitation in the various blocks was as follows.

Washing oneself (d510), caring for body parts (d520) and dressing (d540)

In washing oneself, caring for body parts and dressing none reported any problem.

Toileting (d530)

With regards to urination 43 (19.1%) had moderate, 39 (17.3%) severe and 10 (4.4%) had mild difficulty while the remaining132 (58.67%) had no problem.

In regulating defecation 50 (22.22%) had moderate, 33 (14.66%) had severe, 7 (3.11%) had mild whereas 6 (2.67%) had complete problem.

Table 4: Activity limitations in self-care on capacity qualifier.

Self-Care	No Problem	Mild Problem	Mod Problem	Severe Problem	Complete Problem	Not Applicable
Washing Oneself (d510) Washing body part	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Washing whole body	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Dry oneself	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for body part d520 Caring for skin	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for teeth	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for hair	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for fingernail	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for toenails	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Toileting (d530) Regulating urination	132 (58.67)	10 (4.4)	43 (19.1)	39 (17.3)	1 (0.44)	0 (0)
Defecation	129 (57.33)	7 (3.11)	50 (22.22)	33 (14.66)	6 (2.67)	0 (0)
Menstruation	67 (29.77)	0 (0)	15 (6.67)	15 (6.67)	3 (1.33)	125 (55.56)
Dressing (d540) Putting on clothes	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Taking off clothes	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Putting on footwear	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Taking off footwear	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Choosing clothing	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Eating (d550)	76 (33.78)	29 (12.89)	64 (28.44)	51 (22.67)	5 (2.22)	0 (0)
Drinking (d560)	154 (68.44)	22 (9.78)	35 (15.56)	13 (5.78)	1 (0.44)	0 (0)
Looking after one's health (d570) One's Physical comfort	104 (46.22)	36 (16)	61 (27.11)	24 (10.67)	0 (0)	0 (0)
Managing diet fitness	97 (43.11)	23 (10.22)	74 (32.89)	31 (13.78)	0 (0)	0 (0)
Maintaining One's Health	98 (43.56)	26 (11.56)	65 (28.89)	36 (16)	0 (0)	0 (0)

Figures in parenthesis are percentages.

In regulating menstruation 15 (6.67%) had moderate, 15 (6.67%) had severe and 3 (1.33%) had complete problem while 67 (29.67%) had no problem. As it was applicable to only females, and 13 were postmenopausal so the overall prevalence of difficulty in menstrual function was found to be 33%.

Eating (d550) and drinking (d560)

In this block overall 149 (66%) had problem in eating, with 64 (28.44%) having moderate, 51 (22.66%) severe, 29 (12.8%) had mild and 5 (2.22%) having complete problem..

In drinking, overall 31% participants experienced problems, with 35 (15.5%) having moderate, 22 (9.78%) having mild, 13 (5.78%) severe and 1 (0.44%) complete problem.

Looking after one's health (d570)

Overall 53.78% had problem in looking after ones physical comfort with 61 (27.11%) having moderate, 36 (16%) having mild and 24 (10.67%) having severe problem.

Overall 56.89% had problem in managing diet and fitness with 74 (32.88) having moderate, 31 (13.7%) having severe and 23 (10.22%) having mild problem.

Overall 56.44% had problem maintaining one's health with 65 (28.88%) having moderate, 36 (16%) having severe and 26 (11.56%) having mild problem.

When Self- care was assessed on performance qualifier the participation restriction in the various blocks was as follows.

Washing oneself (d510), caring for body parts (d520) and dressing (d540)

In washing oneself, caring for body parts and dressing none reported any problem.

Toileting (d530)

With regards to urination 46 (20.4%) had moderate, 29 (12.8%) severe and 15 (6.67%) had mild difficulty while the remaining 132 (58.67%) had no problem. Overall prevalence of participation restriction was 41.33%.

Table 5: Participation restrictions in self-care on performance qualifier.

Self-Care	No Problem	Mild Problem	Mod Problem	Severe Problem	Complete Problem	Not Applicable
Washing oneself (d510) Washing body part	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Washing whole body	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Dry oneself	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for body part (d520) Caring for skin	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for teeth	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for hair	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for fingernail	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Caring for toenails	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Toileting (d530) regulating urination	132 (58.66)	15 (6.67)	46 (20.4)	29 (12.8)	3 (1.33)	0 (0)
Defecation	130 (57.77)	9 (4)	47 (20.8)	33 (14.6)	6 (2.67)	0 (0)
Menstruation	66 (29.33)	1 (0.44)	16 (7.11)	14 (6.22)	3 (1.33)	125 (55.55)
Dressing (d540) Putting on clothes	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Taking off clothes	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Putting on footwear	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Taking off footwear	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Choosing clothing	225 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Eating (d550)	75 (33.33)	34 (15.1)	77 (34.22)	36 (16)	3 (1.33)	0 (0)
Drinking (d560)	158 (70.22)	23 (10.22)	31 (13.79)	12 (5.33)	1 (0.44)	0 (0)
Looking after one's health(d570) One's physical comfort	97 (43.11)	25 (11.11)	86 (38.22)	17 (7.56)	0 (0)	0 (0)
Managing diet fitness	90 (40)	36 (16)	75 (33.33)	23 (10.22)	1 (0.44)	0 (0)
Maintaining One's Health	91 (40.44)	34 (15.1)	71 (31.55)	29 (12.8)	0 (0)	0 (0)

Figures in parenthesis are percentages.

In regulating defecation 47 (20.8%) had moderate, 33 (14.66%) had severe, 9 (4%) had mild whereas 6 (2.67%) had complete problem. Overall prevalence was 42.67%.

In regulating menstruation 16 (7.11%) had moderate, 14 (6.66%) had severe and 3 (1.33%) had complete problem while 66 (29.33%) had no problem. As it was applicable to only females, and 13 were postmenopausal so the overall prevalence was found to be 34%.

Eating (d550) and drinking (d560)

In this block overall 149 (66.67%) had problem in eating, 77 (34.22%) had moderate, 36 (16%) severe, 34 (15.1%) had mild and 3 (1.33%) had complete problem.

In drinking overall 29.78% participants experienced problems, out of which 31 (13.7%) had moderate, 23 (10.22%) mild 12 (5.33%) and 1 (0.44%) had complete problem.

Looking after one's health (d570)

Overall 56.89% had problem in looking after ones physical comfort, out of which 86 (38.22%) had moderate, 25 (11.11%) had mild and 17 (7.567%) severe problem.

Overall 60% had problem in managing diet and fitness with 75 (33.33%) had moderate, 36 (16%) had severe and 23 (10.22%) having mild problem.

Overall 59.56% had problem maintaining one's health with 71 (31.55%) having moderate, 34 (15.1%) having severe and 29 (12.8%) having mild problem.

DISCUSSION

197 (87.56%) of the study participants were in the most productive age group. This finding is similar to the finding in the NACO annual report 2009-10 where about 90% of the study participants were in the productive age group.[6] In the younger age group of 16-25 years only 12 (5.3%) participants were there because while it is the most crucial time when the person becomes infected but the diagnosis is delayed up to few years unless the patient presents with some opportunistic infections. Similarly only 15 (6.67%) were found to be in age group beyond 45 years as once infected with the virus the life span of the

person decreases and lesser people survive in the 45 plus age groups.

The age of study participants ranged from 19-67 years, with a median of 35 years and average of 35.1 years. This is comparable to the study conducted by Gaidhane et al, where they had studied 194 PLHIV, the average age was 36.87 years with a median of 35 years, and ranging from 15 to 65 years whereas Myezwa et al, reported the average age of 37 years ranging from 28 - 46 years.[7,8]

Gender-wise distribution

Gender-wise distribution shows that in this study 50.2% of study participants were female and 49.2% was males. This finding is similar to the study conducted by Prabha Chandra where 54.1% participants were female and H. Myezwa et al which showed that out of the 185 participants 44.32% were females, but it contrasts to the findings of the NACO Annual report 2009-10 where women constitute 39% of the PLHIV.[6,9,10]

In the current study as a matter of convenience, since most cases admitted to the hospital were accompanied by their spouses both were interviewed at the same time and so due to this the overall gender composition came to be equal.

Occupation

Most of the participants 94 (41.78%) were labourers. Among the males most, 49 (21.77%) were labourers. Among the females 53 (23.56%) were homemakers followed by 45 (20%) labourers.

In the study conducted by Vas As et al, all the 51 participants were workers employed by the mining company, and were in full time employment whereas in the study conducted by Gaidhane et al maximum that is 53.09% were unemployed and 46.90% had quit their jobs following infection related reasons.[11,7]

Occupation plays an important role in the HIV epidemiology as a society with many migrant workers give rise to increased demand for sex-work.

Residence

Most of the study participants 157 (69.78%) were from rural area, whereas 68 (30.32%) were from urban area. Thus more than two third of the participants were from rural area. This finding is similar to the finding of Chandra where 69% of participants were from rural area.[9] This also corresponds to the findings of the census report 2011 where 70% of the population is in the rural area. As per NACO annual report 2009-10, 57% of the PLHIV are from the rural area and most of them belong to the marginalized and underserved population. These have been the target group for the Link worker scheme launched by the NACO.[6]

Marital status

In the present study, most of the study participants 193 (85.78%) were married, while 19 (8.44%) were either widow or widower and 9 (4%) were found to be single, all being males. In the study by Wig et al 67.6%, and 60% in study Chandra were married.[9,13]

Among widow/ widower most were females who had lost their husbands due to opportunistic infections. Among the singles all were males and this group of single males has the potential for spreading the HIV.

Self-care (d5)

Washing oneself (d510) and caring for body parts (d520). In washing oneself none of the participants reported any difficulty in washing body parts, washing whole body and drying as assessed on Capacity and Performance Qualifier. This finding is similar to that of Van As et al, Buchalla et al and Jeslma et al where none of the study participants experienced any problem in the block of washing oneself.[11,14,15] But it contrasts with the findings of Myezwa et al, where 35% of the study participants had reported problem with Washing oneself and also Gaidhane et al where they noted that 30.4%, 28.9% and 29.4% participants in their study had reported mild to moderate problems washing whole body, washing body parts and drying respectively.[7,8]

Similarly in caring for body parts none of the participants reported any difficulty in caring for skin, caring for teeth, caring for fingernail and caring for toenail on capacity and performance qualifier. This finding is similar to that of Van As et al, Buchalla et al and Jeslma et al where none of the study participants experienced any problem in the block of caring for body parts.[11,14,15] But it contrasts with the findings of Myezwa et al, where13% of the study participants had reported problem with caring for body parts (17%) and also Gaidhane et al where they noted that 28.9, 33.5, 36.6, 42.8 and 47.8% participants had reported mild to moderate problems in caring for skin, caring for teeth, caring for hair, caring for fingernail and caring for toenail respectively.[7,8]

Toileting (d530)

In this block 41.33% and 42.67% participants had activity limitation when assessed on capacity qualifier while 41.33% and 42.22% participants had participation restriction on performance qualifier in regulating urination and defecation respectively. With regards to regulating menstruation the overall prevalence of difficulty in menstrual function was found to be 33% on capacity qualifier and 34% on performance qualifier. Whereas in the study by Gaidhane et al 44.3% and 63.9% participants had problems with Regulating urination and defecation respectively.[7] In the Myezwa et al, Jelsma et al and Myezwa et al noted that 25%, 17% and 12% participants respectively experienced problems relating to

regulating toileting.[8,10,15] But this finding contrasts with the findings of Van As et al and Buchalla et al where none of the participants had experienced any problems regulating toileting.[10,14]

Dressing (d540)

In this block none of participants reported activity limitation or participation restriction. Similar finding were noted by Van As et al, Buchalla et al and Jeslma et al where none of participants had any problem.[11,14,15] But this contrasts with the study by Gaidhane et al, Myezwa, and Myezwa who reported 45%, 35%, 15% problems in dressing respectively.[7,8,10]

CONCLUSION

Significant level of activity limitation was identified in the study participants especially in the areas of toileting, eating and drinking. Activity restriction was also present when looking after ones health was considered. It is therefore advised, that in while planning national health program for prevention and control of HIV /AIDS patients, stress should be given in improving quality of life, specially with regards to self care.

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