Socio-Demographic Correlates of Quality of Life in Injection Based Drug Users with Comorbidity of HIV/AIDS

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Quality of Life (QOL) of the patients suffering from a lifelong disease is influenced by many aspects. It is important to discern these factors to offer better health and social care facilities. This study was aimed at analyzing the Quality of life in relation with socio-demographic variables of Injection based Drug Users (IDU) living with HIV/AIDS. A quantitative, correlational survey research was done with a purposive sample of $N=150$ male IDUs with HIV positive, age ranging from 18-58 years ($M=\pm29.7$; $SD=6.8$), being catered in a specialized service unit under SACP (Sindh AIDS Control Program) Karachi, Pakistan. After taking the informed consent, the data was gathered through using Demographic Information Sheet, followed by the Urdu version of World Health Organization Quality of Life-Brief (WHOQOL-BREF; Khan, Akhter, Ayub, Alam, & Laghari, 2003), which is a short form instrument to evaluate the QOL. Descriptive and inferential statistical analysis was performed.The relationships between QOL and demographic variables and clinical characteristics were examined. A relationship was identified between dissatisfaction with health and poor QOL. The results of the analysis also revealed that education, employment, taking ART (Antiretroviral Therapy), time since diagnosis and duration of treatment are associated with QOL. Hence, it is concluded that QOL is multifaceted and is influenced by socio-demographic variables in IDUs comorbid with HIV/AIDS.

Keywords: Socio-demographic variables, HIV/AIDS, Quality of Life (QOL), IDUs (Injection based Drug Users), ART (Antiretroviral Therapy)

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Quality of Life (QOL) has gained recognition as people are able to acquire an understanding about their life decisions and appreciate the value of life. Quality of life is relevant to wellbeing of individuals and is assessed objectively via analysis of external conditions (Zautra & Goodhart, 1979). The construct of QOL is an important diagnostic and outcome criterion because it incorporates the individual's subjective view and provides information about the living situation (Rudolf & Watts, 2002). There is no specific description of QOL but it is generally assumed as the general wellbeing of individuals and can be regarded as reference against which the different aspects of an individuals' life can be measured. However, one influential definition of QOL, drafted by the World Health Organization (1997) says that an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. The factors influencing QOL are dynamic and can change over time, including a shift of focus and priority (Allison, Locker & Feine, 1994). Since it is an ubiquitous and overarching concept therefore one of the biggest challenges in measuring QOL is to capture its uniqueness with regard to each individual. It is multifaceted and is shaped by an individual's values, goals and socio-cultural aspects. QOL may differ significantly between individuals and will be affected by someone's discrete life situation (Farquhar, 1995).QOL is assessed subjectively and objectivelyas well. In order to understand QOL in subjective and objective dimensions and to overcome the fundamental demands in society, it is imperative to associate it with existing contexts off swift and profound societal change (Almeida, Gutierrez & Marques, 2012).

QOL has become important in clinical experiments and investigations for many lifelong diseases, but has not been widely studied in the substance abuse field. According to DSM-IV (American Psychiatric Association, 1994) substance use disorders (SUDs) are described as maladaptive patterns of substance use leading to clinically severe impairment or distress; potentially affecting physical or psychological functioning; personal safety; social relations, roles, and obligations; work; and other areas.

A very few amount of investigations have been conducted to analyze the QOL in particular groups such as drug users. The studies that have been done previously only refer to the context driven on recruitment basis in drug maintenance programs (Litwin, Soloway & Gourevitch, 2005). Injection drug use through injections is considered as one of the most significant health issues on an international scale yet the QOL of ID users is not widely studied or investigated. In a study done in Australia by Dietze et al., (2010) it was found the increased amount of intake of injection drug use reduces the state of wellbeing of the individuals. The concept of QOL is therefore pertinent with regards to the individuals with substance use. It is documented that People With Injection Drug use (PWID) report poor level of QOL in comparison to those groups having serious lifelong illnesses (Fischer, Conrad, Clavarino & Kemp, 2013).

According to Global AIDS Response Progress Report (GARPR, 2018) injectable drug use is most crucial course of communication of HIV/AIDS in Pakistan. Almost 61% of the entire population of persons suffering from HIV/AIDS in Pakistan is accounted for by the chief components out of which 33% are PWID (County Progress Report- Pakistan, 2018).

Substance use disorders with comorbid HIV infection become long standing maladjusted diseases with overlying distress that deteriorates QOL (Ware et al., 1995). Along with various undesirable outcomes in extensive areas related to physical and mental health, problems related to personal security, communal affiliations and aspects of personal duties and obligations, the HIV incidence is also linked with ID usage (Chen & Lin, 2009). In contrast to other long standing illnesses, the health of ID users with comorbid HIV/AIDS is impacted. QOL in this populace is necessarily reduced in comparison to those who suffer from other lifelong diseases (Wachtel, 1992).The findings from studies are suggestive that QOL is impacted by individual, societal and cultural norms as well as medicine related aspects which shows that the effect of HIV/AIDS on QOL specifically in social and

psychological domains is a significant subject matter for future studies. The relationship of clinical, social and demographic variables with QOL was assessed in a study where it was found that young age, having a spouse , better income and social status, intake of ART and absence of comorbid illness were determinants of better QOL among HIV infected individuals (Arjun et al., 2017).

Several studies have been conducted internationally to see the impact of factors on QOL in persons living with HIV/AIDS, but there is a dearth of research in our culture regarding QOL of IDUs with comorbid HIV/AIDS. Nonetheless the factors previously studied were uniquely assessed without addressing the association between those factors. Moreover, the autonomous relationship of factors with QOL per se, is not explained (Perez et al., 2005). Various studies focusing on assessment of QOL have documented relation between QOL and other determinants. Essentially, six important areas which are diversified with regard to socio demographic and clinical factors, namely physical, psychological, degree of freedom, environmental, societal and spiritual, are effected by HIV infection (Basavaraj, Navya & Rashmi, 2010). A study done by Degroote, Vogelaers and Vandijck (2014) intended to identify the determinants of QOL in HIV infected individuals. The study devised a framework and categorized QOL in four domains i.e. socio-demographic, clinical, physical and behavioral domains respectively. The findings suggested that demographic factors impact QOL i.e. age was found to be associated with physical and mental aspects of QOL. It was also identified that education and employment is also associated with QOL i.e. those who are uneducated and were unemployed had poor QOL respectively. Similarly among the clinical characteristics it was found that the variable of time since diagnosis is also associated with QOL. Moreover, ART was found to be positively related to QOL in such individuals.

Along with substance abuse, individuals encounter various social issues as stigma, impoverishment, depression, and cultural convictions that impact the QOL not only from health as well as

social and psychological perspectives and create nuisance in functional activities of patients (Aranada-Naranjo, 2004).However, there is a scarcity of literature in local context regarding the association of such factors with QOL especially in IDUs with HIV/AIDS (Basavaraj, Navya & Rashmi, 2010).

In this context a study was conducted by Yen, Chou, Lin, and Deng, (2015) to identify the factors related with QOL among HIV positive IDUs .The results of the study indicated that having low income and drug dependence contribute to low levels of QOL whilst   being married, and receiving treatment were positively associated with QOL. Similarly in another study attempting to investigate the correlates of QOL, it was found that QOL of individuals infected with HIV is impacted in all domains of QOL by various variables. Age, education, incidence of comorbid disease, mental distress, employment and ART intake are the most notable factors that contribute to the QOL (Huynh, To, Do, Nguyen, & To, 2018).

For IDUs with comorbid HIV/AIDS, the most significant aspects are psychological problems and social relations thus understanding the impact of these realms in this population is important for future investigations.   In a study done by Saidu (2017) it was found that the QOL of HIV infected individuals is directly impacted by the individual as well as environmental characteristics. The qualitative and quantitative analysis indicated that a variation in the scores of QOL is brought about by the individual attributes (such as age, gender, education, drug usage) environmental factors (such as finance, support from others, social relationships), general perception of an individual's health, and biological variables (such as CD4 count). It was further argued that QOL is strongly related to all of the above attributes and they directly impact the overall QOL of HIV.

QOL of the patients suffering from a lifelong disease is influenced by many aspects. It is important to discern them to offer better health and social care facilities (Rüütel, Pisarev, Loit, &

Uusküla, 2009). HIV/ AIDS does not only have a biological impact but it also influences the social and environmental aspects of the infected individuals. A better understanding and analysis of the impact of these socio-demographic variables may provide valuable input for the assessment for the impacts on health of the individuals suffering from this disease. Since health is associated with social, physical and cultural aspects which is precariously impacted by the aspects of income, literacy, housing and environmental conditions it can be stated that health is influenced by many personal and socio-cultural and demographic aspects (Paulo, Teixeira, Jotz, Barba & Bergmann, 2008). As health is defined by WHO as the state of complete physical and metal and wellbeing of individuals and not merely the absence of disease and infirmity, which suggests that the assessment of health should be based on the life conditions and social aspects of individuals.

Since the conventional measures used to assess the impact of a disease are the relative incidence of disease and death rate due to the disease, these indices do not determine the QOL which is accounted as the missing measurement in health (WHO, 1997). Moreover, each individual assesses his health based on his own physical, cultural and environmental contexts. The concept of QOL and health are intertwined and are multifaceted. It is generally assumed that those individuals who have a better QOL would have a better perception of health and vice versa (Azevedo, Friche & Lemos, 2012). Thus realizing this impact of perception of health on QOL, the present study aimed at assessing the self-perception of health and QOL in IDUs having comorbid HIV/AIDS. Moreover, to take into account the effect of social aspects on QOL phenomenon, the present study also aimed to examine correlations (associations) between socio- demographic variables with QOL in a sample of IDUs suffering from HIV/AIDS.

Method

Research Design

The current research is based on a quantitative correlation survey, which aims to analyze the QOL of IDUs with respect to their demographic variables.

Participants

For current study purposive sampling method was used to collect the data from the participants comprising of 150 male adults, who were IDUs diagnosed with HIV/ AIDS having age ranging from 18-58 years ($M=\pm29.7$; $SD=$ 6.74 years). The participants were approached from SACP (Sindh AIDS control program) which provides multidisciplinary care to the people suffering from HIV/AIDS, in Karachi, Pakistan. The inclusion criteria were males, age >18 years, ability to comprehend instructions, absence of severe cognitive problems (i.e. intellectual or neurocognitive disability). Individuals with substance use disorder who were taking drugs by any other means (oral, sublingual, nasal etc.) were not included in the study. Those HIV positive IDUs, having age <18 years, and those who were diagnosed with any category of psychotic disorder, or disorders of nervous system were excluded from the study.

Measures

Following measures were used in the current study:

Demographic information sheet. It was used to obtain the information on demographic variables such as age, marital status, and family structure, number of children, educational level, employment status and per capita monthly income. HIV related factors such as time since diagnosis, or ART (Antiretroviral Therapy) use, it includes the medicines that are given to treat HIV which when taken in combination prevents the viral growth), duration of treatment, duration of addiction and treatment of

addiction. The participants fulfilling the inclusion criteria were identified during this study period.

Quality of Life Questionnaire of World Health Organization (WHO-QOL-BREF). The Urdu version of the questionnaire was administered (Khan, Akhter, Ayub & Lagahri, 2003). It is 5 point Likert scale having 26 items, 24 questions incorporate the four main domains as physical health (energy, pain, sleep mobility, activities, medication & work), psychological health (self-esteem, spirituality, concentration & feelings), social function (support, sex & relationship) and environmental domain (finance, home, leisure, safety & information), and the other two questions pertain to quality of life and satisfaction of overall health. In order to calculate QOL, a domain score is first determined by using mean scores of item. The transformation of domain score was then carried out by a standard procedure in order to make them in comparable range (0-100).

Procedure

An authorization of conducting the research from the Advanced Studies and Research Board (ASRB), University of Karachi was obtained and the approval for collecting data from SACP was also sought. All the participants were informed about the purpose of the study. In accordance with the ethical rules for the research special regards to the individual's right to confidentiality, self-worth and interests was given by earning written informed consent from the participants for the study along with a proper description of objectives and procedure, of the study. Participants were also informed of their rights of voluntary participation and withdrawal from the study at any point of time without any repercussions. This study was conducted keeping in view the dignity of this underprivileged sample, thus post data collection the participants were acknowledged for their participation and time, and their concerns and grievances related to their condition were also duly addressed. After obtaining the informed consent, they were interviewed separately in privacy, in national language (Urdu), using a pre-structured questionnaire. All

the information collected was based on patients self-report, with the exception of illness related variables, whose information was collected from the medical records. Data was analyzed with the help of SPSS 21.

Results

Descriptive statistics including means, standard deviations, ranges for continuous data and frequencies & proportion for categorical data were calculated.   For inferential statistics Spearman's Rank Order Correlation was used to assess the association between QOL and socio-demographic variables. Table 1 represents the socio-demographic and health characterization of the entire sample.

Table 1
Socio-demographic characteristics of the participants of the study (N=150)

Variable	f	%
Age		
18-29	69	46.00
30-58	81	54.00
Education		
Not educated	74	49.33
Below Matriculation	51	34.00
Matriculation and above	25	16.67
Monthly Income		
0-13,999	89	59.33
14,000-29,999	59	39.33
30,000+	02	1.33
Marital Status		
Married	67	44.67
Unmarried	76	50.67
Divorced	05	03.33
Widower	02	01.33

Employment Status		
Employed	99	66.00
Un-Employed	51	34.00
Family		
Nuclear	11	07.33
Joint	139	92.67
Time since diagnosis of HIV/AIDS		
< year	90	60.00
> year	60	40.00
Duration of Treatment		
No Treatment	20	13.33
<3 Months	51	34.00
3-6 months	27	18.00
6-12 months	16	10.67
More than a Year	36	24.00
ART		
Yes	62	41.33
No	88	58.67
Duration of Addiction		
1-3 years	19	12.67
4-6 years	21	14.00
6-12 years	72	48.00
> 12 years	38	25.33
Treatment of Addiction	62	41.33
No	88	58.67
Yes		
Other Physical Illness (TB orHepatitis B& C)		
No	86	57.33
Yes	64	42.67
Other Psychological Illness (Depression /Anxiety)		
No	145	96.67
Yes	05	03.33
Number of Children		

1	21	35.59
2	14	23.73
3	09	15.25
4	06	10.17
5	06	10.17
6	02	03.39
7	01	01.69

The participants comprised of 150 male IDUs diagnosed with HIV/AIDS, with a mean age of 29.7 ± 6.74 years. From all of the participants 76 (50.67%) of the respondents were single, while 67 (44.67%). From total participants, 21 (35%) of respondents had one child. Nearly half of them 74 (49.3%), were not educated. The majority of the participants lived in joint family setup 139 (92.6%). The majority 99 (66%) performed a work or employment activity, and 89 (59.3%) had household income of ≤ 14,000,   90 (60%) participants had less than a year of time since HIV diagnosis, while 88 (59%) were not using ART The participants with a duration of addiction of 6-12 years was approximated to 72 (48%) and 88 (58%) of participants getting treatment of addiction were highlighted.

Table 2
Prevalence of overall Perception of QOL and Satisfaction with Health in IDUs living with HIV/AIDS (N=150)

Quality of Life	Percentages	Satisfaction with Health	Percentages
Very Poor	62.26%	Very Dissatisfied	29.33%
Poor	31.25%	Dissatisfied	33.33%
Neither Poor nor Good	04.22 %	Neither satisfied nor dissatisfied	23.33%
Good	02.27%	Satisfied	13.33%
Very Good	00.00%	Very satisfied	00.67%

The result of the analysis of the first two items of the form, with the aim of evaluating the general perception of QOL and degree of satisfaction with health is shown in table above. Considering that the estimates proposed by the WHOQOL-HIV BREF questionnaire refer to the previous two weeks of life, the current sample of IDUs with HIV/AIDS, indicates that majority of the study participants had a very poor perception of their QOL. Similarly, the perception of status of health in the given population also shows that participants overall were dissatisfied with their health.

Table 3

Spearman's Rank Order Correlation of Quality of Life with Socio-demographic characteristics of IDUs diagnosed with HIV/AIDS (N=150).

Demographic characteristics	Physical Health	Psychological Health	Social relations	Environmental Domain	QOL
Age	-.00	.06	.03	.10	.05
Education	.09	.17*	.15*	.24**	.18**
Family Structure	-.01	-.04	-.00	-.06	-.02
Work	.13	.15	.16*	.18**	.18**
Marital Status	.11	.14	.15	.15	.16
Number of Children	.02	.03	.04	-.02	.02
Monthly Income	.20**	.22**	.18**	.24**	.26**
Characteristics of HIV infection and treatment					
Time since diagnosis	.19*	.16**	.07	.12	.16**
On ART	.43***	.36***	.38***	.32***	.43***
Duration of Treatment	.24**	.26***	.27***	.25**	.29***
Others					
Duration of Addiction	-.09	-.09	-.09	- .09	-.11
Treatment of Addiction	.21**	.15	.14	.15**	.20**
Other Physical Illness	- .11	-.12	-.15	- .06	-.12
Other	- .05	-.07	-.03	- .08	-.06

Psychological
   Illness

Note:*p< .05, **p< .01, ***p < .001, two-tailed. *N*=150.   For Education, 0 = No education, 1 = Below Matric and 2 = Matric and above. For Family Structure, 1 = Nuclear and 2 = Joint. For Work, 0 = No and 1 = Yes. For Marital Status, 1 = Married, 2 = Unmarried, 3 = Divorced and 4 = Widower. For Monthly Income, 1 = <14,000 2 =14,000-30,000 and 3 = >30,000. For Duration of Illness, 1 = < year and 2 = >year. For On ART, 0 = No and 1 = Yes. For Duration of Treatment, 1 = No Treatment, 2 = <3 Months, 3 = 3-6 months, 4 = 6-12 months and 5 = More than a Year. For Duration of Addiction, 1 = < 1 year, 2 = 1-3 years, 3 = 4-6 years, 4 = 6-12 years, and 5 = > 12 years. For Treatment of Addiction, 0 = No and 1 = Yes. For Other Physical Illness, 0 = No and 1 = Yes. For Other Psychological Illness, 0 = No and 1 = Yes.

Spearman Rank Order Correlation was used in order to determine the correlation and strength of the association of QOL with socio-demographic and HIV/AIDS related variables (time since HIV diagnosis & ART). The results indicated that being employed had better association with social relations and environmental domains of QOL as well as with overall QOL. Education is associated positively with psychological health, social relations and environmental domain and overall QOL. With regard to time since diagnosis, it is weakly and positively associated with physical and psychological health of QOL. ART was correlated positively on all four domains of QOL as well as total QOL. However, age, marital status, family structure, other physical illness (comorbid TB, Hepatitis B & C) and psychological illness (Anxiety & Depression) were not significantly associated with any domain of QOL.

Discussion

The findings of the study indicated that IDUs having comorbid HIV/AIDS had a very poor perception of their QOL, moreover majority of the participants were dissatisfied with their health and had a poor perception about it. Health is considered to

be a unique factor which affects QOL more than any other factors. The findings of the current study are consistent with the findings of the study done by Folasire et al., (2014) which indicated that QOL is influenced by physical health, thus the major determinants and aspects of health related QOL directly ascribable to HIV/AIDS infection are poor health, physical unease and diminished sense of overall QOL. The results of the overall perception of QOL and satisfaction with the health in IDUs with HIV/AIDS found in this study which indicated that the greater the degree of dissatisfaction with health, the more reduced the QOL would be, which is in accordance with the definition of QOL as described by WHO, that QOL is affected by a person's health. It suggests that using injectable drugs and its association with financial strain might lead to unfavorable health impacts and can influence the aspects of QOL (Préau et al., 2007). This finding indicates a need for provision of health amenities to the IDUs with comorbid HIV/AIDS to improve their QOL. Since, it has been discerned that estimation of health must encompass objective and subjective facets pertinent to the patients and attuned to the effect of treatment, the assessment of health of individuals facilitates the health care providers to comprehensively evaluate a patient's health to form a desirable treatment outcome (Naughton & Shumaker, 2003). In a study done by Lifson et al., (2015) the general analysis of health of HIV infected individuals and QOL was carried out. It was found that the physical and mental health components are compromised especially in those HIV infected individuals that carry the burden of comorbid substance dependence. It was also identified that age, gender, education and income significantly correlate with QOL in HIV infected individuals with comorbid substance use.

With regard to the socio-demographic factors, results indicated that education, monthly income, employment, taking Antiretroviral Therapy (ART), time since diagnosis of HIV/AIDS and treatment of addiction are associated with QOL. With regard to age the largest portion of sample corresponds to age ranging from 18-58 years. According to a UNAIDS (2008) report on AIDS pandemic, an estimate of 30.8 million HIV and AIDS positive

people were falling in the age group of 15-49 years. The results of a survey by CDC in 2017, which was based on data from 50 states, showed that 87% of the HIV infected individuals were young males, and among them ID usage was the predominant route of transmission, which requires that youth have access to adequate resources in HIV reduction and to make informed choices to adopt healthy behaviors.

A major component of daily lives of people is work or employment. According to Hoffman, (1997) employment brings about integrity, social aid and organization in life and renders it as significant. Nonetheless, a definite association between employment and QOL is still speculated as bidirectional as to whether good QOL is a prerequisite to be able to work (based on selective hypothesis) or work probably is source of well-being (causation hypothesis; Rueda et al., 2011). Relationship between monthly income and QOL found in the current study is in accordance with a research study where it was found that the households with better income had better association with economic and environmental domains of QOL which suggests that economic and bio-psychosocial facets of QOL are arbitrated by income (Kemmler et al., 2003). This finding in our local context indicates the need of provision of employment to HIV infected IDUs.

Education has also been found to be associated with QOL i.e. higher education associated with higher QOL. In a study by Odili, Ikhurionan, Usifoh & Oparah (2011) it was demonstrated that HIV infected individuals having good QOL in psychological, social and environmental domain may signify that an individual with higher education level might comprehend the course of disease in better manner resulting in healthy coping behaviors and is more compatible with fellow people in social interactions. The findings in current sample indicate a need of educating this marginalized population which might help them in understanding their disease and contribute towards a better QOL. Karkashadze, Margaret., Nikoloz, DeHovitz, & Tsertsvadze (2016) in their study

also explored the relationship between QOL and education among HIV positive individuals and found a significantly positive association between education and QOL suggesting that the chances for better employment and social interaction might be contributed by education, thus it can serve as a potential contributor towards a better QOL. It has also been identified that education might be an intermediary of low financial and economic levels (Murri et al., 2003) and might depict an inadequate comprehension of therapeutic suggestions, resulting in an uninformed, ignorant and less equipped individual which would ultimately impact their QOL and this was also indicated in a study by Moattari, Ebrahimi, Sharifi and Rouzbeh (2012) that QOL is impacted by education. Findings from the current study showed that this aspect could be speculated as fitting to our culture too. Thus, provision of education is important for IDUs with HIV/AIDS. Overall, it can be summed up that if individuals suffering from HIV are educated they would be able to understand about their illness and environment which would facilitate them in getting better job or employment opportunities and will result in improved QOL.

Findings of the current study showed that ART is positively correlated with all domains of QOL, which is consistent with the findings of a study where betterment in domains of QOL i.e., psychological and emotional aspects, social and physical domain, pain with ART usage has been documented (Kohli, Sane, Kumar, Paranjape, & Mehendale, 2005). Similar positive correlations between ART and QOL were also found in a study by Cheng et al., (2014) thus, the QOL and its association with ART become more appropriate, although there has not been much investigation done in context of the association between these two factors. According to Kaler, Angotti, and Ramaiya (2016), that ART reduces the chances of the comorbid opportunistic infections and allows individuals to carry out their daily life activities and it is acknowledged that the advancement in illness, and a diminution in fatality rates that results in a better QOL is ameliorated by ART (Lin et al., 2006).The findings from this study in our culture also indicate towards the fact that in order to improve the QOL,

provision of ART to PLHIV should be made easier and more reachable.

With regard to treatment of addiction, the findings of current study indicated that provision of treatments of addiction or drug rehabilitation service is associated positively with QOL. Other than primarily addressing the problems of substance abuse, the provision of referrals and facilities in other issues associated with substance i.e. education, physical and mental health functioning are also contributed by the SUD treatment programs. The influence on QOL itself by the substance abuse treatment has been examined lately and improvements in many aspects of QOL including physical and psychological functioning, general sense of contentment with life and psychosocial wellbeing have been reported to be influenced by treatment of the issue of substance use/addiction (Foster, Marshall & Peters, 2000). Regarding the variable of duration of illness, findings of the current study indicated that the longer time since HIV/AIDS diagnosis is positively associated with physical and psychological domain of QOL and duration of treatment of illness is associated with an improved QOL in all domains. A study done on a sample of HIV/AIDS patients conducted at Sao Paulo Federal university by Okuno and colleagues (2014) showed that, in relation with other factors, the longer time since diagnosis was also recognized as a major factor accounting for the variation in QOL. The disposition of the variable of duration of treatment with improved QOL could possibly be imagined that with longer time span of illness, individuals become well equipped with coping and adjusting to their physical circumstances with a positive influence on respective QOL facet, thus longer spans can also bring about improved coping skills that could also improve psychological health (Jia et al., 2007). Incorporating the combined impact of education and time since diagnosis, Saidu (2017) explained that with education, a better comprehension of the disease arrives, thus the individuals are more aware of the benefits of early diagnosis and start up the treatment at the earliest which contributes toward longer time since diagnosis. Moreover, all the while being educated they understand

the nature of the disease and understand the importance of precautions thus they are also less bothered by the adverse effects and symptoms of the disease and tend to comply to the treatment in a more positive way thus culminating in a better QOL.

One of the possible limitations in generalizability of the results of the study is due to the intervening aspect of the limited sample size, which thereby requires that for future inquiries a larger sample should be taken into account for the results to be generalized. For a comprehensive evaluation of profile of determinants of the QOL other aspects of physical as well as psychological functioning and conditions must be taken into consideration. This study was specifically consisted of IDUs with HIV/ AIDS and although it allowed touching upon a part of outcome of health care process by providing an insight into QOL and its relationship with only socio-demographic factors thus its results cannot be generalized to other populations. Also, assessment of other physical factors, social indicators and psychological aspects related to internalization of these diseases owing to discrimination and stigma also needs to be explored.

Conclusion

The findings of the study showed that, due to the burden of dual diagnoses the poor health in IDUs with HIV/AIDS is associated with decreased QOL. The current assessment of socio-demographic factors also showed significant association with QOL. The higher estimates of ID use with HIV/AIDS in youth alarmingly points towards the need that individuals in this age group must be educated about the course and repercussions so that it's spread among youth could be prevented. The finding indicating that ART is positively associated with QOL suggests that it can play a significant role if provided as part of proper integrated treatment, thus health care providers should ensure maximum efforts for the provision of ART to individuals suffering from HIV/AIDS . Measurement of other social, psychological and environmental facets is also recommended so that a best treatment

modality with therapeutic efficacy for these individuals could be formulated.

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