Quality of Life Among People Living with HIV/AIDS Attending Care Support and Treatment Program: A Triangulation Approached

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Abstract

Purpose: Despite the many studies for quality of life (QoL) among people living with HIV (PLWH), there are a few studies of triangulation in-depth analysis that investigate the contents of the QoL of PLWH condition. We identified QoL of PLWH who attend Care, Support, and Treatment (CST) program through Community Home Based Care (CHBC).

Methods: A triangulation design in which qualitative data were complemented and verified the quantitative data following characteristics of the QoL among 96 of PLWH. A self-administered questionnaire was used to access characteristics and QOL of PLWH. Then, focus group discussion was perform to collect qualitative data and analysed using thematic analyses. Structural equation modeling (SEM) was used to test the factors influenced QoL of PLWH.

Results: After completion of the qualitative and quantitative data analysis, the two data sets were compared to examine (dis)congruence of the findings. In addition, we created a joint display of qualitative and quantitative findings to describe the characteristic of QoL of PLWH who attend CST program through CHBC. Regarding, Structural Equation Modeling with Partial Least Square test, spiritual is related to adherence of PLWH. Then, adherence and support system are influenced of QoL of PLWH. Furthermore, the characteristic of QoL of PLWH were varied that describe on social knowledge and belief HIV, biophysical aspect, psychological aspect, social aspect, and support system.

Conclusion: CST through CHBC is improved QoL among PLWH. Therefore, QoL of PLWH should be improved to support their caring need in community with integrated multilevel intervention approach.

Keywords: triangulation, people living with HIV/AIDS, quality of life, home care, community practice, social support

Introduction

Globally, World Health Organization in 2018 reported 37.9 million (32.7–44.0 million) of people living with HIV and estimated 0.8% (0.6-0.9%) of adults (15–49 years) living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions[1]. On the other hands, Indonesia in 2018, UNAIDS reported 640,000 of people living with HIV, 0.4% of HIV prevalence of people living with HIV among adults (15–49 years), and 0.17% of the number of

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new HIV infections among the uninfected population over one year. Meanwhile, among 81% of all people living with HIV are on treatment and 73% of all people living with HIV are virally suppressed in Indonesi[2]. Increasing of the incidence of HIV causes HIV as an infectious disease epidemic in Indonesia, thus requiring identification of its spread characteristics regarding their factors. Meanwhile, people living with HIV who have been diagnosed require comprehensive treatment (physically, psychologically, socially, economically, culturally, and spiritually) while receiving antiretroviral (ARV) to support their quality of life (QoL) of people living with HIV/AIDS (PLWH).

Meanwhile, the Indonesian Ministry of Health reported that the problems facing Indonesia at this time were only 60.7% of PLWHA reported, 70% of PLWH had received ARV treatment, but only 33% received routine ARV treatment, 23% experienced dropout rates for ARV, and limited health service facilities capable of providing ARV through Care, Support, and Treatment (CST) program (Department of Prevention and Controling Diseases Ministry of Health of Indonesia, 2019). The CST program for PLWH can be implemented through Community Home Based Care (CHBC). The CHBC is a form of care given to people infected with HIV without opportunistic infections, who choose treatment at home, aiming to prevent infection, reduce complications, reduce pain/discomfort, increase self-acceptance in dealing with situations and understand diagnosis, prognosis and treatment, and increase independence to achieve QoL[3].

Previous study in Indonesia showed that women had limited knowledge about HIV[4], while prisoners with PLWH had stigma and stereotypes regarding their disease[5]. Therefore, using cultural adaptation could efficiently tailor evidence-informed interventions for PLWH to improve their adherence of medication of ARV in Indonesian setting[6]. Meanwhile, social support is improve QOL of PLWH during the adherence of ARV program[7];[8]. QoL is negative relationship with psychosocial problems and demands for social and financial support in Indonesia[9]. Therefore, psychosocial issues among PLWH should manage to improve the QoL.

In Indonesia setting, the experiences of women with PLWH vary greatly, although support from families, peer groups and the government through social services is improve their QoL[10], while healthcare providers should increase provider initiated testing and counselling (PITC) to contracting group, high risk group, susceptible group, and the community[11]. However, HIV-related stigma among Indonesian nurses is unacceptably high (Waluyo, Culbert, Levy, & Norr, 2015). Meanwhile, home-based care is imperative to the provision of comprehensive care for PLWH in Indonesia[12]. Therefore, PLWHA are recommended to actively participate in peer support groups (PSGs) to improve their QoL[11]. Furthermore, improving QoL among PLWH is very much needed during treatment and care, especially in the community. This is due to the very varied life of PLWH in Indonesia during CST in the community, including compliance with ARV, stigma, stereotypes that have an effect on QOL, so social and informational support is needed. Therefore, the purpose of this study was to identify QoL of PLWH patients who attend CST program through CHBC using a triangulation approached.

Materials and methods

2.1 Study design

This study used a sequential explanatory design to identify the determinate factors QoL of PLWH who attend CST program through CHBC. This method uses a two phase design where the data are analysed qualitatively first followed by quantitative analysis. We used a triangulation approach combining the qualitative and quantitative methods to obtain confirmation of findings through convergence of different perspectives[13].

2.2 Participants

Ninety nine of PLWH who attend CST program through CHBC in six Public Health Center (PHC) of Jember, Bondowoso, and Lumajang, East Java Province, Indonesia were recruited and conducted study from June to September 2019. We choose the six of PHC which implement CST program through CHBC. The inclusion criteria of PLWH were as follows: being diagnosed with HIV/AIDS, registered in PHC, and voluntary to attend this study.

First, the researchers teams were meet with the leader and public health nurses (PHNs) of PHC to discuss the research project. Then, PHNs were announced to PLWH in their PHC to attend this study. A long June to July 2019 announced, among 96 of PLWH were voluntary to join and included the criteria this study. Among 96 of PLWH were came from 46 of Jember city, 21 of Bondowoso city, and 8 of Lumajang city.

2.3 Measurement

A self-administered questionnaire was used to collect sociodemographic data of PLWH, including age, gender, ethnic, religion, education, occupation, income per month, marriage status, sexual orientation. The, secondary data were assessed from PLWH data in PHC, such as: active attending of medication, active attending peer support, length diagnosed of HIV/AIDS, and length of ARV program. We were measured CD4 of PLWH after completing to fulfil the questionnaire.

To access knowledge of HIV, we used the brief HIV knowledge questionnaire (HIV-KQ-18) that consisted 18 questions (True= 1, False=0). The 18 questions were summed to create a composite score of knowledge of HIV, with higher scores

indicating greater knowledge of HIV[14]. The HIV-KQ-18 was demonstrated high internal consistency (Cronbach alpha 0.75-0.89). The PLWH Stigma Index was used to access discrimination and stigma of HIV that consisted 11 questions (Never= 0, Not indicated= 0, Experience once to often= 1). The 11 questions were summed to create a composite score of stigma of HIV[15], with higher scores indicating greater experienced of stigma of HIV (categorized in two groups by 0= no stigma, 1 and more= stigma). Family support was accessed using family support questionnaire consisted 9 items (Yes= 1, No= 0). The 9 items were summed to create a composite score of family support, with higher scores indicating greater family support[16]. Meanwhile, HIV Treatment Adherence Self-Efficacy Scale (HIV-ASE) was used to access adherence for medication. The HIV-ASE is consisted 12 items (cannot do at all= 1, half do at all= 2, Completely do at all=3), and have a high internal consistency (>0.9)[17]. The 12 items of HIV=ASE were summed to create a composite score of adherence for medication, with higher scores indicating greater adherence for medication. Then, beliefs about medicines questionnaire was used to access belief of treatment that consisted 19 items (Strongly disagree= 1 to Strongly agree= 5) with Cronbach alpha 0.83[18]. The 19 items were summed to create a composite score of belief for treatment, with higher scores indicating greater belief for treatment.

Furthermore, to assess QOL of PLWH, we were used World Health Organization Quality of Life-HIV Brief in Bahasa Indonesia version with Cronbach alpha 0.79[17]. This questionnaire is consisted 31 questions (Strongly disagree= 1 to Strongly agree= 5) and measured 7 domains, including physical= 4 items, psychological= 5 items, social= 4 items, spiritual= 4 items, independent= 4 items, environment= 7 items, and general health= 2 items. The 31 questions were summed to create a composite score of QOL of PLWH, with higher scores indicating greater QOL of PLWH.

2.4 Data collection

We were conducted data collection in PHC. PLWH who joined and active attending peer group support was invited to come to PHC. The PHN who have responsibility for HIV/AIDS program in PHC was explain PLWH about the study in private room. After getting consent forms, the investigators were invited PHN to entry the room and then distributed a questionnaire to eligible participants. The PLWH filled out the questionnaires in the private room. After completing it, the PLWH returned his or her questionnaire to a research investigator. Before the PLWH back to home, they were checked their blood for CD4 test and then analysed in PHC laboratory. Then, we were remained the PLWH to come to PHC in the next month for attending PGS and joining focus group discussion (FGD) in this study. This study conducted during June to July 2019.

For data qualitative, we performed FGD among PLWH. Among 96 of PLWH , we were divided 9 FGD, which each FGD was consisted 8 – 11 of PLWH (5 of FGD at Jember city, 3 of FGD at Bondowoso city, and 1 of FGD at Lumajang city). The FDG was conducted once for 60–90 min each groups. At first, the PLWHs were asked about their sociodemographic data. Then, FGD began with the following general question: "How your quality of life during attending CST program through CHBC?" If the participants were having difficulty answering the general question, we used an interview guide to explore their opinion. We also encouraged them to talk freely to provide information as much as possible. We wrote detailed notes during the FGD. Then, the principal investigator recapitulated the crucial observations in field notes at the end. The interview contents were recorded on a digital voice recorder after obtaining the informants' permission to holistically understand the situation. We were stopped FGD after having saturation of data.

2.5 Triangulation procedure

In this study, we used a triangulation approach to identify the phenomenon of PLWH who attend CST program through CHBC. To analyze the convergence of a phenomenon, the triangulation approach can be used [19] to explore the QoL of PLWH. Then, to increase the level of trust in finding research results, the triangulation is used to confirm a proposition by using two or more independent measurements[20]. Therefore, to identify QoL of PLWH patients who attend CST program through CHBC, a triangulation approached was used in this study. Two set of data collection using qualitative and quantitative data sources were analysed using a triangulation approached in this study.

2.6 Data analysis procedure

Quantitative analysis

Statistical analysis was performed using SPSS software package version 22.0. Descriptive statistics was used to measure the distribution scores of the sociodemographic data, secondary data of PLWH from PHC, knowledge, stigma, family support, adherence of medication, belief of treatment of PLWH that influenced QoL of PLWH who attend CST program through CHBC. Frequencies and percentages were used to summarize categorical measures. Then, median and standard deviation were used to summarize continuous measures.

Structural equation modeling (SEM) was used to test the factors influenced QoL of PLWH using the Analysis of Moment Structures (AMOS) software (version 22.0). SEM was employed to examine the correlation between the observed variable and the latent variable to formulate the model of QoL of PLWH who attend CST program through CHBC. Furthermore, we used $P < 0.05$ for determining the

significance of findings. SEM, known as Partial Least Square (PLS). PLS handles reflective and formative models, even constructs with single item (indicator)[21]. This research uses structural model to fulfill the recursive model of factors that influenced of QoL of PLWH. The indicators of the research variables are: independent variable (the sociodemographic data, secondary data of PLWH from PHC) and intermediate variable (knowledge, stigma, family support, adherence of medication, belief of treatment of PLWH) were influenced on QoL of PLWH who attend CST program through CHBC. Each factor has a reflective indicator.

Qualitative analysis

We were analysed the QoL among 96 of PLWH who attend CST program through CHBC. Then, we extracted their perception of QoL, using "How was your condition during CST through CHBC, including: physical, psychological, social, spiritual, independent, environment, and general health?". The transcripts of FGD results as qualitative data were analysed by six of researchers using content analysis methods [22] to systematically transform a large amount of text into a highly organized and concise summary of key results. Furthermore, we divided up the text into smaller parts, namely, into meaning units after reading and re-reading the transcripts to get a sense of whole. We condensed these meaning units, and labelled condensed meaning units by formulating codes. Then, we grouped these codes into categories, and themes were searched and defined.

Integration of data sets

After completion of the qualitative and quantitative data analysis, the two data sets were compared to examine (dis)congruence of the findings. In addition, we created a joint display of qualitative and quantitative findings to describe the characteristic of QoL of PLWH who attend CST program through CHBC.

2.7 Ethical Considerations

The study protocol and informed consent form were approved by the institutional review board in J University and the institutional review board of each hospital. Written informed consent was obtained from each patient at 6 PHC.

Results

3.1 Data Quantitative

Among 96 of PLWH; mean of age were 35.0 year old, 54.2% were female; 95.8% were majority of Islam; 44.8% of PLWH were married; 80.2% were heterosexual for sexual orientation; 38.5% had a low education for elementary schools; and 50% were low income per month. Meanwhile, majority of PLWH were active attending of medication (91.7%), although less attending PSG (76%). The length of HIV diagnoses and ARV program were 44.3 months and 33.9 months, respectively, with mean of CD4+ test were 287.31 cell/MCL (Table 1). Moreover, the distribution score of knowledge of HIV, stigma of HIV, family support, adherence for medication, and belief of treatment that influenced the QoL of PLWH who attend CST through CHBC, including physical, psychological, social, spiritual, independent, environment, and general health (Table 2). The table presents the mean, standard deviation, frequency, and percentage.

Eleven latent variables were specified in the measurement model, each of which contained one to four observable variables (Table 3). Variables from the sociodemographic of PLWH, secondary data from PHC, knowledge of HIV, stigma of HIV, family support, adherence for medication, belief of treatment, and the QoL of PLWH and had loadings ranging between 0.360 and 0.989. Factor loadings for all latent constructs were significant ($P < 0.05$).

Regarding to the interrelationships among the independent variables, the observed associations were in the expected directions. The latent variables from the measurement model were significantly intercorrelated (Table 4). Then, Only three interrelationships emerged among the independent variables ($P<0.05$), including spiritual factors and adherence factors ($r= 0.377$), adherence factors and QoL factors ($r= 0.422$), and support factors and QoL factors ($r= 0.048$).

The proposed structural model was conducted with hypothesized latent constructs, predicting its proposed manifesting indicators as follows: (a) spiritual variables had direct and indirect paths to adherence and were correlated, (b) the adherence factor had direct and indirect paths to the QoL, and (c) support factor had direct and indirect paths to QoL. Figure 1 presents the initial SEM model after the interrelationships among the independent variables ($P > 0.05$) were deleted. All of the variables on this structural model demonstrated relevance to the data. Spiritual (religion and ethnic) were in-directed relationship to adherence (active attending medication, adherence for medication, and belief for treatment), adherence factor were directed to influence the QoL, and (c) support factor (family support and active attending peer support) were direct to influence QoL (including physical, psychological, social, spiritual, independent, environment, and general health). Figure 2 demonstrates the breakdown of all indirect and total effects on QoL of PLWH for each of the latent variables.

3.2 Data Qualitative

The qualitative analysis of the characteristics of QoL of PLWH who attend CST program through CHBC resulted in five key themes and eleven of categories The themes and categories are discussed below and presented in Table 5, with example quotes.

Theme 1. Social aspect

Social aspects of the QoL of PLWH are related to their presence in the community. Existence to exist

and be actively known in the community is related to the openness and the closeness of self-disclosure about the illness. Some of the PLWH have revealed their openness with their families and closest people. They are open because they need a place and people who support themselves during treatment and illness, therefore, they feels save and comfort during experienced their disease and treatment. However, there are also some PLWH who still close themselves and do not want to be open with other people and their families. They just open only to the health workers to know their condition, because they are afraid of being thrown out and ostracized from their families if they know about their illness because it is a disgrace for the family and community.

Theme 2. Knowledge and belief of HIV

Knowledge of PLWH related to HIV/AIDS varies greatly depending on the source of information and the duration of suffering from HIV/AIDS. Besides that, their knowledge is also very related to their beliefs related to their illnesses and is supported by aspects of their self-perception and ultimately how they perceive their illnesses. In perceiving themselves, PLWH feels that their illness is a burden of life, they consider themselves dirty because they get a disease that has no cure. Furthermore, they perceive themselves as people who live with uncertainty, because sometimes they are healthy and sometimes sick, even like a living corpse that will die soon.

Most of the PLWH still do not know in detail related to HIV/AIDS. Although, some PLWH with supportive treatment and care time goes by, PLWH perceives themselves positively. PLWH has received sufficient information from sources of information by non-governmental organizations or PHN. This has an impact on PLWH's beliefs related to HIV/AIDS to be treated and treated sustainably at the PHC to heal. PLWH gets information through health education related to HIV/AIDS and its treatment while actively participating in PSG at the PHC. PLWH perceives HIV/AIDS as a collection of symptoms due to decreased body immunity, so as long as their immunity is good, then HIV/AIDS will not cause symptoms. Although, PLWH knows that this disease is an infectious disease that can be transmitted to others through direct contact with fluids or body products from PLWH. But if they are able to protect their self and contact safely, it will not transmit it to others.

Theme 3. Biophysical aspect

Biophysical aspects in describing QoL of PLWH that follows CST in the community are illustrated through three things, namely daily life style, caring effort, and management of HIV/AIDS treatment. PLWH's daily life is illustrated by PLWH's life patterns diagnosed with HIV/AIDS and the reasons why the disease can be experienced. After knowing and diagnosed, PLWH underwent treatment to improve the recovery of the disease. Treatment efforts are carried out starting from traditional medicine to accessing health services in PHC or hospitals. When accessing these health services, PLWH gets standard HIV/AIDS treatment services in the form of ARV management.

PLWH's daily activities are generally portrayed into risky behavior before being diagnosed with HIV/AIDS. Some PLWH work as commercial sex workers by not using safeguards when having sexual relations with their customers, have the habit of changing partners or free sex, doing unsafe body tattoos, and some wives are infected by husbands who are HIV/AIDS positive because they work outside the city and return to transmit to his wife during sexual intercourse. When feeling the symptoms of illness, PLWH seek treatment help by looking for symptom relief drugs to the pharmacy, if it worsens the health service bar. However, there are some who seek help from the dukun because of long treatment at the health service that does not heal.

After coming to the health service and knowing PLWH experiencing HIV/AIDS, PLWH gets information about what treatments must be taken during the treatment program. PLWH describes having to eat a lot of nutritious foods with lots of protein, vegetables and fruits as well as adequate rest when experiencing symptoms of the disease. In addition, PLWH also describes some traditional treatments that are tried by drinking herbs from plants to improve health status so that they are strong and not weak. The treatment program is expressed as a CST program. PWLH revealed that if symptoms worsen, you can contact PHC to get a home visit service while maintaining privacy through the CHBC program.

The management of treatment of HIV/AIDS obtained by PLWH in PHC is described as quite complete and comprehensive, starting from screening, diagnosis, treatment, care and consultation programs, as well as service programs at home and the community. Screening activities begin with early detection of signs and symptoms based on clinical algorithms in primary services and high risk populations in the community. If a client with suspect is found then a referral to a referral hospital is carried out for HIV and CD4+ examination. Positive results of the examination carried out treatment management and care through ARV treatment where the drug package can be taken at PHC every month. In addition, PLWH receives consultation services and health education from PHN or non-governmental organizations in PHC or monthly routine activities in the PSG. Empowerment is also carried out in communities through the formation and training of health care cadres who care about HIV/AIDS who assist PHN in conducting home visits or health education in the community.

Theme 4. Psychological aspect

Characteristics of the psychological aspects of PLWH are illustrated from the initial response when diagnosed with HIV and the desired expectations while undergoing HIV treatment in the community. PLWH requires a long time in accepting themselves as PLWH, so that it takes a very large effort from PHN as a CST program leader, followed by CHBC. While undergoing the CST program, PLWH has very high hopes for services that can alleviate their illness, help when experiencing ARH side effects, and consulting services in living their daily lives.

The initial response of PLWH when diagnosed felt distrust related to the calcite, angry, ran away from reality with its denial, but over time they accepted their illness and took part in a treatment program. Although, at the beginning of the diagnosis, PLWH sought alternative help to complementary or alternative medicine, because the disease was incurable. While undergoing the ARV program, PLWH hopes that PHN always provides good physical and moral support through PSG activities at PHC. The CST and CHBC programs are very helpful in providing comprehensive nursing care to PLWH in disease management and treatment at home and the community.

Theme 5. Support system

PLWH requires a support system in undergoing a CST program, because some PLWH experiences stigma and discrimination related to their illness. Some PLWHs that have been exposed and known to their diseases by the community feel shunned from their social groups, so they need social support from family and community as well as health workers.

PLWH experienced being seen as a naughty and sick person due to suffering from HIV, so it was often discussed in the community. Meanwhile, some clients are unable to work anymore because of discrimination at work. People are afraid of being infected if they are close to PLWH so that they are shunned and not included in social activities in the community. Although, now there are many non-governmental organizations that help PLWH in adapting to the community and receiving PLWH in the family. Active health education to the community is carried out in order to be able to provide support to PLWH. Social support by cadres is provided through active monitoring of ARV treatment and its side effects.

Discussion

In this study, we revealed characteristics and factors related of QoL among PLWH who attend CST program through CHBC using triangulation approach. We found spiritual is related to adherence of PLWH. Meanwhile, adherence and support system are influenced of QoL of PLWH. Furthermore, the characteristic of QoL of PLWH were varied that describe on social knowledge and belief HIV, biophysical aspect, psychological aspect, social aspect, and support system.

Our finding described that spiritual is related to adherence of PLWH. This may be correlate with the vast diversity of tribes and religions in Indonesia[23]. Indonesia consists of several ethnic groups and religions that will form individual belief patterns in life in society. Meanwhile, qualitative results show that PLWH varies greatly in understanding and understanding the condition of the disease, so that it affects the pattern of beliefs and knowledge related to HIV/AIDS. This further relates to the social aspects of PLWH in conducting disclosure to their illness (Handayani et al., 2019). Self-acceptance and self-disclosure PLWH will indirectly affect adherence to ARV treatment [24-26]. PLWH participating in CST program activities strengthened through CHBS will be actively involved in the treatment and adherence to ARV treatment, so it needs to be strengthened indirectly through strengthening trust in diseases through a multi-ethnic and religious approach in the community. This is because multilevel interventions can be an option in overcoming PLWH problems [27] in an effort to optimize their QoL in the community.

We identified that adherence of medication was influenced on QoL of PLWH. Characteristics of biophysical of PLWH during attending CST program were tried to care their diseases and managed their ARV program. PLWH makes various efforts in self-care during treatment in dealing with various complaints of HIV/AIDS. Early in the clinical manifestations of the disease, PLWH tried to find alternatives to traditional medicine or to the shaman. This is done because the client feels his illness is not cured. However, over time, PLWH adheres to the ARV treatment program at PHC. PLWH compliance in HIV treatment greatly affects the quality of life. The problem of treatment noncompliance is caused by the lack of information and knowledge of PLWH in managing its treatment[28], (Sarkar, Karmakar, Dasgupta, & Saha, 2019), besides that complaints due to side effects also determine in the treatment of HIV[29]. The CST program that is participated in by PLWH and the follow-up of CHBC can help overcome treatment management problems and improve the quality of life of PLWH. The active involvement of PLWH in PSG treatment activities also provides comfort and calm to PLWH[30]. Therefore, it becomes compliant in the treatment of antiretroviral drugs and has an effect on the quality of life during undergoing ARV therapy programs.

In this study, we revealed that support system was influenced QoL of PLWH. The life problems of PLWH while undergoing HIV/AIDS treatment require support from various parties because of the chronic disease nature of HIV/AIDS[29, 31, 32]. PLWH felt very discriminated in their lives because of suffering from infectious diseases, so that community stigma resulted in the majority PLWH in this study not being open to families and communities. Social support in this study identified

PSG and empowerment of health cadres in the community who were able to improve the QoL of PLWH [30] while participating in the CST program. In their daily activities, PLWH receives support when diagnosed with HIV until PLWH is able to accept the disease and is actively involved in its treatment. In addition, during the activities of empowering health cadres through health education in the community can increase HIV-related knowledge, so as to form beliefs and positive responses from the community in receiving PLWH in the community. Thus, it is hoped that HIV stigma can decrease, so that PLWH QoL can be maintained. This is because the life phenomena of PLWH vary greatly from their physical, psychological, social, cultural, and health lives[10]. Furthermore, CST program activities can be carried out comprehensively and sustainably through CHBC in increasing PLWH QoL in the community. Furthermore, this study identifies factors that influence the QoL of PLWH with the triangulation approach. Factors such as spiritual, compliance, and support systems can influence the QoL of PLWH. This is due to the diversity of the socio-cultural level of life and PLWH beliefs related to knowledge related to HIV. It indirectly results in understanding the disease and directly influences the physical life of PLWH in treatment management. Various attempts were made by PLWH in efforts to seek healing during ARH management[33]. Over a long period of time it has an impact on the psychological aspects of PLWH, so that social and group support is needed to improve treatment services[34, 35]. Therefore, physical, psychological, social, and cultural environment can influence the QoL of PLWH during the CST program. Follow-up to the CHBC program with community empowerment can be endeavoured to provide support in reducing the problem of stigma and discrimination of PLWH.

Conclusion

In this study, we were able to identify of QoL of PLWH patients attend CST program through CHBC, such as spiritual, adherence, and support system. Characteristics of QoL of PLWH patients attend CST were varied, including knowledge and belief HIV, biophysical aspect, psychological aspect, social aspect, and support system. Therefore, CST program through CHBC can also be used as community and family based intervention program to enhance self-management skills for patients who undergoing ARV treatment for improving QoL of PLWH. In the future, it will be necessary to verify for selected multilevel intervention program, for integrated PHC and PHN as healthcare provider, community, family, and PLWH have the effect of QoL of PLWH.

Conflict of interest

There are no conflict of interest in this study.

Ethic

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Authors contribution

T. Susanto, team leader of research, conceptualized research design, designed of measurement, analyzed data, and writing and final prof of manuscript; LA, Susumaningrum, collecting data; H, Rasny, collecting data and qualitative data analyses; EA, Septiyono, collecting data and quantitative data analyses; RA, Yunanto, literature review and collecting data; I, Rahmawati, collecting data and qualitative data analyses. All of authors approved for final manuscript for submission.

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