Review Article

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Effect of Supportive Care on Quality of Life for People Living with Human Immunodeficiency Virus: A Systematic Review

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Abstract

The survival of people living with HIV (PLWH) affects physical, psychological, sexual, social, and financial circumstances during the care and treatment phase. Supportive care is an effective intervention associated with a better quality of life. The aim of this systematic study was to identify effect supportive care intervention on quality-of-life infected people. This study was a systematic review to examine the effect of supportive care in PLWH. Four databases including Science Direct, ProQuest, PubMed, and Wiley library were included to identify the relevant articles. A total of eight articles out of the 247 publications potentially met the inclusion criteria. Supportive care was grouped into four categories, including Community Based Intervention, M-Health Intervention, Social Media-Based Interventions as well as Psychosocial Interventions. The combination of all interventions showed that supportive care needs to be prescribed in line with the conditions and needs of PLWH. Conclusion, several supportive care approaches including Group Support Psychotherapy (GSP), Peer Support (PS), Run4Love WeChat, ALWH treatment strategy, effective communication, and psychosocial assessment, Mental health care pathway PASEO and combination logotherapy, ACT, as well as family psychoeducation (FPE) affected the quality of life for PLWH. This helped in characterizing the intervention and its effect on the conditions of HIV patients.

Introduction

The survival of People Living with HIV (PLWH) becomes an endless struggle due to the complex treatment process. It also affects physical, psychological, sexual, social, and financial disorders during the treatment and care phase. These side effects cause sufferers to feel that their various needs are not being fulfilled. Kall et al., [1] and Safreed-Harmon et al., [2] emphasized that PLWH expect a normal quality of life through antiretroviral therapy (ARV). While this ARV therapy is expected to improve their quality of life, people living with HIV continue to face a disproportionate burden of chronic health problems, lifelong treatment challenges, and associated side effects, as well as psychological challenges including stigma and discrimination [1, 2]. Previous studies show that people living with HIV have lower health-related quality of life compared to the general population.

Several studies have shown that sufferers' unmet needs in the early stages detrimentally affect their quality of life [3,4]. Thus, it is necessary to comprehensively examine patients who survive and offer appropriate effective interventions for them. Supportive care is one of these effective interventions because it is associated with longer survival and better quality of life [5-7].

Supportive care is an essential service used to satisfy patients' physical, psychological, social, informational, and spiritual needs across the disease trajectory [8, 9]. It is a buffer component that helps sufferers to regain emotional stability, social adjustment, cognitive function, body image, future perspective, and physical strength. According to Penn et al., [7], supportive care increases HIV survival in the community. In a previous systematic review, community support-based interventions were found to help PLWHs build social networks, exercise more autonomy, and reduce structural barriers [10]. Also, multifaceted supportive interventions are appropriate for patients initiating ART because treatment advocates actively visit and care for them. On ART, the adherence club becomes the right approach to maintain HIV retention. However, this assumption is not supported by strong evidence-based because previous reviews have only examined supportive care as a whole and not describe yet which type of supportive care that is effective in improving the quality of life for PLWH. Therefore, this study aimed to systematically observe the effects of various types of supportive care.

Methods

Literature Survey and Selection Criteria

Data were collected using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) combined with the Cochrane Handbook of Systematic Review of Interventions [11, 12]. The protocol was registered in CRD42021284942 and can be obtained online at the link: enter URL https://www.crd.york.ac.uk/prospero/#myprospero

Eligibility criteria

This study included published types of randomized controlled trials (RCT), non-RCT, nested case-control, and feasibility studies using supportive care as an intervention or therapy. PLWH receiving antiretroviral (ARV) treatment between the age range of 19-44 years were selected as participants. The use of palliative care interventions and people with AIDS were excluded from this study.

Information sources

The searching process was conducted from February 2012 to March 22, to broaden the scope of articles that discuss the issue of supportive care, a search was conducted on four databases including Science Direct, ProQuest, PubMed, and Wiley library.

Search strategy

The search strategy used the PICO for patients with the key phrase "People with HIV, HIV infected people, or HIV positive people". For the intervention, it employed keywords such as "supportive care, supportive intervention, supportive treatment, or supportive therapy". The comparison element used in the key phrase was "usual care", while the outcome used the "quality of life or improved health status". In each database, Boolean terms were used to combine the patient problem, intervention, and outcome elements such as "people with HIV, HIV infected people, HIV positive people, supportive care, supportive intervention, supportive treatment, supportive therapy, usual care, and quality of life, or improved health status.

Selection process

Two reviewers (MYT, MZM) first independently screened all titles and abstracts to exclude irrelevant studies including encyclopaedia, abstract-only proceedings, guidelines, book chapters, and eBooks. Then another three reviewers (AAM, FH, RH) independently reviewed potentially eligible full texts based on pre-determined eligibility criteria. All stages of screening were conducted using Covidence software. Any disagreement was resolved by discussion or adjudication by a third reviewer (KK).

Study risk of bias assessment

Informed by Sterne et al.[13, 14], risk of bias was assessed using a tool from Cochrane including the Risk of Bias in randomized trials (RoB 2) and Risk of Bias in

Non-randomized Studies - of Interventions (ROBINS-I). The results of the assessment are entered in the visualization tool for risk of bias assessments in a systematic review (robvis).

Synthesis methods
A grid synthesis was used with a column containing the article title, purpose, design, subject, measuring instrument, analysis, types of supportive care, results, conclusions, weaknesses, and strengths, as well as the link between supportive care and quality of life for PLWH.

Discussion
Study selection
A total of 247 articles from four databases were identified through the search strategy. Initially, a filter was performed on studies that failed to provide full text before the screening. A total of 179 articles were selected for screening but 95 were excluded due to publication type, a total of 84 studies were downloaded in full text for further analysis. Based on the results, 44 articles that not retrieved were five studies about cancer and HIV, 12 studies on chronic no communicable diseases including the subject of breast cancer and tuberculosis, 25 studies on supportive care for COVID-19, cancer, Ebola, tuberculosis meningitis, and Stephen Johnson syndrome and pneumonia, four studies on infectious-disease screening and vaccination, as well as two on coping mechanisms. In the screening stage, 40 studies were eligible and potentially met the inclusion criteria, however 32 papers were excluded because of wrong population, intervention and design. Finally, eight studies were included in this review.

Study characteristics
This review included eight studies. Various designs from this one study were nested case-control, one studies were quasi-experimental, one studies were non-RCT, and two studies were cluster, as well as two studies were parallel RCT. Total of 2343 PLWH consisting of young (n=2287, 97 %), and adolescents (n=56, 2,39 %). All studies conducted in various countries: Peru, China, Ghana, North America, Indonesia and Vietnam. Table 1 shows the characteristics of the eight included studies. There are two types of interventions: psychosocial intervention with the name intervention is (Mental Care health pathway PASEO, Run4love WeChat, ALWH treatment strategies effective communication, Family psychoeducation) and family and community intervention with the name intervention are (Group Support Psychotherapy (GSP) and Peer Support).

Risk of bias in studies
Bias risk assessment results from the 8 included studies, showed that there were three studies [16,19, 22] that had a high risk of bias in the randomization process, measurement, and reporting. One study [20] has not provided clear information related to control of the confounding variable, participant selection, missing data management, measurement, and reporting results. Details of the report can be seen in figure 1 below.
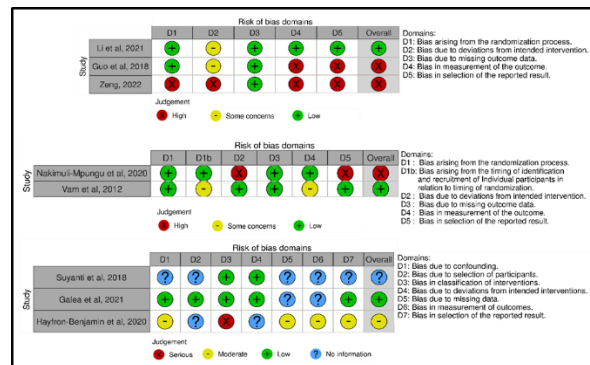

Figure 1: The effect of eight studies on risk of bias assessment using Robvis tool.

Types of supportive care
From eight studies, there are two main types of supportive care such as Community Based Intervention(n=2), M-Health Intervention (n=2), Psychosocial Intervention (n=3) and social media-based intervention (n=1). Table 2 shows details of supportive care.

Effect of supportive care towards the quality of life
Group Support Psychotherapy (GSP); Peer support; Run4Love WeChat; Mental care health pathway PASEO; ALWH treatment strategies, effective communication, and psychosocial assessment; Combination of logotherapy, ACT, and family psychoeducation have all been identified as factors that contribute to the quality of life of people living with HIV (FPE). Two of the six interventions included had a direct effect on improving the quality of life of PLHIV, namely peer support [21] and Run4Love WeChat [16, 18, 22], while the other four had indirect effects by reducing depression and anxiety [15, 19, 20].

The quality of life of people living with HIV can improve as HIV-related stigma is reduced, and depressive symptoms are reduced. Long-term interventions have a better effect on improving quality of life due to the mediating role of HIV-related stigma and depressive symptoms [15, 19]. PLHIV who report having experienced stigma are more likely to have higher depressive symptoms and lower QOL [15,16,18-22].

Authors	Country	Sample/participants	Type of Intervention	Design	Name of Intervention	Duration of Intervention	Outcome Quality of Life Effect
Galea et al., [15]	Peru	28 ALWH	Psychosocial intervention	Nested case-control	Mental care health pathway PASEO	3 months	Improving access to mental health services and covering psychosocial needs.
Guo et al., [16]	China.	228 PLWH	M-Health intervention	RCT Parallel	Run4Love WeChat	3, 6 and 9 months	Improving the quality of life of PLWHA: stress management, increasing/maintaining physical activity, and social support.
Hayfron-Benjamin et al., [17]	Ghana	28 ALWH and HIV counsellor	Psychosocial intervention	Non-RCT – Interventional study	ALWH treatment strategies, effective communication, and psychosocial assessment	8 days	Increasing the knowledge, skills, and confidence of health workers and providing high support services to clients and families.
Li et al., [18]	South China	274 PLWH	m-health intervention	RCT Parallel	Run4Love WeChat	3, 6 and 9 months	Improving the quality of life of PLWHA and reducing stigma and symptoms of depression
Nakimuli-Mpungu et al., [19]	North America	1140 PLWH	Community-based intervention	RCT Cluster	Group Support Psychotherapy (GSP)	8 weeks	Reducing depression rates of PLWH and improving positive feelings that eventually improve QoL (indirect effect)
Sri Suyanti et al., [20]	Indonesia	60 PLWH	Psychosocial intervention	Quasi-experiment	Combination of logotherapy, ACT, and family psychoeducation (FPE)	not available	FPRE is a support system for clients involving family roles and ACT teaches positive psychological skills to clients.
Van Tam et al., [21]	Vietnam	285 PLWH	Community-based interventions	RCT Cluster	Peer support	12 months	Improve QoL only among ART Clinical stages 3 & 4
Zeng et al., [22]	China	300 PLWH	M-Health Intervention	RCT parallel	Run4Love WeChat	3, 6 and 9 months	Increasing positive coping associated with improved quality of life in PLWHA.

*Abbreviation: ACT (acceptance and commitment therapy); ALWH (adolescents living with HIV); FPE (Family psychoeducation); PLWH (people living with HIV); RCT (Randomized Controlled Trial).
Table 1: The results of various projects in Study Characteristics.

Type of Intervention	Name of Intervention	Duration	Author
Community Based Intervention	Group Support Psychotherapy (GSP)	8 weeks	Nakimuli-Mpungu et al., [19]
	Peer support	12 months	Van Tam et al., [21]
M-Health Intervention	Run4Love WeChat	3, 6 and 9 months	Guo et al., [16]
	Run4Love WeChat	3, 6 and 9 months	Zeng et al., [22]
Psychosocial Intervention	*Mental care health pathway* PASEO	3 months	Galea et al., [15]
	ALWH treatment strategies, effective communication, and psychosocial assessment	8 days	Hayfron-Benjamin et al., [17]
	Combination of logotherapy, ACT, and family psychoeducation (FPE)	not available	Sri Suyanti T et al., [20]
Social media-based intervention	Run4Love WeChat	3, 6 and 9 months	Li et al., [18]

Table 2: The effect of eight studies on classification of supportive care.

Type of Intervention	Name of Intervention	Effects of interventions on life's quality
Community Based Intervention	Group Support Psychotherapy (GSP)	GSP intervention can help people with HIV overcome mild to moderate depression. Interventions that are effective can reduce depression and anxiety while also improving quality of life and psychological well-being in people living with HIV.
	Peer support	Peer support interventions improved quality of life for patients receiving ART with severe immunosuppressive conditions (clinical stages 3 and 4) but had no effect on patients receiving ART with mild or no clinical symptoms (clinical stages 1 and 2).
M-Health Intervention/ social media-based intervention	Run4Love WeChat	After 9 months of intervention, the Run4Love intervention had a significant effect on QOL and had a complete mediating effect on QOL via stigma and depressive symptoms.
Psychosocial Intervention	*Mental care health pathway* PASEO	The intervention is effective in treating depression, making ODHA's quality of life better.
	ALWH treatment strategies, effective communication, and psychosocial assessment	Interventions delivered as part of routine care have been shown to improve knowledge, skills, and confidence. It has the potential to indirectly improve the quality of life of ALHW.
	Combination of logotherapy, ACT, and family psychoeducation (FPE)	People living with HIV require interventions to develop effective coping skills. This intervention enables PLHIV to adapt to stressors related to their disease on multiple levels, including physically, psychologically, and socially, and it helps PLHIV achieve psychological well-being, thereby improving their quality of life.

Table 3: Summary of the effects of supportive care and Intervention on quality of life.

This study was conducted a systematic review of 8 existing studies related to supportive care intervention for people living with HIV (PLWH). The findings of this review confirmed the effectiveness of supportive care intervention toward quality of life. A randomized control trial was employed as a robust design in every study. The intervention type used in these studies were varied namely Psychosocial intervention [15, 17, 20]; m-health based intervention [16, 18]; social media-based intervention [18], and community-based intervention [19, 21].

Support from the community could directly influence health outcomes. The analysis in this review found that community-based intervention (peer support) from van Tam et al., [21], has been proven can improve the quality of life of PLWH. This type of support improved quality of life significantly after 12 months from the baseline study. This is in line with a previous study from Jia et al., [24] that higher social support was given at the beginning of the study resulting in better mental health after 12 months. A study from Indonesia also shows that PLWH who do not get peer support is risky at 86.80 times have less quality of life [25]. Several studies have found positive relations between the presence of social support on physical and mental health PLWH and can improve the quality-of-life PLWH [25-27].

A review study conducted by Wu & Li [28] suggested that community-based intervention showed positive effects psychologically for people with HIV/AIDS and can increase self-esteem, self-efficacy, coping skills, and quality of life. The stigma attached to PLWH, the stigma attached to PLWH continues to negatively affect their health and well-being [29], as a result, makes them prone to self-isolation and depression. It has been estimated that about half of all people living with HIV meet the criteria for one or more mental health disorders [30]. Thus, community-based intervention such as peer support can help the PLWH to reduce lonely feelings with the opportunity to meet others to share information about the newest treatment and local support service, reduce isolation, improve social support, and reduce stigma in order to achieve a better quality of life [19, 31]. Peer support is recommended at the start of treatment after a new patient is diagnosed and will start ARV therapy. This intervention is still accompanied by standard care received by PLHIV according to health care standards because in principle supportive care is additional care which is complementary care for PLHIV [19, 21].

Another supportive care that also provides a positive impact on quality of life is using the m-health intervention. Guo et al., [16] and Li et al., [18] conducted studies in China using an m-health intervention approach. They used the social media platform WeChat to deliver the Cognitive-behavioural stress management courses and weekly reminders of exercise were delivered in a multimedia format [16]. The results from this study and the secondary analysis by Li et al., [18]. Li et al., [18] and Zeng et al., [22[revealed that this approach also significantly reduced depressive symptoms among PLWH, and the effect continued. Despite the benefits of supportive care intervention such as peer support has been proven can improve the quality-of-life PLWH, the association between social support and quality of life over time seems to vary.

Limitations of the study

A report from the risk of bias analysis shows only one study has a low risk of bias. Lack of information from studies included in this review resulting not all studies can be visualized in the forest plot and only four studies can be included. Despite these limitations, to our knowledge, the strength of our study is that it is the first systematic review to examine several types of supportive care intervention that can help people with HIV improve their quality of life.

Conclusion

Supportive care for people with HIV refers to additional care in combination with antiretroviral therapy (ART). Supportive care intervention has been proven effective in helping people with HIV to achieve a better quality of life besides their ART. This systematic review shows that there are several types of supportive care that can be used by health professionals, namely involving community support such as peer support as well as the use of m-health intervention such as using popular social media platforms. Among all the supportive care interventions found in this review, peer support has proven to be the most effective intervention to improve the quality of life of people with HIV. Conclusion, several supportive care approaches including Group Support Psychotherapy (GSP), Peer Support (PS), Run4Love WeChat, ALWH treatment strategy, effective communication, and psychosocial assessment, Mental health care pathway PASEO and combination logotherapy, ACT, as well as family psychoeducation (FPE) affected the quality of life for PLWH. This helped in characterizing the intervention and its effect on the conditions of HIV patients.

Registration and Protocol

The original review protocol was recorded in the International Prospective Register of Systematic Review (PROSPERO) on 13 November 2021. The registration number is CRD42021284942 and can be obtained online at the link: enter URL https://www.crd.york.ac.uk/prospero/#myprospero

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Author Contributions

Y. Tahir; research design, plan of research work, and coworking in conducting laboratory works,

Zukri Malik; coworking in analysis, laboratory works and in vivo studies.

I Kade Wijaya; coworking in statistical analysis, laboratory works and in vivo studies.

Kusrini S Kadar; research design, coworking in conducting laboratory works, and collecting data.

Risna Halim Mubin; coworking in conducting laboratory works and collecting data.

Firdaus Hamid; coworking in conducting laboratory works and collecting data.

All of the authors participate in writing and proofreading of the manuscript.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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