PRELIMINARY COMMUNICATION

Multi-level intervention for HIV/AIDS caring in Indonesian community

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Abstract

Treating the spread of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) needs to be carried out with community participation. Caring community behavior problems require holistic approach for each individual element as well as society related to cultural factors and community contexts, such as norms, relationships, and critical structural factors in strengthening desired outcomes, especially in HIV/AIDS prevention. Some interventions aimed at increasing diversity of participants, and were mostly focused on overcoming individual-level of barriers to research participation. Most of the interventions did not evaluate their effectiveness on increasing the level of trial participation. Overall, there is little focus on interventions aimed at researchers, clinical trials, institutional policy factors, or studies. Therefore, a HIV/AIDS model of intervention is needed that emphasizes the inter-relationship of community elements, with local socio-cultural approaches through multi-level interventions.

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Key words: LWHA, depression, mental health literacy, help-seeking, knowledge, psychologists.

Introduction

Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) as an infectious diseases affecting the whole world, require a holistic and comprehensive approach. The HIV/AIDS transmission phenomenon in a community results in a condition of HIV/AIDS patients' vulnerability and the risk of transmission between individuals within the family and community. Strategies for treating HIV/AIDS comprehensively, sustainably, or multivariate among a community's sub-system elements, are expected to improve health status of HIV/AIDS patients, and prevent disease transmission based on the socio-cultural approach of community.

The Indonesian Ministry of Health reported that Indonesia's HIV/AIDS challenges considered only 60.7% of people living with HIV/AIDS (PLWHA) reported, and 70% of PLWHA received antiretroviral therapy (ARV). However, only 33% received routine ARV treatment, 23% experienced dropout rates due to ARV and limited health service facilities capable of providing ARV through the care, support, and treatment (CST) program [1]. The CST program for PLWHA can be implemented through community home-based care (CHBC). The CHBC is a form of care provided to HIV-infected people 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 good quality of life (QoL) [2].

The risk of HIV transmission and AIDS treatment involves complex behavior. It is influenced by various elements, including society, knowledge, attitudes, emotions, and perceptions of individual risks to the dynamics of regulation between partners, service accessibility, economic inequality,

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stigmatization of vulnerable groups, and policies, which emphasize HIV as a priority health problem [3-5]. Latest solutions that can be provided in treating HIV/AIDS in the community are to involve additional multi-level factors outside the individual-level of HIV/AIDS, for example, between individuals, networks, institutions, or on structural levels [6, 7], as a model of more holistic approach to change in the behavior associated with HIV/AIDS.

Previous studies showed that treating community behavioral problems require a comprehensive approach to each individual and community element linked to cultural factors and community contexts, such as norms, relationships, and structural factors, which are significant in reinforcing desired outcomes, especially in HIV prevention [8-10]. Till date, there has been little research on policy, structural level barriers, and facilitators for recruitment of HIV clinical research. Some interventions aimed at increasing patients' diversity, focusing mainly on overcoming individual-level obstacles to participation in program. Most of them did not evaluate the effectiveness of interventions on the level increase in program participation. Overall, only a small amount of research has focused on institutional policy factors interventions or community intervention program [11].

Healthcare system for HIV/AIDS in Indonesia is carried out in an integrated manner through the national health service system. First, individuals who are at risk of HIV undergo voluntary and counseling testing (VCT) [12]. If the result is positive, the person receive ARV at primary service [13], i.e., local public health center (PHC). During an ARV program, patients participate in care, support, and medication (CST) service program from public health nurses (PHNs) through a home visit program [2]. During the CST program, if HIV patients experience worsening progress due to decreased CD4+ values or side effects because of ARV treatment, they can be transferred to the first referral hospital before attending level one referral at the teaching hospital.

It is necessary to develop an intervention model for treating HIV/AIDS that prioritizes community's relationship with a local environmental approach. Multi-level interventions allow for a system that further illustrates the varying degrees of influence of individual behavior in the interests of creating an environment, which is beneficial to health promotion [14]. HIV/AIDS as global contagious diseases, require a holistic and comprehensive treatment. The HIV/AIDS transmission phenomenon in the community results in patients' vulnerability to HIV/AIDS and the risk of transmission between individuals within the family and community. The strategy for treating HIV/AIDS challenges in a comprehensive and sustainable (multi-level) manner among sub-system elements in a society, is expected to improve health status of HIV/AIDS patients, and prevent disease transmission based on the socio-cultural approach of the community.

Therefore, the aim of the present study was to create a multi-level intervention model in treating HIV/AIDS challenges in the community through holistic and comprehensive approach, based on Indonesia's community socio-cultural aspects.

Public/community health nursing activities for HIV/AIDS caring in the community

Community nurses can play a role in dealing with health problems, both in vulnerable and at health risks groups of patients [15]. As a vulnerable and at health risk group, HIV/AIDS individuals encounter many challenges during ARV programs that require comprehensive management [16]. In Indonesia, the public health service system was developed to deal with health problems, including health office, PHCs, and community [17]. In order to optimize the role of community in Indonesia to be involved in health activities, community resources, such as integrated health service (Posyandu) with active involvement of health workforce [18] were created to improve ARV program and prevent social problems in the community [19, 20].

Based on the challenges of treating HIV/AIDS in the community, we are trying to implement a system model in providing care for HIV/AIDS patients called the "multi-level intervention model in the management of HIV/AIDS in the community', which is shown in Figure 1. The flow of activities of PHNs in the care of HIV/AIDS patients from Department of Health is illustrated in Figure 1.

The role of PHNs in the treatment of HIV/AIDS in the community is really needed. PHNs who work in the Department of Health or PHCs can develop several multi-level program activities. Program activities can be designed to start from the Department of Health, non-government organizations (NGOs), PHCs, and hospitals, and applied into the community. The existence of HIV/AIDS patients in the community can be treated by empowering Posyandu's health workforce (voluntary health services), healthcare clinics in the community (clinic health nursing), and family in the care efforts of HIV/AIDS patients in the community. Posyandu can provide HIV/AIDS health education to teach the community about the diseases and its prevention and care. Moreover, Posyandu can be optimized as a place to conduct VCT for HIV/AIDS patients and remote health service and care units. Health workforce can be involved in reporting HIV/AIDS cases in the community. Health cadres can also be engaged in accompanying PHNs in conducting home visits of HIV/AIDS patients. Furthermore, health workforce play a role in providing mental support during ARV treatment.

As seen in Figure 1**,** the health service can plan, control, and activate HIV/AIDS care programs in the community, and carry out monitoring and evaluation activities at PHCs. Meanwhile, PHCs can provide monthly reports to the health-related office to develop HIV/AIDS care programs in the working area. The health service and PHCs can collaborate with NGOs to provide care for HIV/AIDS patients in the community. Furthermore, the existence of a hospital can be used as a source of reference for the treatment of HIV/AIDS patients in acute conditions. The hospital can then report to the health service the patients' existence, and after the patient's return from care unit can be obliged to make plans for ongoing repatriation (discharge planning) at PHCs.

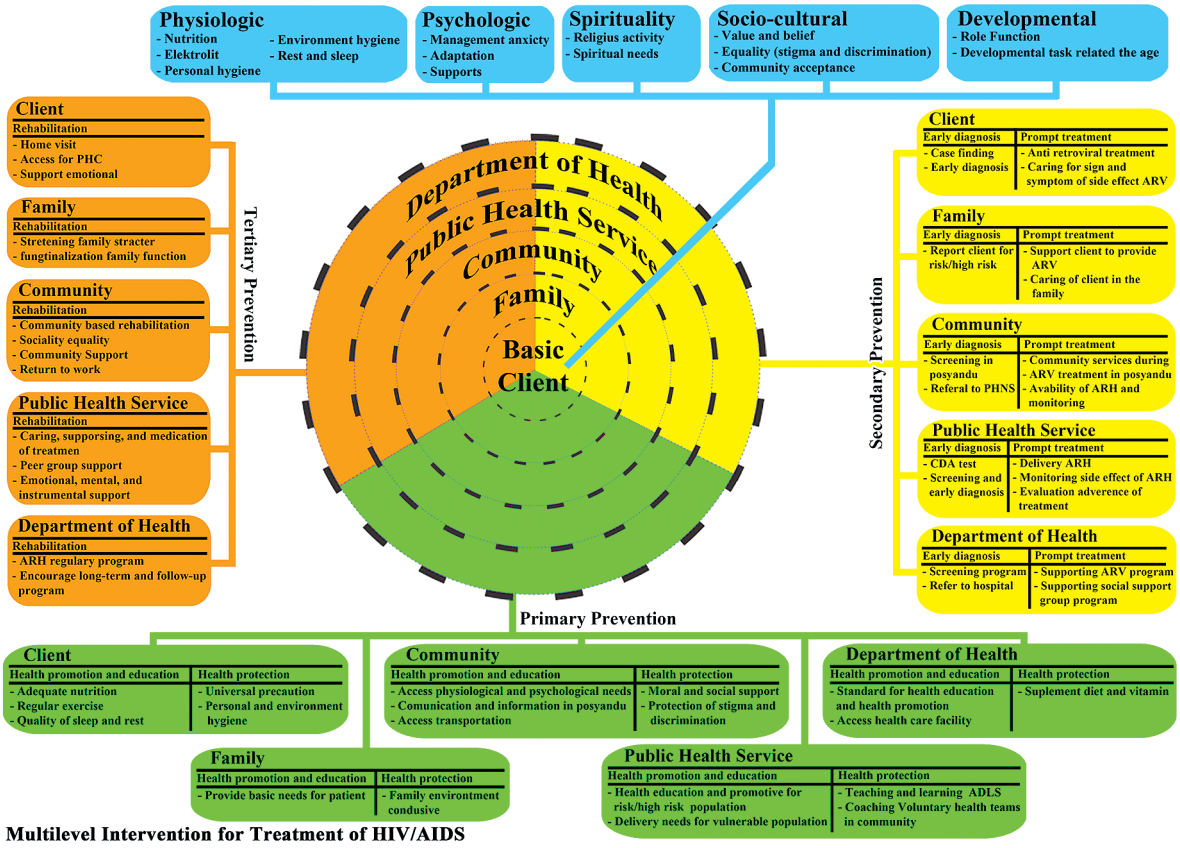

Figure 1. Multi-level intervention model in the management of HIV/AIDS in the community [32]

Additionally, Figure 1 describes PHCs as the primary service center for HIV/AIDS patients in the community to carry out health promotion programs or to implement PHNs programs at PHCs in the community. PHNs at the nursing center can provide nursing intervention to HIV/AIDS patients. Besides, PHCs can perform community empowerment programs at Posyandu through group processes by optimizing health cadres' role to empower the community in caring for HIV/AIDS clients in the community.

Based on Figure 1, nurses in the community can carry out detection and HIV/AIDS case-finding within the family members of the patients. In addition, PHNs at the nursing center can perform family health nursing through a home visit program for HIV/AIDS in the family that can be facilitated and assisted by health cadres. Families with one family member suffering from HIV/AIDS can provide direct care (caring) for this patient, or can use complementary and alternative medicine (CAM) to support the care of HIV/AIDS patients in the community.

Multi-level intervention for HIV/AIDS caring in the community

To date, there has been little research on policy-level, structural barriers, and facilitators of HIV clinical research recruitment. Some of the interventions aimed at increasing participants' diversity were mostly focused on overcoming individual-level barriers to participation in a research. Most of them did not evaluate the effectiveness of interventions on increasing trials' participation rates. Overall, there is little literature on investigators-targeted interventions, clinical trials, institutional policy factors, or research [21-26]. Therefore, it is necessary to develop an intervention model for treating HIV/AIDS that emphasizes the association of elements in a society using local socio-cultural approach.

Socio-ecological approach can be used as a guide in developing health promotion programs in the community [27]. Components of socio-ecological method can involve the increase of acceptance of HPV vaccine in the community, including intra-personal, inter-personal, institutional, community, and public policies [28]. On the other hand, every element in a society can be optimized in treating HIV/AIDS. To improve taking care of HIV/AIDS challenges in the community, a multi-level intervention model can be developed as an innovation to resolve the challenges based on the socio-ecological approach. A multi-level approach can be used to address the complexity of HIV problems through interdisciplinary collaboration, to select the most appropriate levels and variables in a particular context. This approach involve measuring social and institutional variables at appropriate

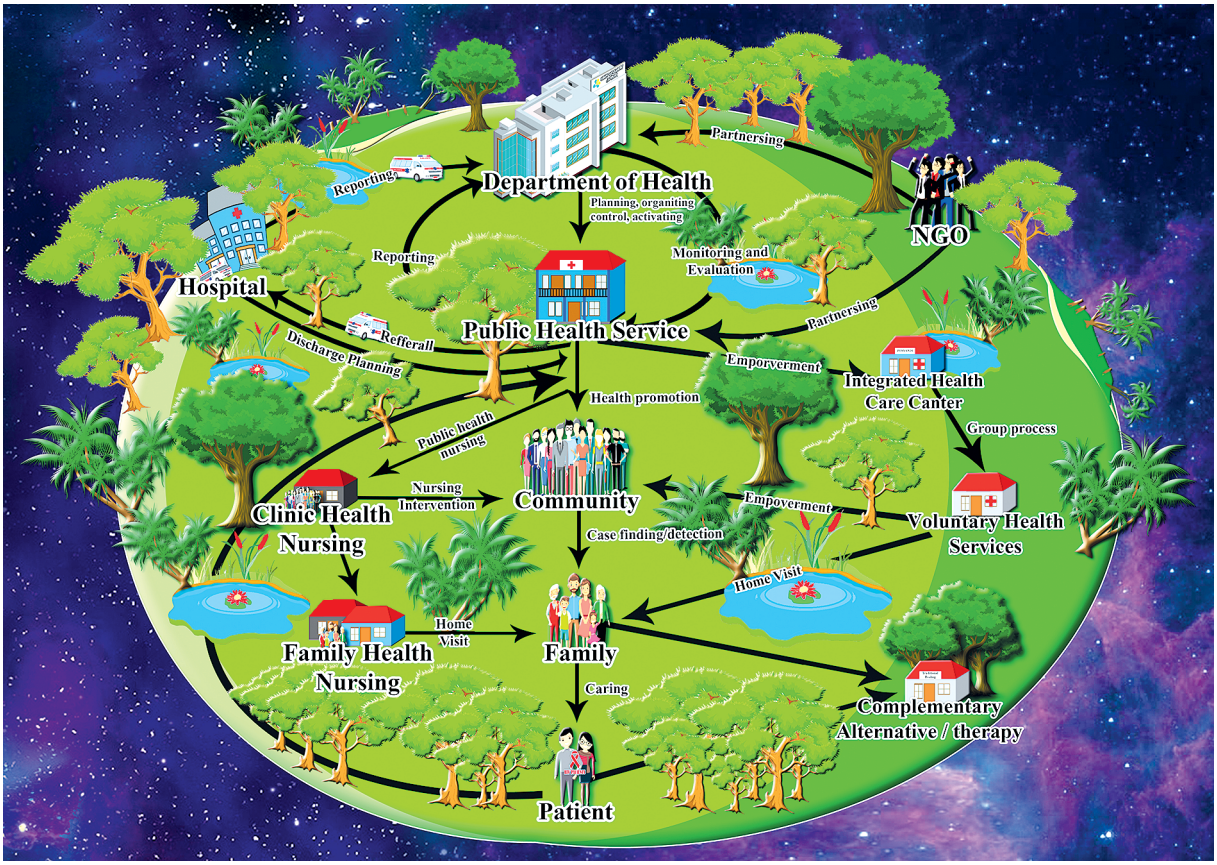

Figure 2. Multi-level interventions for HIV/AIDS patients' care in the community that is carried out in stages within five elements, including health office, PHCs, community, family, and HIV/AIDS patients [32]

levels to ensure that meaningful assessments at various levels are made, and conceptualizing interventions and research concerning theoretical models and mechanisms to facilitate transferability, sustainability, and scalability [29].

In the present study, we tried to described PHNs role in treating HIV/ AIDS patient in the community (Figure 2). Nursing interventions by PHNs can be achieved at multi-level interventions. Figure 2 describes multi-level interventions for HIV/AIDS patients' care in the community that is carried out through five elements, including health office, PHCs, community, family, and HIV/AIDS patients.

As shown in Figure 2, PHNs intervention can be done through 3 levels of prevention, such as primary, secondary, and tertiary prevention [30, 31]. The circle in Figure 2 is shown in three different colors: green for primary prevention levels, yellow for secondary prevention levels, and orange for tertiary prevention levels. In that circle, the core element is the HIV/AIDS patient, and to the outermost part, the health department. HIV/AIDS patients in the process have basic needs, i.e., physiological needs (nutrition, fluids, personal hygiene, environmental hygiene, and rest/sleep), psychological (anxiety management, adaptation, and social support), spiritual (religious activities and spirituality needs), socio-culture (values and beliefs, fraternity related to stigma and discrimination, and community acceptance), and development (role functions and developmental tasks according to the age stage of patient). Figure 2 indicates the five elements (health department, PHCs, community, family, and patient) using three-level prevention. The implementation of three levels of prevention include primary prevention (health promotion, health education, and health protection), secondary prevention (early diagnosis and early treatment/prompt treatment), and tertiary prevention (rehabilitation). Primary prevention is an activity carried out to prevent disease, disability, and injury. It involves improving health through health education, emphasizing starting healthy lifestyle to increase optimal levels of functioning (proper nutrition, exercise, sleep, recreation, relaxation, not using alcohol, tobacco, and drugs), building healthy personality, counseling, and formation of healthy social environment (Figure 2).

Figure 2 illustrates secondary prevention as an activity related to early detection and treatment. The focus of this prevention is to carry out screening to detect the disease in its first phase. Secondary prevention can be performed by PHNs who observe individuals or groups belonging to the population at risk and identifying risk factors. Subsequently, tertiary prevention is an activity carried out to pre-

Table 1. Activities for primary, secondary, and tertiary preventions in multi-level intervention for HIV/AIDS caring in community [32]

Element/Prevention/Intervention	Activities
Department of health office	
Primarily	
Health promotion and health education	Re-arrangement of health promotion and education as a standard Viability and accessibility of healthcare
Health protection	Providing nutrition and vitamin needs
Secondary	
Early diagnosis	Screening Reference to hospital
Early treatment	Support for ARV program Social support for peer-support of HIV/AIDS patients
Tertiary	
Rehabilitation	Adherence to ARV treatment Long-term care support and continuing of program
Public health centers	
Primarily	
Health promotion and health education	Health education and promotion for at risk and high-risk population Referee needs for vulnerable populations
Health protection	Education and learning for daily needs Learning and practice for healthcare in community
Secondary	
Early diagnosis	Screening program Reference to hospital
Early treatment	ARV program support Monitoring for ARV side effects Evaluation of treatment
Tertiary	
Rehabilitation	Continuing for caring, support, and treatment Peer-support Support for emotional, mental, and instrumental needs
Community	
Primarily	
Health promotion and health education	Identification for physical and psychological needs Providing communication, information, and education Access to transportation
Health protection	Moral and social support Protection from stigma and discrimination
Secondary	
Early diagnosis	Screening program Reference to hospital
Early treatment	Community support during treatment ARV treatment Viability of ARV and monitoring during treatment
Tertiary	
Rehabilitation	Community-based rehabilitation Social equity Community support Return to work

Table 1. Cont.

Element/Prevention/Intervention	Activities
Family	
Primarily	
Health promotion and health education	Providing essential basic needs
Health protection	Family environment with comfort and concussive
Secondary	
Early diagnosis	Reporting patients at risk and high-risk
Early treatment	ARV therapy support Patients' treatment at home visits
Tertiary	
Rehabilitation	Strengthening family structure Functionating family functions
Client	
Primary	
Health promotion and health education	Health education and promotion for at risk and high-risk populations: adequate nutrition, routine exercises, good quality of sleep and rest Referee needs in vulnerable populations
Health protection	Learning and education for daily needs: universal precaution, and personal and environmental hygiene Building capacity for health staff in community
Secondary	
Early diagnosis	Case finding Early diagnosis
Early treatment	ARV program support Social support for HIV/AIDS patients: signs and symptoms, and side effects of ARV
Tertiary	
Rehabilitation	Home visits Access to primary health centers Emotional support

vent the disease from worsening (chronic) and not causing disability in individuals. Tertiary prevention can be done by rehabilitating the patients, which includes physical, psychological, and spiritual rehabilitation.

Table 1 presents the role of each element responsible for their duties in multi-level intervention program. Each aspect of this system is described in Table 1. Family, cadre, PHNs, PHCs, and health department can manage HIV/AIDS patients in the community. Each element's role was explained as the level of prevention activities for caring HIV/AIDS within the community.

This present study concludes that a multi-level intervention model in handling HIV/AIDS challenges in the community can be used as a holistic and comprehensive HIV/AIDS care program based on the community's socio-cultural approach. This multi-level intervention model was developed based on the interests of sub-system elements of a society by involving the health department, PHCs, PHNs, health cadres, community, and HIV/AIDS patients. The needs of HIV/AIDS patients in the community should be identified and explored holistically, physically, psychologically, socially, economically, and spiritually, based on a local cultural context, with a community nursing approach through the three prevention levels, such as primary, secondary, and tertiary prevention. Therefore, a multi-level intervention model can be developed as an HIV/AIDS patients' service, as primary care in the community, secondary care at referral hospitals, and tertiary services in community-based rehabilitation for each level within the community. Hence, this multi-level model focuses on the role of elements at each level of citizen components in the community to manage HIV/AIDS challenges in order to improve the quality of life of patients, reduce the risk of transmission, and eliminate the stigma related to HIV/AIDS patients in the socio-cultural context of the society in realizing community-based rehabilitation.

Conflict of interest

The authors have no conflict of interest.

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