

## The Effect of Depression, Stigma, and Peer Support Group, on the Quality of Life of People Living with HIV/AIDS in Solo Plus Peer Support Group, Surakarta, Central Java

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### ABSTRACT

**Background:** People Living with HIV/AIDS (PLWH) often face rough social problems, such as social rejection, stigma, and discrimination. Factors that affect PLWH's quality of life may include psychosocial factors, economic status, immunological status, social support, and co-morbidity. This study aimed to determine the effect of depression, stigma, and peer support group on the quality of life of people living with HIV/AIDS in Solo Plus peer support group, Surakarta, Central Java.

**Subjects and Method:** This was an analytic observational study with a cross-sectional design. The study was conducted at Solo plus peer support group, Surakarta, Central Java, from January to February 2018. A sample of 100 PLWH was selected for this study by simple random sampling. The dependent variable was quality life of PLWH. The independent variables were healthy behavior, depression, family income, stigma, peer support, and social support. The data were collected by questionnaire and analyzed by path analysis.

**Results:** Quality of life of PLWH increased with involvement in peer support group ( $b= 3.40$ ; 95% CI= 0.71 to 6.10;  $p=0.001$ ), social support ( $b= 0.70$ ; 95% CI= 0.01 to 1.40;  $p=0.046$ ), and healthy behavior ( $b=9.33$ ; 95% CI= 5.30 to 13.36;  $p<0.001$ ). Quality of life of PLWH decreased with stigma ( $b= -1.10$ ; 95% CI=-1.84 to -0.36;  $p=0.003$ ), and depression ( $b=-4.23$ ; 95% CI=-6.62 to -1.83;  $p=0.001$ ). Quality of life of PLWH was indirectly affected by income ( $b=0.06$ ; 95% CI=10.14 to 18.61;  $p<0.001$ ).

**Conclusion:** Quality of life of PLWH is affected by healthy behavior, depression, stigma, peer support group, social support, and income.

**Keywords:** Quality of life, PLWH, stigma, peer support group, social support

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### BACKGROUND

The increase of HIV / AIDS cases is currently still a global problem. This means that the achievement of the sixth MDGs (the Millennium Development Goals) which is to reduce the number of new cases of HIV / AIDS and realize the access to AIDS treatment has not been optimal, so that the third goal of SDG's (Sustainable Development Goals) in 2030 is to ensure a healthy life and encourage the welfare of life for all people of all ages (Demartoto et al., 2017).

AIDS (Acquired Immunodeficiency Syndrome) is a set of symptoms and infections that arise due to the damage of the immune system because of HIV infection (Human Immunodeficiency Virus). The virus causes the decline and damage of the immune system, so that the infected person will become susceptible to various diseases. HIV/AIDS becomes a worldwide pandemic, almost all countries contribute to the HIV / AIDS cases. People living with HIV are patients who had been positively diagnosed

with HIV infection (Ministry of Health, 2013; Spiritia, 2011).

There were 36.7 million people living with HIV and there were 2.1 million new patients infected with HIV by 2015 all over the world. In Indonesia, the number of new cases of HIV patients in 2016 was 41,250, and the new cases of AIDS were 7491 cases. In central Java Province, the number of new cases of HIV in 2016 was 4032, while the number of new cases of AIDS was 1402 (Ministry of Health, 2016). Central Java ranked 5th in Indonesia, while Surakarta ranked 2nd in Central Java after Semarang Regency by 28 HIV cases and 48 AIDS cases in 2015 (Setyani, 2016).

PLWHA often face many social problems, such as being treated differently by others and experiencing social rejection (family, friends and community), and violence within the family and community. People living with HIV/AIDS also often hide their HIV status because of the risks of stigma, discrimination in the workplace environment, in getting services, even at home and health care facilities. The problem of people living with HIV is not only medical problems, but also the social culture of how people put people living with HIV, including the stigmatization that occurs in the community. Stigma in people living with HIV can affect the level of depression in them that will affect the quality of life of the patients. In Indonesia, 60% of the people living with HIV are depressed. In Canada, 50% of people living with HIV had neuropsychological problem (Demartoto, 2006; Charles et al., 2012; Yudav, 2012; Paudel, 2015; Atkins et al., 2010).

Quality of life of people living with HIV may affected by psychosocial factors, economic status, immunological status, social support, and adherence to ARVs. One of the efforts to improve the quality of life

of people living with HIV is by mentoring them. Peer support is done by PLWHA to other people living with HIV, especially in people with new HIV status. This peer support focuses on improving the quality of life of PLWHA in increasing their confidence, enhancing HIV / AIDS knowledge, access to support, treatment and care, positive prevention by making productive behavioral changes. PLWHA involvement in peer support groups can reduce fear, depression and isolation. Peer support groups support to socialize (Spiritia, 2011; Degroote et al., 2014; Paudel, 2015).

Social support is needed on people living with HIV so that they become more open about their status, in order for others to help their problems. Social support becomes the antidote to stress from the psychological aspects of environmental discrimination. The level of social support for people living with HIV is very important because it can decrease the stigma and depression that affect the quality of life of people living with HIV (Robert et al., 2004; Charles et al., 2012; Demartoto et al., 2015).

The existence of HIV positive status requires PLHIV to avoid risky behavior that allows the transmission of HIV / AIDS to others and can reduce the quality of life of people living with HIV themselves. Risk behavior that are possible, for example, have sex with multiple partners, transfusing HIV-infected blood, swapping needles, and mother to child HIV transmission (Ministry of Health, 2013).

Based on a preliminary study on June 10, 2017, the Surakarta AIDS Commission (KPA) stated that the cumulative number of HIV / AIDS incidence in 2016 was 2,135. The number of new HIV cases was 109 people and new AIDS cases were 205 people. ODHA who attended Solo Surakarta were about 80 - 100 people. There were several activities undertaken by

KDS Solo Plus, Surakarta, including: monthly meetings held in Public health center of Manahan for ARV collection, supplementary feeding (such as food, milk, or vitamin), information and education, medication assistance, bridging PLWHA to be open with HIV / AIDS status in the family and community, these are some ways to improve the quality of life of PLWHA.

The purpose of this study was to analyze the effect of stigma, depression, and peer support groups on the quality of life in people living with HIV in support groups of Sebaya Solo Plus, Surakarta, Central Java.

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## SUBJECTS AND METHOD

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### 1. Study design

This was an analytic observational study with a cross sectional design. The study was conducted at Solo Plus peer support group, Surakarta, Central Java, from January to February 2018.

### 2. Population and Sample

The target populations were all PLHIV in Surakarta, while the source population was PLWHA who participated in Solo Plus peer support group, Surakarta. A total sample of 100 study subjects was selected by simple random sampling.

### 3. Study variables

The dependent variable was the quality of life of PLWHA. The independent variables were stigma, depression, peer support group, social support, and healthy behavior.

The inclusion criteria consisted of PLHIV who were members of Solo Plus Surakarta City and non-illiterate peer support group.

### 4. Operational definition of variables

Stigma was defined as an act that refers to negative beliefs, feelings and attitudes and devaluation processes in people living with HIV / AIDS and / or people associated with

HIV / AIDS by labeling them. This action aims to avoid, isolate, and separate the person from others. The data were collected by questionnaire. The measurement scale was continuous.

Depression was defined as a feeling or emotional disorder characterized by immense sadness, insignificant, guilty feelings, withdrawal from others, sleeplessness, loss of appetite, loss of sexual desire, and loss of pleasure in activity. It is a person's response to everything that happens in the environment and the person is not able to overcome it. The data were collected by questionnaire. The measurement scale was continuous.

Peer support group was defined as a group of people that participate in motivating PLWHA in facing the problems, making friends or meeting other people, helping to be confident, and providing a place for activities to support them to be more productive. The data were collected by questionnaire. The measurement scale was continuous.

Social support was defined as a statement of the research subjects about the support, attention form, comfort or assistance that individuals receive from others and increase one's confidence. Social support comes from parents, spouses, friends, and the social community. The data were collected by questionnaire. The measurement scale was continuous.

Healthy behavior was defined as an individual response to the stimuli associated with healthy and sickness, illness and other factors affecting health. Healthy behavior is determined by the knowledge, attitudes, beliefs, traditions, availability of facilities, attitudes and behavior of health officials. The data were collected by questionnaire. The measurement scale was continuous.

Quality of life was defined as the individual's perception of his life in society in the context of culture and norms related to the goals, expectations, and satisfaction levels in living his current life which includes the quality of life in general, physical health, psychological, social and environmental relations. The data were collected by questionnaire. The measurement scale was continuous.

### 5. Data Analysis

Sample characteristics were describe by univariate analysis. Bivariate analysis used Chi square. Multivariate analysis used path analysis to determine the direct and indirect effects of the relationships between study variables. Path analysis steps included model specification, model identi-

**Table 1. Univariate analysis of variables**

Characteristics		N	%
Gender	Male	52	52
	Female	48	48
Age	< 35 years old	44	44
	≥ 35 years old	56	56
Education	< SHS	27	27
	≥ SHS	73	73
Occupation	Not working	39	39
	Working	61	61
Income	< Rp 1,535,000	31	31
	≥ Rp 1,535,000	69	69
Marital Status	Single	28	28
	Married / Widow/ Widower	72	72
Length of illness	< 2 years	14	14
	≥ 2 years	86	86
Type of treatment	Line 1	99	99
	Line 2	1	1
Comorbidity disease	No	82	82
	Yes	18	18

**Table 2. Distribution of study variables**

Variables	N	Min.	Max.	Mean	Standard deviation
Stigma	100	65	138	90.84	20.66
Depression	100	9	36	18.48	8.28
Peer group support	100	6	26	19.85	5.63
Social support	100	30	82	60.64	16.29
Healthy Behavior on PLWHA	100	4	16	11.44	3.34
Income (Rupiah)	100	0	60	21.74	10.25
Quality of Life of PLWHA	100	173	546	378.21	116.82

fication, model fit, parameter estimate, and model respecification.

### 6. Research Ethics

This study has obtained ethical approval from health research ethics commission of Dr. Moewardi hospital, Surakarta.

## RESULTS

### 1. Univariate Analysis

Table 1 shows that out of 100 subjects, 52% were male, 56% were ≥35 years old, 73% were highly educated (≥senior high school), 61% worked outside the home, 69% had income ≥ Rp 1,535,000, 72% were married, 86% were HIV positive for ≥2 years, 99% had first line treatment (ARV), and 82% had no co-morbidity disease.

Table 2 shows the descriptive statistics of each variable, including minimum values, maximum values, mean and standard deviation. The mean describes the average value, whereas the standard deviation describes the variation of the data. If the SD value is small, then it is an indication that the data is representative.

**Table 3. Bivariate analysis about the effects of stigma, depression, peer support groups, social support and healthy behavior on the quality of life of people living with HIV/AIDS**

Independent Variable	r	p
Stigma	-0.90	<0.001
Depression	-0.93	<0.001
Peer support groups	0.89	<0.001
Social support	0.81	<0.001
PLWH's healthy behavior	0.89	<0.001
Income	0.23	0.020

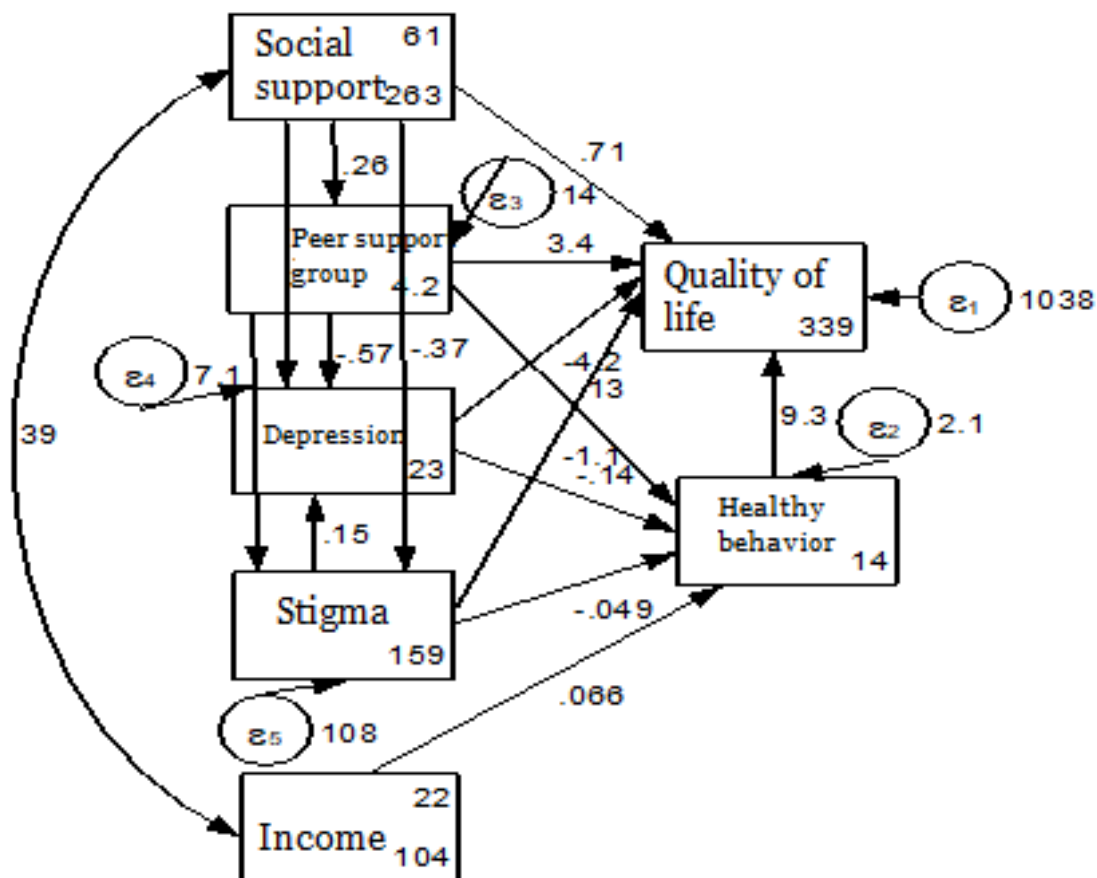
**2. Bivariate Analysis**

Bivariate analysis looked at the effect of independent variables (stigma, depression, peer support group, social support, healthy behavior) to the dependent variable (quality of life of PLWHA).

**3. Path Analysis Results**

Table 4 showed the effect of stigma, depression, peer support groups, social

support, and healthy behavior on PLWH's quality of life.



**Figure 1. Structural model with estimation**

The quality of life of PLWH was affected by stigma (b=-1.10; 95% CI= -1.84 to -0.36; p= 0.003), depression (b= -4.23; 95% CI= -6.62 to -1.83; p=0.001), peer support group (b= 3.40; 95% CI= 0.71 to 6.10; p= 0.013), social support (b= 0.70; 95% CI= 0.01 to 1.40; p= 0.046), healthy behavior (b =9.33; 95% CI= 5.30 to 13.36; p<0.001).

Peer support group through stigma (b=-2.28; 95% CI= -2.82 to -1.73; p<0.001), social support through stigma (b=-0.37; 95% CI= -0.55 to -0.18, p<0.001), peer support groups through depression (b=-0.57; 95% CI= -0.75 to -0.39; p<0.001), stigma through depression (b=0.15; 95%

CI= 0.10 to 0.20; p<0.001), social support through depression (b=-0.12; 95% CI= -0.17 to -0.07; p<0.001), social support through peer support groups (b=0.25; 95% CI= 0.21 to 0.30; p<0.001), peer support groups through healthy behavior (b=0.13; 95% CI= 0.01 to 0.25; p= 0.028), depression through healthy behavior (b= -0.13; 95% CI= -0.23 to -0.04; p= 0.005), stigma through healthy behavior (b=-0.04; 95% CI= -0.08 to -0.17; p= 0.003), income through healthy behavior (b= 0.06; 95% CI= 10.14 to 18.61; p<0.001).

**Table 4. The path analysis result about the effect of stigma, depression and peer support groups on PLWH's quality of life**

Dependent Variable	Independent Variable	b	95% CI		p
			Lower Limit	Upper Limit	
<b>Direct Effects</b>					
Quality of Life	← Stigma	-1.10	-1.84	-0.36	0.003
Quality of Life	← Depression	-4.23	-6.62	-1.83	0.001
Quality of Life	← Peer Support Groups	3.40	0.71	6.10	0.013
Quality of Life	← Social Support	0.70	0.01	1.40	0.046
Quality of Life	← Healthy Behavior	9.33	5.30	13.36	<0.001
<b>Indirect Effects</b>					
Stigma	← Peer Support Groups	-2.28	-2.82	-1.73	<0.001
Stigma	← Social Support	-0.37	-0.55	-0.18	<0.001
Depression	← Peer Support Groups	-0.57	-0.75	-0.39	<0.001
Depression	← Stigma	0.15	0.10	0.20	<0.001
Depression	← Social Support	-0.12	-0.17	-0.07	<0.001
Peer Support Groups	← Social Support	0.25	0.21	0.30	<0.001
Healthy Behavior	← Peer Support Groups	0.13	0.01	0.25	0.028
Healthy Behavior	← Depression	-0.13	-0.23	-0.04	0.005
Healthy Behavior	← Stigma	-0.04	-0.08	-0.17	0.003
Healthy Behavior	← Income	0.06	10.14	18.61	<0.001
n Observation = 100					
Log Likelihood = -2348.26					
AIC = 4756.53					
BIC = 4834.69					
CFI = 0.99					

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## DISCUSSIONS

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### 1. The effect of stigma on PLWH's quality of life

The result of analysis showed that stigma has an effect on PLWH's quality of life. The result of this study was supported by Handayani *et al.* (2017), which stated that non-stigmatized PLWH were 5.57 times more likely to have a better quality of life compared to those with high stigma. Stigma-free PLWH have 0.33 times greater chance of having a good quality of life (Kurniasari *et al.*, 2016).

Akena *et al.* (2012), reported that stigma on HIV/AIDS was increased depression. Charles *et al.* (2012) stated that PLWH who experience personalized stigma and negative self image have 3.4 times and 2.1 times greater chance to experience severe depression and reduce PLWH's quality of life.

Mwesiga *et al.* (2015), stated that People living with HIV/AIDS with depression tend to have a low quality of life. Screening for depressive symptoms should be done on people living with HIV, in order for people living with HIV to get treatment and good health care.

Vyavaharkar *et al.* (2012), stated that social support and peer support can reduce the psychological effects of depression in people living with HIV/AIDS.

### 2. The effect of depression and quality of life

The results show that stigma had an influence on the quality of life of people living with HIV. The result of this study is consistent with Kurniasari *et al.* (2016) and Handayani *et al.* (2017), which stated that non-stigmatized PLHAs had 5.57 less likely better quality of life than those with high stigma.

Charles *et al.* (2012), for which people living with HIV suffer from stigma and

negative self-image opportunities 3.4 and 2.1 times greater to be more severely depressed and meet the quality of life of PLWHA.

The stigma of people living with HIV / AIDS had an impact on people's unwillingness to show their status as HIV / AIDS sufferers that will lead to isolated or marginalized (Sasodoro *et al.*, 2009).

Shaluhayah *et al.* (2015), stated that negative perception and negative attitude from family and community about people living with HIV affect negative stigma. Stigma also prevents PLHA from doing social activities. It was because some people assume that people living with HIV are people who behave badly, such as female sex workers, drug users, and homosexuals (Sohn *et al.*, 2012).

Charles *et al.* (2012), stated that people living with personalized stigma and negative self-image had 3.4 times and 2.1 times greater chance of experiencing severe depression and decreasing quality of life (Herrmann *et al.*, 2013).

Social support plays a role in reducing stigma and physical and mental recovery to people living with HIV. By lowering the stigma is expected to improve the quality of life of people living with HIV, the most important thing is the acceptance of the status of people living with HIV (Latifa *et al.*, 2011).

### 3. The effect of social support and quality of life

The result of this study showed that peer support groups have an influence on the quality of life of PLWHA. The result of this study is consistent with Kurniasari *et al.* (2016), which stated that there was a significant relationship between the participation of peer groups and the improvement of the quality of life of PLHIV. The role of peer support group was

helpful and motivate the PLWHA (Rozi et al., 2016).

Basically, the community who has understanding HIV / AIDS is expected to play a role in empowering other community members to prevent HIV transmission and assist PLHIV. Peer support groups are part of the community's role in HIV / AIDS prevention and prevention efforts (Demartoto et al., 2016).

Paudel and Baral. (2015), stated that peer support groups are used as the best intervention aimed at reducing stigma and discrimination in the community. Peer support groups and counseling approaches can help people living with HIV / AIDS change the perceptions of individuals and communities about HIV/AIDS, thus reducing the impact of stigma and perceived behavior of PLWHA (Vyavaharkar et al., 2012).

#### **4. The effect of healthy behavior and quality of life**

The result of this study showed that social donations had a significant impact on the quality of life of PLWHA. This study is consistent with Heniyuniarti (2014), which reported that factor influencing the quality of life of PLWHA was social support. PLWHA who have received a social support had an opportunity to evaluate a good quality of life as much as 10.81 times compared with those who do not receive social support.

Mardia et al. (2017), suggested that factors affecting the quality of life such as length of diagnosis, ARV therapy, sex, transportation, age, diagnostic criteria and social support. Social support will minimize psychosocial pressure on people living with HIV, so people living with HIV have a better lifestyle and can respond more positively to their social environment (Sarafino, 2011).

Charles et al. (2012), suggests that social support becomes the antidote to stress from a psychological aspect that is imbalanced by its environmental discrimination. Takada et al. (2014), suggested that stigma correlates negatively with social support. Social support can reduce the stigma that stems from society.

Li et al. (2014), stated that social support can improve the perceptions of people living with HIV/AIDS, and anti-retroviral drug taking (Wu et al., 2015).

#### **5. The effect of healthy behaviour and quality of life**

The result of this study showed that healthy behavior had an effect on the quality of life of PLWHA. This result is consistent with Ningrum et al. (2014), which stated that there was a significant association between the healthy behavior and the quality of life of people living with HIV. The better the personal system will affect health behavior and better quality of life.

Bhatta et al. (2017), stated that improving the quality of life in people living with HIV was influenced by healthy behaviors can affect PLWHA in the treatment or consume antiretroviral drugs that can improve the health of people living with HIV. Mental health care, healthy behaviors, and effective treatment can reduce risky sexual behavior and improve adherence to HIV care and treatment that can lead to reduced HIV transmission that can improve the quality of life of people living with HIV (Sikkema et al., 2010).

Peer support group and counseling approaches can help people living with HIV change the perception of individuals and communities about HIV / AIDS, thus reducing the stigma and perceived behavior of PLWHA. It can encourage people living with HIV to change healthy lifestyle behaviors that can improve their quality of life (Vyavaharkar et al., 2012).



Kosim et al. (2015), showed that income was the important thing to raise the quality of life. High-income changes lifestyle and healthy behavior. There was a relationship between economic status, physical latitude, healthy behavior, and quality of life (Medeiros et al., 2017).

Hipolito et al. (2017), reported that quality of life is influenced by several factors including gender, employment status, family income, personal income, spirituality, and length of HIV/AIDS. Understanding and perceptions of PLWHA in ARV treatment or therapy were determined by income and employment status. Patients who have sufficient income can support the fulfillment of their daily needs and for the necessary medical expenses related to the disease, so as to maintain the health status (Kusuma, 2011).

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