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Depression, Stigma, and Quality Of Life among Elderly with HIV/AIDS in Bali

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Article Info	Abstract
	Introduction: Quality of life is a significant aspect of care among the elderly with HIV/AIDS. The aging process affects their physical, physiological, and social function. Depression due to perceived stigma from the community also influences their quality of life. This study aimed to analyze the correlation between depression and stigma on the quality of life among the elderly with HIV/AIDS.
	Methods: This was a cross-sectional study employed 67 participants were selected by purposive sampling. *Results:* Results showed that the majority of participants experienced depression (64.2%) and stigma (76.1%), but they are still classified on good quality of life category (64.2%). Analysis showed that there was a significant correlation between quality of life and depression, & and stigma (p=0.021, p=0.031, α=0.05). Result from logistic regression statistical analysis also revealed that stigma and depression affected the poor quality of life after controlled by gender, occupational status, education, clinical stadium, comorbidities, duration of disease, living and marital status, with the p-value 0.029 and 0.014 (CI=95%), respectively. *Conclusion:* Promotive and preventive efforts required to be implemented in reducing stigma on the elderly with HIV/AIDS. Screening program also would help prevent depression among this vulnerable group.

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INTRODUCTION

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) is a major global health concern. There were around 30 million people get infected by HIV in the world with consistent addition of new cases (around 15,000 cases/day) each year [1]. The reported prevalence of HIV and AIDS in Indonesia considered to be high, that had reached 30,935 and 6,373 cases, respectively [2].

The prevalence of HIV/AIDS is higher on people in the young age group, but in some cases, it also can occur in the elderly population. Centers for Disease Control and Prevention (CDC) estimated 10.8% annual report of HIV infection on the elderly population. Based on data obtained from Indonesia Health Ministry [2] showed that 7.2% Indonesian (≥50 years old) infected by HIV in 2016. Sanglah Denpasar Hospital [3] also reported 146 cases and 231 cases of HIV/AIDS infection on the elderly population, in January and August 2016, respectively.

Elderly with HIV/AIDS are experiencing an extreme deterioration in their physical, psychological, and social function. This situation could lead to dependency and higher risks of comorbid disease occurrence [4] [5]. Their prognosis also tends to worsen due to the low count of CD4+ and poor response to the regimen of therapy prescribed. Elderly with HIV/AIDS are also more vulnerable to opportunistic infection and medication side effects due to their aging process, which finally contributed to higher morbidity and mortality prevalence [6].

HIV/AIDS infection also affected elderly mental health and cause some complex mental problems, one of them is depression. Deterioration on the neurocognitive function also makes the occurrence of mental health problems higher among the elderly with HIV/AIDS. A study conducted in Indonesia showed that 17.2% of the elderly have been suffering from depression and the number keeps increasing on the population of HIV/AIDS patients. Setiati, et al. [7] also found that elderly with a lack of social support, unpreparedness to deal with the disease, and stigma were more prone to depression.

Community stigma toward the elderly with HIV/AIDS also contributed to the case of the depression. Community negatively judged their life due to HIV/AIDS transmission method and presumed morally-inappropriate behavior such as free sex and drug abuse in their past life [8]. In line with this statement, Grov [9] in their study also stated that community stigma found on 42% of depression cases on the elderly with HIV infection in the United States of America. Studies also revealed that the depression level among patients with HIV/AIDS increased on the population that consistently percieved stigma related to death, poor behavior, source of infection, and discrimination. Stigma towards HIV patients also decreased self-efficacy that influence medication adherence and reduce their quality of life [6] [10].

Aside from the role of enhancing physical wellness among HIV/AIDS patients, nurses also play a significant role in improving their quality of life through the proper implementation of a psycho-social approach. A comprehensive understanding of factors affected the quality of life is urgently required to implement this role adequately. Previous

studies conducted have elaborated on the significant correlation between stigma, depression, and quality of life among the elderly with HIV/AIDS. Best to our knowledge, there was no similar study conducted in Bali. Hence, this study aimed to examine the correlation between the depression and stigma on quality of life among the elderly with HIV/AIDS in Bali.

METHODS

This was a descriptive-correlational study with a cross-sectional approach conducted in three general hospitals in Bali from March to April 2017. Sixty-seven participants who met the inclusion criteria: aged > 50 years old, diagnosed as HIV/AID survivor as written in the medical record, level of consciousness: fully concious, and willing to participate in the study involved in this study were chosen by purposive sampling technique.

This study protocol approved by the Ethical Board of Nursing Faculty of Indonesia University (No. 32/UN2.F12.D/HKP.02.04/2017) and the Medical Faculty of Udayana University/Sanglah Hospital Ethical Board (416/UN.14.2/KEP/2017).

A valid and reliable questionnaire namely: demography characteristic (A), depression (B), stigma (C), and quality of life (D) questionnaire employed to collect the study data. The demographic questionnaire (A) employed to collect the participant's demographic characteristic as the cofounding variable in this study. The depression questionnaire (B) was a modified version of the Center for Epidemiological Studies Depression Scale (CES-D) questionnaire. This questionnaire consisted of 20 modified question items with four answer options (never/seldom/sometimes/always). The total score ranged from 0-60, whereas the score of <16 classified as not depressed, while ≥16 classified as depressed.

The stigma questionnaire (C) originated from the HIV Berger stigma questionnaire. This questionnaire consisted of 40 questions items with a Likert scale (strongly disagree, disagree, agree, and strongly agree) as its answer option. The total score ranged from 40-160, a higher score indicated higher stigma earned by the participant. The score of <105 categorized as low stigma, while ≥105 categorized as high stigma.

The quality of life (D) questionnaire was a modified version from the WHOQOL-HIV BREF questionnaire that used to measure HIV patient quality of life. This questionnaire consisted of 22 question items from 6 domains (physical, psychological, level of independence, social relations, environment, and spiritual). The total score of this questionnaire ranged from 20-100 with the cut of point of 75. The score <75 classified into poor quality of life category and ≥75 classified into good quality life category.

The validity and reability test conducted prior the study on 20 respondents in Mangusada Hospital, Badung, Bali. Result showed that all question items in the questionnaire B, C, and D were valid to be used as a question item in the study with the value of validity correlation coefficient and Crobanch Alpha of > 0.4 (r = 0.444) and 0.934 (>0.7), > 0.4 (r = 0.444) and 0.947 (>0.7), > 0.4 (r = 0.444) and 0.937 (>0.7), respectively.

The data then analyzed using univariate, bivariate, and multivariate analysis. Univariate analysis conducted to describe the variables examined in the study. Bivariate analysis (Mann-Whitney, Chi-Square Test, Spearman-Rank Test) was employed to examine the correlation between the independent variable (stigma or depression) and the dependent variable (quality of life) in the study. Logistic Regression Test as the multivariate analysis employed to know the correlation between the independent variables (stigma and depression) and the dependent variable (quality of life).

RESULTS

Table 1 showed the frequency distribution of participant's demography characteristic according to gender, occupational status, educational background, salary, marital status, clinical stadium, comorbid, and living status of the participants in March 2017 (n = 67).

Result showed that the majority of participant was male (45; 67.2%), still working (48; 71.6%), having salary of ≥1,100,000/month (55; 82.1%), married (63; 94%), living with family (66; 98,5%), graduated from Senior High School (25; 37.3%); on stadium IV of HIV/AIDS (34; 50,7%), having no comorbid (57; 85.1%), and being HIV/AIDS survivor for the average of 50.54 months.

Table 2 also shows, the majority of participants were also experiencing depression (43; 64.2%), perceiving stigma from the community (48; 76.1%), and having a good quality of life (43; 64.2%). We then conducted bivariate analysis by employing Mann-Whitney, Spearman Rank, and Chi-Square Test (α=5%) that showed a significant correlation between depression and stigma with the quality of life among the elderly with HIV/AIDS (p=0.015, p=0.007) and no significant difference between gender, occupational status, educational background, salary, marital status, clinical stadium, comorbid, duration of disease and living status and the elderly quality of life with HIV/AIDS, with the value of p, 0.091; 0.649; 0.143; 0.515; 0.721; 0,211; 0.327; 0.614, respectively. The bivariate analysis results shows by Table 1.

Table 3 also shows that only depression and stigma that significantly correlated with the quality of life. Therefore, we arrange the final model of the quality of life among elderly with HIV/AIDS in Bali by involving depression and stigma as shown in Table 4.

Table 4 explains that logistic regression test showed that stigma and depression significantly affected the quality of life with the p-value of 0.029 (OR=7.380) and 0.014 (OR=4.466), employed CI=95%, respectively. This result indicated that participants with low to no stigma were having a possibility of 7.38 times to have a good quality of life. Participant with no depression was also having 4.466 times the possibility of having a good quality of life compared with participants with depression.

Table 1
Participant's demographic characteristic

Variable	Good Quality of Life		Poor Quality of Life		p-value
	n	%	n	%	
Gender					
Male	32	74.4	13	54.2	**0.091**
Female	11	25.6	11	45.8	
Working Status					
Working	30	69.8	18	75	**0.649**
Didn't Working	13	30.2	6	25	
Educational Background					
Didn't go to school	4	9.3	6	25	
Elementary School	12	27.9	6	25	
Junior High School	2	4.7	3	12.5	**0.143**
Senior High School	20	46.5	5	20.8	
Academy/University	5	11.6	4	16.7	
Salary (IDR 1,100,000=arround 75 USD)					
> IDR 1,100,000	34	79.1	21	87.5	**0.515**
< IDR 1,100,000	9	20.9	3	12.5	
Marital Status					
Married	94	95.3	22	91.7	**0.614**
Not Marriage	6	4.7	2	8.3	
Stage					
I	13	30.2	19	25	
II	3	7	5	8.3	**0.721**
III	7	16.3	9	8.3	
IV	20	46.5	34	58.3	
Comorbid					
No comorbidity	38	88.4	19	79.2	
1 comorbidity	4	9.3	5	20.8	**0.327**
2 comorbidities	1	2.3	0	0	
Living Status					
Living with family	42	97.7	24	100	**1**
Live alone	1	2.3	0	0	
Depression					
Not Depressed	20	46.5	4	16.7	**0.015**
Depressed	23	53.5	20	83.3	
Perceived Stigma					
Low	17	39.5	2	8.3	**0.007**
High	26	60.5	22	91.7	

Table 2
Frequency distribution according to the occurence of depression, stigma, and quality of life

Variable	Number	Percentage
Depression		
Not Depressed	24	35.8
Depressed	43	64.2
Perceived Stigma		
Low	19	28.4
High	48	71.6
Quality of Life		
Good	43	64.2
Poor	24	35.8

Table 3
Model of multivariate analysis between quality of life (independent variable) and cofounding variable (gender, working status) and dependent variable (depression, stigma)

Variable	Quality of Life		
	OR	CI *95%*	*p-value*
Gender	2.177	0.675-7.019	0.193
Working Status	0.192	0.034-1.097	0.063
Depression	4.466	1.237-16.123	0.029
Stigma	7.380	1.473-36.969	0.014

Table 4
Model of multivariate analysis between quality of life (independent variable) and cofounding variable (gender, working status) and dependent variable (depression, stigma)

Variable	B	Wald	*p-value*	*OR* (CI 95%)
Depression	1.497	5.221	0.029	4.466 (1.237-16.123)
Stigma	1.999	5.912	0.014	7.380 (1.473-36.969)
Constanta	-3.204	11.781	0.01	0.041
Variable	B	Wald	*p-value*	*OR* (CI 95%)
Depression	1.497	5.221	0.029	4.466 (1.237-16.123)
Stigma	1.999	5.912	0.014	7.380 (1.473-36.969)
Constanta	-3.204	11.781	0.01	0.041

DISCUSSION

Statistical analysis showed that 67.2% participants in the study was male. The majority of HIV/AIDS survivor participated in a similar study done by Grov et al. [9] was also male. Bivariate analysis revealed no significant correlation between the demography characteristic variables: gender, occupational status, educational background, salary, marital status, living status, stage of disease, duration of disease, and co-morbidity) and the quality of life (p<0.05).

Statistical analysis showed that there was no significant correlation between the gender and quality of life (p=0.091). This result was in line with Hou et al. [15] and contrary with Vigneshwaran et al. [11]. Vigneshwaran et al. [11] conducted a study in India, whereas the strong discrimination towards women still exists. Therefore, the stigma of HIV/AIDS on women population is worse rather than stigma earned by the men population. Parallel with the result from the study done by Vigneshwaran et al. [11], Tesfay et al. [12] also found significant correlation between gender and quality of life among HIV/AIDS patient in Ethiopia. Discrimination culture toward women and a major gap on the educational background between men and women identified as the significant factor affected the result [12].

Statistical analyses showed that there was no significant correlation between occupational status and the quality of life (0.649). This result was contrary to a study done by Rodkjaer et al. [13]. They stated that productive elderly tend to have adequate abilities and adaptive coping mechanism

skills in dealing with stress and depression, hence their quality of life rarely found decreasing. The personal satisfaction that resulted from their work also lead to a better quality of life. The majority of participants in this study were still working (71.6%). They worked on the fields that did not require specific skill and mostly employ light activities in a short duration of time, such as: laundry, playing traditional music instrument, sculpting, etc. Therefore their activity could not be classified in the productive category as the previous studies explained. These light activities did not contribute a major role in maintaining the elderly quality of life [13].

The participant's graduated from elementary school, junior high school, senior high school, and university with the percentage of 14.9%, 26.9%, 7.5%, 37.3%, and 13.4%, respectively. Statistical analysis showed that there was no significant correlation between the educational background with the quality of life among the elderly with HIV/AIDS (p=0.143, α=0.05). This result was parallel with a study done by Nobre et al. [14] and Hou et al. [15].

The majority of salary identified in the study classified in the high-salary category (82.1%). Further analysis showed that there was no significant correlation between salary and the quality of life among HIV/AIDS survivors (0.515). This result was parallel with a study done by Hou et al. [15]. This happened due to the availability of health insurance that covers the medication and health treatment for the HIV/AIDS survivor. In contrast, a study from Tesfay et al. [12] revealed that the income was significantly correlated with the quality of life. The income

factor did not directly affect the HIV survivor quality of life. However, the status as an HIV/AIDS survivor made the chance to obtain a job was lesser than other people. HIV/AIDS survivors also tend to have economy-related stress that finally decreases their quality of life.

The majority of participants was also already married (94%). Statistical analysis showed that there was no significant correlation between marital status and quality of life (p=0.614). This result appeared due to the homogeneity of the sample used. A result of a study done by Nomoto et al. [16] showed a similar result. Marital status could affect the quality of life because of marital-partner would majorly contribute as a support system.

Data from living status demography characteristics showed only one participant who was living alone. This statistical data indicated that the living status data used was homogenous, hence the statistical analysis showed insignificant results (p=1). A study done by Catalan et al. [18] stated that living status significantly correlated with the quality of life. While a study done by Tesfay et al. [12] showed that moral support from family was significant in improving the quality of life. According to the Balinese culture, the family is an essential and dominant factor in improving the elderly quality of life. Spending time with family is one crucial factor required to maintain the elderly quality of life in all level of socio-economic status.

Results showed that there were 28.4%, 7.5%, 13.4%, and 50.7% of participants with the HIV/AIDS clinical stadium of I, II, III, and IV, respectively. Statistical analysis showed no

significant correlation between the HIV/AIDS clinical stadium and quality of life (p=0.721). This result was contrary to a study done by Liping [17] that revealed the HIV/AIDS stadium was significantly correlated with the quality of life, but this clinical stadium was not the most influential factor in maintaining the quality of life. HIV/AIDS could be managed by proper treatments, especially by the administration of antiretroviral therapy. Routine treatment correlated with the controlled number of CD4 cells that could decrease the occurrence of HIV/AIDS signs and symptoms, hence the quality of life slowly increasing. Regardless of its clinical stadium, the quality of life of HIV/AIDS survivors could be well maintained with proper treatments.

The duration of disease was not significantly correlated with the quality of life (0.211). This result was contrary to the study conducted by Silva et al. [19] and Catalan et al [18]. Silva et al. (2012) stated that the survivor with five years duration of disease was having a lower quality of life than those who were diagnosed for more than five years [18]. The result linked to lifestyle modification as an HIV/AIDS survivor. HIV/AIDS survivors who are diagnosed in ≤ 5 years usually have not fully adapted to the HIV/AIDS survivor lifestyle in comparison with those who have been diagnosed in ≥ 5 years [19]. The majority of the participant in the study diagnosed as HIV/AIDS survivors in ≤ 5 years. This factor majorly contributed to the insignificant result of the study.

Statistical analysis also showed that there was no significant correlation between comorbidity and quality of life among the elderly with HIV/AIDS (p=0.327). The majority of the participant identified with no comorbidity (85.1%). This result was parallel with a study done by Penney et al. [20]. This study revealed that comorbidity was a dominant factor affected the quality of life. These differences happened due to the simultaneous duration of physical and mental data collection. HIV/AIDS survivors are more prone to physical than mental comorbidity.

Statistical data showed that the majority of the participant was experiencing depression (64.2%). Other studies conducted by Wahyudi et al. [21] and Kusuma [22] also revealed a high prevalence of depression on the elderly with the HIV/AIDS population. Depression among the elderly with HIV/AIDS could be generated by the combination of genetic, personal, and biological factors that have not been explored comprehensively in the study. The occupational status is a factor of poor quality of life identified in the study. Light activities in a short duration of time contributed to stress and depression among the elderly. Traumatic past experiences also highly affected the prevalence of depression [23]. In Bali, the elderly who involved actively in the world war were having a higher chance of depression in comparison to those who did not involve in the world war or having traumatic experiences.

The elderly with depression are more vulnerable to poor quality of life. A study from Kusuma [22] also showed that the majority of HIV/AIDS elderly with depression were having a poor quality of life. Their family was also found to be failed in providing adequate support to the elderly. A study done by Holzemer et al. [23] showed that depression

was decreasing the elderly with HIV/AIDS quality of life as much as 41.4%.

Result showed that there were 71.6 % participant who perceived stigma from the community. Depression among the elderly with the HIV/AIDS population is mainly caused by community stereotypes. Community shared-values assumed that the elderly with HIV/AIDS performed actions that violated the social norms agreed in the community. This stigma toward the elderly with the HIV/AIDS population causes them to feel the urge to always hide to avoid it which also makes them could not access professional support properly. Stigma and depression would also affect their adherence to the therapy. This situation often leads to unhappiness, dissatisfaction, and distress which causes poor quality of life [24].

The statistical analysis also showed a significant effect of depression (p=0.021) and stigma (p=0.031) on the quality of life which indicated that the probability of poor quality of life among the HIV/AIDS elderly with depression and stigma was 57.2%. This result indicated that depression and stigma negatively correlated with quality of life among the elderly with HIV/AIDS. This poor quality of life would affect their health status and could lead to a worse case of depression.

A unique finding in this study that is required to be highlighted is the good quality of life among the elderly with HIV/AIDS in Bali. This study found that 64.2% of the participant was having a good quality of life. On the result elaborated by the previous studies we mentioned, elderly with HIV/AIDS who received stigma and ended with depression cases usually had a poor quality of life. Norfitri [25] stated that the dominant factor affected the quality of life was the value system formed in the community they lived in Bali. This traditional system would affect their purpose, life model, and expectation that finally becoming their standard to be well engaged in that community. In Bali, the good quality of life concept was tightly attached to the presence of children, partner, love and affection in the family, and health. The presence of children is the most essential and dominant factor in forming a good quality of life in Bali. Partner and family also highly affected the quality of life, especially in families with low to middle ranged economic status. The traditional values implemented in Balinese society such as gratitude, compassion, and sincerity as the spirit of their life majorly affected their positive attitude toward life itself. Some unique traditions implemented in Bali also could affect the good quality of life among the elderly with HIV/AIDS [26].

CONCLUSION

According to the statistical analysis, there was a significant correlation between stigma, depression, and quality of life among the elderly with the HIV/AIDS population. Community stigma toward the elderly caused depression and ended with poor quality of life. Our analysis also found that elderlies in Bali who received stigma and had depression must not necessarily end up with poor quality of life. Balinese traditional values and their positive attitude toward life that full of compassion, gratitude, and sincerity lead them to create a good level of quality of life.

Some efforts to improve the quality of life through counseling sessions or family conferences are required to build positive self-esteem among the elderly with HIV/AIDS. We also suggest the future study to use a wider range of population and analyzing the effect of some physical variables on psychosocial variables examined in the study (for example: the CD4 count).

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