

## Meta Analysis the Association between Social Support and Quality of Life of People Living with HIV/AIDS

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### ABSTRACT

**Background:** Social support is a form of interpersonal relationship where the social environment provides assistance in the form of emotional attention, instrumental assistance, providing information, appreciation or assessment to individual sufferers. Lack of social support will lead to a decline in physical and mental conditions, which can cause a person to be lazy to carry out routine daily self-care activities. As a result, people with HIV/AIDS do not adhere to treatment programs. If a person with HIV/AIDS does not regularly take anti-retroviral (ARV) for a long time, this will greatly affect the quality of life for people with HIV/AIDS. This study aims to examine the relationship between social support and quality of life in people with HIV / AIDS.

**Subjects and Method:** This was a meta-analysis study conducted by systematically reviewing articles from PubMed, Science Direct, Springer Link, and Google Scholar. The articles used in this research are articles that have been published from 2010-2020. The search for articles was carried out by considering the eligibility criteria using the PICO model, P: people living with HIV/AIDS, I: strong social support, C: weak social support, O: Quality of life. The keywords for finding articles were as

follows: "people living with HIV/AIDS "AND" social support "OR" family support "OR" care relationship "AND" quality of life "AND" cross sectional "AND" multivariate ". The inclusion criteria used were full paper, used English, cross-sectional study design and results reported adjusted odds ratio. Articles were collected using PRISMA diagrams, and analyzed using the Review Manager 5.3 application.

**Results:** The meta-analysis was carried out on 8 articles in this study with a sample size of 2,719. The results of a meta-analysis with a cross-sectional study showed that people living with HIV/AIDS with strong social support improved their quality of life (aOR= 2.82; 95% CI= 2.26 to 3.53; p <0.001).

**Conclusion:** Strong social support can improve the quality of life for people with HIV / AIDS.

**Keywords:** Quality of life, social support, people with HIV / AIDS, meta-analysis

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### BACKGROUND

Millennium development goals or often referred to as millennium development goals (MDGs) are shared commitments to accelerate human development and eradicate poverty in the world. Indonesia is one

of the countries that signed the millennium declaration. Commitments in the health sector include efforts to prevent and eradicate infectious diseases of HIV/AIDS, tuberculosis and malaria (Bappenas, 2011).

The latest data from the United Nations Program on AIDS reports that in 2019 there were 38 million people living with HIV/AIDS. 1.7 million people were infected with HIV that year and 690,000 people died with HIV/AIDS. The Asia Pacific region in 2019 has an HIV/AIDS prevalence ratio of 5.14% with a mortality ratio of 1.6%. The Directorate General of Disease Control and Environmental Health, Ministry of Health (Ditjen PP & PL) reports that up to 2019, HIV/AIDS has been reported by 463 (90.07%) districts/ cities in all provinces in Indonesia.

Problems that arise are physical, social and emotional problems, physical problems occur as a result of a progressive decrease in immune system which makes people with HIV/AIDS susceptible to various diseases, especially infectious diseases and malignancies (Nursalam and Kurniawati, 2007).

The quality of life of people with HIV/AIDS should receive more attention than ever before, because they have a weak mental and physical burden that makes it easy for them to feel isolated and unwanted. Continuous depression will cause a decrease in physical and mental conditions, so that it can cause a person to be lazy to carry out routine daily self-care activities. As a result, people living with HIV/AIDS who do not adhere to treatment programs will greatly affect the quality of life of people with HIV/AIDS. The higher the level of social support, the better the quality of life for people with HIV/AIDS (Widyarsono, 2013).

## SUBJECTS AND METHOD

### 1. Study Design

This was a meta-analysis research. Data search was carried out systematically and comprehensively through databases including: PubMed, Science Direct, Springer

Link, and Google Scholar and was carried out within 1 month. The keywords to find articles are as follows: "people living with HIV/AIDS" AND "social support" OR "family support" OR "care relationship" AND "quality of life" AND "cross sectional" AND "multivariate".

### 2. Inclusion Criteria

The inclusion criteria were full text, use English language, and cross-sectional study. The study subjects were people with HIV/AIDS. The intervention was social support. The analysis used multivariate with adjusted odds ratio.

### 3. Exclusion Criteria

The exclusion criteria in this study were non-cross-sectional research, articles were not full text and published before 2010. The articles were those published in a language other than English and not a multivariate analysis study.

### 4. Operational Definition of Variables

The article search was carried out by considering the eligibility criteria defined using the PICO model. The population in the study were people with HIV/AIDS. The intervention was social support. The study comparison was weak social support and quality of life.

Quality of life is an individual's perception of his life, in the context of a system of cultural values in his environment, which is related to his standard of goals and expectations. The measurement tool was WHOQOL-HIV BREF.

The provision of social support consists emotional, appreciation, instrumental, informational, and networking supports. The instrument is a questionnaire with a dichotomous scale.

### 5. Data Analysis

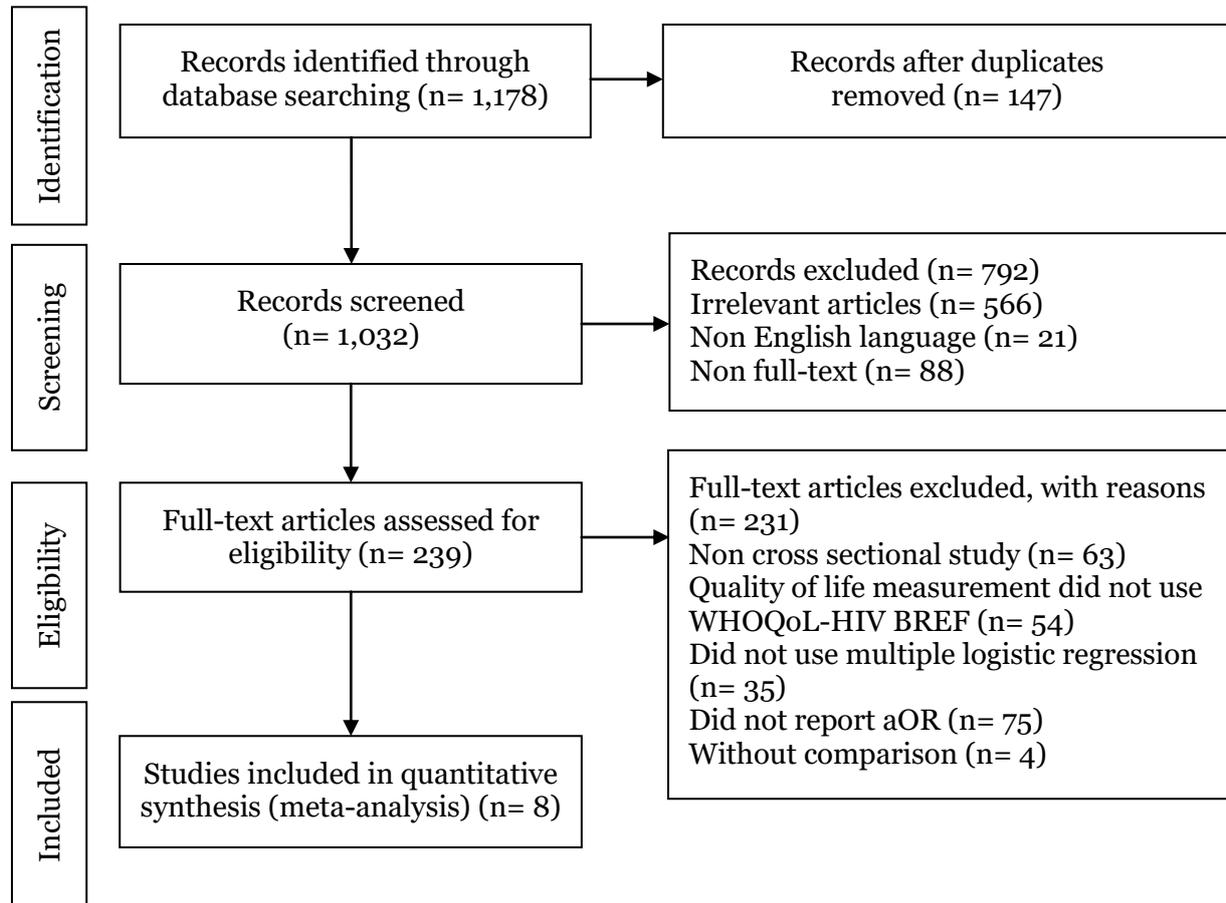
Articles were collected using PRISMA diagrams, and analyzed using the Review Manager 5.3 application by calculating the effect size and heterogeneity to determine

which research models were combined to form the final meta-analysis result.

**RESULTS**

The article review process can be seen in the PRISMA flow diagram Figure 1. This

meta-analysis analyzes 8 primary studies conducted in Northern Ethiopia, Western Ethiopia, Southern Ethiopia, Nigeria, Burkina Faso, and Myanmar.



**Figure 1. PRISMA flow diagram**

The study quality assessment was carried out quantitatively. Assessment of the quality of the study research with a cross-sectional design was carried out using

the critical appraisal checklist for cross-sectional from the center for evidence-based management.

**Table 1. Assessment of the quality of the study by cross-sectional design**

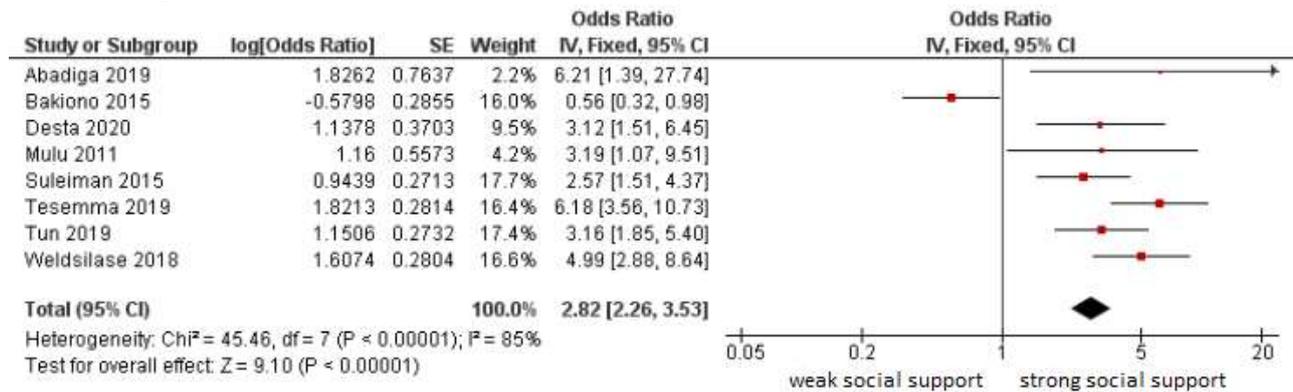
Author (year)	Criteria												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
Mulu et al. (2011)	1	1	1	0	1	1	1	1	1	1	1	1	11
Weldsilase et al. (2018)	1	1	1	1	1	1	0	1	1	1	1	1	11
Abadiga et al. (2019)	1	1	0	1	1	0	1	1	1	1	1	1	10
Desta et al. (2020)	1	1	1	1	1	0	1	1	1	1	1	1	11
Tessema et al. (2019)	1	1	1	1	1	1	1	1	1	1	1	1	12
Suleiman et al. (2015)	1	1	1	1	1	0	1	1	1	1	1	1	11
Bakiono et al. (2015)	1	1	1	0	1	0	1	1	1	1	1	1	10
Tun et al. (2019)	1	1	1	0	1	1	1	1	1	1	1	1	11

**a. Providing social support for the quality of life of people with HIV/AIDS**

Research related to the relationship of social support with quality of life in people with HIV/AIDS consisted of 8 articles from

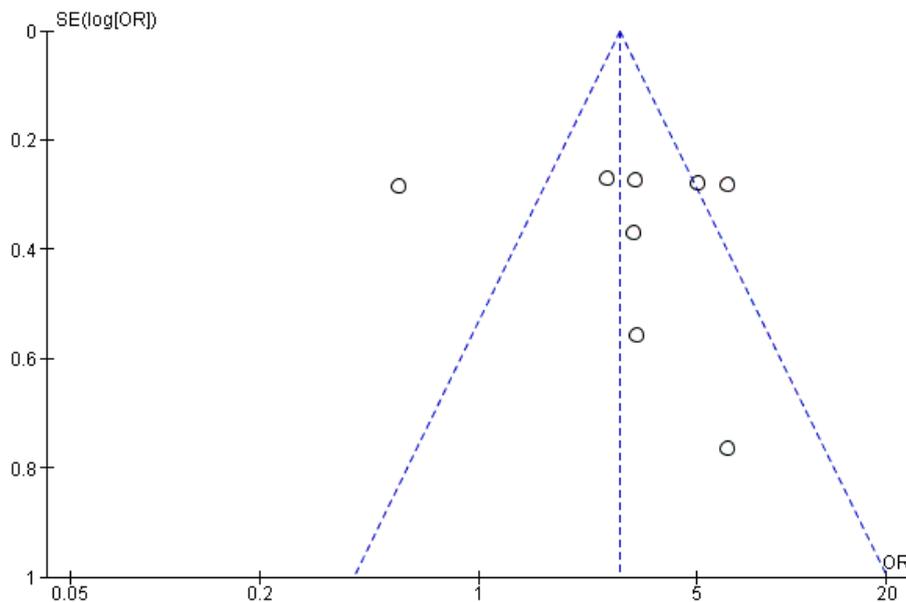
2 continents, namely the continent of Africa (7 articles) and the continent of Asia (1 article). Eight articles prove the linkage of providing social support to the quality of life of people with HIV/AIDS.

**b. Forest plot**



**Figure 2. Forest plot of social support relationships on the quality of life in people with HIV / AIDS**

**c. Funnel plot**



**Figure 3. Funnel plot of the relationship of providing social support to quality of life in people with HIV/AIDS**

**Table 2. Descriptions of primary studies included in the meta-analysis**

Author (year)	Country	Study design	Sample	Population	Intervention	Comparison	Outcome
Mulu et al. (2011)	Ethiopia	Cross sectional	303	PLWH	Marital status, HIV status disclosure, social support*, do not drink alcohol, do not smoke	Unmarried, concealed HIV status, weak social support, drink alcohol, smoking	Quality of life
Weldsilase et al. (2018)	Ethiopia	Cross sectional	377	PLWH	Clinical stage 4, weak stigma, strong social support*, high wealth index	Clinical stage 2, strong stigma, weak social support*, low and moderate wealth index	Quality of life
Abadiga et al. (2019)	Ethiopia	Cross sectional	305	PLWH	Strong social support, know about ARV, do not have comorbid	Weak social support, did not know about ARV, had comorbid	Quality of life
Desta et al. (2020)	Ethiopia	Cross sectional	240	PLWH	Good health, strong social support*, drug abuse, high ARV intake adherence, had opportunistic infection, abnormal BMI (thin/ overweight)	Poor health, weak social support, non drug abuse, ARV intake obedient, normal BMI	Quality of life
Tessema et al. (2019)	Ethiopia	Cross sectional	391	PLWH	CD4 $\geq$ 500 cell/mm <sup>3</sup> , normal nutritional status, low depression, strong social support	CD4 <500 cell/mm <sup>3</sup> , abnormal nutritional status, high depression, weak social support	Quality of life
Suleiman et al. (2015)	Nigeria	Cross sectional	353	PLWH	Partner had positive HIV status, strong social support*	Partner had negative HIV status, weak social support*	Quality of life
Bakiono et al. (2015)	Burkina Faso	Cross sectional	424	PLWH	Strong relatives support*, active received ARV, high health perception	Weak relatives support*, inactive received ARV, low health perception	Quality of life
Tun et al. (2019)	Myanmar	Cross sectional	326	PLWH	Male, asymptomatic, adherent to RV, low stigma, strong family support*	Female, symptomatic, irregular ARV intake, high stigma, weak family support	Quality of life

The results from the forest plot (figure 2) show that providing strong social support improves the quality of life for people with HIV / AIDS. The forest plot in Figure 2 shows that people living with HIV/ AIDS with strong social support are 2.82 times more likely to have a good quality of life than people with HIV/AIDS who have weak social support. These results were statistically significant with values (aOR= 2.82; 95% CI: 2.26 to 3.53;  $p < 0.001$ ).

The funnel plot (Figure 3) shows a publication bias which is characterized by asymmetry of the right and left plots where 6 plots are on the right and 2 plots are on the left. The plot on the left of the graph appears to have a standard error between 0.2 and 0.4 and the plot on the right has a standard error between 0.2 and 0.8.

## DISCUSSION

This systematic review and meta-analysis raises the theme of providing social support for the quality of life of people living with HIV/AIDS. The independent variable was the provision of social support.

This meta-analysis study used a study with multivariate analysis and the statistical result reporting the adjusted odds ratio (aOR). Estimates of the combined relationship between providing social support and quality of life for people with HIV/AIDS were processed using the RevMan 5.3 application. The results of the systematic study and meta-analysis are presented in the form of a forest plot and a funnel plot.

### **Providing social support for quality of life**

Forest plot results show that people living with HIV / AIDS with strong social support are 2.82 times more likely to have a good quality of life than people with HIV / AIDS who have weak social support. These results were statistically significant with

values (aOR = 2.82; 95% CI: 2.26 to 3.53;  $P < 0.001$ ).

This study is in line with Matsumoto's (2017) study which states that people with HIV/AIDS who receive good social support from their families have a better quality of life than those with poor social support (OR= 2.29; 95% CI= 1.44 to 3.65 ). Another study was also conducted by Anderson (2018) which shows that family support is important for patients to feel safe, increase self-confidence, minimize stress and discrimination so that people with HIV / AIDS have a good quality of life.

This is in line with Oetzel (2014) which shows that a lack of social support affects the quality of life for people with HIV/AIDS. Therefore, special attention must be paid to people living with HIV/ AIDS in order to have a better quality of life. Group support was also associated with a better quality of life and fewer depressive symptoms. This finding is consistent with research conducted by Pappin (2012) where low social support is associated with a poor quality of life, whereas high social support is also associated with improved quality of life.

The limitation in this study is that there is a publication bias that is shown in the funnel plot, language bias occurs because in this study the selected articles are only those published in English so that they ignore articles that use other languages, as well as search bias because in this study the researchers only used 4 databases (PubMed, Science Direct, Springer Link, and Google Scholar) thus ignoring other search sources.

## AUTHOR CONTRIBUTION

Maria is the principal researcher who selects the topic, explores and collects data articles. Setyo Sri Rahardjo and Bhisma

Murti played a role in analyzing data and reviewing research documents.

#### CONFLICT OF INTEREST

There is no conflict of interest in this study.

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#### REFERENCE

- Anderson K, Biello K, Rosenberger JG, Novak D, Mayer K, Carey K, Mimiaga MJ (2018). The impact of social support and partner relationship dynamics on engagement in HIV care and antiretroviral treatment adherence among MSM in Latin America. *AIDS care*. 30(11): 1406–1412. <https://doi.org/10.1080/09540121.2018.1456641>.
- Bappenas dan BPS (2011). Definisi Operasional Indikator MDGs (Operational Definition of MDGs Indicators). Jakarta: Bappenas.
- Direktorat Jenderal Pencegahan dan Pengendalian Penyakit Kementerian Kesehatan RI (Ditjen P2P Kemenkes RI) (2019). Jakarta: Kemenkes RI.
- Matsumoto S, Yamaoka K, Takahashi K, Tanuma J, Mizushima D, Do CD, Nguyen DT, et al. (2017). Social support as a key protective factor against depression in HIV-infected patients: Report from large HIV clinics in Hanoi, Vietnam. *Scientific reports*. 7(1): 15489. <https://doi.org/10.1038/s41598-017-15768-w>.
- Nursalam, Kurniawati DN (2007). Asuhan keperawatan pada pasien terinfeksi HIV/AIDS, Edisi Pertama (Nursing Care for HIV/AIDS Infected Patients, First Edition). Jakarta: Salemba Medika.
- Oetzel J, Wilcox B, Archiopoli A (2014) Social support and social undermining as explanatory factors for health-related quality of life in people living with HIV/AIDS. *Journal of Health Communication*. 19(6): 660-675.
- Pappin M, Wouters E, Booyesen FL (2012). Anxiety and depression amongst patients enrolled in a public sector anti-retroviral treatment programme in South Africa: a cross-sectional study. *BMC public health*. 12: 244. <https://doi.org/10.1186/1471-2458-12-244>.
- UNAIDS. Global Report: UNAIDS report on the global AIDS epidemic 2019. Geneva: Joint United Nations Programme on HIV/AIDS.
- Widyarsono, Selvia (2013). Hubungan antara depresi dengan kualitas hidup aspek sosial pada orang dengan HIV/AIDS (ODHA) (The relationship between depression and quality of life social aspects of people with HIV/AIDS (PLWHA)). Jakarta: Universitas Pendidikan Indonesia.