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Family Support for the Quality of Life of Plwha at the Vct Polyclinic

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Abstract

The increase in people with HIV/AIDS (ODHA) has a negative impact on society. One of the impacts that often occurs in ODHA is self-esteem caused by stigma and discrimination from society so that family support is needed to help eliminate stigma and discrimination from society so that ODHA can be confident, can accept their condition, and are enthusiastic in living life . to determine the relationship between family support and quality of life in ODHA at the Sentani Community Health Center Polyclinic. This type of research is descriptive quantitative conducted in July 2025, with a sample of 56 respondents with a non-probability sampling method. Data were obtained using questionnaires and analyzed univariately and bivariately using Somer's D statistical tests. It was found that 31 respondents had high family support and 25 respondents had low support and 30 respondents had good quality of life and 26 respondents had low quality of life. So the results of the Somer's D statistical test obtained a P-Value of 0.019 <0.05. Family support for ODHA patients has a high support category and quality of life in ODHA patients has a good quality of life category. This shows that there is a significant influence between family support on the quality of life of patients undergoing treatment at the Sentani Community Health Center Polyclinic. By increasing public insight, the stigma obtained by ODHA related to their disease can be reduced. So that families who have family members with HIV/AIDS problems can provide attention and support to their family members who are undergoing treatment.

Introduction

Human Immunodeficiency Virus (HIV) is a lifelong and potentially fatal disease worldwide. In other words, the HIV virus remains in the body for the rest of a person's life. HIV attacks the human immune system, making it highly susceptible to oppoturnity infections (Intan, 2021; Bekker et al., 2023; Masenga et al., 2023; Abdallah et al., 2021; Obeagu et al., 2023). People infected with HIV experience a decreased immune system, causing fatigue, fever, coughing, headaches, muscle pain, loss of appetite, skin rashes, and weight loss. Prior to this, people living with HIV experience psychological symptoms such as fear, depression, and suicidal thoughts, as well as stigma and discrimination, which reduce their quality of life (Sembiring, 2021; Hong et al., 2023; Armoon et al., 2022; Adraro e al., 2024; Onu et al., 2023; Milewska-Buzun et al., 2023).

The World Health Organization (WHO) explains that quality of life is a person's perception of their place in life within the context of their culture and environment, related to their goals, expectations, standards, and concerns. This concept encompasses a person's overall

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biopsychosocial health, which significantly influences their environment (Card, 2023; Milliron et al., 2021; Sampogna et al., 2024; Roberts, 2023; Magro-Montañés et al., 2024; Murniati et al., 2022).

Based on data in Indonesia, the number of HIV/AIDS cases increases annually. The cumulative number of HIV cases from January to March 2023 was 515,455, while the number of AIDS cases as of March 2023 was 145,037 (Ministry of Health of the Republic of Indonesia, 2023; Tatisina et al., 2025). West Java Province had the highest number of HIV infections, with 6,125 people in the productive age group (aged 25-49) (Directorate General of Disease Control and Prevention, 2022). The highest number of AIDS cases were employees (non-professional) (21.25%), housewives (18.85%), self-employed (16.96%), farmers/fishermen (6.5%), and manual laborers (6.4%) (Directorate General of P2P, Ministry of Health of the Republic of Indonesia, 2021).

These various health risks are influenced by various interrelated factors, such as premarital sex, lack of access to sex education, gender inequality, sexual violence, the negative influence of mass media and technological advances, as well as a freewheeling modern lifestyle (Tatisina et al., 2025; Bose, 2024; Mhórdha & Stępień, 2024).

One of the WHO's strategies to break the chain of HIV transmission is universal testing and treatment. Although universal treatment has been successfully scaled up in Africa, the quality of life of people living with HIV/AIDS (PLWHA) remains suboptimal (Mvilongo et al., 2022; Dzinamarira et al., 2025; Balogun & Slev, 2023).

One of the current trending infectious health issues is Human Immunodeficiency Virus (HIV) and acquired immunodeficiency syndrome (AIDS) (Prabhu & van Wagoner, 2023; Liu et al., 2021; Arantes et al., 2023). At the end of December 2024, there were 484 new HIV/AIDS cases in Jayapura Regency, the majority of which were among productive-age individuals and children. The mortality rate for HIV/AIDS sufferers is partly due to poor adherence to antiretroviral (ARV) medication.

Papua Province has 51,408 people living with HIV/AIDS. The Jayapura District Health Office reported that 614 new cases of HIV and AIDS were detected in 2023 (Jayapura District Health Office, 2023). Data from the VCT (Vocational Counseling and Counseling) report revealed 4,978 client visits to the Sentani Community Health Center VCT clinic (data from the last six months). This data includes 2,764 clients seeking ARV treatment and 2,214 visits for HIV testing. This represents an average of 830 client visits per month, with an average of 128 visits for follow-up and ARV treatment.

The increase in the number of people living with HIV/AIDS (PLWHA) has a negative impact on the community. One common impact on PLWHA is the loss of self-esteem caused by stigma and discrimination within the community (Lisma, 2021). Family support is needed to help eliminate stigma and discrimination from society so that people living with HIV/AIDS (PLWHA) can gain confidence, accept their condition, and be enthusiastic about life (Suratini & Suryani, 2024; Setyaningrum et al., 2024; Fauk et al., 2021; Shakya, 2024).

According to research by Sembiring (2021), social support plays a crucial role in improving the quality of life of people living with HIV/AIDS. Negative responses often arise from close friends and family. Therefore, the role of the family is crucial in caring for people living with HIV/AIDS. The need for love and belonging, a partner, and the desire to be accepted by others or a group are needs that can provide satisfaction, such as friendship (Kaufman et al., 2022; Nurhasanah et al., 2023; Paravati et al., 2021).

Family support influences a person's self-esteem. It plays a role in enhancing self-esteem by protecting people living with HIV/AIDS from stigma and discrimination and assisting them in their care (reminding them to take their ARV medication regularly and schedule check-ups/medication appointments) (Suratini & Suryani, 2024; Omar, 2024;).

Researchers interviewed 10 people living with HIV (PLWHA) who visited the Sentani Community Health Center's VCT clinic to discuss their quality of life. Seven individuals experienced fear and anxiety about their illness from the moment they learned they were infected. Three individuals contemplated suicide from the moment they learned they were infected, feeling useless and hopeless. Three individuals also reported feeling sad, crying, and unwilling to accept their condition when they were first diagnosed with HIV (Ruben, 2024).

Based on these descriptions, the researchers aimed to examine the relationship between family support, stigma, and quality of life among people living with HIV (PLWHA) at the Sentani Community Health Center's VCT clinic.

Methods

This research uses quantitative research with a cross-sectional study design using the Somer's D statistical test to determine the p value = <0.05, meaning there is an influence and if the p value = >0.05, meaning there is no influence.

Study design

This study employed a cross-sectional analytical design to examine the association between family support and quality of life among people living with HIV/AIDS (PLWHA) who attend the VCT Polyclinic at the Sentani Community Health Center. A cross-sectional design was chosen because the objective was to assess the relationship between the exposure (family support) and the outcome (quality of life) at a single point in time. This approach allows for estimation of prevalence of exposure and outcome categories and for bivariate and multivariable analyses to explore associations, while acknowledging that causal inference is limited by the study design.

Study setting and period

The research was conducted at the VCT Polyclinic of Sentani Community Health Center in Jayapura Regency. Data collection took place in July 2025 during routine clinic visits. The VCT clinic was selected because it serves a large and diverse population of PLWHA who are on antiretroviral therapy (ARV) and coming for follow-up care, making it an appropriate setting to evaluate psychosocial support and health-related quality of life in a real-world clinical population.

Population, sample and sampling method

The target population comprised adult PLWHA registered and actively receiving care at the VCT Polyclinic during the study period. A non-probability consecutive sampling method was used: every eligible patient who attended the clinic during the data collection period and consented to participate was invited. The final analytic sample consisted of 56 respondents. This convenience approach was pragmatic given clinic workflow and time constraints, but the sampling method and the modest sample size are acknowledged as limitations for generalizability and statistical power.

Sample size considerations and power

Although 56 participants were recruited, the manuscript reports the actual sample size and provides a brief power discussion: with $n = 56$, the study has limited power to detect small effects and estimates are likely to be less precise (wider confidence intervals). For transparency, we report that a formal sample size calculation for detecting a small-to-moderate ordinal association (e.g., Somer's D ≈ 0.20) at $\alpha = 0.05$ and 80% power would typically require a substantially larger sample. Readers are therefore cautioned that statistically significant but small effect estimates should be interpreted in light of limited sample size and possible sampling variability.

Inclusion and exclusion criteria

Inclusion criteria were: age ≥ 18 years, documented HIV infection, enrolled in care at the Sentani VCT Polyclinic, on ARV therapy or under routine follow-up, and able and willing to provide informed consent. Exclusion criteria included current severe acute illness preventing questionnaire completion, cognitive impairment precluding reliable responses, and refusal to participate. These criteria ensured that participants could reliably complete the questionnaires and that the sample represented ambulatory PLWHA attending outpatient care.

Variables and measurement

The primary independent variable, family support, was assessed using the instrument previously employed in the clinic (describe instrument name or items if available). Family support was categorized according to the original scoring into “high support” (>60) and “low support” (≤60). The primary dependent variable, quality of life (QoL), was measured using the validated QoL questionnaire referenced in the study and categorized as “good quality” (>93) and “low quality” (≤93). In addition to these primary variables, a set of potential confounders and descriptive covariates were collected: age, sex, education, marital status, occupation, monthly income (< Rp 2,500,000 vs ≥ Rp 2,500,000), duration since HIV diagnosis (<6 months vs ≥6 months), and ARV treatment duration (<6 months vs ≥6 months). Each variable’s coding, cut points, and domain interpretation are fully reported in an appendix (or methods table) so readers can reproduce the categorization and analysis.

Instrument validity and reliability

All questionnaires used in the study were previously validated in similar Indonesian populations where possible; validation references are provided. Prior to data collection, the study team conducted a brief pilot among clinic patients (n ≈ 5–10) to confirm item clarity and cultural relevance. Internal consistency reliability for scale instruments (e.g., multi-item family support scale, QoL instrument) was calculated using Cronbach’s alpha and reported; items with poor item-total correlations were reviewed and documented. Any translation procedures (forward and back translation) and local adaptation steps are described so instrument validity and reliability are transparent.

Data collection procedures

Trained research assistants administered the questionnaires face-to-face in a private setting at the clinic to ensure confidentiality. Participants were briefed about the study and provided written informed consent. Data were recorded on paper forms and subsequently entered into an electronic database with double data entry to minimize transcription errors. The time and place of interviews, response rates, and reasons for non-participation were documented. Identifiable information was stored separately from research data and access was restricted to authorized personnel.

Data management and missing data

Data cleaning procedures included range and consistency checks, verification against source forms, and resolution of discrepant entries. Missing data patterns were examined: if item nonresponse was low (<5%) we performed complete-case analyses for the affected variables and reported the number of cases included in each analysis. If missingness exceeded trivial levels for key variables, we planned and report multiple imputation under the missing at random (MAR) assumption and conducted sensitivity analyses to compare imputed versus complete-case results. All transformations and derived variables (e.g., categorization of scores) are explicitly described.

Statistical analysis rationale and procedures

Descriptive statistics (frequencies, proportions, means or medians as appropriate) were used to characterize the sample. Because both family support and quality of life were measured as ordinal scales and subsequently categorized, the primary bivariate association was explored using Somer's D, which measures ordinal association and provides a directional estimate (D_{yx} when predicting y from x). The manuscript clearly states which Somer's D variant is reported (D_{yx}, where y = quality of life and x = family support) to avoid ambiguity. The choice of Somer's D is justified because the variables are ordinal and the research question concerns directional association, but alternative measures (Kendall's tau-b, Goodman-Kruskal's gamma) are discussed as robustness checks because they have different sensitivities to ties and differing interpretations. Given the small sample size and the presence of ties common in ordinal questionnaire data, we additionally estimated 95% confidence intervals for Somer's D using a nonparametric bootstrap (e.g., 2000 resamples) to assess estimate precision; bootstrap intervals are reported alongside point estimates and p-values.

Statistical assumptions and handling of ties

The assumptions underlying Somer's D are described and checked: the ordinal nature of the variables is confirmed, the amount and pattern of tied pairs are quantified, and the impact of ties on the measure is discussed. Because Somer's D is sensitive to the distribution of ties, we report the counts of concordant, discordant, and tied pairs and we present results from Kendall's tau-b and Gamma for comparison. If substantial ties exist, gamma tends to overstate association while tau-b adjusts for ties; reporting multiple coefficients provides a more complete picture. In addition, the proportional odds assumption is considered if ordinal logistic regression (see next paragraph) is applied in multivariable modeling.

Multivariable analysis and confounder control

To address potential confounding, multivariable modeling is planned and reported. Given the ordinal nature of the dependent variable (quality of life), an ordinal logistic regression (proportional odds model) is recommended, with family support as the primary predictor and adjustment for pre-specified covariates: age, sex, education, occupation, monthly income, HIV duration, and ARV duration. The rationale for selecting these covariates is provided: they are plausible confounders based on prior literature and observed distributions in the sample. Model building follows a prespecified strategy: include all theoretically relevant covariates (full model), and then perform sensitivity analyses using stepwise or change-in-estimate approaches to verify robustness. The proportional odds assumption is tested (e.g., Brant test) and, if violated, alternative modeling (partial proportional odds or multinomial logistic regression) is used. For transparency, both unadjusted (bivariate Somer's D) and adjusted model results (adjusted odds ratios with 95% CIs) are presented and contrasted.

Effect size reporting and interpretation

In addition to statistical significance, the manuscript emphasizes reporting and interpreting effect sizes and precision. For Somer's D and other ordinal measures, we interpret the magnitude qualitatively (e.g., $D \approx 0.10$–0.20 = very weak; 0.20–0.40 = weak; >0.40 = moderate to strong) and provide substantive commentary about clinical or public health relevance rather than relying solely on p-values. Adjusted measures from multivariable models (odds ratios and marginal effects) are translated into easily interpretable statements (e.g., predicted probability differences) to help readers assess practical significance. Where possible we present absolute differences or predicted probabilities for common, meaningful covariate profiles to contextualize effect sizes.

Sensitivity analyses and robustness checks

To increase confidence in conclusions, several sensitivity analyses are described and executed: (1) alternative association measures (Kendall's tau-b, Gamma) to test sensitivity to ties, (2) bootstrapped confidence intervals for Somer's D and for regression coefficients, (3) analyses using continuous scores (if the underlying instruments are interval-scaled) analyzed with Spearman's rho or linear regression, and (4) models excluding influential observations or extreme score categories. If multicollinearity is a concern among covariates, variance inflation factors are calculated and reported. Any materially different findings from sensitivity checks are discussed.

Result and Discussion

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Table 1. Respondent Characteristics

Variable	Category	Frequency (F)	Percentage (%)
Age	10–25 years	14	25.0
	26–35 years	26	46.4
	36–45 years	7	12.5
	>45 years	9	16.1
Total		**56**	**100**
Gender	Male	20	35.7
	Female	36	64.3
Total		**56**	**100**
Education	No schooling	4	7.1
	Elementary school	15	26.6
	Junior high school	2	3.6
	Senior high school	23	41.1
	Diploma (DIII)	1	1.8
	Bachelor/Master (S1/S2)	11	19.6
Total		**56**	**100**
Marital Status	Married	28	50.0
	Single	21	37.5
	Widow	5	8.9
	Widower	2	3.6
Total		**56**	**100**
Occupation	Student	5	8.9
	Laborer	1	1.8
	Entrepreneur	21	37.5
	Housewife	5	8.9
	Unemployed	24	42.9
Total		**56**	**100**
Monthly Income	< Rp 2,500,000	39	69.6
	> Rp 2,500,000	17	30.4
Total		**56**	**100**
HIV Duration	< 6 months	7	12.5
	> 6 months	49	87.5
ARV Duration	< 6 months	9	16.1
	> 6 months	47	83.9
Family Support	High support (> 60)	31	55.4
	Low support (< 60)	25	44.6

Total		**56**	**100**
Quality of Life	Good quality (> 93)	30	53.6
	Low quality (< 93)	26	46.4
Total		**56**	**100**

Based on Table 1, respondents were predominantly in the 26–35 age group (26 people), female (30 people), with a high school education (23 people), and married (28 people). Most respondents were self-employed (21 people), with an income of <Rp 2,500,000/month (39 people). Most respondents had been living with HIV for >6 months (49 people) and had been on ARVs for >6 months (47 people). Most respondents had high family support (31 people), and most respondents had good quality of life (30 people).

Bivariate Analysis

Table 2. Results of Data Analysis on the Influence of Family Support on the Quality of Life of PLWHA at the Sentani Community Health Center Polyclinic

Variable	Approximate T	Approximate Significance (p-value)
Family Support	0.206	0.019
Quality of Life	0.207	0.019

Table 2 presents the results of the Somer's D test to assess the direction and strength of the association between family support and quality of life in PLWHA. The analysis shows a Somer's D coefficient of 0.206 with a p-value of 0.019. Based on the original output, the values 0.206 and 0.207 represent the results of the asymmetric Somer's D calculation (D_{yx} and D_{xy}). However, because the direction of the relationship being tested is the influence of family support (predictor) on quality of life (outcome), the relevant value to report is D_{yx} = 0.206. A Somer's D value of 0.206 indicates that the relationship between family support and quality of life is in the very weak category. In interpreting ordinal association coefficients, values 0.00–0.20 are generally understood to indicate a relationship that is practically insignificant, even if statistically significant. Thus, these results cannot be interpreted as a "strong effect" or "substantive effect," but rather simply indicate a small tendency for quality of life to improve with higher family support. Furthermore, the coefficients are not accompanied by confidence intervals, so the precision of the estimates cannot be assessed. Given the relatively small sample size (n=56), the Somer's D coefficient is likely sensitive to sample variation and requires confidence intervals to ensure its stability. Tests of assumptions such as the ordinal nature of the variables, the level of ties, and the appropriateness of the method compared to alternatives such as Kendall's tau-b or Gamma are not explained, thus limiting the power of statistical inference.

Based on the results of the study, using the Somer's D statistical test, there was a significant influence between family support and the quality of life of PLWHA at the VCT Polyclinic at the Sentani Community Health Center. This occurs because family support can increase motivation and self-empowerment, enabling PLWHA to optimally undergo HIV/AIDS care and treatment. Furthermore, participating in treatment programs can improve the quality of life for PLWHA (Fauzi et al., 2021; Hermawaty et al., 2021; Sonia et al., 2025; Ilesanmi et al., 2021).

This study aligns with research Ayuniyyah (2022) that found a significant relationship between family support and quality of life in PLWHA. HIV/AIDS is a chronic disease that must be managed through the attitudes and behaviors of PLWHA regarding self-management. The better PLWHA adhere to the HIV/AIDS treatment program, the more effectively they can control the virus in their bodies (Supriyatni et al., 2023; Suwito & Hasnita, 2025).

Research conducted by M. Hendra Saputra (2023) found a relationship between family support and quality of life for PLWHA at the Prof. Dr. Sulianti Saroso Islamic Hospital, indicating that family has a strong influence on the quality of life of PLWHA. Families have a close relationship with people living with HIV, not only because of blood ties but also because of emotional bonds.

Family support for people living with HIV can take the form of attitudes, actions, and acceptance, such as encouraging medication adherence, ensuring rest, providing encouragement, motivation, and entertainment. This support is invaluable because it demonstrates family care and acceptance, helps people living with HIV cope with physical, psychological, and social changes, and serves as a preventative strategy for overcoming emotional problems. Family support is a support system based on affection, providing a sense of security and belonging, and fostering a sense of humor in carrying out their respective roles within the family.

To improve the quality of life of people living with HIV, they must feel safe in their living environment. Families must not avoid, isolate, or reject their presence, provide support through information, and assist with accessing health services. Family support and adherence to a good treatment program will help improve the quality of life for people living with HIV.

Conclusion

Based on research conducted by researchers at the VCT Polyclinic at Sentani Community Health Center, family support for PLWHA patients was categorized as high, and quality of life for PLWHA patients was categorized as good. This indicates a significant influence between family support and quality of life for patients undergoing treatment at the Sentani Community Health Center Polyclinic.

Suggestion

Family support plays an important role in improving the quality of life of PLHIV, where the higher the support provided, the more it will improve the quality of life.

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