

## A SECONDARY ANALYSIS OF PEER SUPPORT AND FAMILY ACCEPTANCE AMONG HOMOSEXUAL LIVING WITH HIV AND ANTIRETROVIRAL THERAPY: QUALITY OF LIFE PERSPECTIVES

Ina Martiana<sup>1</sup>, Agung Waluyo<sup>2\*</sup>, Sri Yona<sup>2</sup>, Edianto<sup>3</sup>

1. Nursing Study Program, STIKes Dr. Soebandi, Jember 68111, Indonesia
2. Faculty of Nursing, Universitas Indonesia, Depok 16424, Indonesia
3. H. Adam Malik Central General Hospital, Medan 20136, Indonesia

\*E-mail: agungwss@ui.ac.id

---

### Abstract

Men who have sex with men (MSM) comprise a population at risk for HIV infection. Assessing the Quality of Life (QOL) in MSM might be different than other populations. This study showed a secondary analysis from our previous research. It was needed to understand whether peer support and family acceptance had an impact on QOL of MSM living with HIV and ART (Antiretroviral Therapy). A total of 175 respondents were involved in this cross-sectional study that was carried out with purposive sampling. The questionnaires were translated to Bahasa and tested for validity and reliability. Data questionnaires completed were analyzed. Results showed that peer support was positively correlated with QOL ( $p=0.023$ ;  $OR=2.070$ ), and also, family acceptance was significantly related to QOL ( $p=0.001$ ;  $OR=2.766$ ). Thus, peer support and family acceptance are important factors affecting the well-being and QOL of MSM living with HIV and ART. This finding can be used for the improvement of QOL in people living with HIV.

**Keywords:** family acceptance, HIV, peer support, quality of life

### Abstrak

**Dukungan Sebaya dan Penerimaan Keluarga terhadap Kualitas Hidup Homoseksual dengan HIV dan Terapi Antiretroviral.** Laki-laki yang berhubungan seks dengan laki-laki (LSL) merupakan populasi yang berisiko terinfeksi HIV. Menilai kualitas hidup (QOL) pada LSL mungkin berbeda dari populasi lainnya. Penelitian ini merupakan analisis sekunder dari penelitian sebelumnya. Kami menguji apakah dukungan sebaya dan penerimaan keluarga berdampak pada kualitas hidup pada LSL dengan HIV dan ART (terapi antiretroviral). Sebanyak 175 responden dilibatkan dalam studi cross-sectional yang dilakukan melalui purposive sampling. Data kuesioner yang sudah terisi komplit, akan dilakukan analisa. Hasil penelitian menunjukkan bahwa dukungan sebaya berhubungan positif dengan kualitas hidup ( $p=0,023$ ;  $OR=2,070$ ) dan juga penerimaan keluarga secara signifikan berhubungan dengan kualitas hidup ( $p=0,001$ ;  $OR=2,766$ ). Dengan demikian, dukungan sebaya dan penerimaan keluarga merupakan variabel penting yang mempengaruhi kesejahteraan dan kualitas hidup LSL yang hidup dengan HIV dan ART. Temuan ini dapat digunakan untuk peningkatan QOL pada orang dengan HIV.

**Kata Kunci:** dukungan sebaya, HIV, kualitas hidup, penerimaan keluarga

---

### Introduction

Men who have sex with men (MSM) comprise the population most at risk for HIV. The data from 2008 to 2010, of the Centers for Disease Control and Prevention showed that the number of MSM has increased to 12% of the population. The factors that increase the risk for HIV

include high HIV prevalence among MSM, lack of HIV status knowledge, experience of social discrimination and cultural issues, and substance abuse (Centers for Disease Control and Prevention, 2015).

Globally, new HIV cases in MSM increased to 13% in 2015. MSM are 24 times more likely to

develop HIV because of their risky behavior in sexual activity (UNAIDS, 2017). Positive HIV case between MSM are increased from 2012 to 2016 by 25.8% (HIV and AIDS Data Hub for Asia-Pacific, 2018). The MSM population has become the second highest population at risk for HIV, with heterosexuals coming first (Ministry of Health Republic of Indonesia, 2016). Until 2019, WHO estimated number people living with HIV reached 38 million, and the number of new infections was 1.8 million. The number of deaths was high at 1.7 million people (WHO, 2020). The new infection number increased in Indonesia by 68%; Indonesia ranks third after India and China in Asia-Pacific Region (UNAIDS, 2017). The number of deaths needs to be treated with anti-retroviral therapy (ART) to reduce it. ART is one of the most effective treatment modalities given to patients with HIV. ART can increase the lifespan of PLWHA. However, the use of ART also leads to negative side effects on the patients (Beard et al., 2009). These side effects may occur like vomiting, headache, or any other symptoms which can affect QOL (AVERT, 2020). Besides, the experience of social stigma, discrimination, and lack of support may worsen their condition.

Quality of Life (QOL) is defined as general well-being from individuals or society to restrict negative and positive things in life. Researchers have also connected QOL to happiness and satisfaction in life (Zubaran et al., 2014). QOL in the health field is applied more specifically in life and determined by health or disease called "health-related quality of life (HRQOL)." ARV treatment contributes in reducing the mortality rate and extending life span. However, ART can caused side-effects which affect physical, psychological, social, and environment. Quality of life is a way to get a normal life with individual goals, expectations, and life experienced, related to that four aspects. People with HIV and ART who were experiencing side effects then choose to use a replacement therapy, shows improvement in quality of life (Sari et al., 2019).

Peer groups provide healthy vibes in terms of social relation and strengthen people with the same sexual behavior or people with the same HIV-positive status of HIV to understand their condition and other information regarding their health. Peer group support can help individuals seek health care services, remember the treatment schedule, develop a network to reach others, and support them that they are not alone (Monroe et al., 2017; Edianto et al., 2019). Peer support increase in confidence, coping skills, reduce risk of self-isolation, promoting health behavior, engaging in health services. Peer support also reducing the activity of sexual risk behavior and being adherence in taking the treatment. Peer support was associated with behavior change. People with HIV had increased to disclose their HIV status to their sex partner and reducing number of sex partner (Peterson, et al., 2012; Charania, et al., 2014; Prestage et al., 2016).

Lack of family acceptance can cause stress, anxiety, and depression due to family rejection. Individuals with HIV are afraid of being rejected due to their risky sexual behavior and fear of letting their HIV-positive status be known. The society and family often reject such individuals because of the culture and social norms. Family with close-minded members will experience difficulty in accepting another member's beliefs sincerely. The stress of all that pressure can lead to worsening health condition (Carter, 2013; Edianto et al., 2019). Refusal from the family can lead to high-risk sexual behavior, alcoholism, transmission of HIV, and drug abuse (Katz-Wise et al., 2016; Edianto et al., 2019).

The disclosure of HIV status by MSM to their partner or family is important. The type of support they will achieve can improve HIV treatment and care (Przybyla et al., 2013; Kroeger et al., 2011; Xu, et al., 2017). Thus, increasing support may become an effective strategy to encourage patients to access public healthcare and initiate testing and treatment. Lack of support from peers and family acceptance are the main concerns toward improvement of QOL.

Lack of support can influence the irregularity of ARV administration, low self-esteem, worsening condition, and poor social relations. Therefore, peer support and family acceptance may be related to a good QOL in patients with HIV/AIDS.

## Methods

**Setting and study design.** The previous study was conducted in two hospitals and two public health centers in Medan, Indonesia that aimed to explore associated factors in MSM with ART. Then, this study measured other variables namely quality of life of MSM, peer support and family acceptance. The health facilities included counseling and testing services to reach more respondents. This study used a cross-sectional method with the following inclusion criteria people with HIV, MSM, age above 18, and use of ART. MSM living with HIV and ART were eligible to participate in this study. The selected

patients gave their informed consent if they agreed to join this study. A total of 175 of 180 respondents were according to the criteria had participated in this study.

**Data collection.** The instruments used in this study were Perceived Acceptance Scale to assess family acceptance, Peer Group Caring Interaction Scale to assess peer support, and WHOQOL-HIV BREF to assess QOL. The questionnaire was translated to Indonesian with back translation method by an expert. All questionnaires were retested then declared valid and reliable for each ( $r= 0.8$ ;  $r= 0.9$ ;  $r= 0.6$ ). Chi-square test were used for bivariate analysis.

**Ethical consideration.** Ethical considerations are important in research related to HIV. The ethical approval was granted by Universitas Indonesia. Respondents were asked to fill out the questionnaires after agreeing to participate in this study through their informed consent form.

Table 1. Demography and Characteristic

Variable	Mean	SD
Age	29.39	6.459
Length of diagnosis	19.10	15.923
Duration of ART	17.99	15.897
	n	%
Education		
Elementary	2	1.1
Junior high	6	3.4
Senior high	103	58.9
College	64	36.6
Occupation		
Unemployed	14	8
Employed	161	92
Income		
Low	89	50.9
High	86	49.1
Quality of Life		
High	85	48.6
Low	90	51.4
Peer Support		
High	93	53.1
Low	82	46.9
Family Acceptance		
High	93	53.1
Low	82	46.9

Table 2. Variables

Variables	Quality of Life				X <sup>2</sup>	p	OR (Odd Ratio)
	High		Low				
	n	%	n	%			
Peer Support							
High	53	57.0	40	43.0	5.630	0.023	2.070
Low	32	39.0	50	61.0			
Family Acceptance							
High	56	60.2	37	39.8	10.772	0.001	2.766
Low	29	35.4	53	64.6			

Respondents also filled the questionnaire in a private room to safeguard their privacy.

## Results

**Respondents' characteristics.** Table 1 shows, the average age of the respondents was 29 years old. The level of transmission by sexual activity might be high at this age. The majority of the respondents is still in their early diagnosed as HIV-positive. The average of length of diagnosis was 19 months and the duration of using ART was 18 months. However, respondents who were employed were found to belong to the low-income bracket based on North Sumatera's Provincial Minimum Wage (PMW).

**Factors Associated with Quality of Life.** Peer support was significantly associated with QOL ( $p= 0.001$ ;  $\alpha= 0.05$ ; OR: 2.070; CI: 1.131–3.789), and family acceptance was significantly associated with QOL ( $p= 0.023$ ;  $\alpha= 0.05$ ; OR: 2.766; CI: 1.497–5.113). People with high peer support were 2.070 times more likely to have higher QOL than those with low peer support. People with high family acceptance were 2.766 times more likely to have higher QOL than those with low family acceptance (Table 2).

## Discussion

Most of the respondents in this study were have high peer support (53.1%), which was significantly related to QOL ( $p= 0.023$ ;  $\alpha= 0.05$ ). Peer support group provided education and knowled-

ge, gave positive motivation, and taught them how to stop risky behavior. However, the level of the risk of HIV transmission showed contrary results. The importance of a peer is to reach people with the same status to know how patients can access peer group support, how to provide opportunities in clinical settings, and how to increase openness for support and information. High peer support can reduce HIV transmission after diagnosis. Receiving support from peer which HIV positive likely decrease to engaged with non-HIV positive person (Prestage et al., 2016).

MSM are at high risk of HIV infection because of their sexual behavior. Various HIV prevention techniques have attempted to reach all segments of the society, including the MSM community. Peer support has been identified as an important element to mediate stigma and discrimination in the social relationship. Peer support can help and increase knowledge and acceptance from the same perspective in the same community to improve their psychosocial well-being (Tomori et al., 2016). QOL can improve with the help of physical touch and support from people within the same community and change one's risky behavior (Demartoto et al., 2016). Other studies also demonstrated that peer group support very helpful to remind about medicine administration or treatment due to inpatient or outpatient. Peer group support also provide mental and spiritual support for each other. In addition, peer group support has been motivating each other to do physical activities according to

their abilities (Rasyiid et al., 2016).

As many as 53.1% respondents were have high family acceptance. This result was similar to the findings of a previous study, which 90.4% patients had strong family support, and most were satisfied with disclosing their HIV status (Xu et al., 2017). MSM who have higher family acceptance can demonstrate better emotional responses than their counterparts, but this factor does not significantly affect one's risky sexual behavior (Bidaki et al., 2017; Mitrani et al., 2017). MSM who receive high family acceptance typically demonstrate increased self-esteem, good health condition, and good social interaction. MSM who have been rejected from their family are highly likely to have mental health issues, suicidal tendencies, depression, and highrisk sexual behavior (Katz-Wise et al., 2016; Ryan et al., 2010; Woodward & Pantalone, 2016; Bidaki et al., 2017). However, MSM who have strong social support seems to have fear of rejection into their family (Bilardi et al., 2019).

Family acceptance which was significantly related to QOL ( $p= 0.001$ ;  $\alpha= 0.05$ ). To improve QOL in people living with HIV/AIDS and ART in MSM, health practitioners need to provide counseling to encourage them to disclose their HIV status to close peers and families (Zhou & Ki, 2011). Family acceptance were closely associated with quality of life. Whether the effect comes from a feeling of satisfaction with the decision to disclose their HIV status, whether the family gives support and acceptance (Xu et al., 2017). Health practitioners also need to educate the families about HIV and suggest ways on how the family may provide support to those living with HIV/AIDS. This strategy will encourage people with HIV to disclose their status to the family. It might also decreases discrimination and stigma issues.

MSM infected with HIV have unique characteristics compared with other populations. This study had some limitations. The respondents were those who sought care from health services. Simple random sampling might be a better

technique to obtain samples from many kinds of specific criteria. The study was conducted during Ramadhan, so many were unable to visit health services. The patients involved in this study asked their peers to take their medicine and bring it to their homes, which were far from the center of the city. Many respondents also did not visit health services because they had already been taking ARV for 2 months prior due to the great distance.

## Conclusion

Peer support and family acceptance were found to be significantly related to the QOL of MSM living with HIV and ART. Thus, any intervention to support this social relation is needed. The treatment management needs to include medical treatment such as ARV and social relation to increase QOL in HIV-positive MSM. Peer support and family acceptance can decrease stress and support any treatment, so the concept of well-being can be achieved by the patients.

## Acknowledgement

The study was supported by DRPM Universitas Indonesia for the funding grant. We would like to thank all our study participants, the directors of the public health center, and the hospital for their permission to participate in this research. Thank you to the director and staffs of Central General Hospital and Public Health Center for your valuable help during our study.

## References

- AVERT. (2020). *Adherence and dealing with side-effects of antiretroviral treatment for HIV*. Retrieved from <https://www.avert.org/living-with-hiv/monitoring-switching-treatment>
- Beard, J., Feeley, F., & Rosen, S. (2009). Economic and quality of life outcomes of antiretroviral therapy for HIV/AIDS in development countries: A systematic literature review. *AIDS Care*, 21 (11), 1343–1356. doi: 10.1080/09540120902889926

- Bidaki, R., Rajabi, Z., Rezaeian, M., Ghannad, M.S., & Shahrabaki, M.H.S. (2017). Social acceptance for patients infected with human immunodeficiency virus in Kerman and Rafsanjan, Iran. *Int J High Risk Behav Addict*, 6 (1), 4–7. doi: 10.5812/ijhrba.30564
- Bilardi, J.E., Hulme-Chambers, A., Chen, M.Y., Fairley, C.K., Huffam, S.E., & Tomnay, J.E. (2019). The pole of stigma in the acceptance and disclosure of HIV among recently diagnosed men who have sex with men in Australia: A qualitative study. *PLoS One*, 14 (11), e0224616. doi: 10.371/journal.pone.0224616
- Carter, Jr.J.W. (2013). Giving voice to black gay and bisexual men in the South: Examining the influences of religion, spirituality, and family on the mental health and sexual behaviors of black gay and bisexual men [Publication No. 3608553] (Doctoral dissertation, University of South Carolina). ProQuest Dissertations & Theses. Retrieved from <https://search.proquest.com/openview/28c9ea49d376566f91da2e45d24dac24/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Centers for Disease Control and Prevention (CDC). (2015). HIV among gay and bisexual men. *CDC Fact Sheet*. Retrieved from <https://www.cdc.gov/stdconference/2010/cdc-msm-508.pdf>
- Charania M.R., Marshall L.J., Lyles, C.M., Crepaz, N., Kay, L.S., Koenig, L.J., Weidle, P.J., Purcell, D.W., & HIV/AIDS PRS Team. (2014). Identification of evidence-based interventions for promoting HIV medication adherence: Findings from systematic review of US-based studies, 1996–2011. *AIDS Behav*, 18, 646–660. doi: 10.1007/s10461-013-0594-x
- Demartoto, A., Soemanto, R.B., & Zunariyah, S. (2016). Supporting and inhibiting factors in the structured peer network among housewives in coping with HIV/AIDS. In *Proceedings of the 1st UPI International Conference on Sociology Education (UPI ICSE 2015)* (pg. 424–427). Atlantis Press. doi: 10.2991/icse15.2016.92
- Edianto, Waluyo, A., Yona, S. (2019). Correlation of family acceptance and peer support group toward sexual behavior risk on MSM with HIV/AIDS in Medan, Indonesia. *Enfermeria Clinica* 29, 189–193. doi: 10.1016/j.enfclin.2019.04.052
- Febres-Cordero, B., Brouwer, K.C., Rocha-Jimenez, T., Fernandez-Casanueva, C., Morales-Miranda, S., & Goldenberg, S.M. (2018). Influence of peer support on HIV/STI prevention and safety amongst international migrant sex workers: A qualitative study at the Mexico-Guatemala border. *PLoS One*, 13 (1), e0190787. doi: 10.1371/journal.pone.0190787
- HIV and AIDS Data Hub for Asia-Pacific. (2018). *Male sex workers (MSW) slides 2018*. Retrieved from <https://www.aidsdatahub.org/resource/male-sex-workers-msw-slides>
- Katz-Wise, S.L., Rosario, M., & Tsappis, M. (2016). Lesbian, gay, bisexual, and transgender youth and family acceptance. *Pediatr Clin North Am*, 63 (6), 1011–1025. doi: 10.1016/j.pcl.2016.07.005
- Ministry of Health Republic of Indonesia. (2016). *Laporan perkembangan HIV-AIDS triwulan I tahun 2016*. Jakarta: Ministry of Health Republic of Indonesia. Retrieved from [https://siha.kemkes.go.id/portal/files\\_upload/Final\\_Laporan\\_HIV\\_AIDS\\_TW\\_1\\_2016.pdf](https://siha.kemkes.go.id/portal/files_upload/Final_Laporan_HIV_AIDS_TW_1_2016.pdf)
- Kroeger, K., Taylor, A.W., Marlow, H.M., Fleming, D.T., Beylerveld, V., Alwano, M.G., & Kilmarx, P.H. (2011). Perceptions of door-to-door HIV counselling and testing in Botswana. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, 8 (4), 171–178. doi: 10.1080/17290376.2011.9725001
- Mitrani, V.B., De Santis, J.P., McCabe, B.E., Deleon, D.A., Gattamorta, K.A., & Leblanc, N.M. (2017). The impact of parental reaction to sexual orientation on depressive symptoms and sexual risk behavior among hispanic men who have sex with men. *Arch Psychiatr Nurs*, 31 (4), 352–358. doi: 10.1016/j.apnu.2017.04.004

- Monroe, A., Nakigozi, G., Ddaaki, W., Bazaale, J.M., Gray, R.H., Wawer, M.J., & Chang, L.W. (2017). Qualitative insights into implementation, processes, and outcomes of a randomized trial on peer support and HIV care engagement in Rakai, Uganda. *BMC Infect Dis*, 17 (1), 54. doi: 10.1186/s12879-016-2156-0
- Peterson, J.L., Rintamaki, L.S., Brasher, D.E., Goldsmith, D.J., & Neidig, J.L. (2012). The forms and functions of peer social support for people living with HIV. *J Assoc Nurses AIDS Care*, 23, 294–305.
- Prestage, G., Brown, G., Allan, B., Ellard, J., & Down, I. (2016). Impact of peer support on behavior change among newly diagnosed Australian gay men. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 72 (5), 565–571. doi: 10.1097/QAI.00000000000001017
- Przybyla, S.M., Golin, C.E., Widman, L., Grodensky, C.A., Earp, J.A., & Suchindran, C. (2013). Serostatus disclosure to sexual partners among people living with HIV: Examining the roles of partner characteristics and stigma. *AIDS Care*, 25 (5), 566–572. doi: 10.1080/09540121.2012.722601
- Rasyiid, A., Dharmawan, R., & Respati, S.H. (2016). The effect of peer support group on depression and quality of life among people living with HIV/AIDS in Kediri East Java. *Journal of Health Promotion and Behavior*, 1 (1), 32–40. doi: 10.26911/thejhp.2016.01.01.05
- Ryan, C., Russell, S.T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *J Child Adolesc Psychiatr Nurs*, 23 (4), 205–13. doi: 10.1111/j.1744-6171.2010.00246.x
- Sari, P.I., Martawinarti, RTS., Lataima, N.S., & Berhimpong, V.M. (2019). The quality of life patients with HIV/AIDS undergoing anti-retroviral therapy: A systematic review. *Jurnal Ners*, 14 (3), 50–54. doi: 10.20473/jn.v14i3(sj).16978
- Scott, H.M., Pollack, L., Rebchook, G.M., Huebner, D.M., Peterson, J., & Kegeles, S.M. (2014). Peer social support is associated with recent HIV testing among young black men who have sex with men. *AIDS and Behavior*, 18 (5), 913–920. doi: 10.1007/s10461-013-0608-8
- Sukatendel, K., Napitupulu, T.E., Andayani, L.S., & Yustina, I. (2016, March). The influence of perception and peer support on STI prevention behavior (syphilis case study) in group of MSM at veterans STI-VCT clinic in Medan year 2016. In *IOP Conf Ser: Earth Environ Sci* (Vol. 125, p. 012047). IOP Publishing.
- Tomori, C., Srikrishnan, A.K., Ridgeway, K., Solomon, S.S., Mehta, S.H., Solomon, S., & Celentano, D.D. (2016). Friends, sisters, and wives: Social support and social risks in peer relationships among men who have sex with men (MSM) in India. *AIDS Education and Prevention*, 28 (2), 153–164. doi: 10.1521/aeap.2016.28.2.153.
- UNAIDS. (2017). *Addressing a blind spot in the response to HIV Reaching out to men and boys*. Retrieved from [http://www.unaids.org/sites/default/files/media\\_asset/blind\\_spot\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/blind_spot_en.pdf)
- WHO. (2020). *HIV data and statistics*. Retrieved from <https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/hiv/strategic-information/hiv-data-and-statistics>
- Woodward, E.N., & Pantalone, D.W. (2012). The role of social support and negative affect in medication adherence for HIV-infected men who have sex with men. *J Assoc Nurses AIDS Care*, 23 (5), 388–396. doi: 10.1016/j.jana.2011.09.004
- Xu, J.F., Ming, Z.Q., Zhang, Y.Q., Wang, P.C., Jing, J., & Cheng, F. (2017). Family support, discrimination, and quality of life among ART treated HIV infected patients: A two-year study in China. *Infectious Diseases of Poverty*, 6 (1), 152. doi: 10.1186/s40249-017-0364-5

Zhou, W.Y., & Ji, K. (2011). The health status and quality of life of rural residents under different income in China. *Chinese J Health Pol*, 4, 54–59.

Zubaran, C., Medeiros, G., Foresti, K., May, W., Michelim, L., Madi, J.M., & UCS-UNESCO Research Group. (2014). Quality of life and adherence to antiretroviral therapy in Southern Brazil. *AIDS Care*, 26 (5), 619–25. doi: 10.1080/09540121.2013.841838