

Utilization of voluntary counseling and testing (VCT) services among transexual in Banda Aceh

Nazira Yusuf¹, Marthoenis², Irwan Saputra³, Hermansyah⁴, Asnawi Abdullah⁵

¹Student of Master's Program in Public Health, Postgraduate Universitas Muhammadiyah Aceh, Indonesia

²Department of psychiatry and mental health nursing, Universitas Syiah Kuala, Indonesia

³Lecturer at Magister of Public Health Program, Universitas Syiah Kuala, Indonesia

⁴Department of Nursing, Politeknik Kesehatan Kemenkes Aceh, Indonesia

⁵Lecturer in the Master's Program in Public Health, Postgraduate Universitas Muhammadiyah Aceh, Indonesia

ARTICLE INFO

Article history:

Received Feb 29, 2024

Revised Mar 8, 2024

Accepted Mar 27, 2024

Keywords:

Counseling
Testing
Transexual
Utilization
Voluntary

ABSTRACT

Indonesia ranks fifth in Asia in terms of high risk of HIV/AIDS. Men who have sex with men (MSM) are 22 times more likely to contract HIV among at-risk populations worldwide. MSM ranks third in the percentage of HIV-positive individuals undergoing HIV testing in Indonesia, at 8.75%. Previous research estimated that there were 30 active transgender sex workers in Banda Aceh and 311 MSM. Voluntary Counseling and Testing (VCT) is one way to detect HIV. However, several factors prevent transgender individuals from utilizing VCT services. The research design used is descriptive quantitative, analyzing VCT utilization among transgender individuals in Banda Aceh in 2021. The sample size in this study is 77 individuals using total sampling technique. Data collection was conducted using a questionnaire. Data analysis involves univariate analysis. It was found that 83.12% of surveyed transgender women are under the age of 35, with 80.52% having a secondary education. 71.43% of them work in salons, and 83.13% identify themselves as Acehnese. Only 50.65% have partners, although 58.44% exhibit a positive attitude towards VCT services. However, 55.84% face stigma and discrimination. Approximately 53.25% of respondents rate VCT facilities positively, but only 54.55% utilize the service. 33.33% have used VCT for 3 years, primarily at health centers, with partner rejection being the main obstacle (34.29%). While 84.42% correctly identify VCT, there are still misunderstandings, such as simultaneous testing and counseling (79.22%). Additionally, only 62.34% are aware of the voluntary nature of HIV testing, and only 50.65% understand the affordability and lifelong treatment of HIV.

This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.



Corresponding Author:

Nazira Yusuf,

Student of Master's Program in Public Health,

Postgraduate Universitas Muhammadiyah Aceh,

Jl. Muhammadiyah No.91, Batah, Kec. Lueng Bata, Kota Banda Aceh, Aceh 23123, Indonesia

Email: nazira.yusuf93@gmail.com

INTRODUCTION

Since the emergence of the Covid-19 pandemic, global attention towards HIV/AIDS cases seems to have waned, even as its prevalence continues to rise (Babalola et al., 2022; Laksemi et al., 2020). Human Immunodeficiency Virus/Acquired Immuno Deficiency Syndrome (HIV/AIDS) remains a significant and widespread infectious disease concern worldwide, including Indonesia, where the number of cases continues to grow (Koch et al., 2020; Liu & Tang, 2023; Martin-Odoom et al., 2016). According to UNAIDS, in 2019, there were 38 million people living with HIV globally, resulting in 770,000 AIDS-related deaths, with around 1.7 million new HIV infections (Rizkani et al., 2020). It's worth noting that certain populations face a higher risk, such as men who have sex with men (MSM), who are 26 times more likely to contract HIV/AIDS, and transgender individuals, who face a 13-fold higher risk (Baral et al., 2013; Garcia et al., 2020; Winter et al., 2016).

Indonesia, currently ranked fifth in Asia for its high risk of HIV/AIDS (Kemenkes, 2022) experiences challenges in combating this disease. Data from the Directorate General of Disease Prevention and Control indicates that by 2020, there were a total of 640,443 reported HIV/AIDS cases in Indonesia, but only 511,955 cases (79.94%) had been detected since 1987 (Gonzales et al., 2020; Jarrett et al., 2020). This leaves a concerning number of People Living with HIV/AIDS (PLHIV), around 128,499, undetected, potentially becoming sources of transmission due to their lack of awareness (Directorate General & Republic of Indonesia, 2022).

The vulnerability of specific groups to HIV/AIDS is a significant concern. Heterosexual groups, sex workers (both direct and indirect), men who have sex with men (MSM), transgender individuals, and drug users are among the most vulnerable (Ministry of Health, 2014). Timely access to care and treatment can prevent much of the associated morbidity and mortality (Rizkani et al., 2020). One crucial aspect of HIV/AIDS control is early detection, accomplished through programs like Voluntary Counseling and Testing (VCT) (Teti et al., 2017). VCT provides essential information about health status and aids in preparing for potential outcomes. This program also serves as an avenue for obtaining information and assistance related to HIV/AIDS. Targeting at-risk and vulnerable populations, VCT is a pivotal strategy in prevention efforts. However, factors such as stigma and poor understanding of VCT hinder its full potential (Fauk et al., 2021). Several studies conducted during the COVID-19 pandemic have found that various factors contribute to the utilization of Voluntary Counseling and Testing (VCT) services, ultimately improving the quality of life for people living with HIV (PLHIV) (Prabawati et al., 2022). These factors include predisposing factors such as knowledge and attitudes, enabling factors such as VCT service availability, and reinforcing factors such as family support, peer support, and healthcare provider support (Widiyanti et al., 2023). The research also highlights the impact of social support on increased utilization of VCT services, which in turn can enhance the quality of life for individuals living with HIV (Widiyanti et al., 2023).

Among these vulnerable populations, transgender individuals, often referred to as "transexual" in Indonesia, are at significant risk due to their engagement in unprotected anal intercourse (Beattie et al., 2012; Fauk et al., 2017; Fauk & Mwanri, 2015). In 2019, according to SIHA data, MSM accounted for 8.75% of positive HIV tests among at-risk groups, ranking third, following only Sero-Discordant couples and clients of sex workers (Click or tap here to enter text. (Ministry of Health of the Republic of Indonesia, 2020). Banda Aceh, a province in Indonesia with a growing transgender community, reported around 200 transgender individuals, with approximately 30 active transgender sex workers and 311 MSM (Anita, 2016). Nevertheless, challenges remain in the effective utilization of VCT services, exacerbated by subjective norms, stigma, and discrimination against PLHIV (Armstrong-Mensah et al., 2022; Costa et al., 2022). Poor understanding of VCT also contributes to misconceptions about HIV/AIDS, leading to stigma and discrimination (Lacombe-Duncan et al., 2020). Moreover, local regulations, such as the enforcement of Islamic sharia law, can further marginalize vulnerable groups, including transgender individuals. To the best of our knowledge, numerous studies have aimed to identify determinants

of Voluntary Counseling and Testing (VCT) utilization among transgender individuals. The urgency of this research stems from Indonesia's high risk of HIV/AIDS, particularly among men who have sex with men (MSM) and transgender individuals. The gaps found from previous research include the low utilization of Voluntary Counseling and Testing (VCT) services among transgender individuals in Banda Aceh and the presence of factors hindering their access to such services. Despite a positive attitude towards VCT, stigma and discrimination, partner rejection, and lack of understanding about HIV testing and treatment remain significant barriers. The research aims to shed light on the utilization of VCT services among transgender individuals in Banda Aceh and identify areas for improvement to enhance HIV prevention and treatment efforts in this population. However, this study focuses more on a behavioral theory perspective proposed by Lawrence Green, with a focus on transgender individuals. The objective of this study is to identify factors influencing transgender individuals' access to Voluntary Counseling and Testing (VCT) services in Banda Aceh.

RESEARCH METHOD

The type of research employed in this study is descriptive analytical with a cross-sectional design using a quantitative approach. The cross-sectional design involves simultaneous observation of independent and dependent variables within a specific timeframe (Gordis, 2013). This choice of design is methodologically appropriate and eliminates the need for follow-up assessments, allowing for the description of determinant factors in VCT utilization among transgender individuals in Banda Aceh. The research will be conducted in the city of Banda Aceh. This location was selected due to the existing transgender community within the province. The study's population comprises all transgender individuals in the Banda Aceh region who have either utilized or not yet utilized VCT services. The sample size of 77 individuals was determined through total sampling, aligning with inclusion and exclusion criteria (Sastroasmoro & Ismael, 2011). Inclusion criteria encompass male individuals engaged in same-sex relations aged 20 to 49, those who have received health education about VCT, exhibit open attitudes, and possess effective communication skills. Exclusion criteria include respondents unwilling to sign informed consent. Data collection involves several stages: Research preparation, execution, and report compilation. The initial phase includes a literature review, proposal development, and preliminary studies at relevant organizations in Banda Aceh. Implementation involves participant selection, informed consent acquisition, data collection, and collaboration with local enumerators. Data processing and analysis occur subsequent to data collection. Quantitative data will undergo cleaning, coding, and tabulation. Univariate analysis will provide descriptive insights into variable characteristics, including individual characteristics, knowledge, attitudes, stigma, discrimination, and VCT utilization. Ethical considerations play a significant role, as this research involves human subjects. Fundamental ethical principles are observed, respecting participant autonomy, minimizing harm, preventing hazards, and ensuring equitable distribution of benefits and risks. These ethical standards are fundamental to safeguarding the well-being, dignity, and values of all participants (Sujatno, 2008).

RESULTS AND DISCUSSIONS

Univariate Analysis

Univariate analysis is conducted to obtain a descriptive overview of each variable under study, both dependent and independent variables.

Table 1. Frequency distribution of respondents' characteristics

No	Variable	f	%
Independent Variables			
1	Age		

No	Variable	f	%
	- ≥35 Years	13	16.88
	- <35 Years	64	83.12
2	Education		
	- Middle School	62	80.52
	- Elementary	15	19.48
3	Occupation		
	- Unemployed	5	6.49
	- Private Sector	5	6.49
	- Service	5	6.49
	- Salon	55	71.43
	- Sex Worker	7	9.09
4	Ethnicity		
	- Acehnese	64	83.12
	- Non-Acehnese	13	16.88
5	Partner		
	- None	38	49.35
	- Present	39	50.65
6	Knowledge		
	- High	38	49.35
	- Low	39	50.65
7	Attitude		
	- Positive	45	58.44
	- Negative	32	41.56
8	Stigma		
	- Strong	45	55.84
	- Weak	32	44.16
9	Discrimination		
	- No	43	44.16
	- Yes	34	55.84
10	Facilities		
	- Good	41	53.25
	- Not Good		
	Dependent Variable		
11	Utilization of VCT		
	- Utilize	42	54.55
	- Do Not Utilize	35	45.45

According to Table 1, the results indicate that 83.12% of transgender women are under the age of 35. Additionally, approximately 80.52% of transgender women have a secondary education. About 71.43% of transgender women work in salons, with 83.13% of them belonging to the Aceh ethnic group. Furthermore, 50.65% of transgender women have partners. Concerning knowledge, approximately 50.65% of transgender women have low levels of knowledge. Despite this, about 58.44% of transgender women show a positive attitude towards VCT services. However, approximately 55.84% of transgender women also face strong stigma, along with discrimination actions at 55.84%. About 53.25% of transgender women state that the facilities and infrastructure of VCT services are good. Nevertheless, only around 54.55% of transgender women eventually utilize VCT services.

Table 2. Frequency distribution of utilization characteristics of VCT services

No	Variable	f	%
1	Duration of Using VCT		
	- 1 Year	9	21.43
	- 2 Years	12	28.57
	- 3 Years	14	33.33
	- 4 Years	7	16.67
2	Location of VCT Services		
	- Hospital	0.0	0.0
	- Community Health Center (Puskesmas)	42	100.0

No	Variable	f	%
3	- Private Clinic	0.0	0.0
	Reasons for Not Using VCT		
	- Fear of stigma and discrimination	10	28.57
	- Fear of positive results	8	22.86
	- Partner and self-confidence	5	14.29
	- Partner rejection	12	34.29
	- Don't know where to access VCT services	0	0.0

According to Table 2, it shows that 33.33% of transgender individuals have used VCT (Voluntary Counseling and Testing) for a duration of 3 years. The preferred healthcare facility for VCT among transgender individuals is 100.0% at the primary health center (puskesmas). The main reason for not utilizing VCT among transgender individuals is the rejection from their partners, accounting for 34.29%.

Table 3. Percentage of knowledge responses

No	Variable	True		False	
		f	%	f	%
1	The abbreviation of VCT is Voluntary Counseling and Testing	65	84,42	12	15,58
2	VCT is only an HIV testing service	61	79,22	16	20,78
3	The stages of VCT implementation are pre-test counseling, HIV testing, and post-test counseling	67	87,01	10	12,99
4	HIV testing is done concurrently with counseling	57	74,03	20	25,97
5	HIV testing is done voluntarily	48	62,34	29	37,66
6	The sample used for HIV testing in the VCT program is saliva	53	68,83	24	31,17
7	Community Health Centers (Puskesmas) are one of the places for VCT services	67	87,01	10	12,99
8	VCT services function for HIV prevention and control	50	64,94	27	35,06
9	The use of condoms is one of the prevention methods for HIV transmission	47	61,04	30	38,96
10	Changing partners can prevent HIV transmission	61	79,22	16	20,78
11	HIV can be transmitted through mosquito bites or other insects	36	46,75	41	53,25
12	HIV can be cured	43	55,84	34	44,16
13	The cost of HIV treatment is not expensive and not lifelong	39	50,65	38	49,35
14	People who appear healthy can transmit HIV	55	71,43	22	28,57
15	The time interval from someone being infected with HIV to developing AIDS can be long, between 5 to 10 years	60	77,92	17	22,08

The survey results indicate that the majority of respondents have a correct understanding of several aspects of the VCT (Voluntary Counseling and Testing) and HIV/AIDS program. As many as 84.42% of respondents are aware that VCT stands for Voluntary Counseling and Testing, while 87.01% understand the stages of implementing VCT, including pre-test counseling, HIV testing, and post-test counseling. However, there are some misunderstandings that need to be addressed. A total of 79.22% of respondents believe that HIV testing is done simultaneously with counseling, but only 62.34% realize that HIV testing is voluntary. Furthermore, only 50.65% of respondents are aware that the cost of HIV treatment is not expensive and not lifelong. These findings highlight the importance of broader education on HIV/AIDS, emphasizing accurate information and the crucial role of community health centers as providers of VCT services. This research is consistent with the study conducted by Putera et al., (2017) which shows no relationship between education and HIV testing practices among transgender sex workers. Similarly, the study by (Herdanindita et al., 2020) demonstrates no relationship between education and repeat VCT service visits among transgender individuals in Cilacap. According to (Fauk et al., 2018) one of the factors related to VCT utilization among transgender individuals is education. Low education levels also lead to a lack of knowledge about HIV testing. Additionally, the limited availability of VCT services in the districts where transgender individuals reside acts as a barrier to ever using VCT services. The percentage of transgender individuals showing a higher level of

secondary education compared to primary education indicates that those with secondary education have a better understanding of VCT and therefore utilize VCT services. This research is consistent with the study by Margareth San Sao & Irma Suryani, (2021) which shows a relationship between attitude and utilization of VCT services among transgender sex workers. Respondents with less supportive attitudes are 5.93 times more likely not to undergo HIV testing than respondents with supportive attitudes. Attitude is readiness or willingness to act, and not the execution of a specific motive. Attitude does not yet constitute an action or activity but is a predisposition to behavior. It is still a closed reaction or response, not an open reaction or behavior. The study by Kusuma Wardhani et al., (2015) states that the process of changing the attitudes of transgender individuals is more a result of their membership in a community that changes its attitude standards and expects attitude changes from its members. The research conducted by Nugroho et al., (2020) reveals that transgender individuals who have experienced STIs begin to change their sexual attitudes. Their awareness of voluntary change can serve as a reference material in influencing other community members.

CONCLUSION

The research findings lead to the conclusion that while the majority of transgender women exhibit a positive attitude towards VCT services, there are still significant barriers such as stigma, discrimination, and limited understanding of HIV testing procedures and affordable treatment costs. Therefore, efforts to improve access to and understanding of VCT services and HIV treatment are crucial for enhancing the health and well-being of the transgender community in Banda Aceh. The research findings make significant contributions to scientific knowledge and have implications for everyday life in society. The study examines the attitudes of transgender women towards Voluntary Counseling and Testing (VCT) services for HIV and reveals significant barriers, including stigma, discrimination, and limited understanding of HIV testing procedures and affordable treatment costs. These findings have important implications for informing healthcare policies and practices. They emphasize the need for targeted interventions to reduce stigma and discrimination, improve access to VCT services, and make HIV testing and treatment more affordable. Additionally, the research underscores the importance of enhancing the health and well-being of the transgender community in Banda Aceh and promoting greater social understanding and support. The research has several limitations that should be considered. Firstly, the sample size may have been small and limited to a specific subgroup of transgender women in Banda Aceh, thus limiting the generalizability of the findings. Future studies could address this by including larger and more diverse samples. Secondly, relying on self-reported data introduces potential biases and social desirability effects. Employing additional research methods, such as qualitative interviews or observational research, would provide more robust and objective data. Furthermore, conducting longitudinal studies would allow for a more dynamic understanding of transgender women's attitudes and experiences over time.

References

- Armstrong-Mensah, E. A., Tetteh, A. K., Ofori, E., & Ekhoesuehi, O. (2022). Voluntary Counseling and Testing, Antiretroviral Therapy Access, and HIV-Related Stigma: Global Progress and Challenges. *International Journal of Environmental Research and Public Health* 2022, Vol. 19, Page 6597, 19(11), 6597. <https://doi.org/10.3390/IJERPH19116597>
- Babalola, Y., Oluleye, T., & Ashaye, A. (2022). Vitreoretinal manifestations of human immunodeficiency virus infection and acquired immunodeficiency syndrome in patients attending an antiretroviral therapy clinic in Nigeria: A cross sectional study. *Journal of Clinical Sciences*, 19(3), 73. https://doi.org/10.4103/JCLS.JCLS_9_22

- Baral, S. D., Poteat, T., Strömdahl, S., Wirtz, A. L., Guadamuz, T. E., & Beyrer, C. (2013). Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. *Lancet Infect Dis*, 13(3), 214–222. [https://doi.org/10.1016/s1473-3099\(12\)70315-8](https://doi.org/10.1016/s1473-3099(12)70315-8)
- Beattie, T. S. H., Bhattacharjee, P., Suresh, M., Isac, S., Ramesh, B. M., & Moses, S. (2012). Personal, interpersonal and structural challenges to accessing HIV testing, treatment and care services among female sex workers, men who have sex with men and transgenders in Karnataka state, South India. *Journal of Epidemiology and Community Health*, 66 Suppl 2. <https://doi.org/10.1136/JECH-2011-200475>
- Cegah HIV-AIDS, Kemenkes Perluas Akses Pencegahan Pada Perempuan, Anak dan Remaja – Sehat Negeriku. (n.d.). Retrieved March 7, 2024, from <https://sehatnegeriku.kemkes.go.id/baca/umum/20221129/5041895/cegah-hiv-aids-kemenkes-perluas-akses-pencegahan-pada-perempuan-anak-dan-remaja/>
- Costa, A. B., Viscardi, L. H., Feijo, M., & Fontanari, A. M. V. (2022). HIV Voluntary Counseling and Testing (VCT-HIV) effectiveness for sexual risk-reduction among key populations: A systematic review and meta-analysis. *EClinicalMedicine*, 52, 101612. <https://doi.org/10.1016/J.ECLINM.2022.101612>
- Fauk, N. K., Crutzen, R., Merry, M. S., Putra, S., Sigilipoe, M. A., & Mwanri, L. (2017). Exploring Determinants of Unprotected Sexual Behaviours Favouring HIV Transmission among Men who Have Sex with Men in Yogyakarta, Indonesia. *Global Journal of Health Science*, 9(7), 47. <https://doi.org/10.5539/GJHS.V9N8P47>
- Fauk, N. K., & Mwanri, L. (2015). Inequalities in addressing the HIV epidemic: the story of the Indonesian Ojek community. *International Journal of Human Rights in Healthcare*, 8(3), 144–159. <https://doi.org/10.1108/IJHRH-10-2014-0028>
- Fauk, N. K., Sukmawati, A. S., Wardojo, S. S. I., Teli, M., Bere, Y. K., & Mwanri, L. (2018). The Intention of Men Who Have Sex With Men to Participate in Voluntary Counseling and HIV Testing and Access Free Condoms in Indonesia. *American Journal of Men's Health*, 12(5), 1175–1184. <https://doi.org/10.1177/1557988318779737>
- Fauk, N. K., Ward, P. R., Hawke, K., & Mwanri, L. (2021). HIV Stigma and Discrimination: Perspectives and Personal Experiences of Healthcare Providers in Yogyakarta and Belu, Indonesia. *Frontiers in Medicine*, 8, 625787. <https://doi.org/10.3389/FMED.2021.625787/BIBTEX>
- Garcia, S. A., Chen, J., Calleja, J. G., Sabin, K., Ogbuanu, C., Lowrance, D., & Zhao, J. (2020). Availability and quality of surveillance and survey data on HIV prevalence among sex workers, men who have sex with men, people who inject drugs, and transgender women in low- And middle-income countries: Review of available data (2001-2017). *JMIR Public Health and Surveillance*, 6(4), e21688. <https://doi.org/10.2196/21688>
- Gonzales, G., Loret de Mola, E., Gavulic, K. A., McKay, T., & Purcell, C. (2020). Mental Health Needs Among Lesbian, Gay, Bisexual, and Transgender College Students During the COVID-19 Pandemic. *Journal of Adolescent Health*, 67(5), 645–648. <https://doi.org/10.1016/J.JADOHEALTH.2020.08.006>
- Herdanindita, E., Nugraha Prabamurti, P., Widjanarko Promosi Kesehatan dan Ilmu Perilaku, B., & Kesehatan Masyarakat, F. (2020). GAMBARAN PERILAKU PEMANFAATAN VCT (Voluntary Counseling and Testing) PADA LSL DI LSM SGC (Semarang Gaya Community) KOTA SEMARANG. 8(2). <http://ejournal3.undip.ac.id/index.php/jkm>
- Jarrett, B. A., Peitzmeier, S. M., Restar, A., Adamson, T., Howell, S., Baral, S., & Beckham, S. W. (2020). Gender-affirming care, mental health, and economic stability in the time of COVID-19: a global cross-sectional study of transgender and non-binary people. *MedRxiv*. <https://doi.org/10.1101/2020.11.02.20224709>
- Koch, J. M., McLachlan, C., Victor, C. J., Westcott, J., & Yager, C. (2020). The cost of being transgender: where socio-economic status, global health care systems, and gender identity intersect. *Psychology & Sexuality*, 11(1-2), 103–119. <https://doi.org/10.1080/19419899.2019.1660705>
- Kusuma Wardhani, P., Shaluhayah, Z., Demartoto, A., Magister Promosi Kesehatan Universitas Diponegoro Semarang, A., & Promosi Kesehatan Universitas Diponegoro Semarang, M. (2015). Perilaku Penggunaan Kondom dan Pelicin pada LSL di Kota Surakarta. *Jurnal Promosi Kesehatan Indonesia*, 10(1), 89–101. <https://doi.org/10.14710/JPKI.10.1.89-101>
- Laksemi, D. A., Suwanti, L. T., Suwanti, L. T., Mufasirin, M., Mufasirin, M., Suastika, K., & Sudarmaja, M. (2020). Opportunistic parasitic infections in patients with human immunodeficiency virus/acquired immunodeficiency syndrome: A review. *Veterinary World*, 13(4), 716. <https://doi.org/10.14202/VETWORLD.2020.716-725>
- LAPORAN EKSEKUTIF PERKEMBANGAN HIV AIDS DAN PENYAKIT INFEKSI MENULAR SEKSUAL (PIMS) TRIWULAN III TAHUN 2022. (n.d.).

- Liu, X., & Tang, S. J. (2023). Pathogenic mechanisms of human immunodeficiency virus (HIV)-associated pain. *Molecular Psychiatry* 28(9), 3613–3624. <https://doi.org/10.1038/s41380-023-02294-7>
- Margareth San Sao, M., & Irma Suryani, A. (2021). The Determinants Perception Of Male Sex With Man (Msm) Concerning The Utilization Of VCT (Voluntary Counselling And Testing) HIV / AIDS In Dili Municipality, Timor-Leste. *Jurnal Ilmu Kesehatan*, 9(1), 22–30. <https://doi.org/10.30650/JIK.V9I1.1952>
- Martin-Odoom, A., Bonney, E. Y., & Opoku, D. K. (2016). Ocular complications in HIV positive patients on antiretroviral therapy in Ghana. *BMC Ophthalmology*, 16(1). <https://doi.org/10.1186/S12886-016-0310-5>
- Nugroho, C., Anitasari, T., & Kusumaningrum, I. (2020). KEYAKINAN PERILAKU DAN SIKAP TERHADAP VCT PADA LSL DI SUKOHARJO. *Jurnal Kesehatan*, 12(2), 102–106. <https://doi.org/10.23917/JK.V12I2.9766>
- Prabawati, O. P., Ratnawati, R., Prayitno, S., & Ramadhanintyas, K. N. (2022). TRANSGENDERS COMPLIANCE FACTORS IN CARRYING OUT VOLUNTARY COUNSELING AND TESTING (VCT) SERVICES DURING COVID-19 PANDEMIC. *Media Bina Ilmiah*, 17(2), 191–200. <https://doi.org/10.33578/MBI.V17I2.113>
- Putera, F., Abdullah, A., & Imran, D. (2017). *Kesediaan Melakukan Voluntary Counseling and Testing pada Kelompok Resiko HIV/AIDS Voluntary Counseling and Testing Uptake's Intention among HIV/AIDS Risk Groups*. 5, 1.
- Rizkani, R. S., Utama, S., & Mutiara, E. (2020). The Correlation between Perception of Stigma of HIV/AIDS and Utilization of Voluntary Counseling and Testing and Care, Support and Treatment Polyclinic at Djoelham Hospital, Binjai. *Journal of Health Promotion and Behavior*, 5(1), 26–34. <https://doi.org/10.26911/THEJHPB.2020.05.01.04>
- Safika, I., Johnson, T. P., Cho, Y. I., & Praptoraharjo, I. (2014). Condom Use Among Men Who Have Sex With Men and Male-to-Female Transgenders in Jakarta, Indonesia. *American Journal of Men's Health*, 8(4), 278–288. <https://doi.org/10.1177/1557988313508430>
- Teti, E., Mulyana, H., Mitra, S., & Tasikmalaya, K. (2017). ANALISIS PEMANFAATAN VOLUNTARY COUNSELING AND TESTING BERDASARKAN PENDEKATAN TEORI HEALTH BELIEFE MODEL PADA LELAKI SUKA LELAKI DAN WARIA DI KABUPATEN CIAMIS. In *Jurnal Keperawatan & Kebidanan STIKes Mitra Kencana Tasikmalaya* (Vol. 1, Issue 1).
- Widiyanti, M., Adiningsih, S., Pramestiyani, M., Fitrianingtyas, R., & Rampa, E. (2023). The Utilization of Voluntary Counseling and Testing by Women of Reproductive Age in West Papua. *Jurnal Kesehatan Masyarakat*, 18(3), 316–324. <https://doi.org/10.15294/kemas.v18i3.34942>
- Winter, S., Diamond, M., Green, J., Karasic, D., Reed, T., Whittle, S., & Wylie, K. (2016). Transgender people: health at the margins of Society. *Lancet*, 388(10042), 390–400. [https://doi.org/10.1016/s0140-6736\(16\)00683-8](https://doi.org/10.1016/s0140-6736(16)00683-8)