

The Effectiveness of e-Booklet on Female Sex Workers' Knowledge and Behaviour of HIV/AIDS Prevention in Semarang

Nabilla Angel Sukma Wati ¹, Nila Titis Asrining Tyas ^{2*}

1 Sarjana Keperawatan, Sekolah Tinggi Ilmu Kesehatan Elisabeth Semarang, Jl. Kawi No. 11, Kota Semarang, Provinsi Jawa Tengah, Indonesia 50232

Email : nabillaangelsukmawati69@gmail.com

2 Sarjana Keperawatan, Sekolah Tinggi Ilmu Kesehatan Elisabeth Semarang, Jl. Kawi No. 11, Kota Semarang, Provinsi Jawa Tengah, Indonesia 50232

Email : nilatitiasriningt@gmail.com

* Corresponding Author: Nabilla Angel Sukma Wati

Abstract: Sex workers (FSW) are a key population at high risk of HIV/AIDS because they work frequently serving guests. HIV prevention knowledge and behavior are not optimal, education using the e-booklet "Mencegah HIV/AIDS Pada PSP" is a solution to improve HIV/AIDS prevention knowledge and behavior with direct media, easy to understand and accessible to sex workers. The study aims to determine the effectiveness of education using the e-booklet "Mencegah HIV/AIDS Pada PSP" on HIV/AIDS prevention knowledge and behavior among female sex workers (FSW) in Semarang Regency. Using quantitative, Quasi-experimental research design one sample group pre-test and post-test design. Samples of 62 respondents, consecutive sampling technique. Data collection using a questionnaire on HIV/AIDS prevention knowledge and behavior among female sex workers (FSW). Data were tested with Marginal Homogeneity. Results Before education, 62 respondents had poor knowledge and behavior of HIV/AIDS prevention and after education, 62 respondents had good knowledge and behavior of HIV/AIDS prevention. The Marginal Homogeneity Test shows a p-value of 0.000 (<0.05) so H_1 is accepted and H_0 is rejected, there is effectiveness of education using the e-booklet "Mencegah HIV/AIDS Pada PSP" on knowledge and behavior of HIV/AIDS prevention in female sex workers (FSW) in Semarang Regency. The results indicated a notable improvement in both knowledge and behavior among the participants. Prior to the intervention, participants exhibited poor knowledge and behaviors regarding HIV/AIDS prevention. However, after engaging with the e-booklet, there was a significant shift, with all 62 respondents showing improved knowledge and behavior. The statistical analysis using the Marginal Homogeneity Test yielded a p-value of 0.000 (<0.05), confirming the effectiveness of the education provided through the e-booklet.

Keywords: Health Education; HIV/AIDS Prevention; Knowledge Behavior; Quasi-Experimental Study; Semarang Regency

1. Introduction

Human Immunodeficiency Virus (HIV) is an infection that attacks the immune system, while Acquired Immunodeficiency Syndrome (AIDS) is the most advanced stage of the disease. HIV targets the body's white blood cells and weakens the immune system, making us more susceptible to diseases such as tuberculosis, infections, and some types of cancer. HIV is also transmitted through the bodily fluids of an infected person, including blood, breast

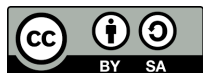
Received: August 15, 2025

Revised: August 29, 2025

Accepted: September 20, 2025

Online Available: September 23, 2025

Curr. Ver.: September 23, 2025



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>)

milk, semen, and vaginal fluids. The disease is not spread through kissing, hugging, or sharing food (Lara, 2022; WHO, 2020, 2023).

The number of deaths in people with HIV/AIDS (PLWHA) in the world every 10 and every year the number of deaths of PLWHA has increased by a fairly large number, namely in 2010-2020 there was a decrease of 999,350, and in 2022 there was also a slight decrease so that the total number of deaths in a period of 30 years is estimated to be as many as 4.4 million victims (Viera Valencia & Garcia Giraldo, 2017).

The number of deaths due to HIV/AIDS in Indonesia increases by varying percentages every 10 years. Between 2016 and 2022, the number of deaths increased significantly, reaching 37,035, bringing the total number of deaths over the 30 years from 1987 to 2022 to 49,324,000 (Unaid, 2021; World Health Organization, 2019).

According to the Minister of Health of the Republic of Indonesia (Kemenkes RI) in 2022 there were 5 provinces with the highest case discovery in Indonesia, namely the first rank was occupied by DKI Jakarta Province with a total of 76,103 cases, East Java 71,909 cases, West Java 52,970 cases, Central Java in 1993-2020 September reported as many as 35,655 cases with details of HIV 20,822 cases and AIDS 14,833 cases and in 2022 as many as 44,649 cases, and Papua 41,286 cases. Based on the above it can be concluded that specifically Central Java every year changes experience different increases and Central Java is ranked 4th with the highest number of cases in Indonesia. Semarang Regency which is part of Central Java now ranks first with the highest number of cases, namely the number of new HIV cases reached 311 cases in 2022 (Kemenkes RI, 2022).

Female Sex Workers (FSW) are one of the sexual groups at high risk of contracting HIV/AIDS.¹⁵ In 2022, FWs ranked third after transgender women and men who are sexually active, followed by those who inject drugs (IDUs). FWs are a hidden key population with stigma attached to their risky behavior, making them difficult to reach with general health education models. From the explanation above, it can be concluded that FWs are ranked second because of the risk of frequently changing jobs during relationships (Lara, 2022; Nasional et al., 2022).

WHO issued "Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030" which based on its content there are the latest strategies to end the HIV epidemic, then these strategies require a more precise focus to reach the communities most affected and at risk of each disease, namely targeting key populations.³ One of the key populations in the context of HIV is Female Sex Workers (FSW).³ UNAIDS in 2022 in key populations globally the median HIV prevalence is higher in key populations, one of which is sex workers, namely 2.5% (UNAIDS, 2023).

The WHO 2022-2030 strategy takes into account epidemiological, technological, and contextual changes in recent years, encourages learning across disease areas, and creates opportunities to leverage innovation and new knowledge for effective responses to HIV and differentiated service delivery to meet the diverse needs of specific populations and environments, and effective outbreak preparedness also requires continued investment in innovative technologies.³ Knowledge in people at risk of HIV/AIDS is low and not optimal, it is expected to have good knowledge related to HIV/AIDS so that everyone can be encouraged to take efforts to prevent transmission and prevent transmission to others to support HIV/AIDS control. PSP is a hidden key population with stigma attached to their

risky behavior, so it is not easy to reach with a general health education model, therefore the solution is to implement education with innovations that use booklets as media that will be easily accessed in soft files as needed (Nasional et al., 2022; Wulandari et al., 2020).

This study also differs from previous research, which lacked quantitative research on this topic, particularly in Semarang. This study involved a population of sex workers (PSP) and used an individual approach to maximize results. Respondents came from three nightclubs and a hidden red-light district in Semarang Regency.

Of the 10 samples each during the preliminary study using a questionnaire and 3 of them were also interviewed regarding knowledge and behavior of HIV/AIDS prevention, 7 respondents had knowledge and behavior of HIV/AIDS prevention in the poor category, 3 people in the sufficient category, and none had a good category. Based on the results of the brief interview they only knew that HIV/AIDS is a disease, the symptoms of HIV/AIDS are spots and skin rashes, HIV/AIDS prevention with drugs and condoms. So the results of the brief interview on PSP can be concluded that knowledge and behavior of HIV/AIDS prevention are lacking.

Based on the results of the preliminary study, it can be concluded that sex workers do not have good knowledge and behavior of HIV/AIDS prevention, meaning this job is at risk of HIV/AIDS. Therefore, this place is the right place to conduct research. Therefore, the researcher is interested in conducting research "The Effectiveness of Education Using the e-booklet "Mencegah HIV/AIDS Pada PSP" on Knowledge and Behavior of HIV/AIDS Prevention in Female Sex Workers (FSW) in Semarang Regency".

2. Preliminaries or Related Work or Literature Review

Based on a study written by Kurdi, Fahrudin entitled "Barriers to Preventing the Transmission of Human Immunodeficiency Virus (HIV) / Acquired Immune Deficiency Syndrome (AIDS)" in 2017, where based on interviews FSW admitted to continuing to serve customers without condoms according to the guest's wishes. They prioritize material things in the form of money over the health impacts they will experience. In addition, participants stated that they prefer to comply with customer requests because if they do not comply, they worry about losing customers which will later impact their income (Pramesti et al., 2017).

Based on research written by Evy Apriani, Sohimah, and Ida Ariani entitled "Obstacles to Condom Use in HIV/AIDS Prevention Efforts by Commercial Sex Workers in Cilacap Regency" in 2017. Based on interviews, FSW admitted that they had often urged consumers to use condoms as protection, but what could they do if they did not comply with the wishes of consumers and prioritized the rights and satisfaction of consumers who would not be used again so they could not earn money. There were consumers who had agreed to use condoms but after paying they did not comply with the rules and with threats because they had paid (Viera Valencia & Garcia Giraldo, 2019).

Based on research written by Henna K. Simbolon and Herbert Wau entitled "Customer Satisfaction and Impact on the Risk of HIV/AIDS Transmission" in 2020. Based on interviews with FSW, they revealed that they actually know they should use condoms during sexual intercourse, but they are more burdened and prioritize customer satisfaction and the contributing factor is economic needs. There are also consumers who pay more if they do not

use condoms, those who need money are certainly tempted by the offer (Feby Ramandini, 2018).

Based on research written by Erli Widiastuti and Arulita Ika Fibriana entitled "HIV/AIDS Incidence in Semarang City in 2021," it is explained that the variable of sex worker clients is the most dominant variable or the one with the highest risk of HIV/AIDS incidence in Semarang City in 2021. From the explanation above, it can be concluded that the key population, namely sex workers (FSW), is the cause of the variable of sex worker clients being the most at risk of HIV/AIDS in Semarang City (Widiastuti & Arulita, 2022).

Based on research written by Tony Syafari entitled "The Relationship between the Level of Knowledge of Female Commercial Sex Workers (CSW) and HIV/AIDS Prevention Behavior in Mangga Besar Village, Taman Sari District, West Jakarta in 2013," it is explained that this study used a questionnaire in Indonesian that had been "Tested the Validity and Reliability of Knowledge and HIV/AIDS Prevention Behavior in CSW." There is a relationship from the results of the study (Feby Ramandini, 2018).

The explanation above can be concluded that this study also differs from previous studies where there is no fact that there has been no quantitative research on this matter, especially in Semarang. This study involves the PSP population and its approach method individually in order to maximize the results to be achieved, and the respondents taken are not only people at risk of HIV/AIDS but also people who are infected with HIV, by means of education using innovation in the form of e-booklets as media that will be easily accessed in soft files as needed (Febryanto et al., 2023; Nasional et al., 2022; Wulandari et al., 2020). This researcher also involved respondents from 3 nightclubs and hidden localizations in Semarang Regency.

3. Proposed Method

This quantitative research uses a Quasi-experimental one sample group pre-test and post-test design with the aim of providing a pre-test before being given treatment and a post-test after being given treatment, namely education using the e-booklet "Mencegah HIV/AIDS Pada PSP". The sampling technique used was a 10% dropout, with a population consisting of 62 Sex Workers from three locations: RT 5 Jatijajar Bergas, RT 6 Jatijajar Bergas, and Bandungan. Dropout criteria include all those who stated they could not carry out their duties as Sex Workers who worked within 3 days after the education, the data collection process, died, and moved (Djaali, 2021; Sudaryana & Agusiady, 2022; Veronica et al., 2022).

4. Results and Discussion

Results

Respondent Characteristics Based on Age

Table 1. Frequency Distribution of FSW Characteristics in RT 5 Jatijajar Bergas, RT 6 Jatijajar Bergas and Bandungan, Semarang Regency By Age June-July 2024 (n=62).

Age	Frequency (n)	Percentage (%)	Mean	Standard Deviation
-----	------------------	-------------------	------	-----------------------

				(Min – Max)
Teenagers aged 10-19 years	1	1,6	37,47	9,859 (17-52)
Early adulthood 20-40 years	31	50		
Middle adulthood 41-59 years	30	48,4		
Total	62	100		

Based on table 8 and figure 3 above, it can be concluded that the age category of respondents with the largest number is respondents in the early adulthood age category of 20-40 years with a total of 31 respondents (50.0%).

Respondent Characteristics Based on Last Education

Table 2. Frequency Distribution of FSW Characteristics in RT 5 Jatijajar Bergas, RT 6 Jatijajar Bergas and Bandungan, Semarang Regency Based on Last Education, June-July 2024 (n=62).

Last education	Frequency (n)	Percentage (%)
No school	3	5
Elementary School	29	52
Junior High School	24	43
Senior High School	0	0
College	0	0
Total	62	100

Based on table 9 and figure 4 above, it can be concluded that the most recent educational history of respondents was elementary school education, amounting to 32 respondents (52%).

Respondent Characteristics Based on Length of Service

Table 3. Frequency Distribution of FSW Characteristics in RT 5 Jatijajar Bergas, RT 6 Jatijajar Bergas and Bandungan, Semarang Regency Based on Length of Service in June-July 2024 (n=62).

Length of work	Frequency (n)	Percentage (%)
<1 year	2	3
1-2 years	7	11
>2 years	53	85
Total	62	100

Based on table 10 and figure 5 above, it can be concluded that the longest work history is for respondents with >2 years, as many as 53 respondents (85%).

Respondent Characteristics Based on Monthly Income

Table 4. Frequency Distribution of PSP Characteristics in RT 5 Jatijajar Bergas, RT 6 Jatijajar Bergas and Bandungan, Semarang Regency Based on Monthly Income June-July 2024 (n=62).

Monthly Income	Frequency (n)	Percentage (%)
<1 million/month	1	2
1-2 million/month	30	48
>2 million/month	31	50
Total	62	100

Based on table 11 and figure 6 above, it can be concluded that the highest monthly income is for respondents with >2 million/month, as many as 31 respondents (50%). (FSW di Kabupaten Semarang (n=62)

Table 5. Cross tabulation of 3x3 table of effectiveness before and after education using the e-booklet "Mencegah HIV/AIDS Pada PSP" on knowledge and behavior of HIV/AIDS prevention in Female Sex Workers (FSW) in Semarang Regency (n=62).

		HIV/AIDS prevention knowledge and behavior among FSW after education				<i>p-value</i>
		Good	Enough	Not enough	Total	
Knowledge and behavior of HIV/AIDS prevention in FSW before education	Good	62 100%	0 0%	0 0%	62	0,000
	Enough	0 0%	0 0%	0 0%	0	
	Not enough	0 0%	0 0%	62 100%	62	
	Total	62	0	62		

Based on table 13 above shows a 3x3 cross tabulation where knowledge and behavior of HIV/AIDS prevention in FSW before being given education using the e-booklet "Mencegah HIV/AIDS Pada PSP" it can be concluded that knowledge and behavior of HIV/AIDS prevention are lacking as many as 62 respondents, then after being given education using the e-booklet "Mencegah HIV/AIDS Pada PSP" obtained knowledge and behavior of HIV/AIDS prevention in the good category as many as 62 respondents. The results of the Marginal Homogeneity test obtained a p-value of 0.000 (<0.05) which indicates that H1 is accepted and H0 is rejected, namely there is "Effectiveness of Education Using the E-Booklet "Mencegah HIV/AIDS Pada PSP" on Knowledge and Behavior of HIV/AIDS Prevention in Female Sex Workers (FSW) in Semarang Regency".

Discussion

Respondent Characteristics by Age

According to Sigit Prasetyo's (2015) research entitled "Background and Characteristics of Commercial Sex Workers (CSWs) in Batang Regency," the study found that the majority of sex workers in the Petamanan and Penundan localizations were aged 20-30, although some were over 30 years old and still served clients. This was primarily due to the need to meet basic living expenses. This contrasted with the minority of respondents, aged 10-19 (1.6%), who were still unsure about making decisions and not yet willing to take risks. This age group also lacked the necessary family support (Balocchini et al., 2013).

Respondent Characteristics Based on Last Education

According to Siti Novy R's (2021) research entitled "Qualitative Study of Perceptions and Behaviors of Commercial Sex Workers in Preventing Sexually Transmitted Infections and HIV/AIDS in Bogor," the results indicate that all informants had a low level of education. A low level of education coupled with a lack of specialized skills makes it difficult for someone to obtain stable employment. Furthermore, the limited job market, coupled with low education and limited skills, forces many people to take shortcuts, namely becoming sex workers (Rakhmah & Putra, 2024).

Respondent Characteristics Based on Length of Employment

According to Siti Novy R's 2021 research entitled "Qualitative Study of Perceptions and Behaviors of Commercial Sex Workers in Preventing Sexually Transmitted Infections and HIV/AIDS in Bogor," the factors driving the informants to work as female sex workers for long periods were economic hardship and debt, which forced them to work as female sex workers (FSW), coupled with the need to support their children (Romlah et al., 2021).

According to Notoatmodjo, S., in 2011, knowledge can create awareness, leading to behavior based on that knowledge. Behavioral changes based on knowledge, awareness, and positive attitudes are lasting because they arise from individuals' own awareness, not from coercion (Nurdiantini, I., Prastiwi, S., & Nurmaningsari et al., 2017).

Respondent Characteristics Based on Monthly Income

According to Soejono Soekanto in 2005, the causes of prostitution are endogenous factors including laziness, the desire to live a luxurious life without struggling, such as lifestyle, the environment where sex workers work is usually often connected with unhealthy relationships such as smoking, drinking alcohol and even drugs, therefore the wasteful lifestyle of sex workers makes sex workers survive in their profession in order to continue to be able to fulfill these desires from their monthly income. According to Louis Thurstone in 1928, attitude is a form of evaluation or reaction of feelings, but attitude can be said to give birth to behavior, and this behavior is what is visible to our senses. If a person's attitude is good towards something, then the behavior that appears as an expression of the attitude will also be good (Nurdiantini, I., Prastiwi, S., & Nurmaningsari et al., 2017),(Ovany et al., 2020).

Effectiveness of Education Using the "Mencegah HIV/AIDS Pada PSP " E-Booklet on HIV/AIDS Prevention Knowledge and Behavior Among Female Sex Workers (FSW)

After providing education using the "Mencegah HIV/AIDS Pada PSP" e-booklet, three days later, researchers returned to each sex worker to assess their HIV/AIDS prevention behavior. During these three days, the sex workers could reread the "Mencegah HIV/AIDS

Pada PSP" e-booklet to better understand its content and meaning, thus helping them remember and then apply it to their HIV/AIDS prevention efforts. This "Mencegah HIV/AIDS Pada PSP" e-booklet can also be used and read by all sex workers in Semarang Regency, where HIV/AIDS prevention knowledge and behavior are still lacking (Azinar & Fibriana, 2019).

Knowledge in people at risk of HIV/AIDS is low and not optimal, it is expected to have good knowledge regarding HIV/AIDS so that everyone can be encouraged to make efforts to prevent transmission and prevent transmission to others to support HIV/AIDS control. Based on WHO, the goal of health education is to change the behavior of people or communities from unhealthy or unhealthy behavior to healthy behavior. The definition of health according to Health Law No. 36 of 2009 is a healthy state, both physically, mentally, spiritually and socially that allows everyone to live productively socially and economically (Mahendra et al., 2019).

5. Conclusions

The results of the study based on respondent characteristics show that the most respondents who experienced inadequate knowledge and behavior regarding HIV/AIDS prevention were 31 people (50.0%) aged 20-40 years. The most recent educational history of respondents who experienced inadequate knowledge and behavior regarding HIV/AIDS prevention was elementary school, with 32 people (52%). The most work history of respondents who experienced inadequate knowledge and behavior regarding HIV/AIDS was >2 years, with 53 people (85%). The most monthly income of respondents who experienced inadequate knowledge and behavior regarding HIV/AIDS was >2 million/month, with 31 people (50%).

The characteristics of HIV/AIDS prevention knowledge and behavior among sex workers (FSW) before and after being given education using the e-booklet "Preventing HIV/AIDS in Sex Workers" showed that before being given education using the e-booklet "Mencegah HIV/AIDS Pada PSP" the most experienced was inadequate knowledge and behavior regarding HIV/AIDS prevention, namely 62 people (100%) and the least experienced good and sufficient knowledge and behavior regarding HIV/AIDS prevention, namely 0 people (0%). While after being given education using the e-booklet "Preventing HIV/AIDS in Sex Workers" there was an increase with the interpretation of good results as many as 62 people (100%), sufficient and poor 0 people (0%).

The results of the study showed that there was effectiveness of education using the e-booklet "Mencegah HIV/AIDS Pada PSP" on knowledge and behavior regarding HIV/AIDS prevention among female sex workers (FSW) in Semarang Regency with a p-value of 0.000 ($p < 0.05$).

Author Contributions: Author One's contribution to this research was to propose ideas, which were then provided with input and suggestions by Author Two. Author One sought respondents without a research assistant from the beginning to the end of the research, which was finally approved by Author Two as the first supervisor. Author Two provided guidance and input that could improve this research.

Funding: Please add: This research did not receive any external funding, all research activities from start to finish were carried out using personal funds, however, publication costs were divided equally between author one and author two.

Data Availability Statement: Supporting data and completeness of the results of this study can be obtained by contacting the author via the existing email because the data results are private and concern the ethics of the author and the respondents involved, however the e-booklet “Mencegah HIV/AIDS Pada PSP” can be accessed by searching Google according to the title of the e-booklet or can be accessed via the following link: “https://fliphtml5.com/vjiwz/vvki/E_BOOKLET_%26quot%3BMENCEGAH_HIV_AIDS_PADA_PSP%26quot%3B/”

Acknowledgments: I express my gratitude and thanks to God Almighty and my parents, family and friends who always encourage and always pray for me, thank you to my first supervisor, Mrs. Nila Titis Asrining Tyas who has guided me from the beginning to the end, spending her time and ideas on this research.

Conflicts of Interest: Author one has a study design role in the collection, analysis, or interpretation of data in writing the manuscript or in the decision to publish the results and author two has a role in directing and guiding during the research and publication of the research results from beginning to end.

References

- Azinar, M., & Fibriana, A. I. (2019). Health Reproduction E-Booklet Multimedia Health to Improve Motivation and Knowledge at Students in Localization Areas. <https://doi.org/10.2991/acpes-19.2019.71>
- Balocchini, E., Chiamenti, G., & Lamborghini, A. (2013). Adolescents: Which risks for their life and health? *Journal of Preventive Medicine and Hygiene*, 54(4), 191–194.
- Djaali. (2021). *Metodologi Penelitian Kuantitatif*. Bumi Aksara.
- Febryanto, D., Restu Iriani, Prystia, Putri, R., Rahmawati, D., Pranowo, S., Purwoto, A., Heny, N., Anas, P., Anugrah, K., Daramatasia, W., Mursid, A., Rizky, L., Dewi, A., & Suharto, N. (2023). *HIV Dan Paliatif* Get Press Indonesia. www.getpress.co.id
- Feby ramandini. (2018). Gambaran Tingkat Stress Mahasiswa Baru Terhadap Pendidikan Diploma III Keperawatan di Universitas Muhammadiyah Kalimantan Timur. *Journal of Physical Therapy Science*, 9(1), 1–11. <http://dx.doi.org/10.1016/j.neuropsychologia.2015.07.010><http://dx.doi.org/10.1016/j.visres.2014.07.001><https://doi.org/10.1016/j.humov.2018.08.006><http://www.ncbi.nlm.nih.gov/pubmed/24582474><https://doi.org/10.1016/j.gaitpost.2018.12.007>
- Kemenkes RI. (2022). *Laporan Perkembangan HIV-AIDS dan Penyakit Infeksi Menular Seksual (PIMS) Triwulan 1 Januari-Maret 2022*. Kementerian Kesehatan Republik Indonesia, 1–23.
- Lara. (2022). Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030. In *World Health Organization* (Issue 8.5.2017). www.aging-us.com
- Mahendra, D., Jaya, I. M. M., & Lumban, A. M. R. (2019). *Buku Ajar Promosi Kesehatan*. Program Studi Diploma Tiga Keperawatan Fakultas Vokasi UKI, 1–107.
- Nasional, P. P., Percepatan, M., Perluasan, D. A. N., Nasional, M. P., Kompetensi, M. P., Daya, S., & Jagung, P. (2022). *Laporan Tahunan Laporan Tahunan*. 1–91.
- Nurdiantini, I., Prastiwi, S., & Nurmaningsari, T., Fatonah, S., Rihiantoro, T., Irawan, H., & Ari, S. (2017). *Nursing News Volume 1, Nomor 23, 2017*. *Journal Nursing News*, XI(1), 31–37.

- Ovany, R., Hermanto, H., & Tramigo, W. (2020). Hubungan Tingkat Pengetahuan Tentang Hiv/Aids Dengan Motivasi Tes Hiv Pada Wanita Pekerja Seks (Wps) Di Lokalisasi Bukit Sungkai Km 12 Palangka Raya. *Dinamika Kesehatan: Jurnal Kebidanan Dan Keperawatan*, 11(1), 290–299. <https://doi.org/10.33859/dksm.v11i1.615>
- Pramesti, A., Andiyanti, L., & Effendi, A. (2017). *Jurnal Keperawatan Muhammadiyah*, 2 (2). *Jurnal Keperawatan Muhammadiyah*, 2(2), 104–107.
- Rakhmah, N., & Putra, B. P. (2024). Faktor Sosial yang Mempengaruhi Seorang Menjadi Pekerja Seks Komersial di Makassar Sulawesi Selatan. *UMI Medical Journal*, 9(1), 48–66.
- Romlah, S. N., Andriati, R., & Utama, M. P. (2021). Studi Kualitatif Persepsi Dan Perilaku Pekerja Seks Komersial Dalam Upaya Pencegahan Infeksi Menular Seksual Dan HIV/AIDS di Bogor. *Edu Dharma Journal: Jurnal Penelitian Dan Pengabdian Masyarakat*, 5(1). <https://doi.org/10.52031/edj.v5i1.92>
- Sudaryana, B., & Agusiady, H. R. R. (2022). *Metodologi Penelitian Kuantitatif*. In Deepublish Publisher.
- Unaids. (2021). Estimates Adults and children living with Country factsheets DRC | 2020 HIV testing and treatment cascade People living with HIV Coverage of adults and children. *Unaids*, 1–6. <https://aidsinfo.unaids.org/%250D>
- UNAIDS. (2023). Word AIDS Day 2023: Global HIV statistics. 1–6. https://www.unaids.org/sites/default/files/media_asset/UN-AIDS_FactSheet_en.pdf
- Veronica, A., Ernawati, Rasdiana, Abas, M., Yusriani, Hadawiah, Hidayah, N., Sabtohadhi, J., Marlina, H., Mulyani, W., & Zulkarnaini. (2022). *Metodologi Penelitian Kuantitatif*. In Pt. Global Eksekutif Teknologi.
- Viera Valencia, L. F., & Garcia Giraldo, D. (2017). Kendala Penggunaan Kondom dalam upaya Pencegahan HIV/AIDS Oleh Pekerja Seks Komersial Dalam di Kabupaten Cilacap Constraints OfUse OfCondoms In HIV/AIDS Prevention Effects By Sex Commercial Workers In The Cilacap Regency. *Angewandte Chemie International Edition*, 6(11), 951–952., 2.
- Viera Valencia, L. F., & Garcia Giraldo, D. (2019). Penyakit Menular Seksual Dan HIV-AIDS. In *Angewandte Chemie International Edition*, 6(11), 951–952. (Vol. 2).
- WHO. (2020). Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization (https://www.who.int/neglected_diseases/Revised-DraftNTD-Roadmap-23Apr2020.pdf). In World Health Organization.
- WHO. (2023). Integrating the prevention and control of and sexual and reproductive in HIV/AIDS, tuberculosis, noncommunicable diseases health programmes Implementation Guidance. In *Practical Support for ISO 9001 Software Project Documentation*.
- Widiastuti, E., & Arulita, I. F. (2022). Kejadian HIV/AIDS di Kota Semarang Tahun 2021. *Higeia Journal of Public Health Research and Development (HIGEIA)*, 6(4), 344–355. <http://journal.unnes.ac.id/sju/index.php/higeia>
- World Health Organization, U. (2019). Estimating HIV Incidence Using HIV Case Surveillance Incidence Assays Report. December. <http://apps.who.int/iris/bitstream/10665/254867/1/WHO-HIV-2017.03-eng.pdf>
- Wulandari, W., Sitorus, S., & Fitria, A. (2020). The Effect of Health Education through HIV/AIDS Booklet Media on Adolescent Behavior for HIV/AIDS Prevation in Darussalam Health Prevention Lhokseumawe City. *Journal La Medihealthico*, 1(5). <https://doi.org/10.37899/journallamedihealthico.v1i5.161>