

The Profile of Factors Influencing Condom Usage Among Transgender Population: A Systematic Review

Anwar Mohamad Bin Patawari, Samsriyaningsih Handayani, Soetjipto, Abdul Khairul Rizki Purba
Fakultas Kedokteran Universitas Airlangga

ABSTRACT

Introduction: Human Immunodeficiency Virus is still a problem around the world and in Indonesia, one of the most exposed is the Transgender community and one way to prevent HIV transmission is through condoms. This systematic review aims to find out the factors that influence condom use in transgender women. Literature searches were conducted using PubMed with the keyword's 'transgender', 'peer support', 'knowledge', 'condom use'. From 202 studies that were screened using Preferred Reporting Items for Systematic review and Meta-Analyses (PRISMA), 2 studies were obtained and analyzed.: Data that was obtained such as research method, participants, exposure, and outcome such as condom use and their factors were obtained. Based on analyses on condom use factors, the knowledge of condom use is not as effective in improving condom use, another factor is that increase in trust causes the participants partners to not use condom as often, last factor is Peer support towards the partners has an increase in condom usage. Further research with other factors not found is needed to give better comparison

Keywords: *Transgender, HIV Knowledge, Trust, Peer Support, Condom Use*

Corresponding author

Name: *Anwar Mohamad Bin Patawari*

Email: *patawari.anwar.mohamad@gmail.com*

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a virus that causes the disease called acquired immunodeficiency syndrome (AIDS) which weakens the immune system of the human body and makes it prone for easier infection by attacking the white blood cells (Lymphocytes). The virus can be found in body fluids, blood, semen, vaginal discharge, rectal fluid and in breast milk (Centers for Disease Control and Prevention, 2018).

Transgender people or persons are people whose gender identity or gender expression differs from the sex to which they were born. Some trans people select gender-affirming medical treatments as part of gender-affirming care to align their bodies with their gender. HIV can be infected by intercourse, syringes, or through mother and child via breastfeeding, birth or pregnancy (van de Cauter *et al.*, 2021). A research found that out of 295 people, 59.3% of male participants disclosed that they have had intercourse with other males also known as male who have sex with males (MSM), correspondingly it was discussed that 70.5% of participants would use a condom, and there could be inconsistency in their condom usage for which they are not told to use it or have a feeling of dissatisfaction when wearing condoms on

themselves or the other male individual, and this could explain the HIV sero-positive of 40 participants which accounts to 13.6% of total participants (King *et al.*, 2013).

To protect oneself from such infection, it is known that condom gives protection towards HIV, on the 2016 progress report from World Health Organization (WHO) in Indonesia around 19% of anal intercourse of man to man. Inconsistency can be traced to its consequence, in one example would be that sexually transmitted proctitis, it was acknowledged that out of 101 patients that had proctitis, 34% of the patients with HIV have had sex with men (MSM) (Klausner *et al.*, 2004).

In the response to the growing body of literature on factors of condom usage in Transgender population, this paper aimed to conduct a systematic review to synthesize existing research, assessed the efficacy of interventions or exposures and identify gaps in knowledge. Following the PRISMA guidelines, this review provided a comprehensive analysis of the topic, guided by a structured methodology to ensure transparency and reproducibility.

METHODS

This study will be a systematic review study to describe the results from affecting factors of transgender people's usage of condoms. Firstly, this study begins with the formulation of the questions that need to be answered by the journals that will be reviewed. The journals reviewed will be based on criteria and searched by keywords as a filter. The journals will then be reviewed with the method of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). From 202 studies that were screened, 2 studies were obtained and analyzed. The literature selected would contain results and studies on Transgender people on their factors affected to condom usage. The research will show the description of all factors to condom usage.

RESULTS

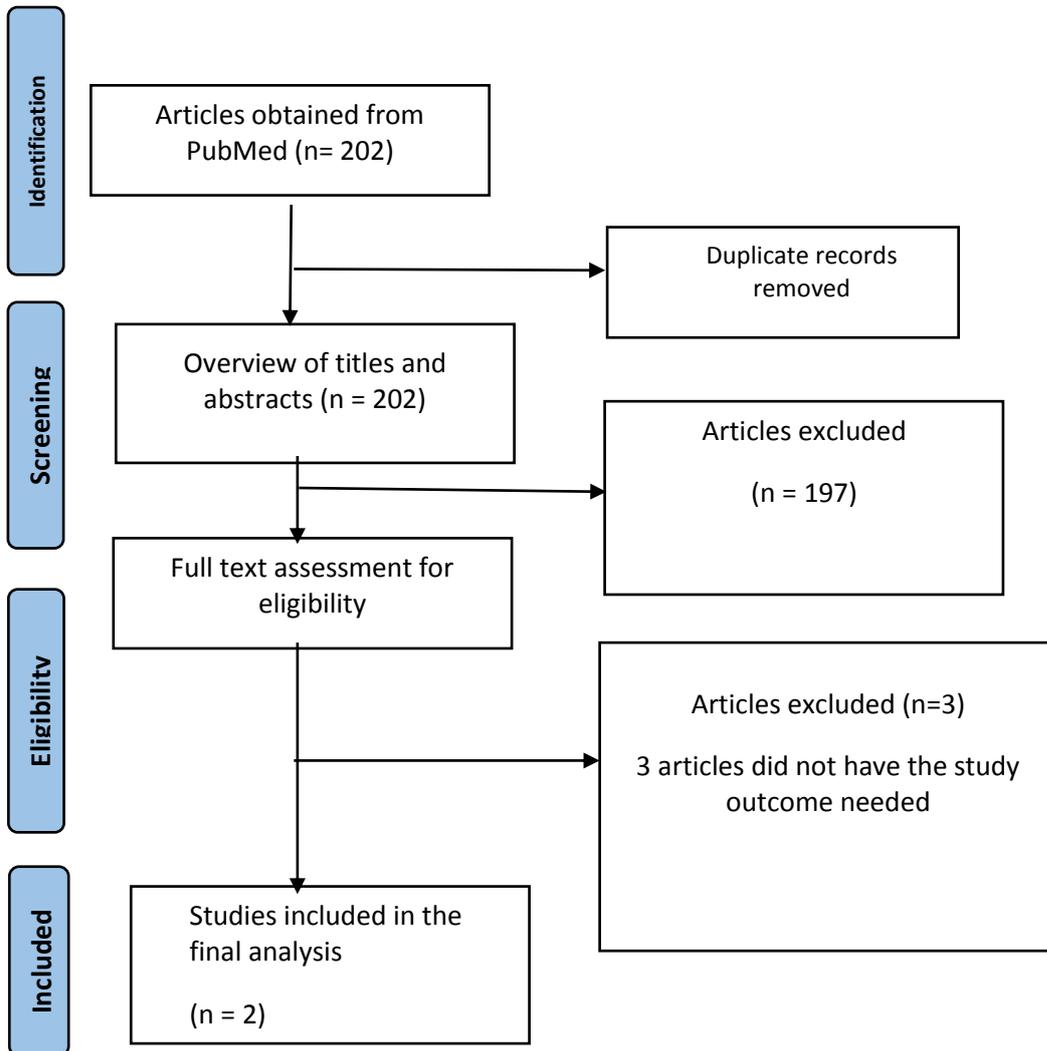


Fig.5.1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) A systematic review: a profile of factors associated to condom use in transgender women

The two studies included came from two different countries: Nigeria and China. Each of the research is respectively cohort studies and cross-sectional analysis. The duration of study respectively is 72 months and 3 months.

Fig.5.2 Summary of Data Extraction

No	Title	Setting	Participants	Exposure and Comparator	Outcome	Main Results
[1]	Individual and partnership characteristics associated with consistent condom use in a cohort of cisgender men who have sex with men and transgender women in Nigeria (Oluwasolape Olawore et al,2021)	Lagos and Abuja, Nigeria	N=1786 Assigned male at birth 16 years old at least in Abuja 18 years old at least in Lagos Receptive or insertive anal intercourse with a male partner in the past year	Knowledge Trust Peer support	Consistent condom use	<p>Knowledge: Associations between Receptive Anal Sex, Associations between consistent condom use and Knowledge on What type of sex is associated with highest HIV transmission risk:</p> <ol style="list-style-type: none"> Vaginal Sex aOR=1.47 (1.03–2.10) p<0.05 Oral Sex aOR=1.78 (1.04–3.04) p<0.05 <p>Trust: Among Insertive anal Sex, associations between consistent condom use when partner has sex with other sexual partners how often do you believe a condom is used:</p> <ol style="list-style-type: none"> Sometimes aOR= 0.63 (0.42–0.95) p<0.05 <p>Peer Support: Among both insertive and receptive anal sex, associations between consistent condom use of when the partner has encouraged to make sure to wear condoms when they are having sex with other sexual partners.</p> <ol style="list-style-type: none"> aOR= 1.14 (1.02–1.28) p<0.05 <p>Knowledge: Deficits and misconceptions about HIV risks and self-protective behaviours, the 18-item true-false Brief HIV Knowledge Questionnaire (Michaelp C, Schroder KE,2002</p> <ol style="list-style-type: none"> Correlation with Condom use Frequency: 0.052(p>0.05)
[2]	Information-Motivation-Behavioral Skills model of consistent condom use among transgender women in Shenyang, China (Huwen Wang and Ruijie Chang et al, 2020)	Shenyang, China	N=198 Older than 18 years old Assigned male at birth Self identifies as a woman Having sexual intercourse experiences in the last 6 months	Knowledge	Condom use frequency in Information Motivation-Behavioural model	<p>Knowledge: Deficits and misconceptions about HIV risks and self-protective behaviours, the 18-item true-false Brief HIV Knowledge Questionnaire (Michaelp C, Schroder KE,2002</p> <ol style="list-style-type: none"> Correlation with Condom use Frequency: 0.052(p>0.05)

In both studies, knowledge is addressed to a degree that allows the participants to understand that with the information provided, there would be an increased consistent use of condoms during vaginal and oral sex (aOR=1.47 (1.03–2.10) and aOR=1.78 (1.04–3.04) respectively). Meanwhile, they lack the understanding that this leads to a decreased consistent use of condoms during anal sex (aOR= 1.19 (0.93–1.52)) the reasons have not been discussed in the research, more over there is no explanation on why vaginal sex is correlated to consisted condom use towards the participants that does not commit to vaginal sex [1]. While in the other study, they used the Information-Motivation-Behavioral Skills (IMB) model to understand the factors influencing consistent condom use among transgender women in Shenyang, China. HIV knowledge was a part of this model, representing the ‘information’ aspect. However, the study discovered that having knowledge about HIV did not necessarily lead to preventive actions like regular condom use ($\beta = 0.052$, $P = 0.540$). This indicates that just being informed about HIV does not automatically result in protective behaviors [2].

In the topic of trust, the study found that only 15% of the partners were believed to always consistently use condoms when they had sex with their other sexual partners (aOR= 0.63 (0.42–0.95)). This finding implies that there is a low level of trust and communication among the sexual networks of MSM and TGW in Nigeria, which may increase their risk of HIV infection [1]. In the topic of peer support, the study also found that relationships in which the partner encouraged the participant to use condoms with other partners were positively associated with consistent condom

use (aOR= 1.14 (1.02–1.28)). This suggests that partner communication and support may play an important role in promoting condom use among this population [1].

For a total of 2 studies, the methodological quality and potential bias were evaluated using the Joanna Briggs Institute (JBI) critical assessment checklist for cross-sectional, randomized controlled trial and cohort studies. Eight evaluation factors make up the cross-sectional study's checklist. Answering 'yes', 'no', 'unclear', or 'not relevant' indicates that the assessment was successful. The other responses receive a score of 0, but the 'yes' responses are each given a score of 1. If the study receives a final score of at least 50%, it will be considered for this systematic review. Studies with 50% were thus included in the systematic review and used as a source.

This study, published in BMC Public Health in 2021, examined the individual and partnership characteristics that influence consistent condom use in cisgender men who have sex with men (MSM) and transgender women (TGW) attending trusted community centers that provide HIV prevention and treatment services in Nigeria. The study found that at the individual level, consistent condom use (CCU) was positively associated with higher education, disclosure of key population status to a healthcare worker, and negatively associated with poor access to condoms. At the partner and partnership level, CCU was associated with partners with higher education, casual relationships, and relationships in which partners encouraged the participant to use condoms with other partners. Relationships in which the partner was married to a woman and/or the partner's HIV status positive or unknown were negatively associated with CCU.

This study, also published in BMC Public Health in 2020, applied the Information-Motivation-Behavioral Skills (IMB) model to examine the association between condom use correlates and condom use frequency among TGW in China. The study found that the CCU rate was 47.0%. The results indicated that HIV-preventive motivation (comprising condom use attitude and subjective norms) and behavioral skills (including condom use skills and self-efficacy) were related to more frequent condom use, whereas HIV knowledge was unrelated to condom use.

In conclusion, both studies highlight the importance of individual, partner, and partnership characteristics in influencing consistent condom use. The studies suggest that interventions aimed at promoting condom use should consider these factors and tailor their strategies accordingly. For instance, interventions could focus on enhancing motivation and strengthening behavioral skills to increase condom use frequency and reduce HIV infection, as well as leveraging communication to sexual partners to encourage condom use.

DISCUSSION

Participants in Oluwasolape's studies have found that among both insertive and receptive anal sex, associations between consistent condom use of when the partner has encouraged to make sure to wear condoms when they are having sex with other sexual partners, while in the study that Huwen Wang did on, it was not found or understood that the participants peers have supported one another. In a study from Indonesia, peer support during the COVID-19 Pandemic existed where in the transgender community in Jakarta participants were given advice or engaging in

mutual problem solving with solutions but it was also found that familial relationships were strained or unavailable due to participants behaviour for example illicit drugs, selling sex or engaging in same sex behaviour to the point of familial rejections. As hard as peer support is to understand, it is important to improve communication and understanding between family, peers, neighbours and community which would then increase the support of transgender women that need of help. (Sukmaningrum *et al.*, 2023)

Participants in Budwhani's study are that 17% of participants believed that when a partner asks for the use of condom regardless of partner type is regarded as distrust towards the one another. To relate with Oluwasolape's study, it could mean that the participants trust their partners to a point where even though their partners might not use condom with other sexual partners, they wouldn't mind not using condom during their sexual intercourse with their partner. (Budhwani *et al.*, 2016)

In Oluwasolape's study it is found that participants presume that associations between among receptive anal sex and consistent condom use towards their knowledge of highest HIV transmission risk is that participants believe that Vaginal Sex and Oral Sex is part of the highest risk therefore the participants would have a higher consistent condom use for their partners than participants that of Anal Sex which is lower than both, while in Huwen Wang's study the knowledge was not associated with either behavioral skills or condom use frequency and neither was it a covariate of motivation. When knowledge was identified, deficits and misconceptions was assessed using HIV risks and self-protective behaviors, the 18-item true-false Brief HIV Knowledge Questionnaire.

The research conducted by Oluwasolape Olawore, focusing on consistent condom use among cisgender men who have sex with men (MSM) and transgender women in Nigeria, likely aims to investigate various factors influencing condom use behaviors within these specific populations. this research contributes to a deeper understanding of the unique challenges, motivations, and determinants influencing condom use behaviors within the specific context of cisgender MSM and transgender women in Nigeria. The insights gained from this study can be pivotal in developing more effective and culturally appropriate interventions to reduce HIV transmission and improve sexual health outcomes within these communities.

In the study on Misconception of HIV Transmissions in Indonesia, it was found that 75.9% of respondents expressed misconceptions about HIV transmission with Education Level and Wealth Index quintile were significantly related to misconceptions about HIV transmission, the most influential variable was education levels as it was compared between respondents with post-secondary education with respondents that have no education recorded. Respondents with no education level were found to have a 5.3 times greater risk of experiencing misconceptions about HIV while respondents with primary education had 4.4 times greater risk and respondents with secondary education had a 2.7-time greater risk. Other than that variable, wealth index was another variable that had higher risk of misconception about HIV and for it when it was compared from the poorest quintile towards the richest was 1.8 times higher while respondents from poorer, middle and richer had 2.2, 2.4- and 1.6-times higher chance respectively.

CONCLUSION

In this systematic review, it was found that there were multifaceted factors influencing condom usage among the transgender population, first would be peer support on condoms which was found that between partners it would improve condom usage participant's partners. Second would be due to having trust between partners they would reduce their usage of condoms as they would have this understanding that they feel safe with one another. Lastly would be their knowledge which correlates to a reduction to condom use due to the fact that the participants have lack of understanding in HIV prevention. When assessing the quality, Joanna Brigg Institution's Criteria between myself and my supervisor to assess it with in detail. Ultimately there were gaps in this systematic review as some of the factors were not available and could be used for further research.

REFERENCE

- Benoit, C., Belle-Isle, L., Smith, M., Phillips, R., Shumka, L., Atchison, C., Jansson, M., Loppie, C., & Flagg, J. (2017). Sex workers as peer health advocates: Community empowerment and transformative learning through a Canadian pilot program. *International Journal for Equity in Health*, 16(1), 1–16. <https://doi.org/10.1186/s12939-017-0655-2>
- Brandt, J. S., Patel, A. J., Marshall, I., & Bachmann, G. A. (2019). Transgender men, pregnancy, and the “new” advanced paternal age: A review of the literature. *Maturitas*, 128(June), 17–21. <https://doi.org/10.1016/j.maturitas.2019.07.004>
- Budhwani, H., Hearld, K. R., Hasbun, J., Charow, R., Rosario, S., Tillotson, L., McGlaughlin, E., & Waters, J. (2017). Transgender female sex workers' HIV knowledge, experienced stigma, and condom use in the Dominican Republic. *PLoS ONE*, 12(11), 1–12. <https://doi.org/10.1371/journal.pone.0186457>
- Budhwani, H., Turan, B., Hasbun, J., Rosario, S., Tillotson, L., McGlaughlin, E., & Waters, J. (2017). Association between violence exposure and condom non-use among transgender sex workers in the Dominican Republic: the mediating role of trust. *International Journal of STD and AIDS*, 28(6), 608–612. <https://doi.org/10.1177/0956462416659421>
- Evans, A. M., & van de Calseyde, P. P. F. M. (2018). The Reputational Consequences of Generalized Trust. *Personality and Social Psychology Bulletin*, 44(4), 492–507. <https://doi.org/10.1177/0146167217742886>
- Global information and education on HIV and AIDS. (2019). About HIV & AIDS. [online] Available at: <https://www.avert.org/about-hiv-aids> [Accessed 20 Jun. 2019].
- Jost, J. (2017). Knowledge. *Theory in Biosciences*, 136(1–2), 1–17. <https://doi.org/10.1007/s12064-017-0242-5>
- Mohamed, E. Y., Sami, W., Alotaibi, A., Alfarag, A., Almutairi, A., & Alanzi, F. (2015). Patients' Satisfaction with Primary Health Care Centers' Services, Majmaah, Kingdom of Saudi of Saudi Arabia. *International Journal of Health Sciences*, 9(2), 163–170.
- Tangpricha, V., & den Heijer, M. (2017). Oestrogen and anti-androgen therapy for

- transgender women. *The Lancet Diabetes and Endocrinology*, 5(4), 291–300. [https://doi.org/10.1016/S2213-8587\(16\)30319-9](https://doi.org/10.1016/S2213-8587(16)30319-9)
- Vaites Fontanari, A. M., Zanella, G. I., Feijó, M., Churchill, S., Rodrigues Lobato, M. I., & Costa, A. B. (2019). HIV-related care for transgender people: A systematic review of studies from around the world. *Social Science and Medicine*, 230(April), 280–294. <https://doi.org/10.1016/j.socscimed.2019.03.016>
- van de Cauter, J., van Schoorisse, H., van de Velde, D., Motmans, J., & Braeckman, L. (2021). Return to work of transgender people: A systematic review through the blender of occupational health. In *PLoS ONE* (Vol. 16, Issue November). <https://doi.org/10.1371/journal.pone.0259206>
- Virkud, A. V., Arimi, P., Ssenooba, F., Mulholland, G. E., Herce, M. E., Markiewicz, M., Weir, S., & Edwards, J. K. (2020). Access to HIV prevention services in East African cross-border areas: a 2016–2017 cross-sectional bio-behavioural study. *Journal of the International AIDS Society*, 23(S3), 18–27. <https://doi.org/10.1002/jia2.25523>
- Wiratama, R. B., Handayani, S., & Soetjipto. (2019). *Faktor Faktor yang berhubungan dengan kejadian HIV/AIDS pada Waria di Kota Surabaya*.
- Wiratama, R., Handayani, S., & Soetjipto, S. (2019). FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN HIV/AIDS PADA WARIA DI KOTA SURABAYA. *Universitas Airlangga*. Retrieved 6 April 2022, from <http://repository.unair.ac.id/id/eprint/86189>.