

The Role of the Social Marketing Mix in Voluntary Counseling and Testing (VCT) Utilization among Pregnant Women in Banyumas Regency: A Qualitative Study

Arif Kurniawan*, Arrum Firda Ayu Maqfiroch, Dian Anandari, Elviera Gamelia

Department of Public Health. Health Sciences Faculty, Universitas Jenderal Soedirman, Banyumas, Central Java, Postal Code 53122, Indonesia.

Abstract

Background: The utilization of Voluntary Counseling and Testing (VCT) services by pregnant women, particularly antenatal checkups with HIV/AIDS testing, remains low in community health centers in Banyumas Regency. Community health centers in Banyumas Regency have implemented a marketing mix for VCT services, but it is not yet optimal. This study aimed to examine the marketing mix, consisting of promotion, product, price, and location, regarding the utilization of VCT services in Banyumas Regency.

Method: A phenomenological approach was conducted in 2018 through in-depth interviews and documentation studies. Participants included VCT counselor midwives, pregnant women who used VCT, and heads of community health centers with VCT clinics. Six pregnant women served as supporting informants. A source triangulation was conducted through core informants and supporting informants. Data were analyzed using manual content analysis, including data preparation, repeated reading, initial coding, code categorization, theme development, interpretation, and presentation of findings.

Results: Community health centers in Banyumas Regency had implemented all four elements of the social marketing mix in promoting VCT services. However, VCT utilization, particularly among pregnant women, remained below expected levels. Among the four elements, promotion, specifically marketing communication activities aimed at informing and persuading the target population, was identified as the least effective component.

Conclusion: This study highlights promotion as the key social marketing element requiring further development to improve the utilization of VCT among pregnant women. Strengthening promotional strategies through the use of audio-visual media may enhance awareness and encourage greater uptake of VCT services in antenatal care settings.

Keywords: Marketing mix, Pregnant women, VCT services

INTRODUCTION

HIV and syphilis screening coverage among pregnant women has improved in recent years (between 2017 and 2021). However, not all eligible women have been reached. HIV and AIDS cases have been rising yearly, with a temporary decline observed in 2018.¹ In Banyumas Regency, a total of 344 cases of people living with HIV (PLHIV) were identified in 2024, including 189 newly diagnosed cases, and 186 receiving ARV treatment. The estimated population at risk of HIV infection in Banyumas Regency in 2024 was 23,798 individuals, comprising eight key population groups: pregnant women, tuberculosis patients, sexually transmitted infection (STI) patients, men who have sex with men (MSM), female sex workers (FSW), injecting drug users (IDUs), transvestites, and prison inmates (in Indonesian: *warga binaan masyarakat* or WBP). All HIV/AIDS patients must get standardized care in accordance with the HIV/AIDS prevention and eradication program policy. Voluntary Counseling Testing (VCT), HIV/AIDS care, antiretroviral (ARV) therapy, opportunistic infection treatment, and referral for certain situations are all part of the management of HIV/AIDS patients.²

In Banyumas Regency, the total number of pregnant women is estimated to be 32,683. However, only seven pregnant women underwent antenatal care visits that included HIV-AIDS testing. HIV-AIDS testing was offered to 1,823 pregnant women, the majority of whom (1,820) were served at the South Purwokerto Community Health Center, while one pregnant woman each was recorded at the Jatilawang

Correspondence*: Arif Kurniawan
arifkurniawan@unsoed.ac.id

Received: July 15, 2025
Accepted: October 16, 2025
Published: November 21, 2025

Community Health Center, Cilongok 1, and Sumbang II Community Health Centers. The prevention of mother-to-child transmission can be achieved through the provision of voluntary HIV counseling and testing services. In Indonesia, HIV prevention efforts have been strengthened through the implementation of Voluntary Counseling and Testing (VCT) services. However, the utilization of VCT services by pregnant women at community health centers remains low. In several cases, pregnant women who accessed antenatal services were not tested for HIV at the facility because testing had already been conducted elsewhere. Consequently, these tests were not recorded in the facility's service data.³ Overall, the VCT screening program has not yet been optimally implemented, as testing services remain limited to a small number of populations and have not been fully utilized by the broader community.⁴

The utilization of VCT services among pregnant women is shaped by a range of individual, interpersonal, and structural factors. Previous research indicates that demographic and socioeconomic variables, including age, occupation, and education level, as well as women's knowledge and attitude toward HIV testing, proximity to health centers, and the availability of support from husbands and health workers, are associated with VCT uptake.⁵⁻⁹ The availability of information regarding VCT services shapes pregnant women's knowledge and attitudes toward service utilization. In Banyumas Regency, promotional efforts for VCT services have predominantly relied on printed leaflets, yet these materials have not translated into increased interest or utilization among pregnant women. Study findings point to a need for diversified health promotion media, including audiovisual interventions such as VCT service advertisements and educational films, alongside enhanced print materials.¹⁰ Furthermore, VCT service utilization behaviors appear to be influenced by the social marketing mix components implemented in community health centers, specifically product, promotion, price, and place.¹¹ Preliminary studies suggest that, despite free availability, VCT utilization among pregnant women remains low. To date, no published research has examined VCT service delivery for pregnant women through the lens of the social marketing mix in community health centers, representing novelty in this study.

METHOD

Participants and Study Design

This study employed a qualitative research design with a phenomenological approach and was conducted in 2018 in Banyumas Regency. The study setting was selected because Banyumas Regency has the second-highest number of reported HIV/AIDS cases in Central Java, and pregnant women constitute one of the populations affected by HIV/AIDS in this area. Participants were divided into two groups: core informants and supporting informants. The study included a total of nine informants, comprising a head of community health center and VCT counselors who were midwives or health promotion officers. Core informants were purposively selected based on predetermined study objectives and included heads of community health centers, midwives, health promotion workers, and physicians who provide VCT services. Six pregnant women who had utilized VCT services served as supporting informants. Inclusion criteria encompassed health workers who were responsible for, knowledgeable about, and directly involved in the delivery and promotion of VCT services, as well as pregnant women who had received information about VCT services at community health centers.

Measurements and Procedure

This study employed a qualitative research approach, with data collected through semi-structured in-depth interviews to explore participants' perspectives, experiences, and interpretations of the phenomenon under investigation. An interview guide was developed based on a review of relevant literature and the study objectives. The guide consisted of flexible, open-ended questions that allowed the researchers to probe emerging issues and adapt to the dynamics of each interview. Before data collection, a qualitative research expert reviewed the interview guide to ensure its appropriateness for the study context. Participants were recruited through purposive sampling using predetermined inclusion criteria. Before each interview, participants received an explanation of the study objectives and procedures and provided written informed consent. Data regarding VCT service components, including product, price, place, and promotion, were collected using the interview guide. While the same interview guide was utilized for both core and supporting informants, questions were adapted to reflect their respective roles while remaining aligned with the study variables. All in-depth interviews were conducted face-to-face. For each informant, the in-depth interview lasted approximately 30 to 60

minutes. Researchers used field notes during each interview to support data capture and contextual understanding.

Statistical Analysis and Ethical Clearance

Following data collection, the data were analyzed using content analysis, which involved data preparation, repeated reading, initial coding, code categorization, theme development, interpretation, and presentation of results. Data validity was maintained through source triangulation. This process involved collecting information from multiple informants, including a head of the community health center, a midwife, and a physician as core informants, as well as pregnant women who had utilized VCT services as supporting informants. Ethical approval for this study was obtained from the Health Research Ethics Committee, Faculty of Medicine, Jenderal Soedirman University (Ref: 2187/KEPWV/2018).

RESULTS

A physician and a midwife, as core informants, stated that the aim of the VCT service is the early identification of HIV status among pregnant women. The expected behavioral outcome of the service was voluntary participation in HIV-AIDS testing and counseling. The tangible product of the service was the VCT clinic located within community health centers. Most informants reported that VCT services at community health centers met accreditation standards. However, a small number of core informants noted limitations in facilities and infrastructure. Similar concerns were expressed by supporting informants, namely pregnant women, although the majority reported overall satisfaction with the service received.

Table 1. Perception and Experience of VCT Service Product

Quote	Code	Category	Theme
"...Yes, this year we will carry out VCT, which will definitely meet the standards. Because it is part of the accreditation, it will meet the standards. That's our hope. ... " (KS)	Compliance with standards, accreditation, expectations for improvement	Commitment to improving standards	Improving the quality of VCT services
"...Yes, the VCT services at Wangon 1 Community Health Center are still simple, so there is no one specifically serving VCT services that are separate according to existing VCT service standards ... "(KW)	Simple service, no dedicated staff	Limited human resources	Challenges in implementing VCT services
"...The VCT service facilities are not up to standard yet. Yes, it's still new here ... " (KPS)	Facilities are not yet up to standard, new service	Limited infrastructure	Limitations of VCT service facilities

In Banyumas Regency, VCT services for pregnant women are provided free of charge. Most core informants, including a physician and a midwife, as well as supporting informants, who were pregnant women, confirmed that no direct payment was required to access VCT services. According to local regulations, a registration fee of IDR 5,000 applies only to patients without national health insurance, while those covered by national health insurance are exempt from this fee. However, several of the supporting informants reported incurring additional costs of IDR 40,000 when accessing VCT services.

Table 2. Perception and Experience Regarding the Cost of VCT Product Services

Quote	Code	Category	Theme
"...VCT services for pregnant women are free, because we get free reagents ..." (KPS)	Free service, free reagents	Waiver of core service fees	Core VCT is provided free of charge to pregnant women.
"...It's just the registration fee; counseling is IDR 0 ..." (KS)	Only administrative fees, free counseling	Fees limited to registration only	Minimum service fees (administration only)
"...Yes, there is no charge for the VCT service itself. The fee of IDR 5,000 is for the visit ticket, which is in accordance with the provisions; where the number of visits is in accordance with the levy applied by the government of Banyumas Regency, which is IDR 5,000 rupiah per person. ..." (KW)	No service fees, only a IDR 5,000 ticket in accordance with regional regulations	Regional tariff policy	Service fee policy in accordance with local regulations
"...It doesn't mean you don't have to pay, sis. Before the patient is examined, they will be counseled first, that's free. ..." (BW)	Free counseling, additional examination fees apply	Separation of counseling and examination fees	Differentiation of fees between counseling and testing

Although VCT services were provided free of charge, participants reported incurring non-financial costs, particularly in terms of time, as the testing process required approximately one hour to complete. Participants who had never previously undergone a VCT test reported a substantial psychological burden, including the need to weigh perceived benefits and risks both before and after testing. In addition, stigma associated with HIV-AIDS testing and fear of receiving a positive result were prominent concerns

Table 3. Perceptions and Experiences Regarding the Length of Service Time for VCT Products

Quote	Code	Category	Theme
"...The VCT service test may be quick, but the counseling process takes less than an hour ..." (KPS)	Service time less than 1 hour, counseling longer than testing	Duration of VCT services	Duration of VCT and counseling services
"...If the average number of patients per day is not piling up, it can usually be completed within one hour, but if there are cases that really need to be consulted, it could take up to two hours ..." (KW)	Service time varies, depending on the number of patients and the complexity of the case	Factors affecting service duration	The duration of services varies depending on the workload and patient cases.

VCT services were provided at community health centers and hospitals and were integrated with sexually transmitted infection (STI; in Indonesian: *infeksi menular seksual* or *IMS*) and tuberculosis (TB) programs. Most core informants stated that the location of VCT services at community health centers was strategically positioned, integrated with maternal and child health (in Indonesian: *kesehatan ibu dan anak* or *KIA*) services, and in some facilities, combined with STI and TB services. Among supporting informants, half stated that VCT services were integrated with other health services, while the remainder indicated that VCT operated as standalone units. Information obtained from both core and supporting informants suggested that discriminatory practices in VCT service provision were no longer present. The following excerpt illustrates this finding:

Table 4. Perceptions and Experiences about VCT Product Service Locations

Quote	Code	Category	Theme
"...at the health center, strategic, easily accessible to the public for pregnant women for the time being eeeee from KIA may refer to lab officers ..." (KPS)	Strategic location, easily accessible, referral from KIA	Location accessibility	Strategic and easily accessible VCT service locations
"...Oh no, it will still be combined with the service, later we will go to the KIA room ..." (KS)	Combined services with other services, KIA referral	Service integration	VCT services integrated with maternal and child health services
"...The first is the TB clinic, behind it is the VCT and IMS clinic, there is no discrimination ..." (KPS)	Clinic location is close by, no discrimination in services	Space planning & service integration	VCT services located near other clinics, with equal access for patients
"...Here, it is still integrated with the existing clinical laboratory, the location is on the 2 nd floor, the middle part and there is no discrimination regarding the service. ..." (KW)	Integrated with laboratory, located on the 2 nd floor, equivalent services	Location integration & accessibility	VCT services integrated with laboratories, easily accessible, non-discriminatory

Community health centers promoted VCT services using a range of media, including brochures, leaflets, posters, and flipcharts. A small number of core informants reported the use of additional media, such as short message service (SMS) gateways and PowerPoint presentations, while the remainder relied on direct counseling without supporting media. Most supporting informants stated that VCT promotion involved the use of flipcharts, leaflets, and flyers or brochures.

Table 5. Perceptions and Experiences Regarding Promotional Media of VCT Product Services

Quote	Code	Category	Theme
"...brochures, leaflets, then we also have an SMS gateway ..." (KPS)	Brochures, leaflets, SMS gateway	Print & digital promotional media	Promotion of VCT services through print and digital media
"...leaflets and brochures, presentation model, powerpoint ..." (KW)	Leaflets, brochures, presentations, PowerPoint	Print promotional media & presentations	Use of print media and presentations for VCT promotion
"...leaflet. Until today, we only have leaflets, right? ..." (BE)	Limited promotional media	Media promosi terbatas	Promotion of VCT services limited to leaflets
"...There's a flip sheet, I use the flip sheet, sis, there's a poster, there's a leaflet ..." (BW)	Flip charts, posters, leaflets	Print promotional media	Promotion of VCT services through various print media

Most core informants reported that promotional activities for the VCT service product primarily occurred through counseling sessions in antenatal classes, supported by the use of brochures and leaflets. Additional promotional channels included the community health center website and word-of-mouth communication. Overall, interpersonal communication remained the dominant approach for promoting VCT service. Several supporting informants reported similar experiences, while others stated that they had not received any information related to VCT services.

Table 6. Perceptions and Experiences Regarding VCT Product Service Promotion Strategies

Quote	Code	Category	Theme
<i>"...Yes, we will inform and socialize it across sectors if we have a meeting, if there is a meeting with cadres, if there is a meeting of female cadres from all sub-districts, we will socialize it, then after that we will distribute brochures and leaflets..." (KPS)</i>	Cross-sector socialization, cadre meetings, distribution of brochures and leaflets	Promotion and outreach strategy	Socialization of VCT through cadre meetings and distribution of print media
<i>"...Yes, it has been promoted. We once invited mothers to come. Yes, we did some outreach first, then we implemented it with the assistance of doctors from Ajibarang and Banyumas Hospital ..."</i> (KS)	Promotion through invitations to pregnant women, outreach, doctor assistance	Promotion and collaboration strategy	Promotion of VCT through outreach and collaboration with medical personnel
<i>"...Yes, we explain to pregnant women through brochures and leaflets about the examination facilities for screening pregnant women and also explain to them about the importance of VCT or HIV/AIDS examination to anticipate later during childbirth how to ensure the safety of the mother and baby. Then, information and messages are given through the village midwife, because the village midwife is from the health center service, we give a message, so that every woman with vaginal discharge should come directly here..." (KW)</i>	Counseling for pregnant women, print media, village midwives, health education	Education-based promotion strategy	Education on VCT for pregnant women through print media and village health workers

DISCUSSION

Community health centers have implemented marketing mix planning encompassing product, price, place, and promotion strategies. However, these efforts have not yet been applied comprehensively. This section presents the findings for each component of the marketing mix strategy, beginning with the product strategy. In the context of service marketing, the product comprises the core product (main product or benefit), the actual product (actions and behaviors), and the augmented product (goods and services). Consistent with Kotler and Keller's definition, a product is anything that can be offered to a market to attract attention, acquisition, use, or consumption and thereby satisfy a need or desire.¹¹ These product-related variables play an essential role in healthcare service utilization decisions.¹² Pregnant women who utilized VCT services in Banyumas Regency reported overall satisfaction with the service products, particularly with the responsiveness of health workers, which contributed to their willingness to utilize these products. Mothers' knowledge of VCT services emerged as a key factor influencing utilization of the VCT service.¹³⁻¹⁵ Nevertheless, informants also reported concerns regarding physical evidence, specifically the limited availability of dedicated rooms for VCT services. As physical evidence constitutes an integral component of health service products, inadequacies in facilities and infrastructure may negatively impact VCT service utilization.¹⁶

The second component of the social marketing mix is price, which in the context encompasses not only monetary cost, but also the time, effort, and psychological or physical sacrifices required to utilize VCT service. Price considerations play a key role in patients' decisions to access health services.¹⁶ In Banyumas Regency, VCT services provided at community health centers are offered free of charge, suggesting that direct financial barriers should not hinder utilization. However, the findings indicate that the primary barriers to VCT uptake among pregnant women are limited awareness of the importance of VCT services for preventing mother-to-child transmission of HIV and persistent HIV/AIDS-related stigma.¹⁷ According to Minister of Health Regulation Number 74 of 2014 on Guidelines for the Implementation of HIV Counseling and Testing, VCT services must include face-to-face pre-test and post-test counseling, particularly for pregnant women. HIV testing is conducted using parallel rapid tests with, allowing results to be obtained within two hours.¹⁸ Comprehensive VCT services, including face

to-face counseling following a reactive or positive result, require 20 to 30 minutes. depending on the client's needs.¹⁹

The third component of the social marketing mix is place, which refers to the accessibility and distribution of services to ensure availability for the target population.²⁰ Most informants reported that VCT services at community health centers in Banyumas Regency were easily accessible and strategically located. Although limited access to health facilities is often a barrier to VCT utilization in rural areas, this issue was not evident in the study setting.²¹ Overall, physical access to VCT services did not constitute a barrier to utilization among pregnant women.

The fourth component of the social marketing mix is promotion, which refers to a type of communication that provides convincing explanations to potential consumers about goods and services.²² Promotion also encompasses marketing communication activities aimed at informing and persuading the target population to adopt or utilize them. The purpose of promotion is to gain attention, educate, remind and convince potential consumers.²⁰ The study findings indicate that promotional efforts related to VCT services for pregnant women in Banyumas Regency remain suboptimal. Several informants reported limited understanding of VCT, noting that they were only advised by midwives during antenatal care visits to undergo blood testing, without receiving comprehensive information about VCT services.²²

These findings are consistent with evidence from Kenya, where inadequate social marketing and promotion have been identified as barriers to VCT utilization among pregnant women, despite their concern for personal and fetal health. Previous studies suggest that strengthening social marketing strategies can improve women's knowledge and willingness to utilize VCT services.¹⁶ In addition, mothers' knowledge of VCT services appeared to vary according to educational attainment and age. Community health centers can strengthen social support to enhance VCT utilization among pregnant women, as support, particularly from husbands, plays a significant role in service uptake.¹⁷ Health workers should increase public awareness of the VCT program, particularly among pregnant women at risk and their husbands or families, through the use of printed and electronic media. Integrating routine VCT screening for all pregnant women attending antenatal care services may help improve service uptake.^{6,23} The findings further indicate that inadequate marketing planning for VCT services contributes to low utilization among pregnant women.

CONCLUSION

Community health centre in Banyumas Regency have implemented all four components of the social marketing mix in the provision of VCT services. However, utilization rates, particularly among pregnant women, remain below expectations. Among these components, promotion, which encompasses marketing communication strategies aimed at informing and persuading the target population, was identified as the least developed. Interview findings suggest that enhancing VCT promotion for pregnant women requires the development of a collaborative social marketing approach that incorporates audio-visual media. The government plays a role as regulator and policy provider, health workers serve as technical implementers, and community members act as partners in disseminating information. Such multi-stakeholder collaboration may strengthen the reach of promotional efforts and increase the likelihood of VCT utilization among pregnant women.

REFERENCES

1. Indonesian Ministry of Health. Executive Report on HIV/AIDS and Sexually Transmitted Infections (STIs) Developments, Q3 2022. *Siha.kemkes.go.id*. Published online 2022:1-15. https://siha.kemkes.go.id/portal/files_upload/Laporan_TW_3_2022.pdf
2. Banyumas Health Office. Banyumas Regency Health Profile 2024. Published online 2024:1-23.
3. Banyumas Health Office. *Banyumas Regency Health Profile 2018*. Vol 53.; 201AD.
4. Oktaviani NPW, Devhy NLP, Adiputra IMS, Widiastuti DAP. How Health Care and Family Support with Pregnant Women Play a Role in the Utilization of VCT Health Services. *Bali Med J*. 2018;5(2):242-251. doi:10.36376/bmj.v5i2.39
5. Bangun SMB, LUBIS B, Octavariny R, Retno S. Factors Associated with Pregnant Women's Utilization of Voluntary Counseling and Testing Services. *J Kebidanan Kestra*. 2019;2(1):74-79. doi:10.35451/jkk.v2i1.253
6. Wilda I. Utilization of Voluntary Counseling and Testing (VCT) for HIV Services Among

- Pregnant Women in the Langsung Pekanbaru Community Health Center Work Area in 2018. *J Phot.* 2019;9(2). doi:10.25311/keskom.vol6.iss3.616
7. Marlinda M, Tiara T, Wijayanti R. Utilization of VCT Clinics by Risk Groups and Related Factors. *Healthc Nurs J.* 2022;4(1):214-220. doi:10.35568/healthcare.v4i1.1847
8. Widyatmoko E. Systematic Review: Factors Influencing the Utilization of VCT Health Services for HIV/AIDS in Pregnant Women in Indonesia. 2025;2(2):402-411. doi: 10.62335/empiris.v2i2.1424
9. Burhanuddin N, Septiyanti S. Utilization of Voluntary Counseling Testing (VCT) Services at the Jumpandang Baru Community Health Center in Makassar City. *J Penelit Kesehat "SUARA FORIKES" (Journal Heal Res "Forikes Voice")*. 2020;11(September 2014):69. doi:10.33846/sf11nk213
10. Kurniawan A, Gamelia E, Maqfiroch AFA. Health Promotion Media Assessment For Pregnant Women's VCT Services in Banyumas Regency. *J Kesmas Indones.* 2023;15(2):112-126.
11. Kotler, P. & Roberto EL. *Social Marketing Strategies for Changing Behaviour*. The Free Press; 1989.
12. Azizah N, Raharjo BB. The Influence of the Marketing Mix on Patients' Decision-Making Process in Selecting Healthcare Services. *HIGEIA J PUBLIC Heal.* 2020;4(2):189-200.
13. Kusmiyati, Tirtawati GA, Dompas R, Montolalu A, Lontaan A, Tamarol JE. Factor Analysis Correlating to The Increase of Voluntary Counseling and Testing (VCT) Visits of Pregnant Women At Papusungan Community Health Center. *J Heal Nutr Res.* 2023;2(1):54-59. doi:10.56303/jhnresearch.v2i1.121
14. Owa K, Bai MKS. Factor Analysis Of The Use Of Vct Services In Pregnant Women At Puskesmas Rukun Lima , Ende District. 2022;13(02):896-903. <https://ejournal.seaninstitute.or.id/index.php/healt/article/view/959>
15. Moges Z, Amberbir A. Factors Associated with Readiness to VCT Service Utilization among Pregnant Women Attending Antenatal Clinics in Northwestern Ethiopia: A Health Belief Model Approach. *Ethiop J Health Sci.* 2011;21(Suppl 1):107-115. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3275874&tool=pmcentrez&rendertype=abstract>
16. Paulin HN, Blevins M, Koethe JR, et al. HIV testing service awareness and service uptake among female heads of household in rural Mozambique: Results from a province-wide survey. *BMC Public Health.* 2015;15(1):1-11. doi:10.1186/s12889-015-1388-z
17. Taegtmeier M, Martineau T, Namwebya JH, et al. A qualitative exploration of the human resource policy implications of voluntary counselling and testing scale-up in Kenya: Applying a model for policy analysis. *BMC Public Health.* 2011;11. doi:10.1186/1471-2458-11-812
18. Minister of Health of the Republic of Indonesia. *Regulation of the Minister of Health of the Republic of Indonesia Number 74 of 2014 Concerning Guidelines for Implementing HIV Counseling and Testing.*; 2014. <https://www.peraturan.go.id/id/permenkes-no-74-tahun-2014>
19. Kiene SM, Bateganya M, Wanyenze R, Mayer K, Lule H, Stein M. Provider-initiated HIV testing in health care settings: Should it include client-centered counselling? *Sahara J.* 2009;6(3):115-119. doi:10.1080/17290376.2009.9724939
20. Dwiyantri SS, Sari JDE, Prayoga D, Lailiyah S, Mandagi AM, Pratiwi XI. The Role of Social Support in the Utilization of VCT Services with the Theory of Planned Behavior (TPB) Approach. *J Kesehat Masy.* 2022;13(4):526-537. doi: 10.22487/preventif.v13i4.340
21. Santoso MHA, Wahyono B. Voluntary Counseling and Testing (VCT) Service Program Management. *HIGEIA (Journal Public Heal Res Dev.* 2018;2(2):205-215. doi:10.15294/higeia.v2i2.18459
22. Ilmiyah S, Alkaff RN, Hamzens F. Social Marketing Strategy of Voluntary Counselling and Testing (VCT) HIV-AIDS in Indonesia. *KnE Life Sci.* 2018;4(4):268. doi:10.18502/cls.v4i4.2286
23. Ernawati E, K H, Palallo UD. Factors that influence the use of voluntary counseling and testing (VCT) clinics by people living with HIV/AIDS in MSM group. *J Ilm Kesehat Sandi Husada.* 2024;13(2):353-359. doi:10.35816/jiskh.v13i2.1223