



Empowering Healthcare Professionals: an Effort to Enhance Sexually Transmitted Disease Knowledge

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ABSTRACT

Background: Sexually transmitted diseases (STDs) present a significant challenge in the public health field. Health professionals are at the forefront of controlling the transmission and management of this disease; hence, efforts to update knowledge regarding STDs are very important for this group. **Purpose:** This study aims to explain the effect of integrated counseling on increase STD knowledge in an effort to prevent the occurrence of sexually transmitted diseases. **Methods:** We carried out health education activities containing material related to aetiology, modes of transmission, risk factors, risk groups, and therapy for sexually transmitted diseases at one hospital in Surakarta. The Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ) was used to assess participants' knowledge regarding STDs, which was distributed before and after giving the material. The difference in STD-KQ scores before and after the counselling session was analysed using the Wilcoxon Test. **Result:** Prior to the counselling session, 22 (32.83%) participants had poor knowledge, 41 (61.19%) had moderate knowledge, and only 4 (5.97%) possessed a good understanding of STDs. Following the counselling session, there was a noteworthy improvement in knowledge levels, with 47 (70.14%) participants now classified as having good knowledge. Additionally, 18 (26.86%) participants maintained a moderate level of knowledge, while 2 (2.98%) retained poor knowledge. The analysis showed that the difference was statistically significant (P value < 0.001). **Conclusion:** This research highlights the importance of STD education material for health workers. Increasing the understanding of medical personnel when treating STDs is key to ensuring the best outcomes for patients and preventing further transmission.

Keywords: Sexually transmitted diseases, education, public health.

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BACKGROUND

Sexually transmitted diseases (STDs) are a group of diseases that are caused by either bacteria, viruses, or parasites and transmitted through sexual contact.¹ The global epidemiological data indicated that the annual incidence of STDs is about 376 million, and 25% of them consisted of curable diseases such as

trichomoniasis (156 million), chlamydia (127 million), gonorrhoea (87 million), and syphilis (6.3 million).² For incurable diseases, such as human immunodeficiency virus (HIV), United Nations on HIV/AIDS (UNAIDS) reported that in 2022 its world prevalence was 39 million.³ Southeast Asia is one of the largest contributors to HIV cases in the world

(~10%). Whereas in Indonesia, the total number of HIV and AIDS cases from 2009 to 2022 was 329,581 and 137,397, respectively.⁴ This report also reflects an estimated number of 7.1 million people with HIV who do not know their HIV status.⁵ Untreated STDs can result in infertility, urethral strictures, abortion, maternal, perinatal, and neonatal morbidity, and malignancy. The disease is not only transmitted through sexual contact but can also be transmitted from mother to fetus during pregnancy or childbirth, through contaminated blood products or tissue transfer, and sometimes even through medical devices.^{6,7}

Devising methods for the prevention and control of STDs requires a good understanding of its conditions, clinical consequences and perceived stigma in the patients. The lack of awareness and knowledge is one of the main causes of the increasing STD cases in Indonesia. This study aims to assess the level of knowledge in professional healthcare associated with STDs and the benefit of counselling activities in enhancing their knowledge.

METHODS

This study is simple random sampling with one-group pre-test post-test design. Inclusion criteria for sampling: health workers who work at the hospital, aged 25-60 years, at least a senior high school graduate, and able to read. Exclusion criteria: cognitive impairment such as dementia, deafness, and blindness. The level of knowledge was assessed and evaluated using an internationally validated questionnaire, of the Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ). It consisted of 27 questions and was designed to evaluate respondents' awareness of six STDs with the highest danger on the population, such as chlamydia, genital herpes, gonorrhoea, hepatitis B, HIV, and human papillomavirus (HPV). It also assesses two knowledge factors related to STDs, including the disease aetiology and general knowledge. The questionnaire we used was the Indonesian version that has been statistically validated. We distributed the questionnaire to 67 participants at the Balai Muhammadiyah Surakarta at Pembinaan Kesejahteraan Umat (PKU) Muhammadiyah Surakarta Hospital study forum.

There are three categories of pretest and post-test scores: poor (0-9), moderate (10-18), and good (19-27). The effectivity of counselling activity was assessed by analysing the difference in pretest-posttest STD-KQ scores. The data was analysed using the Wilcoxon test using STATA BE 18 software. This research has been reviewed and approved by the Ethics

Committee at Faculty of medicine of Universitas Muhammadiyah Surakarta (No.5086A/B.2/KEPK-FKUMS/IX/2023).

Table 1. The categorization of STD-KQ score

Knowledge Category	Score
Poor	0 – 9
Moderate	10 – 18
Good	19 – 27

STD-KQ = Sexually Transmitted Disease Knowledge Questionnaire

The counselling activity used a PowerPoint presentation and additional interactive sessions with the participants. The activity was well received and has obtained permission from the Balai Muhammadiyah Surakarta at PKU Muhammadiyah Surakarta. All of the methods were according to the regulations and ethical guidelines.

RESULT

The proportion of male to female gender in our subjects was relatively balanced (44.8% and 55.2%, respectively). Most of our participants were in the 30-39 age group, followed by 40-50 age group and 20-29 were age group. The majority of our participants received bachelor/diploma degrees (82%), while the minority were high school graduates (18%). Based on the pretest results, there were 22 (32.83%) participants with poor knowledge, 41 (61.19%) participants with moderate knowledge, and 4 (5.97%) participants with good knowledge. After receiving the STD counselling session, the post-test score showed that there was a noteworthy improvement in knowledge levels, with 47 (70.14%) participants now classified as having good knowledge. Additionally, 18 (26.86%) participants maintained a moderate level of knowledge, while 2 (2.98%) retained poor knowledge. The analysis showed that the difference was statistically significant ($P < 0.001$).

Table 2. Demographic characteristics

Classification	Person (%)
Sex	
Male	30 (44.8)
Female	37 (55.2)
Age Group	
20-29	13 (19.4)
30-39	34 (50.7)
40-50	20 (29.9)
Education	
Bachelor/Diploma	55 (82)
High School	12 (18)

Table 3. The pretest and post-test result

The Level of Knowledge	Pretest [n(%)]	Post-test [n(%)]	P - value
Good	4 (5.97)	47 (70.14)	0.000
Moderate	41 (61.19)	18 (26.86)	
Poor	22 (32.83)	2 (2.98)	

DISCUSSION

Previously, we did similar counselling sessions about sexually transmitted diseases via an online platform without a standardised questionnaire, and we found that counselling is an effective method to increase public awareness of STDs, particularly syphilis.⁸ In this study, the STD-KQ questionnaire used was already validated and has been designed to be able to assess knowledge deficits and responses to educational interventions in clinical or research fields.^{9,10} Several studies have implemented this questionnaire to assess STD knowledge in different populations, such as adolescents and older adults.^{11,12}

Our results suggest that there was a significant increase in respondents' knowledge level after receiving counselling sessions. Considering that our population consists of healthcare professionals, increasing their knowledge is important for their role in treating STD patients. Apart from that, our counselling is expected to reduce the stigma that health workers have towards STD patients. As demonstrated in our previous community services, increasing respondents' knowledge can reduce their stigma towards leprosy patients.¹³

The advancement of technology makes it easier to spread mature content, yet this progression is not concomitant with adequate sexual education for younger generations. This results in unhealthy sexual behaviour which can lead to sexually transmitted infections. Overcoming STDs requires a multi-sector approach consisting of promotion and prevention, early recognition and treatment, and rehabilitation. Focused large-scale preventive measures such as condom distribution have been proven to be effective in controlling STD transmission during the HIV epidemic.¹⁴ Health promotion which is also part of primary prevention is important to control STDs transmission. Without proper education and explanation by the experts, STD incidents will become a routine and repetitive cycle that revolves around therapy alone. Prevention and treatment methods require a thorough understanding of STDs, their

consequences, and the attitudes of society, especially the younger generation, towards sexual health. A descriptive study in 2017 illustrated that in the young adult population, knowledge about STDs other than HIV was generally lower (64%), with knowledge about chancroid and lymphogranuloma venereum (LGV) having the smallest percentage (3 – 7%).⁷

A recent study suggested that stigma, poor health systems, government support, and financial problems are the main challenges to STD control in low-and middle-income countries, including Indonesia.¹⁵ Various efforts have been made to increase knowledge related to STDs by the Indonesian Ministry of Health, including increasing awareness of matters related to sexually transmitted diseases through the government's public health centre programme.¹⁶ The causative pathogen, method of transmission, and factors that increase the level of transmission can be overcome with preventive measures that are closely related to public knowledge regarding this disease. Knowledge regarding disease symptoms and therapy can motivate people to get therapy and prevent re-infection in the wider community. Apart from that, by preventing complications, rates of mortality and morbidity can decrease. Therefore, by spreading awareness through our outreach, we hope that there will be a continuous reduction in the incidence and transmission of STDs through the concept of understanding, which becomes a stronghold for each individual.

Besides early detection and treatment, an effort to enhance the knowledge level and awareness of STDs in the general population is one of the important steps in controlling STD transmission. The best strategy to increase general public awareness of STDs can be through campaigns or mass counselling.¹⁷ This study has demonstrated that mass counselling can increase knowledge levels and awareness in professional healthcare. Professional healthcare is the frontline in controlling STD transmission. With the new public health paradigm, professional healthcare roles are not limited to curative but expanded to promotive and preventive actions.¹⁸ It has implications that updating professional healthcare for communicable diseases such as STDs is important so these actions can be done effectively and efficiently.

This research showed that counselling can increase professional healthcare knowledge and awareness of STDs. Increasing the understanding of medical personnel in treating STDs is key to ensuring the best outcomes for patients and preventing further transmission

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