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Peer Education with Smart Card Effects on the Stigma of HIV/AIDS among Non-HIV Inmates

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Abstract
Inmates with HIV/acquired immunodeficiency syndrome (AIDS) are often exposed to psychosocial problems due to stigma. Limited study proved effect of peer education with smart card on the stigma of HIV/AIDS among non-HIV inmates. The purpose of this study was to know the effects of peer education with smart card method on the stigma of HIV/AIDS among inmates. The study design was pre-experimental design. The sample was 94 male inmates without HIV taken using purposive sampling. The stigma was measured used the Visser Personal and Perceived Community Stigma questionnaire. Non-HIV prisoners was educated regarding using HIV/AIDS Smart Cards, Anti-HIV/AIDS Stigma and Discrimination Cards as well as involving a positive HIV for hand shaking role play. Data were analyzed using the Wilcoxon signed rank test. The results showed significant differences between the pre and post-test on personal and perceived community stigma. The findings recommend for correctional nurses to imply this intervention in preventing the stigma of HIV/AIDS and future studies to examine this intervention toward other outcomes such as discrimination in correctional settings.

Keywords: HIV/AIDS; prisoner; peer education; smart card method; stigma

INTRODUCTION

Human immunodeficiency virus (HIV) is still a major public health problem in the world. Increased HIV infection occurs in correctional settings, and even the prevalence is greater than the general population. The global prevalence of HIV/acquired immunodeficiency syndrome (AIDS) among prison populations is estimated to be higher than the general population (Caudy et al., 2023). HIV prevalence in inmates in Indonesia is 2.6%, and those who have AIDS comprise 0.3% in 2016 (Directorate General of Disease Prevention and Control, Ministry of Health Indonesia Republic of Indonesia [MoH RI], 2017; United Nations Program on HIV/AIDS [UNAIDS], 2017).

Inmates with HIV/AIDS tend to experience stigma than the general population. Inmates with HIV/AIDS besides being inmates whose status is "not feasible and wasted" are also HIV-positive people

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who are associated with perverted behaviors (Komalasari, 2012; Sengupta et al., 2011). Correctional communities keep their distance from inmates with HIV/AIDS to isolate them, prohibit them in collective activities participation, transfer them to another correctional setting, and require HIV testing for inmates at risk (Komalasari, 2012; Sari, 2014).

Inmates with HIV/AIDS experience stigma and discrimination, violent practices, segregation, status confidentiality violation, and health service denial (Rubenstein et al., 2016). Inmates with HIV/AIDS feel that they have not been fully accepted by the correctional community and that other people feel uncomfortable, reject, hate their morals, and they are afraid of losing their family and significant others (Culbert, 2015; Derlega et al., 2010; Sari, 2014). These situations cause inmates with HIV/AIDS conceal their HIV status (Jürgens et al., 2011; Ministry of Health Republic of Indonesia [MoH RI], 2012; Ullah & Huque, 2014), reluctance to seek health and social support services, experience decrease enthusiasm for life that leads deaths among US and Indonesian inmates (Directorate General of Correction of Ministry of Law and Human Right Republic of Indonesia, 2010; Erickson et al., 2021; MoH RI, 2012; Lubis et al., 2016; Rubenstein et al., 2016).

The stigma in inmates with HIV/AIDS is also found in a prison in Indonesia. A preliminary study showed that 87% of 46 inmates stigmatized inmates with HIV/AIDS. Questionnaire items with the highest answer points for stigma were those inmates who think that getting HIV is a punishment for bad behavior and for doing something wrong (85%), and inmates will not establish a relationship with someone who has HIV (89%). The results of the interviews with correctional staff in Indonesia revealed that there were several inmates with HIV/AIDS who had not opened up about their status yet and did not take antiretroviral therapies regularly for fear of their status being known. Inmates with HIV are afraid that their food will not sell if other inmates know their status. There was an inmate with HIV/AIDS who died in a correctional setting.

Interventions to overcome HIV/AIDS stigma have been carried out in the general population, but have not been found in prison populations, so they require a lot of research and community-based interventions (Culbert, 2015; Derose et al., 2014). Interventions that involve people living with HIV/AIDS (PLWHA) and peer educators from sex worker organizations also show a decrease in HIV/AIDS stigma (Bharat, 2011). Interventions that include HIV/AIDS education workshops and stigma, peer leader workshops using role play and contact scenarios, PLWHA testimonials, and PLWHA interaction are also effective in reducing HIV/AIDS stigma (Derose et al., 2014; Sengupta et al., 2011).

Peer education using smart card may reduce stigma among inmates living with HIV/AIDS by resulting in psychological closeness between the target group and peer educators, encourages positive effects, and communicates messages more easily so that they can be accepted in the correctional environment (Bagnall et al., 2015; Jürgens et al., 2011). Low cost tends to be especially beneficial for low- and middle-income countries and should be widely promoted in resource-limited regions (He et. al, 2020). Peer education has been proven to be effective in increasing knowledge about HIV/AIDS in prisoners, intentions and abilities to reduce risky behavior in prisoners and reducing HIV rates among high-risk HIV groups (Bagnall et al., 2015; He et. Al., 2020).

This study was conducted using Integrated Behavior Model (Glanz et al., 2008). Health education with role play has an influence on increasing knowledge and forming positive attitudes towards PLWHA (Setyo, 2019). The role play module can be used as an alternative method in conducting health education for direct female sex workers (Kuswati et

al., 2015). However, limited studies investigate peer education intervention with smart card to overcome HIV/AIDS stigma in correctional settings. This study aims to find out the effects of peer education with smart card on HIV/AIDS stigma among non-HIV inmates.

METHODS

This study used a pre-experimental design (one group pre–post-test design) that did not use a control group, but at least, the first observation was done (pre-test), which allows testing changes that occur after the experiment (Hidayat, 2011; Notoatmojo, 2014). Respondents were given a pre-test to find out the stigma in inmates with HIV/AIDS before peer education was implemented using the role play method. Then, a post-test was conducted to determine the effect of peer education on the stigma on inmates with HIV/AIDS.

The population in this study were male inmates in one of the prisons in Central Java. There were 1,463 inmates at the penitentiary as of January 3, 2018 held in more than 12 cell blocks. The average number of residents per block is 100 inmates.

The sampling selection technique was carried out by purposive sampling. Researchers chose one of the blocks in the prison where there were inmates with HIV/AIDS according to recommendations from prison officers. If a block has been selected, then the inmates from the block that meets the inclusion criteria will be sampled. The number of samples in this study was 94 prisoners, calculated using the Slovin's formula, divided into twelve groups and each group consisted of seven to eight members. Inclusion criteria for the respondents were as follows: (1) age 17-60 years, (2) with a remaining period of more than 6 months, (3) not illiterate, (4) did not suffer from HIV/AIDS or were treated for illness, (5) have received information about HIV/AIDS, (6) who know an inmate with HIV/AIDS. Exclusion criteria were inmates who resigned or were released before the research was completed and/or transferred to another block or correctional institutions.

The instrument for measuring HIV/AIDS stigma is the Visser Personal and Perceived Community Stigma questionnaire (Visser et al., 2006; Visser et al., 2009). This instrument measures different perspectives of stigma thereby allowing a comparison of the personal attitudes of people within a community and the level of stigmatization associated with them. Statements about personal and perceived community stigmas were answered on a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). Personal stigma contains 22 statements containing inmate's opinions about HIV and people living with HIV/AIDS (PLWHA). Perceived community stigma contains of 23 statements that describe how most people you live with react to HIV or PLWHA. The instrument was translated into Indonesian by an expert.

The instrument was translated into Bahasa Indonesia and then tested for validity and reliability. The results of the validity test show that the personal variables and perceptions of public stigma are mostly valid and reliable with a calculated r value of more than 0.2638 and a Cronbach Alpha value of more than 0.60 respectively.

The data collection was carried out in the correctional settings of the Central Java region from April to May 2018. Intervention provided was a peer education in which the peer educators using HIV/AIDS Smart Cards and Anti-HIV/AIDS Stigma and Discrimination Cards. Before intervention, researchers selected thirteen peer educators who were inmates with criteria including (1) age more than 20 years, (2) remaining detention period were more than one year, (3) active in social activities in the prison and communicative, (4) minimum education level were senior high school, (5) negative HIV test, (6) having good attitude and

recommended by prison staff, (7) already obtaining information regarding HIV/AIDS, and (8) notifying inmates with positive HIV.

The peer educators were trained and provided modules and standard operating procedures (SOPs). Modules and SOPs are tested by experts before being used in research. The expert test assessment tool in the module consists of fourteen statement items, and the SOP expert test assessment tool contains eight statements, with a rating scale including good, sufficient and poor. Two expert examiners assessed that the module and SOPs were good and could be used for research. All of peer educators were competent after training with score 75 above.

The study ethic was approved by the Institutional Review Board of the Faculty of Public Health, Universitas Diponegoro and obtained a permission letter from the Central Java Regional Office of the Ministry of Law and Human Rights. Researchers selected fifteen peer educators according to certain criteria and the results of an agreement with prison officers. The peer educators were trained for eight hours, then selected according to the provisions. After the peer educator was selected, a peer education intervention was carried out using the smart card method which was divided into three sessions in which each session was held for 90 minutes. The first session contained explanations of the concept of HIV/AIDS using the HIV/AIDS smart cards. The second included explanations of the concept of HIV/AIDS stigma and discrimination through role play using the HIV/AIDS Anti-Stigma and Discrimination Cards. The third session involved role plays on how to interact and shake hands with PLWHA in a positive way without stigma and discrimination. Respondents got to know the PLWHA and then discussed and shook hands with the PLWHA. An HIV-positive individuals from a non-government organization was involved in playing the role play.

The researchers conducted normality analysis for the stigma variables using Kolmogorov-Smirnov and the result showed that before intervention both data were normal, however after intervention the data were not normal. Thus, the analysis for these variables used the Wilcoxon Signed rank.

RESULTS

Table 1. Frequency Distribution of Respondent Characteristics (n=94)

Variables	*f*	%
Age (years)		
<20	1	1.1
20-35	54	57.4
36-50	36	38.3
>50	3	3.2
Education		
Elementary school	13	13.8
Middle school	29	30,9
High school	43	45.7
Undergraduate	6	6.4
Master degree	3	3.2
Remaining term of detention		
6 months to 2 years	31	33
>2 years	63	66

Table 1. Frequency Distribution of Respondent Characteristics (n=94) (continue)

Variables	*f*	%
Marital status		
Married	41	43.6
Divorced	20	21.3
Single	33	35, 1

Table 1 shows most of the respondents were aged 20-35 years (57.4%), most of them had high school education (45.7%), most of their remaining prison terms were > 2 years (66%), and most of the respondents were married (43.6%).

Table 2. Effect of Peer Education with Smart Card Method on the Stigma of HIV/AIDS among Non-HIV Inmates (*n* = 94)

Variables		*Mean*	SD	*p-value*
Personal stigma	Post-test	60.17	3.71	0.000
	Pre-test	56.48	6.51	
Perceived-community stigma	Post-test	61.21	3.93	0.000
	Pre-test	56.55	6.42	

Table 2 shows that peer education with smart card significantly effects on the stigma of HIV/AIDS among non-HIV inmates for both stigma variables.

DISCUSSION

The study proved that peer education with smart card significantly effects on the stigma of HIV/AIDS among non-HIV inmates. This means that the peer education with smart card provides influence against HIV/AIDS stigma among non-HIV inmates. The results of this research are in line with a previous study, that peer education using the smart card method has been proven to have a significant influence on HIV/AIDS stigma because peer intervention seeks to utilize social and communicative processes to achieve health goals. Social influence from peers is the basis for developing therapeutic relationships so that promotion and prevention activities become more effective (South & Woodal, 2016).

The peer education in this study was given by fellow inmates who were trained to become peer educators to achieve psychological closeness between the target group and peer educator. When psychological closeness is achieved, then the message is more easily delivered (Jürgens et al., 2011). Peer education has been proven to be acceptable in correctional settings and has emotional positive effects (Bagnall et al., 2015).

The intervention in this study was a combination of peer education with smart card to overcome HIV/AIDS stigma. The results of this study are relevant with Derose et al. (2014) that combined HIV/AIDS education workshops and stigma, peer leader workshops using role play, and pastor's sermon on HIV with contact scenarios. The combination of some of these interventions can reduce the stigma of HIV/AIDS and increase empathy for PLWHA Sengupta et al. (2011).

This research is in line with Bharat (2011) revealing that peer education interventions involving PLWHA shows a decrease in HIV/AIDS stigma. However, this study's respondents were inmates, whereas Bharat's were sex workers. Community involvement can provide a more dynamic and structural approach to overcoming stigma. Specific context interventions

(health care and community) accompanied by financial contributions and structural approaches will provide a more dynamic and structural approach to increasing tolerance and overcoming HIV/AIDS stigma (Bharat, 2011).

The peer education intervention was modified with a role play, where modifications of these two types of methods had never been used before either in the general community or in prisons. Role play is an interesting example of an active learning and teaching strategy, it can include drama, simulations, games, and real-life case demonstrations related to any topic (Erturk, 2015). Role play modules can also be used as an alternative method in conducting health education for female sex workers (Kuswati et al., 2015). Health education with role play has an influence on increasing knowledge and forming positive attitudes towards PLWHA (Setyo, 2019). A review article shows that stigma against PLWHA in society can be overcome in various ways such as: providing health education to increase public knowledge about HIV and AIDS; increasing the role of civil society (the role of community and religious leaders); increasing peer social support; and increasing community social support (Nuwa & Vancapho, 2019).

This study presents an PLWHA from a non-governmental organization in Central Java as a role model for respondents. The role model talked about his or her life experiences as PLWHA and invites respondents to shake hands with her. This study uses PLWHA who want to disclose their HIV status so that others are more aware of the HIV epidemic and that it becomes a strong strategy in reducing stigma and activating support services for more and more PLWHA (Visser et al., 2009). Genberg et al. (2008) also state that a person or group who had known PLWHA and discussed HIV/AIDS had less stigma and negative attitudes towards PLWHA. Individuals who have high levels of HIV exposure develop a better understanding of the fear and stigmatization of PLWHA (Visser et al., 2009).

The module combined with the HIV-AIDS Smart Card and the Anti-Stigma Discrimination Card is the first educational media in peer education intervention which is implemented in correctional institutions. Meanwhile, outside the correctional institution community, the results showed that educational cards in the form of YARSI HIV AIDS Care Smart Cards, can be used as interactive educational media in the form of games which can comprehensively increase students' knowledge of HIV-AIDS. Fun methods increasing students' understanding and response to HIV/AIDS (Firmansyah et al., 2022; Luhurningtyas et al., 2020; Yasmin et al., 2021).

CONCLUSION AND RECOMMENDATION

Peer education with smart cards has a significant effect on HIV/AIDS stigma by and in inmates because both personal and perceived community stigma. The study recommends for implementation of this intervention in stigma prevention toward HIV-positive inmates and future studies to test the effect of this intervention on other outcomes such as discrimination in correctional settings.

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AUTHOR CONTRIBUTION

RLA contributes in the study design, data collection, data analysis, manuscript writing, review and revision. MA contributes in the study design, data analysis, manuscript writing, review and revision. MAUS contributes in the study design and data analysis, and JP contributes in manuscript review and revisions.

CONFLICT OF INTEREST

All authors declare no conflict of interest in this article.

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