

Effectiveness of Health Education on Knowledge of the Physical, Mental, Social, and Spiritual Impacts of Drug Abuse Among Prison Inmates

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ABSTRACT

People in prison experience a high burden of physical and mental health problems, particularly those related to substance use disorders. This community service activity aimed to improve inmates' knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse through a structured health education intervention. The program was conducted at Class I Detention Center Bandung using interactive lectures, small-group discussions, reflective sessions, and printed educational media. Knowledge levels were assessed using a 10-item multiple-choice questionnaire administered before and after the intervention. Data normality was evaluated using the Shapiro–Wilk test, and differences in scores were analyzed using the Wilcoxon Signed-Rank Test due to non-normal data distribution. A total of 43 inmates participated in the program. The findings demonstrated a significant increase in knowledge scores, with mean scores improving from 55.4 in the pre-test to 82.7 in the post-test ($p = 0.006$). These results indicate that the health education intervention was effective in improving participants' understanding of the health impacts of drug abuse. A biopsychosocial-spiritual approach was found to be feasible and potentially beneficial in supporting health education efforts within correctional settings. Continuous educational programs are recommended to support sustained awareness and rehabilitation initiatives among incarcerated individuals with substance use disorders.

Keywords: drug abuse; health education; prison inmates; rehabilitation; biopsychosocial-spiritual approach

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INTRODUCTION

People in prison represent one of the most vulnerable populations in terms of physical and mental health. According to the World Health Organization (WHO), incarcerated individuals experience higher rates of infectious diseases, chronic illnesses, mental disorders, and substance use disorders compared to the general population. Conditions such as overcrowding, limited access to health services, social isolation, and exposure to stressful prison environments further contribute to poor health outcomes among inmates (Favril et al., 2024; World Health Organization, 2022).

Drug abuse is closely associated with physical health problems, psychological distress, impaired social functioning, and decreased spiritual well-being among incarcerated individuals. Previous studies have shown that substance use disorders in prison populations are frequently accompanied by depression, anxiety, emotional instability, and difficulties in social adaptation, which may hinder rehabilitation and

reintegration processes (Baranyi et al., 2022; Thekkumkara et al., 2022). Therefore, rehabilitation efforts for inmates with substance use disorders should not focus solely on substance cessation, but also address psychological, social, and spiritual aspects through comprehensive educational interventions.

In Indonesia, substance abuse remains an important public health issue that affects not only physical health but also mental and social well-being. Data from the Indonesian Health Survey (Survei Kesehatan Indonesia/SKI) reported that individuals with substance abuse problems tend to experience higher levels of emotional distress and impaired social functioning (Kementerian Kesehatan Republik Indonesia, 2022). However, promotive and preventive health education services related to drug abuse within correctional institutions are still limited. Educational programs in prisons are often focused on security and behavioral control, while structured health education addressing biopsychosocial and spiritual recovery remains insufficiently implemented.

During the initial coordination process with officers at Class I Detention Center Bandung, it was identified that many inmates with a history of drug abuse had limited understanding regarding the physical, psychological, social, and spiritual impacts of substance use. Educational activities specifically addressing the long-term health consequences of drug abuse and recovery motivation were still limited and not routinely conducted. In addition, correctional officers reported that some inmates experienced difficulties in maintaining motivation for rehabilitation and understanding the importance of healthy coping strategies during the recovery process. These conditions highlighted the need for a structured and accessible health education program tailored to the psychosocial characteristics of incarcerated individuals.

Therefore, this community service activity aimed to improve inmates' knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse through a structured biopsychosocial-spiritual health education program conducted at Class I Detention Center Bandung. This program was expected to support ongoing rehabilitation efforts by increasing health awareness and encouraging positive recovery perspectives among incarcerated individuals with substance use disorders.

METHODS

This community service activity employed a one-group pretest-posttest educational intervention design to evaluate changes in inmates' knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse following a structured health education program. The activity was conducted at Class I Detention Center Bandung, Indonesia, from 08.00 to 12.00 WIB.

Participants consisted of 43 inmates with a history of substance use-related offenses who were selected using convenience sampling based on recommendations from correctional officers and participants' willingness to join the activity. Inclusion criteria included inmates who were able to communicate effectively, willing to participate voluntarily, and physically and mentally capable of attending the educational session.

The intervention was delivered through a structured health education program using a biopsychosocial-spiritual approach. Educational materials included information regarding the physical health impacts of drug abuse, psychological consequences, social effects, and spiritual well-being during recovery. The activity was conducted in several stages, including administrative coordination with detention center authorities, preparation of educational materials, pre-test assessment, delivery of interactive lectures, small-group discussions, reflective sessions, distribution of printed educational leaflets, and post-test assessment. The educational session lasted approximately four hours.

Knowledge levels were assessed using a researcher-developed questionnaire consisting of 10 multiple-choice items related to the physical, psychological, social, and spiritual impacts of drug abuse. Each correct answer was scored as one point, while incorrect answers received zero points, resulting in a total score range of 0–10. Scores were subsequently converted into percentages ranging from 0–100 for ease of interpretation. Prior to implementation, the questionnaire content was reviewed by nursing and community health educators to ensure content appropriateness and clarity.

Data were analyzed using descriptive and inferential statistics. Participant characteristics and knowledge scores were summarized using frequencies, percentages, means, standard deviations, medians, minimum–maximum values, and interquartile ranges where appropriate. Data normality was assessed using the Shapiro–Wilk test. Since the pre-test and post-test scores were not normally distributed ($p < 0.05$), differences between scores before and after the intervention were analyzed using the Wilcoxon Signed-Rank Test. Statistical significance was determined at $p < 0.05$.

Permission to conduct the community service activity was obtained from the management of Class I Detention Center Bandung. Participation was voluntary, and all participants received an explanation regarding the objectives and procedures of the activity prior to participation. Verbal informed consent was obtained from all participants, and confidentiality of participant information was maintained throughout the program.

RESULTS AND DISCUSSION

The community service activity was conducted successfully at Class I Detention Center Bandung with the participation of 43 inmates. Participants actively engaged in the educational sessions, discussions, and reflective activities throughout the program. The educational intervention aimed to improve participants' knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse.

Knowledge evaluation was conducted using pre-test and post-test questionnaires administered before and after the educational intervention. The average pre-test knowledge score was 55.4, indicating limited baseline understanding among participants regarding the impacts of drug abuse. Following the intervention, the

average post-test score increased to 82.7, suggesting improved participant knowledge after receiving the educational program.

Prior to inferential analysis, normality testing was conducted to determine the appropriate statistical test for comparing knowledge scores before and after the intervention. The Shapiro–Wilk test demonstrated that both pre-test and post-test scores were not normally distributed ($p < 0.05$). Therefore, a non-parametric statistical approach was applied for further analysis.

The findings of this community service activity demonstrated that the structured health education intervention was associated with improved knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse among prison inmates. The significant difference between pre-test and post-test scores indicates that the educational program effectively enhanced participant understanding following the intervention.

The increase in knowledge scores may be attributed to the use of interactive educational strategies, including lectures, group discussions, reflective sessions, and printed educational media. Active participant involvement during the learning process likely facilitated better understanding and retention of health-related information. Previous studies have similarly reported that interactive health education approaches are more effective in improving knowledge and awareness among vulnerable populations compared to passive educational methods.

The biopsychosocial-spiritual approach applied in this program may also have contributed to participant engagement and receptiveness. Drug abuse among incarcerated individuals is closely related not only to physical health problems, but also to psychological distress, impaired social functioning, and spiritual challenges. Therefore, educational interventions addressing multiple dimensions of health may be more relevant within correctional settings. Previous studies have suggested that integrating psychosocial and spiritual components into rehabilitation-related programs can support emotional awareness and recovery motivation among individuals with substance use disorders (Baranyi et al., 2022; Thekkumkara et al., 2022).

These findings are also consistent with previous literature emphasizing the importance of health literacy and educational support within prison environments. Incarcerated populations often experience limited access to promotive and preventive health services, making structured educational activities important components of correctional health programs. Improving knowledge regarding the consequences of drug abuse may help inmates better understand the importance of recovery and healthy coping strategies during rehabilitation processes.

Despite the positive findings, several limitations should be acknowledged. This activity used a one-group pre-test & post-test design without a control group, limiting the ability to establish causal relationships. In addition, the evaluation focused only on short-term knowledge improvement and did not assess behavioral change, relapse prevention, or long-term rehabilitation outcomes. Future programs are recommended to incorporate longitudinal follow-up, more comprehensive participant assessments,

and repeated educational sessions to evaluate sustained impacts over time.

Overall, this community service activity demonstrated that structured health education using a biopsychosocial-spiritual approach was feasible and potentially beneficial for improving inmates' knowledge regarding the impacts of drug abuse within correctional settings.

TABLES AND FIGURES

Normality testing was conducted to determine the appropriate statistical analysis for comparing knowledge scores before and after the health education intervention. The Shapiro–Wilk test indicated that both pre-test and post-test scores were not normally distributed ($p < 0.05$). Therefore, a non-parametric statistical approach was applied.

Table 1. Normality Test of Pre-test and Post-test Knowledge Scores

Variable	Shapiro–Wilk Statistic	p-value	Interpretation
Pre-test	0.874	0.0001	Not normally distributed
Post-test	0.808	0.0001	Not normally distributed

Because the data were not normally distributed, the Wilcoxon Signed-Rank Test was used to analyze differences between pre-test and post-test knowledge scores. The analysis showed a statistically significant difference between scores before and after the intervention ($p = 0.006$), indicating that the health education program was associated with improved participant knowledge regarding the impacts of drug abuse.

Table 2. Bivariate Analysis of Knowledge Scores Before and After Intervention

Statistical Test	Test Statistic	p-value	Interpretation
Wilcoxon Signed-Rank Test	Z = 121.0	0.006	Significant difference

The Wilcoxon Signed-Rank Test revealed a statistically significant difference between pre- test and post-test knowledge scores ($p = 0.006$). This finding indicates that the health education intervention significantly improved participants' knowledge regarding the health impacts of drug abuse.

Overall, participants demonstrated positive responses during the educational activities. Interactive lectures, group discussions, and reflective sessions appeared to support participant engagement and understanding throughout the intervention process.

CONCLUSION

This community service program demonstrated that structured health education was associated with improved knowledge regarding the physical, psychological, social, and spiritual impacts of drug abuse among prison inmates. The findings indicated that participants showed higher post-test knowledge scores following the educational intervention.

The biopsychosocial-spiritual approach appeared feasible and relevant for implementation within correctional settings, particularly as part of health promotion and educational activities for incarcerated individuals with substance use-related problems. Interactive educational methods and simple learning media also supported participant engagement during the program.

However, this activity only evaluated short-term changes in knowledge and did not assess long-term behavioral change, relapse prevention, or rehabilitation outcomes. Therefore, further follow-up programs and longitudinal evaluations are needed to determine whether improved knowledge can be sustained and translated into positive behavioral and rehabilitation-related outcomes among prison inmates.

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