

Impact social rehabilitation program on quality of life of inmates with illicit drug use

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Abstract

Background: Inmates with illicit drug use have experienced various problems that affect their Quality of Life (QoL). The social rehabilitation program is expected to improve their QoL. Studies investigating the impact of social rehabilitation programs on QoL of inmates with drug abuse are limited.

Purpose: This study aims to describe the differences in the QoL of inmates with illicit drug use at the 0, 3rd, and 6th months of the program and to know the program's effectiveness in three Indonesian prisons.

Methods: This study used a secondary data analysis of comparison study with pre-post program intervention for inmates with illicit drugs in Indonesian Prisons by analyzing inmates' QoL. The instrument used the World Health Organization Quality of Life-BREF (WHOQOL-BREF). This study consists of documents from 400 male and 92 female inmates with illicit drug use who fully participate in social rehabilitation programs in three prisons. Data were analyzed by measuring the frequency and mean of QoL in the 0, 3rd, and 6th months using the One-Way Anova and the Kruskal Wallis to evaluate the program's effect on the QoL.

Results: The average QoL in physical, psychological, social relationship, and environment domains increased from the 0, to 3rd, and 6th months of the program. The rehabilitation program was effective in improving QoL ($p < 0.001$) in Prisons A and C, but it was found no significant effect on QoL in Prison B ($p = 0.069$).

Conclusion: The rehabilitation program was potentially effective in improving the QoL of inmates with illicit drug use. It is important for related parties to further evaluate the supporting and inhibiting factors that affect the QoL in the social rehabilitation program and overcome these inhibiting factors.

Keywords: inmates; illicit drug use; quality of life; social rehabilitation program

Introduction

Global prevalence estimation of drug use has increased globally. Furthermore, the most commonly used is alcohol 18.4%, followed by 15.2% for daily tobacco smoking, and 3.8, 0.77, 0.37, and 0.35% for past-year cannabis, opioid, amphetamine, and cocaine use, respectively (Peacock et al., 2018). Inmates with illicit drug use have increased over the last ten years in Indonesia (Direktorat Jenderal Pemasyarakatan [Directorate General of Corrections], 2018). A drug addict can cause physical problems such as abnormal metabolism so that the body loses its ability to absorb nutrients and to self-repair (Adrian & Barry, 2003). "Skin popping" to an injected illicit drug in the skin can cause hyperpigmented, fibrotic, depressed, round papules and plaques (Saporito et al., 2018). Drug abuse may lead to psychosocial problems, negative emotions, peer pressure, self-efficacy, lack of assertiveness, and parental discord. It can also affect environmental issues such as difficulties in employment and economic self-sufficiency (Adrian & Barry, 2003; Rahman et al., 2016).

Changes in physical, psychological, social, and environmental conditions can reduce the QoL of drug addicts. Drug users are five times more likely to have a low perceived QoL than non-drug users. The studies have shown

OPEN ACCESS

Jurnal Keperawatan Padjadjaran (JKP)

Volume 13(2), 130-141
© The Author(s) 2025
<http://dx.doi.org/10.24198/jkp.v13i2.2315>

Article Info

Received : June 07, 2023
Revised : May 06, 2025
Accepted : August 01, 2025
Published : August 21, 2025

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Citation

Anggiri, R. R., & Andriany, M. (2025). Impact social rehabilitation program on quality of life of inmates with illicit drug use. *Jurnal Keperawatan Padjadjaran*, 13(2), 130-141. <http://dx.doi.org/10.24198/jkp.v13i2.2315>

Website

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E-ISSN: 2442-7276
P-ISSN: 2338-5324

a negative relationship between QoL perceived and heroin use. Perceived QoL can be improved when methadone treatment is started (O'Brien et al., 2015). Substance use disorder (SUD) can cause adverse interaction effects of depression, social isolation, unemployment, and weight dissatisfaction. The psychological impact of QoL was explained by depression and being single (Muller et al., 2019).

To improve their QoL, drug users are required to participate in medical and social rehabilitation programs during the detention process. The social rehabilitation programs are carried out to improve the good QoL to prepare people in prison with illicit drugs to carry out their social functions in the environment (Direktorat Jenderal Pemasyarakatan [Directorate General of Corrections], 2018). QoL has been used as a variable of therapeutic results, to describe groups of people with SUD and presenting types of disorders, as a reference instrument in the validation process of QoL, and to test its association with other variables related to dependence or abuse (Campêlo et al., 2017). QoL evaluation can be conducted using the World Health Organization Quality of Life-BREF (WHOQOL-BREF).

Previous studies have known that improving QoL during improvement can be seen as a successful rehabilitation and reduction of re-crime. The psychological and physical conditions (psychological distress) also significantly affect their QoL (Muller & Bukten, 2019). Other research shows that providing comprehensive services (rehabilitation) will develop the client's personality and be able to obtain physical, emotional, and social well-being according to their abilities because they are personal values and aspirations in shaping the QoL (Anggarwati & Nawangsih, 2016). Studies that investigate the evaluation of the social rehabilitation programs on QoL of inmates with drug abuse in Indonesia are limited. Indonesia government has recommended to implement this program consisting of younger members, middle member, and older member phases and additional components for several years and measured the QoL of inmates at the zero, 3rd and the 6th month of the program as targeted by the Indonesian Ministry of Law and Human Right. The previous study applied experimental design in three single setting with time series data collection method 0, 3, and 6 months. However, the data were not further analysed yet thus the effectiveness of its implementation in each setting and comparison between three different setting have not been investigated. This time series data collection not only potentially provide the effect of this program but also the trend of this program after 3 and 6 months follow up including the comparison of its impact between setting. Therefore, the purpose of this study is to describe the differences of the QoL of inmates with illicit drug use at the zero, 3rd and 6th months of the social rehabilitation programs implementation and analyse the effect of the programs on the QoL of inmates with illicit drug.

Materials and Methods

Design

This study is secondary data analysis of previous one group experimental study conducted in three single setting with time series data collection.

Sample and setting

The population of this study were documents from 550 inmates with illicit drug use including 200 documents from Prison A, 100 from Prison B, and 250 from Prison C in Indonesian prisons. The purposive sampling technique was used with inclusion criteria: 1) Data from inmates with illicit drug use who fully participate in a social rehabilitation program; 2) Data were completed. There were 492 documents consisted information regarding quality of life met the criteria (150 documents from Prison A, 92 from Prison B, and 250 from Prison C). The exclusion criteria were documents that were damaged or unreadable.

Prison A has a capacity of 600 inmates, but accommodates up to 1700 male inmates. Prison B is a female prison with a capacity of 107 inmates but is inhabited by around 250 inmates. Prison C is a prison with a capacity of 221 prisoners but is occupied by 650 inmates. Thus, it can be concluded that all prisons are overcapacity.

Instruments

During the program implementation, it was also measured the inmates' quality of life using WHOQOL-BREF questionnaire. The WHOQOL-BREF questionnaire contains 26 questions developed by the World Health Organization (WHO). WHOQOL-BREF consists of four domains of QoL, including physical, psychological, social relation, and environmental domains, which are calculated based on a five-point Likert scale (1-5). The results of the validity and reliability tests from the WHOQOL-BREF questionnaire were declared valid with $r=0.466-0.786$ and the Cronbach-Alpha test $\alpha=0.859,99$ (Pheny & Raymondalexas, 2014).

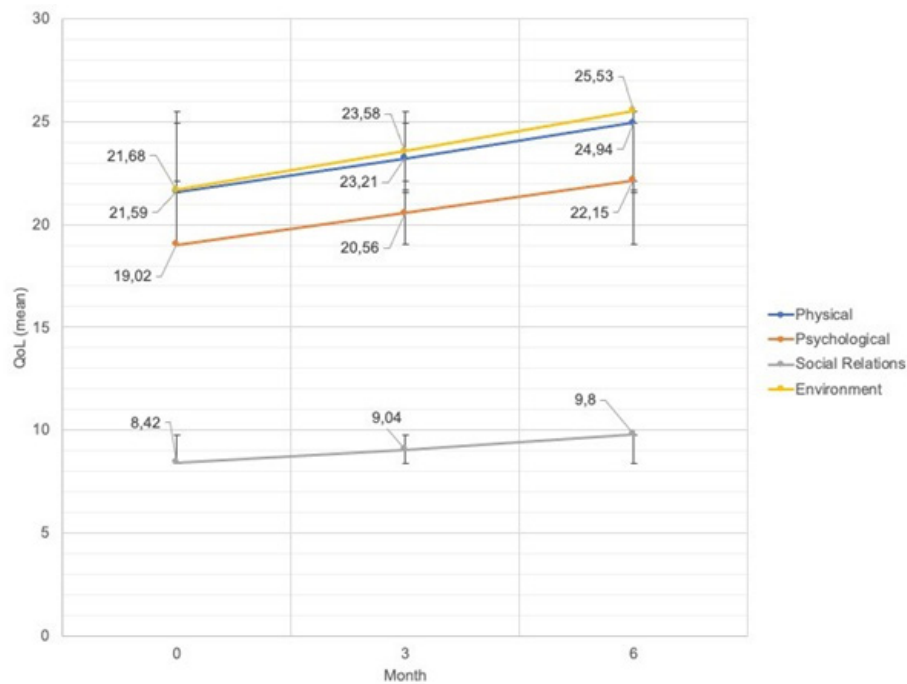
Implemented program

The program implemented on inmates with illicit drugs from three prisons in Indonesian Prisons, namely Prison A, Prison B, and Prison C. These setting were selected due to these three prisons implemented the same absolute intervention, namely Therapeutic Community (TC) correctional-based. The implementation of a social rehabilitation program is based on the guidelines for the implementation of social rehabilitation programs for drug users by the Ministry of Law and Human Rights of the Republic of Indonesia.

The social rehabilitation program used TC, which was modified based on inmates with illicit drug needs. TC consisted of physical and psychological evaluation activities carried out for 2 weeks. Furthermore, the core program was carried out for 19 weeks with a focus on behavioral change activities

Table 1. Distribution of demographic characteristics of inmates with social rehabilitation programs in Indonesian Prisons (n=492)

Characteristics	Frequency	Percentage (%)
Prisons		
Prison A	150	30.5
Prison B	92	18.7
Prison C	250	50.8
Age (mean+SD =.....+)		
18-40 years old	409	83.1
41-60 years old	82	16.7
61-70 years old	1	0.2
Gender		
Male	400	81.3
Female	92	18.7
Marital status		
Single	154	31.3
Married	247	50.2
Others	91	18.5
Education level		
Elementary school	72	14.6
Primary school	166	33.7
High school	244	49.6
Academic school	4	0.8
Graduate school	6	1.2

**Figure 1. Graph of changes in average QoL of inmates with social rehabilitation program in Indonesian Prisons (n=492).**

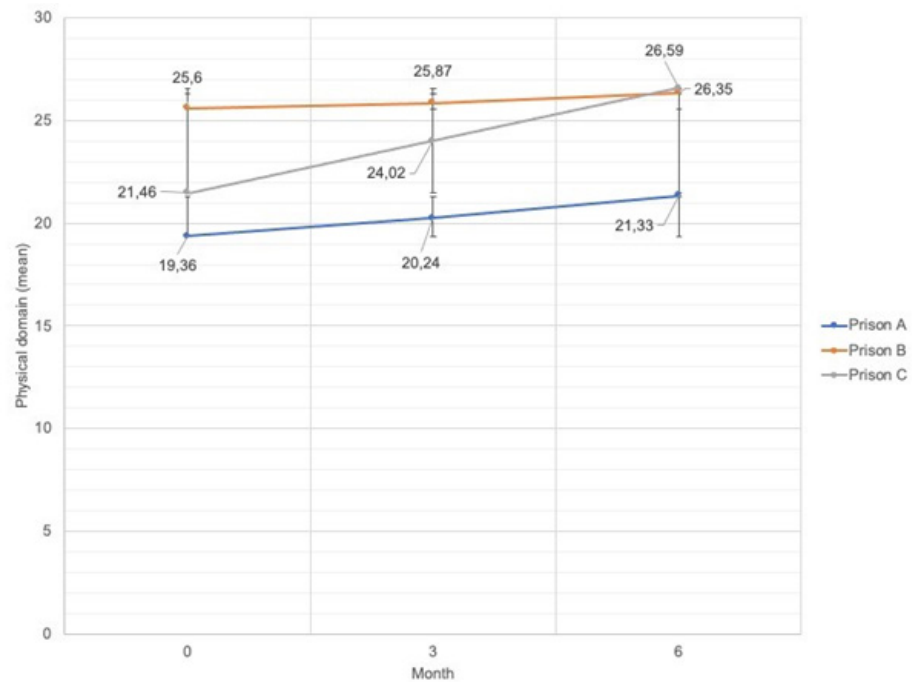


Figure 2. Graph of changes in average physical domain of inmates with social rehabilitation program in Indonesian Prisons

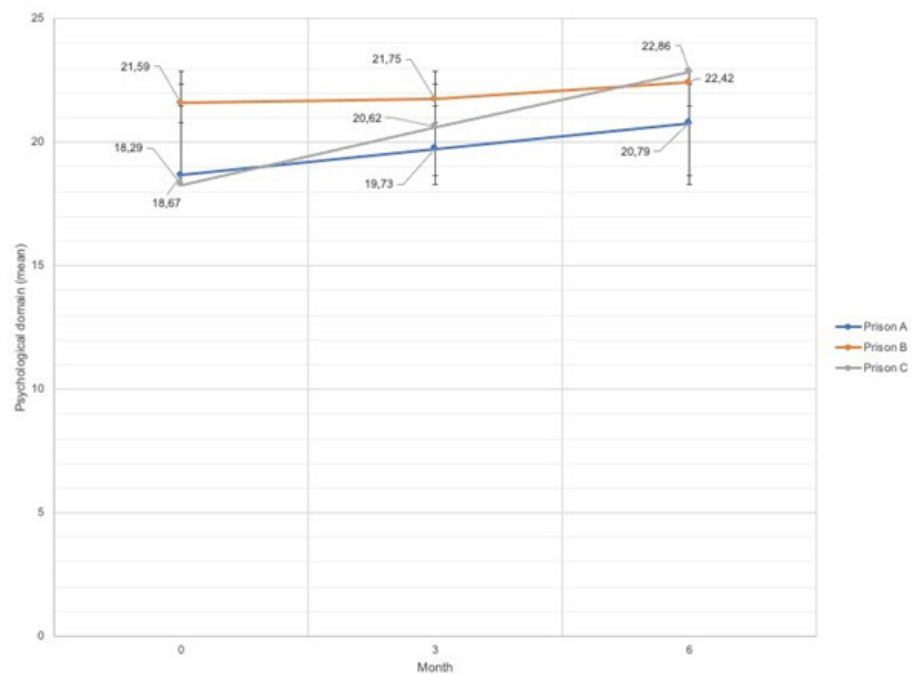


Figure 3. Graph of changes in average psychological domain of inmates with social rehabilitation program in Indonesian Prisons

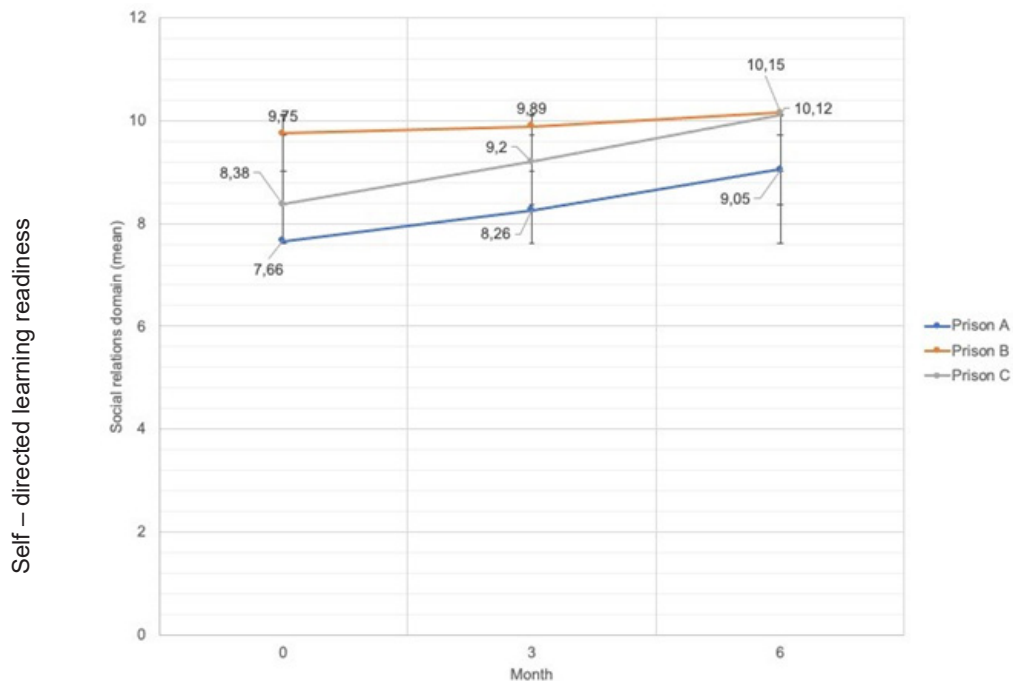


Figure 4. Graph of changes in average social relation domain of inmates with social rehabilitation program in Indonesian Prisons

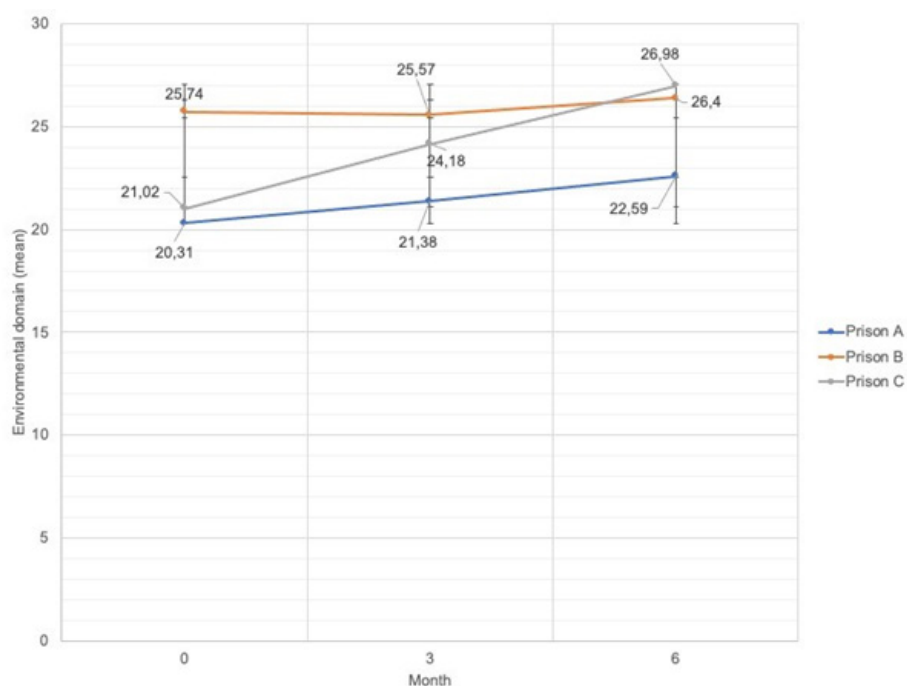


Figure 5. Graph of changes in average environmental domain of inmates with social rehabilitation program in Indonesian Prisons

and post-rehabilitation preparation activities, which were carried out for 3 weeks. This program was carried out by health workers (doctors and nurses worked in the prisons), correctional workers, and officers trained in addiction counselling. The stages of physical and psychiatric assessment aimed to assess physical problems as well as mental and behavioral disorders to carry out symptomatic therapy for withdrawal symptoms. Inmates who have completed the physical and psychiatric evaluation stages, where their physical, cognitive, and emotional conditions are generally stable, can follow the core program.

In the core program, inmates join a structured community with a hierarchy, daily schedules, therapy groups, group seminars, counselling, and vocational as a medium to support self-change. The activities carried out at this stage included: 1) Phase of Younger Members: In this phase, inmates were introduced to rehabilitation services such as the TC method approach, adaptation to environmental programs, devices used, applicable regulations, norms, and values upheld in the program. This phase was carried out for six weeks; 2) Middle Member Phase: This phase facilitated self-development by societal values and norms, understanding the relationship between the programs being implemented and the reality occurring in real life. This phase was carried out for nine weeks; 3) Older Member Phase: This phase was performed to train leadership skills, responsibility, interpersonal skills, and an understanding of more profound aspects of life. This phase was carried out for five weeks; 4) Additional components of the core program can also be given psychosocial interventions if needed, such as individual, group, and family counselling, psychoeducation, seminars, group dynamics, support groups, static groups, crisis intervention, special assessments, brief therapy, psychosocial and spiritual interventions.

The third stage was preparation for post-rehabilitation services given in the last three weeks of rehabilitation services (the second week of the older member phase). The stages in the post-rehabilitation preparation were resumes and recommendations for the types of post-rehabilitation services. The re-assessment was carried out using in-depth interviews, results of interests and talents, and a psychological examination. The program was implemented during February-August 2020 in Prison A, January-July 2020 in Prison B, and January-July 2020 in Prison C.

Data Analysis

This study used univariate analysis on the raw score results by displaying changes in the mean at months 0, 3rd, and 6th in the physical, psychological, social relations, and environmental domains. Bivariate analysis was used to determine the results of the raw scores transformed by the transformed score table. The normality test results of the total QoL score pre and post-social rehabilitation program in Prison B

($p=0.200$ and $p=0.200$) and Prison C ($p=0.007$ and $p=0.034$) were normally distributed. The normality test results of the physical, psychological, social, and environmental domains of QoL in Prison A, B, and C were not normally distributed ($p=0.000$). The total QoL score test results in Prison A were not normally distributed ($p=0.000$). Therefore, the test carried out is the One-Way Anova for parametric test and the Kruskal Wallis for non-parametric test to evaluate the program's effect on QoL at month 0th, 3rd, and month 6th.

Ethical Consideration

This research has passed the ethical test of the Health Research Ethics Commission, Faculty of Medicine, Universitas Diponegoro No. 55/EC/KEPK/FK/UNDIP/III/2021. This study was also conducted according to the WMA Declaration of Helsinki, Ethical Principles for Medical Research Involving Human Subjects ([World Medical Association, 2013](#)) by protecting participants' right in incurring any harms, and based on guidelines by Kementerian Hukum dan Hak Asasi Manusia [Ministry of Law and Human Rights in 2020]. Investigators ensured anonymity to maintain the confidentiality principles for the respondents and institutions involved and guaranteed that they will not obtain negative effects due to this study. There was no complain form the involved respondents regarding the program implemented and research project conducted.

Results

The study locations were based on the implementation of social rehabilitation programs in the three prisons that provided the same absolute intervention, namely the correctional-based TC.

Majority of the respondents in this study were male (81.3%), less than 40 years old (83.1%), married (50.2%), and graduated from high school level (49.6%). The demographic data of this study is shown in [Table 1](#).

The results of the study explain an increasing change in the average QoL of the inmates with social rehabilitation program in 0, 3rd, and 6th months ([e.g. figure 1](#)). The increasing average QoL in total three prisons with the physical, psychological, social relations, and environmental domain between the 0 and 6th months has a difference of 3.35; 3.13; 1.38; and 3.85.

[Table 2](#) shows the mean, mean difference, and statistical analysis in the total domains (physical, psychological, social relationships, and the environment) of QoL from the 0, 3rd, and 6th months in each prison. Across the total sample of 492 incarcerated individuals, significant improvements were observed in total QoL and its domains over six months. The mean overall QoL score increased by 11.70 points ($p<0.001$), with the most significant improvement noted in Prison C (17.40 points, $p<0.001$), followed by Prison A (7.78 points, $p<0.001$). In contrast, changes in Prison B

Table 2. Comparison of mean, mean difference, and statistical tests of the effectiveness of social rehabilitation program on changes in QoL of inmates with illicit drug use in Indonesian Prisons (n=492)

QoL Domain	Mean			Mean Difference			p-value
	0 month	3rd month	6th month	0-3 month	3-6 month	0-6 month	
Total	70.72	76.40	82.42	5.68	6.02	11.70	<0.001*
Prison A	65.99	69.61	73.77	8.87	4.16	7.78	<0.001*
Prison B	82.67	83.08	85.33	0.41	2.25	2.66	0.223**
Prison C	69.15	78.02	86.55	3.62	8.53	17.40	<0.001*
Physical	21.59	23.21	24.94	1.62	1.73	3.35	<0.001*
Prison A	19.36	20.24	21.33	0.88	1.09	1.97	<0.001*
Prison B	25.60	25.87	26.35	0.27	0.48	0.75	0.267*
Prison C	21.46	24.02	26.59	2.56	2.57	5.13	<0.001*
Psychological	19.02	20.56	22.15	1.54	1.59	3.13	<0.001*
Prison A	18.67	19.73	20.79	1.06	1.06	2.12	<0.001*
Prison B	21.59	21.75	22.42	0.16	0.67	0.83	0.211*
Prison C	18.29	20.62	22.86	2.33	2.24	4.57	<0.001*
Social Relations	8.42	9.04	9.80	0.62	0.76	1.38	<0.001*
Prison A	7.66	8.26	9.05	0.60	0.79	1.39	<0.001*
Prison B	9.75	9.89	10.15	0.14	0.26	0.40	0.273*
Prison C	8.38	9.20	10.12	0.82	0.92	1.74	<0.001*
Environment	21.68	23.58	25.53	5.68	1.95	3.85	<0.001*
Prison A	20.31	21.38	22.59	3.62	1.21	2.28	<0.001*
Prison B	25.74	25.57	26.40	0.41	0.83	0.66	0.155*
Prison C	21.02	24.18	26.98	8.87	2.80	5.96	<0.001*

*) Kruskal Wallis Test

**) One-Way Anova Test

were minimal and statistically non-significant (2.66 points, $p=0.223$), indicating possible disparities in institutional environments or rehabilitative efforts. Consistent patterns were observed across specific domains. For instance, the Physical and Psychological domains improved significantly in the total sample (3.35 and 3.13 points, respectively; $p < 0.001$), with Prison C showing the most significant gains in both domains. Prison B, however, showed small and non-significant improvements, particularly in the physical domain (0.75 points, $p=0.267$) and psychological domain (0.83 points, $p=0.211$).

Social relations and environmental domains followed similar trends. While the total sample experienced significant yet modest gains in Social Relations (1.38 points, $p<0.001$), Prison C again showed the highest increase (1.74 points, $p<0.001$), compared to a minimal and non-significant change in Prison B (0.40 points, $p=0.273$). The Environmental domain showed the most pronounced improvement in Prison C (5.96 points, $p<0.001$), whereas Prison B displayed the most minor and non-significant change (0.66 points, $p=0.155$). These findings highlight substantial inter-prison variability, with Prison C demonstrating the most impactful improvements, while Prison B lagged across most QoL dimensions.

This underscores the importance of context-specific interventions in enhancing inmate well-being.

Discussion

Figure 1 shows that the QoL in the physical, psychological, social relations, and environmental domains of inmates with illicit drug use has increased from the 0, 3rd, and 6th months of the social rehabilitation program process. The difference average score of QoL in the physical domain was 16.6; psychological 22.25; social relations 9.85; and environment 32.65. Social rehabilitation program in the prison A and C was effective to improve QoL ($p<0.001$) and with no significant effect in prison B ($p=0.069$). Other studies showed that the environmental and social subscales of the World Health Organization Quality of Life Questionnaire Scale (WHOQOL-BREF-TR) had a significant correlation with alcohol use disorders in patients that perceived social support from the family and private person and total perceived support. In the opioid group, physical, environmental, and psychological subscales of the WHOQOL-BREF-TR did not show a significant correlation with the Multidimensional Scale of Perceived Social Support (MSPSS) and

significantly correlated with the social subscale (Ates et al., 2019).

Physical Domain

The physical domain of inmates who use drugs has increased from the 0, 3rd, and 6th months of social rehabilitation program. The highest difference average increase was in Prison C 17.34, while the average increase with the lowest difference was in Prison B 2.41. Factors that influence changes in the physical domain QoL score based on the WHOQOL-BREF questionnaire include individual perceptions of daily activities, stamina and endurance, medication therapy, physical mobility, pain and discomfort, work capacity, and sleep rest. The increase in the physical domain is due to scheduled physical activity and regular sleep patterns. Studies in a patient with alcohol use disorders or substance use disorders find that physical exercise, both body-mind and physical fitness programs, can be effective in improving mental disorders, craving, and QoL (Giménez-Meseguer et al., 2020).

Rehabilitation has an impact on improving the physical quality of inmates to become fitter, more productive, and more effective in carrying out daily activities. Group exercise for patients with drugs disorder can improve the physical health domain and psychological health domain of QoL significantly (Muller & Clausen, 2015). Inmates with illicit drug use needed to follow strict discipline in terms of sleeping hours undergoing rehabilitation. The benefits conferred by physical activity and adequate sleep have been independently associated with better mental health and physical well-being in substance use disorder (Mahboub et al., 2021).

Psychological Domain

The data on the psychological QoL of inmates with drug users experienced an increase from the 0, 3rd, and 6th months of social rehabilitation program. Individuals with substance use disorders have more psychosocial problems, so they need support and counselling (Poudel et al., 2016a). Factors that influence changes in the psychological domain QoL scores based on the WHOQOL-BREF questionnaire include cognitive conditions, negative and positive feelings, levels of self-confidence, self-image, and spirituality. TC can improve the spiritual condition of drug addicts characterized by good emotional control and diligent worship. TC may increase patients' self-awareness and motivation to change their way of life and person-centered approach (Testoni et al., 2018).

The improvement in psychological conditions was caused by counselling, changes in cognitive conditions, negative and positive feelings, and spirituality in inmates. Group counselling for the drug user education community is effective in reducing the desire to use drugs with a percentage of 86.12% (Guntara & Rohmat, 2020). Individual counselling by addiction counsellors affects the motivation to recover in drug addicts. Face-to-face

counselling had reported on the effectiveness of alternative modes of motivational interviewing in treating and preventing substance abuse (Jiang et al., 2017). Drug users are prone to cognitive dysfunction. Cognitive dysfunction in drug users such as hallucinations can be handled after undergoing rehabilitation, indicated by changes in behaviour to be able to carry out normal activities without being disturbed (Verdejo-Garcia et al., 2019). The negative feelings felt by drug users are feelings of shame and regret. Positive feelings of drug users after undergoing rehabilitation, namely self-acceptance can change the mind-set of drug users with a sense of optimism to live life (Priddy et al., 2018). Spiritual activities carried out in prisons include congregational prayers, lectures, and Qur'an reading. Spiritual meditation can promote addiction recovery as well as improve psychological and mental health outcomes by reducing symptoms of depression, anxiety, and stress. Spiritual meditation has a positive impact on addictive behaviour and mental health and makes clear its reliability in addiction therapy issues (Kadri et al., 2020).

Social Relations Domain

Improving the QoL in social relations includes sexual activity, social relationships, and assistance from the environment. Inmates' sexual activities while in prison cannot be facilitated. Sexual activity that cannot be channelled affects the QoL in the domain of social relations (Ware & Galouzis, 2019). Social relationships while in prison affect the QoL of the inmates. The social relationship that exists is mutual support between inmates or prison officers. Inmates during social rehabilitation program are facilitated to communicate with their families and given TC intervention in the form of peer groups to practice socializing (Liu et al., 2020; Raheimi et al., 2018). Rehabilitation can have an impact on changing the mind-sets of inmates. Inmates experienced a change in mind-set with better habits than before the program. The pattern of behaviour of the inmates becomes more effective and productive. Inmates become more confident, easy to socialize with, and easy to express opinions. External assistance can increase optimism and confidence in inmates during their detention period. A high sense of optimism and self-confidence can improve the QoL of inmates (Kelly et al., 2018).

The mediating effects of social support on the relationship between stress and life satisfaction were significant among people with an illicit drug user. Individuals with low-stress levels can maintain higher social support than others. The life satisfaction of people with illicit drugs can be enhanced in many ways. Their stress level can be alleviated and their social support or resilience can be enhanced, thereby increasing their life satisfaction. Several previous studies have indicated that social support can enhance life satisfaction and decrease stress (Kelly et al., 2018). The increasing decisional conflict and decreasing social support, recovery, and QoL.

The higher recovery scores predict better QoL ratings and as ratings for social support decline, this is associated with lower QoL. The lower decisional conflict is associated with a higher QoL. The QoL for people with mental health disorders is positively associated with social support (Coffey et al., 2019).

Environmental Domain

Improving the QoL in the environmental domain includes welfare, willingness to develop oneself, access to health, and recreation. The social rehabilitation program process carried out personal life skill guidance activities for the inmates. Social rehabilitation program carried out aims to reduce the unemployment rate after undergoing the program. The consequences of illicit drugs user often manifest as difficulty in obtaining employment and stable housing had important factors when considering QoL related to the environment (Poudel et al., 2016b). Access to health services is carried out during inmates with social rehabilitation program assessed by health workers at the Medical, Physical, and Evaluation (MPE) stage. Health care services are available in three prisons in this study. Health services while in prison can improve the health and QoL of inmates (McLeod et al., 2020). Environmental aspects in the form of recreation can also improve the QoL. Recreation carried out by the inmates includes exercising, watching TV, and playing musical instruments. Recreational activities in prison are recognized as the key to increasing QoL as a significant predictor of social support (Baharudin et al., 2020).

Social Rehabilitation Program Effectiveness

Table 1 shows that social rehabilitation program in Prisons A and C had a significant change ($p\text{-value}=0.000$) in the total score of the QoL domain, physical, psychological, social relations, and environmental domains. The results of the research supported by Fernanda (2020) explaining that prisons are quite effective in carrying out social rehabilitation program for inmates who use drugs. Rehabilitation activities are beneficial because the inmate activities are scheduled from waking up to going back to sleep. Inmates who use drugs try to be productive and forget negative thoughts to return to consuming drugs. TC method is effective in social rehabilitation program in prisons. The TC method can increase self-confidence and foster emotional and spiritual management of drug addicts. Social support during social rehabilitation program has an important role on the QoL (Ates et al., 2019).

An insignificant difference was found in the Prison B. QoL did not significantly changes in the total and each domain of QoL. It may due to structural barriers including inadequate time, training and management of care providers (Farhoudian et al., 2022). Moreover, rehabilitation might not be seen as a correctional staff key concern. Rehabilitation is perceived as responsibility of prisoners themselves. On the other hand, inmates' cynicism sometimes

wears good intentions of officers in supporting their rehabilitation. These situations impact on relationship during the process (Bullock & Bunce, 2018).

The increase in QoL in each domain is due to supporting factors. The increase in QoL was due to a system of reward, punishment, and learning experiences for inmates to maintain compliance, discipline, and enthusiasm in carrying out social rehabilitation program activities (Zhang, 2020). A previous study explains that the emphasis on punishment should be shifted to the holistic care approach that focuses on finding the cause of drug use (Majidah & Kettel, 2020). The prison also cooperates with relevant agencies to give individual counselling such as the department of religion and church ties in spiritual development. Counselling can increase self-esteem by feeling more independent, having advantages, and being optimistic about life (Kelly et al., 2018). Social rehabilitation program participants were given a walking paper containing the creed, cardinal rules, and a prayer of peace that must be memorized by inmates and read every time before they start activities at the morning meeting. This is used so that prisoners remember the goals of social rehabilitation program and the mind-set of the importance of social rehabilitation program. Psychological mind-set change involves commitment during the recovery of illicit drugs (Stokes et al., 2018).

The difference in the results of social rehabilitation program towards improving the QoL is caused by internal and external factors. The internal factor, namely the condition of the QoL scores on the inmates of social rehabilitation program participants at Prison B, was quite high from month 0 so there was no significant change in the increase in the 6th month. Prison B with woman respondent and Prison A and C with man respondent. Women reported lower satisfaction with their physical and psychological health at treatment entry compared with men, but these differences were not present at treatment review (Best et al., 2013). External factors that can influence based on the results of the preliminary study are the differences in support and barriers to the implementation of social rehabilitation program in each Indonesian prisons. Prisons A and B have implemented social rehabilitation program programs since 2020, therefore the data used in these two prisons in this study is the first data on the implementation of social rehabilitation program. This is different from Prison C which has experience carrying out social rehabilitation program since 2015. Factors that hinder the absence of significant changes in the QoL include minimal prison preparation, prison human resources (HR), most of which have not attended training and do not understand social rehabilitation program guidelines, and the COVID-19 pandemic that affects program implementation (Du et al., 2020).

Strengths and limitations

The strength of the study is the study involved most of available documents, thus it may improve the sample representativeness and internal validity of this study. However, the prisons involved in this study only from one province so it may less represents the overall Indonesian prisons. The different of facilities, organizational, and socio-cultural background may exist in the prison at the other provinces must be also considered as additional generalizability issues of this study.

Nursing implication

The results show the importance of social rehabilitation program on quality of life of inmates with illicit drug use in all domains. Nurses should be actively involved in this program by improving their skills in behavioral change therapies. The finding also highlight improvement score in each domain of QoL during 3rd to 6th months which include post-rehabilitation preparation program. Thus, nurses should maintain inmates' behavioral modifications so these change can be sustainable particularly after release from prisons. Since there was a prison which is a female prison that did not experience QoL improvement, further research should be explore this phenomenon. This exploration will be crucial to identify related factors or barriers in the implementation of the program so Indonesian government and related parties can determine problem solving of those challenges.

Conclusion

The study concluded that the average QoL in the physical, psychological, social relations, and environmental domains in inmates with illicit drug use has increased from the 0, 3rd, and 6th months of social rehabilitation program. Social rehabilitation programs were effective in improving QoL in two prisons and has no significant effect in another one.

It is important for nurses or other healthcare professional work in the prison to use the results of the WHOQOL-BREF questionnaire as a consideration in making nursing assessments on inmates as part of social rehabilitation implementation. Educational institutions can make correctional-based TC programs as teaching materials in the community nursing curriculum. Prison institutions can implement a system of rewards, punishments, and learning experiences and consider the results of the research in identifying the supporting and inhibiting factors of the social rehabilitation process and determining appropriate interventions to deal with them. Future researchers are expected to be able to conduct qualitative research, exploratory studies on changes in the quality of life of inmates in social rehabilitation, and conduct experimental research by providing Holistic Therapeutic Community (HTC) interventions to improve the quality of life of inmates with illicit drugs.

Declaration of Interest

This study has no conflict of interest during the study and publication process.

Acknowledgment

Researchers would like to thank prison officers in the work area of the Ministry of Law and Human Rights of the Republic of Indonesia.

Funding

The research received no external funding.

Data Availability

The datasets used or analysed during the study are available from the corresponding author on reasonable request.

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