

## Implementing management of the physical fitness education program for the drug rehabilitation patients in drug addict therapy centre

### Implementación de la gestión del programa de educación física para los pacientes de rehabilitación de drogas en el centro de terapia para drogadictos

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**Abstract.** This research analyses the urgency of Implementation of Physical Fitness Education Program Management for Drug Rehabilitation Patients at the Bidayatussalikin Islamic Boarding School (BIBS) Drug Addict Therapy House in Indonesia. This research was a mixed-method research. The quantitative sample consisted of 65 BIBS drug rehabilitation students. The qualitative sample included 6 expert informants. The conclusion is the implementation of physical fitness education programme management as a means of accelerating non-medical rehabilitation for students as former drug addicts needs to be implemented. This programme can be used as a means of accelerating the non-medical healing process through; strengthening physical fitness components, repairing the body's nerve cells, encouraging the release of the hormones dopamine and endorphins that trigger happiness, reducing stress, managing emotions, stabilising mood, channeling positive energy, avoiding empty thoughts, helping restore damaged memory, and entertaining the students as former drug addicts. The conclusion of this study emphasizes the importance of implementing a structured physical fitness education pro-gram in drug rehabilitation centers. The findings confirm that such programs not only provide significant physical health benefits, but also support psychological recovery and encourage positive routines for patients. Physical fitness programs, integrated in drug rehabilitation strategies, should be considered a crucial and indispensable component, due to their contribution to physical and mental well-being during the recovery process. Research has also shown the integral role of rehabilitation in helping individuals suffering from substance use disorders to achieve recovery and pre-vent relapse. By incorporating approaches that cover physical, psychological, social, and spiritual aspects, rehabilitation programs can effectively support the holistic well-being and successful recovery of individuals undergoing rehabili-tation from substance dependence.

**Keywords:** Urgency; Management of Physical Fitness Education Programs; The Drug Rehabilitation Patients

**Resumen.** Esta investigación analiza la urgencia de la Implementación de la Gestión del Programa de Educación Física para los Pacientes de Rehabilitación de Drogas en la Casa de Terapia para Drogadictos del Internado Islámico Bidayatussalikin (BIBS) en Indonesia. Esta investigación fue una investigación de método mixto. La muestra cuantitativa consistió en 65 alumnos de rehabilitación de drogadictos del BIBS. La muestra cualitativa incluyó a 6 informantes expertos. La conclusión es que es necesario aplicar la gestión de programas de educación física como medio para acelerar la rehabilitación no médica de los estudiantes ex drogadictos. Este programa puede utilizarse como medio para acelerar el proceso de curación no médica mediante el fortalecimiento de los componentes de la forma física, la reparación de las células nerviosas del cuerpo, el fomento de la liberación de las hormonas dopamina y endorfinas que desencadenan la felicidad, la reducción del estrés, la gestión de las emociones, la estabilización del estado de ánimo, la canalización de la energía positiva, la evitación de los pensamientos vacíos, la ayuda a restaurar la memoria dañada y el entretenimiento de los estudiantes como ex drogadictos. La conclusión de este estudio subraya la importancia de implantar un programa estructurado de educación física en los centros de rehabilitación de drogodependientes. Los resultados confirman que dichos programas no sólo proporcionan importantes beneficios para la salud física, sino que también apoyan la recuperación psicológica y fomentan rutinas positivas para los pacientes. Los programas de acondicionamiento físico, integrados en las estrategias de rehabilitación de drogodependientes, deben considerarse un componente crucial e indispensable, debido a su contribución al bienestar físico y mental durante el proceso de recuperación. La investigación también ha demostrado el papel integral de la rehabilitación para ayudar a las personas que sufren trastornos por consumo de sustancias a lograr la recuperación y evitar las recaídas. Mediante la incorporación de enfoques que abarquen los aspectos físicos, psicológicos, sociales y espirituales, los programas de rehabilitación pueden apoyar eficazmente el bienestar holístico y la recuperación satisfactoria de las personas que se someten a rehabilitación por dependencia de sustancias.

**Palabras clave:** Urgencia; Gestión de programas de educación física; Pacientes en rehabilitación por drogodependencia

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### Introduction

The implementation of physical fitness education programs in drug rehabilitation centers is increasingly recognized as an essential component of comprehensive care for individuals undergoing drug addiction therapy. The urgency of integrating such programs stems from a growing body of research that underscores the vital role of physical fitness, alongside psychosocial support and education, in enhancing patient outcomes. Structured rehabilitation programs that

combine physical exercise training, patient education, and psychosocial interventions have been shown to significantly improve the quality of life, physical health, and treatment compliance of patients recovering from various medical conditions, including drug addiction (Bourbeau, 2010). These findings highlight the need for a holistic and multidisciplinary approach to rehabilitation, where physical fitness education is tailored to meet the unique needs of individuals in therapy.

Rehabilitation programs that include components such

as respiratory and chest physiotherapy, exercise training, and patient education have proven successful in various medical contexts, suggesting their potential effectiveness in drug rehabilitation settings (Ries, 2005). For instance, post-surgical rehabilitation programs that focus on enhancing physical activity and fitness have demonstrated significant improvements in patient outcomes, further supporting the argument for implementing similar strategies in drug rehabilitation (Dam et al., 2022). The emphasis on physical health prior to major surgical procedures, such as total hip replacement, also indicates the broader applicability of physical fitness programs in preventing physical impairment and optimizing rehabilitation outcomes (Baldania, 2024). Moreover, non-drug therapy components, including physical training, smoking cessation programs, and respiratory physiotherapy, have been effectively integrated into rehabilitation programs for conditions like asthma, underscoring the importance of a comprehensive approach that addresses both physical and psychological aspects of patient care (Maierian et al., 2019). Similarly, physical rehabilitation and gait retraining programs are fundamental elements in managing neurological conditions, such as Parkinson's disease, demonstrating the wide-ranging benefits of physical therapy in enhancing patient well-being (Parry et al., 2019). These examples from various medical fields reinforce the potential value of implementing physical fitness education programs in drug rehabilitation centers.

The consumption of narcotics in Indonesia is at an extremely concerning level. The National Narcotics Agency (BNN) reports that there will be 851 cases of narcotics and drug abuse in Indonesia in 2022. This number increased 11.1% compared to the previous year which was 766 cases. Meanwhile, the number of suspects in drug cases reached 1,350 people last year. This number also increased by 14.02% compared to 2021, which was 1,184 people. In addition, BNN uncovered 49 drug networks in Indonesia in 2022, consisting of 23 international and 26 national networks (Widi, 2023). The ongoing drug problem has sparked various efforts to overcome it, including massive supply, demand, and harm reduction. A harm reduction related to demand reduction is rehabilitation for people with an addiction and victims of drug abuse. Drug rehabilitation is one of the treatment efforts to free drug addicts from dependence. Based on Law Number 35 of 2009 Article 1 Number 13, a drug addict is a person who uses or abuses narcotics and is in a state of dependence on narcotics both physically and psychologically (BNN, 2021). Meanwhile, it is also important to explain that drug addicts (opium), when using these drugs, are in a state of being deceived, depressed, and misguided (Munir et al., 2023). In addition, stigma, prejudice, and fear further marginalize drug addicts, resulting in them becoming increasingly isolated. This marginalization can lead to responses of depression, anxiety, and low self-esteem that encourage persistence in drug addiction (Blake et al., 2020). Thus, a solution is needed so that these drug addicts do not continue to be marginalised

and worsen their condition.

According to Article 54 of Law Number 35 of 2009 concerning Narcotics, narcotics addicts and victims of narcotics abuse are required to undergo medical and social rehabilitation. To implement this article, the government provides services and access to rehabilitation services for people with an addiction, abusers, and victims of narcotics abuse who need rehabilitation. These rehabilitation services and access include rehabilitation centers, ~~rehabilitation centers~~, rehabilitation homes, and recipient institutions that are required to report (IPWL). In addition to services provided by the government, there are also rehabilitation services provided by the community through Community-Based Interventions (IBM) (Setkab, 2023). One of the rehabilitation services in the form of an Islamic boarding school in the Sleman Yogyakarta area is the Bidayatussalikin Islamic Boarding School (BIBS), built on June 23, 2003, in Sleman, Yogyakarta. In 2015, this Islamic boarding school received assistance for constructing Islamic boarding school flats from the Ministry of Public Works and Public Housing (PUPR) called Rusunawa or Bidayatussalikin Islamic Boarding School. The focus of services at the Bidayatussalikin Islamic Boarding School is the integration of three programs, including first, an awareness program distributed for students with a background of drug abuse, juvenile delinquency, and addiction to online games and gadgets. The awareness process students undergo is a religious therapy model for student management to improve spiritual behavior. Second, Islamic boarding school activity programs include teaching books and memorizing the Koran. Finally, students in the maintenance phase will be directed according to their interests and talents. Students still at school age will be directed to continue their education according to their level. In contrast, adult students will be directed at developing vocational skills and life independence for drug rehabilitation students.

As the routine program of non-medical rehabilitation therapy activities for drug addicts at the Bidayatussalikin Islamic boarding school continues, it is necessary to develop and add non-medical rehabilitation methods to speed up the healing therapy process. On the other hand, physical activity in drug (opioid) addicted patients tends to be low, and there is almost no high-intensity sports activity, while the most significant health benefit is using long-term training programs with moderate intensity and higher intensity (Alpers et al., 2022). Therefore, the development and addition of non-medical rehabilitation methods can be pursued by measurably managing physical fitness activities tailored to the needs of drug rehabilitation students/patients. Choosing a non-medical therapy method using physical activity management or exercise is the right choice because it is considered the safest and does not provide negative side effects. However, treatment using substitute substances (methadone and buprenorphine) is currently the mainstay of treatment for opioid addiction (Stotts et al., 2009) (Jordan et al., 2019). However, all types of opioids, methadone and buprenorphine are also addictive and can

cause side effects when interacting with other drugs (Blum & Baron, 2019): (Fischer et al., 2005). Clinical studies show that about half of the population undergoing treatment with methadone and buprenorphine will develop depression later in life, and almost a third report feelings of depression while undergoing treatment (Rounsaville, 1982). Thus, it can be understood that therapy using drugs or chemicals can help with temporary or short-term healing for drug addicts but has very detrimental negative effects in the future. A physical fitness education management program with various measured and tailored physical activities and sports to the needs of students/patients in Islamic boarding schools or drug rehabilitation centers becomes the right and safe choice in accelerating non-medical healing or rehabilitation. Because, through physical activity programs it has an influence on movement activity and even mental health (Chaeroni et al., 2022). Therefore, this study aims to strengthen and provide innovation in providing non-medical rehabilitation therapy interventions for the drug rehabilitation students/patients in boarding schools.

Indeed, research on human movement has touched on many areas. For example, some popular studies investigated the achievement of physical education learning outcomes (Martono et al., 2024; Komari et al., 2024a; Komari et al., 2024b; Septiantoko et al., 2024; Suyato et al., 2024; Widiyanto et al., 2024), motor development (Susanto et al., 2024; Susanto et al., 2024). Other studies examined specific areas of PE or sports, such as health and fitness sports (Widiyanto et al., 2024a; Widiyanto et al., 2024b; Syaokani et al., 2024; Pranoto, et al., 2024; Astuti et al., 2024), law and sports education (HB et al., 2024), sports communication (Charlina et al., 2024), active lifestyle with exercise (Tafuri et al., 2024a), interval training and physiological (Latino et al., 2024a), circuit training programme (Tafuri et al., 2024b; Tafuri et al., 2024c; Latino et al., 2024b), injury risk on sports (Fahrosi et al., 2024; Anam et al., 2024a), endurance training and physiological (Latino et al., 2024c), therapeutic sports (Zanada et al., 2024), movement skills (Susanto et al., 2023; Anam et al., 2024b; Pranoto et al., 2024), and sports training and performance (Kurniawan et al., 2024; Susanto et al., 2024), curriculum and management of physical education learning (Mardiyah et al., 2024a; Yani et al., 2024; Mardiyah et al., 2024b), and the management of sports education and archery (Hamsyah et al., 2024; Komari et al., 2024; Mulyanti et al., 2024; Setyawan et al., 2024a; Setyawan et al., 2024b; Destriani et al., 2024).

Despite the myriad research, there is a lack of scholarly research on the implementing management of the physical fitness education program for the drug rehabilitation patients in drug addict therapy centre. The dearth of studies on this topic can impede understanding and scientific development in the field. Hence, it is imperative to research this issue by thoroughly reviewing existing literature studies

## Methods and Materials

This research employed mixed methods research to comprehensively understand the urgency of implementing the management of the physical fitness education program for drug rehabilitation students at the Bidayatussalikin Islamic Boarding School to accelerate the non-medical rehabilitation process. These mixed methods were adapted from the research design (Creswell, 2012) that parallel or simultaneous mixed methods design to collect quantitative and qualitative data simultaneously, combine the data, and understand the research problem. This research aims to investigate the urgency of implementing physical education program management to increase the fitness of drug rehabilitation students at the Bidayatussalikin Islamic Boarding School. The research focused on ten aspects related to the urgency of implementing the management of the physical fitness education program for the drug rehabilitation students/patients at the Bidayatussalikin Islamic Boarding School to accelerate the non-medical rehabilitation process. The sample in this research was collected using a purpose sampling system. Purposive sampling is a technique for determining samples with certain considerations (Sugiyono, 2019). The quantitative sample consisted of 65 Bidayatussalikin Islamic Boarding School drug rehabilitation students. The qualitative samples were an academic expert in sports and health, a specialist doctor on the special staff of the National Narcotics Agency, an expert consultant psychologist, a head of a drug rehabilitation Islamic boarding school, an expert on counselor staff for drug rehabilitation students, and an expert on assessment staff for drug rehabilitation students. The quantitative instrument was developed from the substantive content of the research purpose. The quantitative instrument employed a 1 – 5 Likert Scale, with answer choice construction: Strongly Disagree = 1, Disagree = 2, Less Agree = 3, Agree = 4, and Strongly Agree = 5. The instrument was prepared based on research objectives and tested for validity (Product Moment Pearson Correlation) and reliability (Cronbach's Alpha). The validity test results based on the Product Moment Pearson Correlation test on all question items have an R-count value greater than the R-table value ( $> 0.244$ ) at a significance level of 5 %. Therefore, all question items are declared valid, as in Table 1. Furthermore, the Cronbach's alpha reliability test results are 0.923 ( $> 0.60$ ) with (N=10) so it can be concluded that all question items are declared reliable or consistent, as shown in Table 2.

Table 1.  
Results of Validity Analysis of Statement Items

Question Items	R-table	R-count	Information
1.	0.244	0.703	Valid
2.	0.244	0.730	Valid
3.	0.244	0.831	Valid
4.	0.244	0.800	Valid
5.	0.244	0.734	Valid
6.	0.244	0.842	Valid
7.	0.244	0.786	Valid
8.	0.244	0.838	Valid
9.	0.244	0.775	Valid
10.	0.244	0.727	Valid

Table 2.  
Results of Reliability Analysis of Statement Items

Question Items	Scale Variance if Item Deleted	Scale Mean if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Information
1.	27,497	38.58	,639	,918	Reliable
2.	27,362	38.63	,671	,917	Reliable
3.	26,078	38.72	,787	,911	Reliable
4.	25,288	38.85	,736	,913	Reliable
5.	26,753	38.68	,668	,917	Reliable
6.	26,227	38.74	,801	,910	Reliable
7.	26,451	38.65	,731	,914	Reliable
8.	26,420	38.65	,798	,911	Reliable
9.	24,374	38.97	,687	,919	Reliable
10.	26,252	38.54	,650	,918	Reliable

Data collection in quantitative research was carried out by distributing questionnaires to drug rehabilitation students at the Bidayatussalikin Islamic Boarding School. Quantitative data analysis was carried out using descriptive statistical tests. Descriptive statistics are used to analyze data by describing the data collected without making general conclusions (Sugiyono, 2019). Qualitative data was collected through semi-structured interviews regarding the urgency of implementing physical education program management to increase the fitness of drug rehabilitation students at the Bidayatussalikin Islamic Boarding School. This is as a study by (Paredes et al., 2021) who stated the interview items have been classified into several categories that define the construct. Interviews were conducted with 10 experts consisting of a sports health academic expert, two general hospital doctor experts, a special staff doctor expert at the National Narcotics Agency (BNN), two psychologist staff experts at the National Narcotics Agency (BNN), a psychologist consultant expert, an Islamic boarding school head, a student counselor staff expert, and a student assessment staff expert. Data analysis was carried out through four steps of the Miles and Huberman model, namely a) collecting data, b) reducing data, c) presenting data, and d) drawing conclusions (Miles & Huberman, 1994). In line with this theory, researchers carefully organize qualitative data in the form of descriptions to come up with appropriate interpretations. The validity of qualitative data was carried out by extending observations, increasing perseverance, and triangulation techniques from sources from academic experts in the field of health sports, doctors, psychologists, Islamic boarding school heads, counselors for rehabilitation students, assessment of rehabilitation students, and academic experts in the education field.

## Results /Findings

### *Quantitative Review of the Urgency of Implementing Management of the Physical Fitness Education Program for The Drug Rehabilitation Patients at the BIBS*

In this research, ten indicators/questions were constructed to measure the urgency of implementing the management of the physical fitness education program for drug rehabilitation students at the Bidayatussalikin Islamic Boarding School in the context of accelerating the non-medical

rehabilitation process. These indicators include the approval of the existence of a physical fitness education program at the Bidayatussalikin Islamic Boarding School to 1) strengthen body muscles, 2) increase heart and lung endurance, three increase body agility, 4) increase running speed, 5) increase the speed of reflex reactions; 6) increase body flexibility; 7) improve body balance; 8) improve coordination of body movement; 9) increase explosive power for jumping or skipping; and 10) control body composition (body weight).

The percentages and categories of respondents' answers to each indicator/item are presented in Table 3 and Figure 1 (SD= Strongly Disagree, D= Disagree, LA= Less Agree, A= Agree, and SA= Strongly Agree). Based on the quantitative results (Table 1 and Figure 1), implementing physical fitness education program management for drug rehabilitation students at the Bidayatussalikin Islamic boarding school to accelerate the non-medical rehabilitation process is urgently needed. Results of the percentage of respondents' answers (N=65) on the elements of the physical fitness education program for drug rehabilitation students at the Bidayatussalikin Islamic Boarding School as shown in Table 1 below.

Table 3.  
The Urgency Of Implementing The Management Of The Physical Fitness Education Program For The Drug Rehabilitation Patients at The BBIS

Indicators	N	Ave.	%	Category
1	65	4.42	88.31	Strongly agree
2	65	4.37	87.38	Strongly agree
3	65	4.28	85.54	Strongly agree
4	65	4.15	83.08	Strongly agree
5	65	4.32	86.46	Strongly agree
6	65	4.26	85.23	Strongly agree
7	65	4.35	87.08	Strongly agree
8	65	4.35	87.08	Strongly agree
9	65	4.03	80.62	Agree
10	65	4.46	89.23	Strongly agree

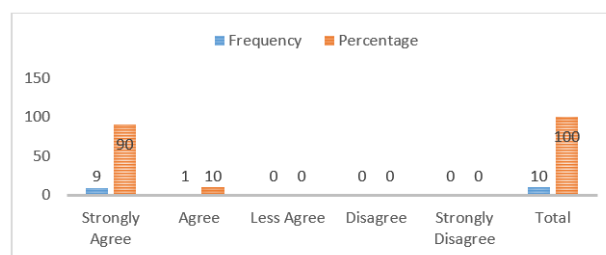


Figure 1. Histograms of The Urgency Of Implementing The Management Of The Physical Fitness Education Program For The Drug Rehabilitation Patients at The BBIS

### *Qualitative Review of the Urgency of Implementing Management of the Physical Fitness Education Program for The Drug Rehabilitation Patients at the BIBS*

The results of interviews with experts/academics in the field of sports and health, doctors, psychologists, heads of Islamic boarding schools, counselors for rehabilitation students, assessors for rehabilitation students, and academic experts in the education field are presented as follows:

Sports and health experts emphasize that:

“Physical education is crucial for drug-addicted students as it enhances physical fitness, which is vital for overall health. They identify five key health-related fitness components: muscle strength, heart and lung endurance, muscle endurance, flexibility, and body composition. The program should focus on health-related fitness before advancing to skill-related components. The FITT model (Frequency, Intensity, Time, and Type) is recommended for exercise planning, with evaluations conducted both quantitatively and qualitatively to assess progress”.

Doctors confirm that:

“The significant benefits of exercise in drug rehabilitation, particularly in repairing brain and nerve functions damaged by drug abuse. Exercise releases dopamine and endorphins, which help in reducing stress and improving mental health. They recommend a regular exercise schedule, with periodic fitness tests to monitor the impact on physical and mental health”.

Psychologists confirm that:

“Exercise not only improves physical health but also reduces the risk of addiction relapse, stabilizes mood, boosts energy, enhances sleep quality, and reduces stress. Regular exercise can help restore brain memory affected by addiction. They emphasize the importance of selecting appropriate exercises and ensuring adequate infrastructure to support these programs”.

The head of the drug rehabilitation Islamic boarding school emphasized that:

“Sports activities are essential in supporting detoxification and providing mental and physical health benefits. He highlights the importance of careful planning and budgeting to ensure the program's success and emphasizes continuous evaluation to maintain program effectiveness”.

Rehabilitation student counselors/experts emphasize that:

“Exercise reduces the risk of diseases related to substance abuse and helps stabilize emotions by releasing serotonin and endorphins. They note the importance of physical fitness in enhancing various aspects of health, such as muscle strength, endurance, flexibility, and coordination, and suggest a well-planned program with appropriate facilities and scheduling”.

Rehabilitation student assessment experts/experts confirmed that:

“The importance of a physical fitness program in supporting non-medical rehabilitation by improving heart strength, reducing stress, and maintaining overall health. They recommend a systematic, planned, and measurable approach to ensure the program's effectiveness, with regular evaluations to identify and address any deficiencies”.

## Discussion

The importance of implementing a physical fitness education program for individuals undergoing drug rehabilitation at drug addiction rehabilitation centers is supported by

research findings. Quantitative assessments have demonstrated strong support for these programs, with over 80% of respondents agreeing on their necessity to expedite non-medical rehabilitation processes at facilities like Pondok Pesantren Bidayatussalikin (Meyrynalady et al., 2022). This consensus highlights the crucial role of physical fitness in aiding the recovery process for individuals undergoing drug rehabilitation. Research on the effectiveness of rehabilitation activities for victims of drug abuse in Palembang has shown that these programs have been running efficiently and optimally, leading to positive outcomes in addressing substance abuse issues (Setyani & Swandi, 2019). Additionally, studies on the psychological needs of drug addicts have identified six key psychological needs, including aggression, abasement, affiliation, play, sex, and succorance, emphasizing the importance of considering these aspects in rehabilitation programs (Delima et al., 2018). Moreover, research has shown the impact of self-efficacy in enhancing cardiac rehabilitation programs for myocardial infarction patients in Aceh, with significant improvements in patients' health behaviors post-intervention (Ahyana, 2023). These results underscore the significance of addressing psychological and behavioral aspects in rehabilitation programs to achieve positive outcomes for patients. In the context of drug addiction rehabilitation, interventions such as Zikir Al-Fatihah therapy have been explored to enhance the subjective well-being of drug addicts during the rehabilitation process. Multi-stage rehabilitation programs encompassing biological-medical, psychotherapeutic-psychological, and moral-spiritual phases have shown promise in supporting individuals through the recovery journey (Mudzkiyyah et al., 2014). Furthermore, the implementation of breathing exercise programs has been found to significantly improve the cardiorespiratory fitness of students, indicating the effectiveness of such interventions in enhancing physical health outcomes (Bile et al., 2023). Similarly, the need for valid and reliable physical activity assessment instruments for teachers to measure the physical activity levels of students with disabilities highlights the importance of tailored approaches in rehabilitation settings (Burhaein & Saleh, 2023). Studies in the realm of social welfare and disability rehabilitation have evaluated programs aimed at fulfilling social welfare rights through social rehabilitation for individuals with physical disabilities. While these programs have shown positive progress, there is still room for further optimization to enhance their effectiveness (Aprillia et al., 2021). Additionally, research on spiritual counseling for drug addicts at mental health hospitals has revealed key themes such as spiritual counseling, rehabilitation impacts, and patient mental well-being, emphasizing the holistic approach needed in addressing addiction issues (Zatrahadi et al., 2021). Moreover, examining the quality of life of drug rehabilitation residents concerning various demographic factors like age, socioeconomic status, education, and marital status has provided insights into the factors influencing individuals' well-being during the rehabilitation process

(Muna et al., 2021). These findings underscore the importance of considering individual characteristics in designing tailored rehabilitation programs to effectively meet diverse needs. Thus it can be concluded that rehabilitation programs for drug addiction, emphasizing the significance of addressing physical, psychological, social, and spiritual dimensions to ensure comprehensive support for individuals undergoing rehabilitation.

The qualitative data obtained from interviews with experts in the fields of sports health, psychology, and rehabilitation support the quantitative findings regarding the significance of physical education in enhancing the physical and mental health of rehabilitation patients. Experts emphasize that physical fitness plays a crucial role in improving patients' physical and mental well-being during the rehabilitation process. Enhancing components of physical fitness such as muscle strength, endurance, flexibility, and balance not only benefits patients' physical health but also aids in achieving better mental well-being. Regular exercise also contributes to stress reduction, mood stabilization, and prevention of relapses into addictive behaviors (Knobf et al., 2014). Moreover, the integration of motivational interviewing (MI) skills in physical therapy has been shown to positively impact patient adherence and reduce challenges in patient interactions, highlighting the importance of effective communication strategies in rehabilitation settings (Kruger & Granzow, 2023). Additionally, studies focusing on the effects of different exercise modalities on sex hormones and mental health in female drug addicts underscore the potential of exercise interventions in reducing anxiety and depression levels among individuals undergoing rehabilitation (He, 2023). Furthermore, the implementation of physical rehabilitation programs post-international sanctions in Iran has been explored, emphasizing the importance of adapting rehabilitation services to meet the evolving needs of patients in challenging circumstances (Shahabi et al., 2020). Additionally, research on the development of health and fitness competencies among students through physical education underscores the role of tailored educational approaches in promoting physical literacy and well-being (Griban et al., 2020). In the context of cardiac and pulmonary rehabilitation for individuals with cancer, exercise-based interventions have been evaluated for their structure, health impacts, and effectiveness in improving quality of life and managing troublesome symptoms (Rickard et al., 2021). Similarly, the feasibility and efficacy of mHealth telerehabilitation programs in low-risk cardiac patients have been investigated, highlighting the potential of technology-driven interventions in enhancing patient outcomes and quality of life (Pastora-Bernal et al., 2021). Moreover, studies on physical literacy among rehabilitation professionals and coaches in pediatric settings emphasize the pivotal role of these professionals in fostering physical literacy and promoting holistic development among children (Hebinck et al., 2023). Additionally, research on physical activity perspectives in individuals with spinal cord injuries beyond

functional gains sheds light on the challenges and opportunities for maintaining active lifestyles post-rehabilitation, emphasizing the importance of ongoing support and education in this population (Baehr et al., 2022). Thus it can be concluded the critical role of physical education, exercise interventions, and tailored rehabilitation programs in promoting the holistic well-being of individuals undergoing rehabilitation. By integrating evidence-based practices, effective communication strategies, and innovative approaches such as telerehabilitation, rehabilitation programs can optimize outcomes and support individuals in achieving physical and mental wellness during their recovery journey.

The research findings strongly support the necessity of implementing structured physical fitness education programs in drug rehabilitation centers. These programs not only provide significant health benefits but also support psychological recovery and foster positive routines for patients (Hidayat et al., 2023). Integrating physical fitness programs into drug rehabilitation strategies should be considered a crucial and indispensable component, as it contributes to both physical and mental well-being during the recovery process. Studies have highlighted the integral role of rehabilitation in aiding individuals with substance use disorders in their recovery journey and preventing relapses (Apriani, 2023). By incorporating strategies such as Therapeutic Community and addressing physical, psychological, social, and religious aspects, counselors play a vital role in preventing relapse among individuals with substance use disorders (Meyryaldy et al., 2022). The effectiveness of rehabilitation activities for victims of substance abuse has been demonstrated in various settings, emphasizing the need for comprehensive and tailored approaches to address the complex needs of individuals undergoing rehabilitation (Alie, 2004). Furthermore, the implementation of integrated rehabilitation programs, combining religious values, medical interventions, and social actions in multiple phases, has shown promise in supporting individuals through the recovery process (Martha et al., 2023). Additionally, interventions such as the Bobath approach for stroke patients in advanced rehabilitation stages have been effective in restoring patients' daily activities and functional abilities (Gumiyarna, 2021). Research on the readiness of individuals with substance use disorders to undergo rehabilitation using the URICA instrument has revealed varying stages of readiness among participants, highlighting the importance of assessing individual readiness levels for effective intervention planning (Hidayah et al., 2023). Social behavior among outpatient individuals with substance use disorders has been a focus of study, emphasizing the significance of counseling strategies to understand the root causes of substance abuse (Andri et al., 2013). Moreover, understanding individuals with substance use disorders and HIV/AIDS through qualitative research has shed light on their struggles with addiction and the challenges they face in breaking free from substance dependence despite being aware of the consequences (Setyani & Swandi, 2019). Psychological needs among individuals with substance use disorders, including aggression,

abatement, affiliation, play, sex, and succorance, underscore the multifaceted approach required in rehabilitation programs to address diverse psychological aspects (Pangestu & Wibawani, 2022). In the realm of social welfare and disability rehabilitation, programs aimed at empowering individuals with mental disabilities have shown success in enhancing their well-being and fostering independence (Zatrahadi et al., 2021). Spiritual counseling for individuals with substance use disorders has been identified as a significant theme in rehabilitation, emphasizing the importance of addressing spiritual well-being alongside mental health in the recovery process (Zulrafla et al., 2024). Furthermore, the effectiveness of physical fitness and nutritional status on learning outcomes among students has been studied, highlighting the positive impact of physical fitness on academic performance (Rahayu et al., 2023). Educational initiatives focusing on raising awareness about the dangers of substance abuse and promoting healthy lifestyles play a crucial role in preventing substance addiction. In conclusion, the research findings underscore the critical need for structured physical fitness education programs in drug rehabilitation centers. By addressing physical, psychological, social, and spiritual dimensions, these programs can significantly contribute to the holistic well-being and successful recovery of individuals undergoing rehabilitation for substance use disorders.

## Conclusion

The conclusion of this study emphasizes the importance of implementing a structured physical fitness education program in drug rehabilitation centers. The findings confirm that such programs not only provide significant physical health benefits, but also support psychological recovery and encourage positive routines for patients. Physical fitness programs, integrated in drug rehabilitation strategies, should be considered a crucial and indispensable component, due to their contribution to physical and mental well-being during the recovery process. Research has also shown the integral role of rehabilitation in helping individuals suffering from substance use disorders to achieve recovery and prevent relapse. By incorporating approaches that cover physical, psychological, social, and spiritual aspects, rehabilitation programs can effectively support the holistic well-being and successful recovery of individuals undergoing rehabilitation from substance dependence.

## Recommendations/future directions

The results of this research recommend that the government play an important role in supporting the idea of implementing management of physical fitness education programs in nursing homes/rehabilitation centers by providing the facilities and infrastructure needed on an ongoing basis used as a pilot model or best practice for nursing homes/drug rehabilitation center in the form of a boarding school.

## Conflicts of interest

The authors declare that there are no conflicts of interest

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