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Research Article

Exploring the Link Between Depression and Suicide Risk in Male Drug Addicts in Malaysian Rehabilitation Settings

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ABSTRACT

Drug addiction represents a serious public health concern, often leading to a range of psychopathological disorders. Existing studies have identified depression as a significant predictor of suicide risk, making it a critical factor in assessing individuals with substance use disorders. Understanding the relationship between depression and suicide risk is essential for developing effective interventions, especially within rehabilitation settings. This study investigates the prevalence of depression and its role as a predictor of suicide risk among male drug addicts in Malaysian rehabilitation centers. Suicide remains a major global issue, particularly within vulnerable populations such as drug users, who experience heightened mental health challenges. Using a quantitative methodology, 322 male participants aged 16 to 55 were surveyed across four rehabilitation facilities in Malaysia. Data were collected using the Drug Addict Suicide Risk Assessment (DASRA) questionnaire, with a focus on depressive symptoms as a key predictor of suicide risk. The results revealed that 75% of participants exhibited depressive symptoms, with 42.9% classified as having low depression and 35.1% experiencing moderate to very high levels. A strong positive correlation ($r = 0.594$, $p < 0.001$) was found between depression levels and suicide risk, indicating that higher levels of depression are associated with an increased risk of suicide. Additionally, socio-demographic factors such as age, education, and marital status were found to be significantly related to depression levels. These findings highlight the critical need for targeted mental health interventions in rehabilitation programs to support early detection and reduce suicide risk among male drug addicts.

Keywords: depression, suicide risk, drug addicts, quantitative, rehabilitation centers

I. INTRODUCTION

Suicide is a serious and complex global issue that can affect anyone, including those struggling with drug addiction. Preventing suicide among drug users requires a holistic approach, incorporating effective mental health care, adequate social support, and efforts to reduce the stigma surrounding drug addiction. According to data from the World Health Organization (WHO) in 2019, approximately 703,000 people worldwide died by suicide. In this context, drug addicts face a significantly higher risk of suicide compared to the general population [1]. This underscores how suicide trends have evolved over centuries, influenced by shifts in socio-political and cultural dynamics within society [2], [3].

Malaysia is currently facing a serious mental health crisis, with a noticeable rise in suicide cases. A major contributor to this issue is drug addiction, which significantly heightens the risk of mental health problems. Drug users often endure immense stress, leading to feelings of marginalization and hopelessness, making suicide a real threat [3]. Drug addiction has been identified as a key factor driving individuals toward suicidal tendencies [2]. In response, the Malaysian government invests over half a billion Ringgit annually to combat drug addiction. This includes apprehending addicts and placing them in government-run rehabilitation centers across the country [4], [5], [6]. The combination of depression and drug addiction presents a

particularly high risk for suicide, highlighting the urgent need for targeted interventions within these rehabilitation facilities [1].

Depression is widely recognized as a critical predictor of suicide risk, particularly among individuals with substance use disorders [3], [7]. This relationship underscores the importance of early detection of depression, as timely identification can lead to effective interventions that may prevent suicidal thoughts and behaviors. In Malaysia, however, the connection between depression and suicide risk specifically among male drug addicts undergoing rehabilitation has not been thoroughly investigated [4], [5]. This gap in research highlights the need for a deeper understanding of how depression interacts with suicide risk within this demographic. By exploring these specific interactions, researchers can develop targeted interventions that facilitate early detection of depression in rehabilitation settings. Such interventions are essential not only for improving mental health outcomes for individuals in recovery but also for addressing the broader issue of suicide prevention within this vulnerable population [2]. Ultimately, enhancing our understanding of this relationship can lead to more effective support systems for male drug addicts, helping to mitigate the risks associated with both depression and suicide.

This study aims to conduct early detection of depression among male drug addicts in rehabilitation centers in Malaysia. By quantitatively assessing the prevalence of depression, the research seeks to explore its role in predicting suicide risk within this vulnerable population. Recognizing that depression is a significant predictor of suicide, the study will focus on understanding the specific interactions between these two factors. This knowledge is crucial for developing targeted intervention strategies that can be implemented in rehabilitation settings, ultimately aimed at reducing the risk of suicide among male drug addicts. Through early detection and effective interventions, the study aspires to contribute to improved mental health outcomes and better support for individuals undergoing rehabilitation.

II. LITERATURE REVIEW

A. Depression and Drug Addiction

Depression has been consistently identified as one of the most prevalent co-occurring mental health disorders among individuals with drug addiction [8], [9]. The relationship between depression and drug addiction is complex, with each condition exacerbating the other. Research indicates that the prevalence of depression in individuals with drug addiction is significantly higher compared to the general population, with estimates ranging from 30% to 50% in various contexts [10]. This high prevalence highlights the pervasive impact of depression within this vulnerable population. Drug addiction often arises as a coping mechanism to escape or manage the negative emotions faced by individuals suffering from depression [11], [12]. Conversely, continued substance use can worsen depressive symptoms, creating a challenging cycle that is difficult to break [13].

B. Depression as a Predictor of Suicide Risk

Depression is a well-established predictor of suicide, with individuals suffering from severe depressive symptoms displaying markedly higher rates of suicidal ideation and attempts [14], [15]. As a key psychopathological disorder, depression affects not only emotional well-being but also cognitive functions, leading to pervasive feelings of hopelessness and worthlessness, both strong precursors to suicidal thoughts [16]. The severity of depressive symptoms often correlates with the intensity of suicidal ideation, making depression a significant risk factor for suicide, particularly when left untreated.

In populations already burdened by drug dependency, the risk becomes even more pronounced. Research indicates that individuals with co-occurring drug dependence and depressive symptoms face a significantly higher likelihood of attempting suicide compared to those without these conditions. The interaction between substance dependence and depression can increase the likelihood of suicide attempts by up to six times, underscoring the heightened vulnerability of this population. This combination of impaired judgment due to substance use, along with the emotional turmoil of depression, exemplifies how psychopathological disorders, such as mood disturbances and anxiety, further exacerbate suicide risk [17].

These findings suggest that early detection and treatment of depression within this vulnerable group is paramount in suicide prevention efforts. Particularly in the context of drug rehabilitation centers in Malaysia, understanding the interplay between depression and substance abuse disorders offers crucial insights for targeted interventions aimed at reducing suicide risk among drug addicts.

C. Drug Addiction and Suicide in Malaysia

In Malaysia, drug addiction remains a critical public health concern, particularly with the increasing rates of drug abuse and mental health disorders [18]. Despite global attention to the implications of drug addiction and mental health, there is a scarcity of research that specifically addresses the intersection of drug addiction, depression, and suicide risk within the Malaysian context [5]. Available data indicates that drug addiction and its associated mental health issues are on the rise, but targeted studies on male drug addicts and their vulnerability to suicide are limited.

Individuals with drug addiction often face co-occurring mental health challenges, including depression, which significantly heightens their risk of suicide [19]. However, studies that explicitly examine the role of depression in predicting suicide risk among male drug addicts in Malaysia are scarce. This gap in the literature is concerning, given that drug addiction, coupled with depression, forms a critical pathway to suicidal

ideation. Moreover, the lack of comprehensive mental health interventions tailored to address the unique needs of male drug addicts further compounds the issue.

Addressing this research gap, the present study offers valuable insight into the prevalence of depression among male drug addicts in Malaysian rehabilitation centers and explores its role in elevating suicide risk. By identifying depression as a key predictor of suicide, the study highlights the need for early detection and intervention strategies that focus on mental health support within rehabilitation programs. Integrating mental health services, particularly those aimed at treating depression, into drug addiction rehabilitation is crucial for reducing suicide risk and improving overall recovery outcomes.

The literature underscores the critical role of depression in exacerbating the challenges faced by individuals with drug addiction. Depression not only complicates addiction recovery but also serves as a major predictor of suicide risk, particularly among those with co-occurring drug addiction and depressive disorders. In the Malaysian context, where drug addiction and mental health issues continue to rise, understanding the relationship between depression and suicide risk is essential. This study aims to contribute to this understanding, providing the necessary foundation for developing targeted mental health interventions that can mitigate the risk of suicide among male drug addicts in rehabilitation centers.

III. METHODOLOGY

A. Study Setting

This study was conducted at four rehabilitation centers located in Malaysia, specifically selected for their high intake of male drug addicts undergoing treatment for substance use disorders. A total of 322 male drug addicts aged 16 to 55 participated, representing a significant portion of individuals affected by substance use disorders in Malaysia. The rehabilitation centers, both government-run and private, were chosen based on their geographic distribution and ability to provide access to a diverse group of participants with varying substance use histories.

Each rehabilitation center follows a structured rehabilitation program consisting of medical, psychological, and social support interventions aimed at assisting individuals in overcoming addiction. The study focused on male drug addicts aged 16 to 55, as this demographic represents a significant portion of individuals affected by substance use disorders in Malaysia. The environment within these centers provided an appropriate setting for evaluating both the psychological and behavioral aspects of substance abuse, particularly the prevalence of depression and its relationship with suicidal ideation.

The study was conducted over a period of six months, during which data collection occurred through both self-administered surveys and face-to-face assessments facilitated by trained mental health professionals. Ethical approval was obtained, and all participants provided informed consent before participating in the study.

B. Instrument

Data for this study were collected using a questionnaire derived from the Drug Addict Suicide Risk Assessment (DASRA) instrument, which evaluates various dimensions related to suicide risk, including psychosocial and psychopathology disorders [20]. The primary focus was on the psychopathology component, specifically the subcomponent of depression, which consisted of 10 items assessing specific aspects of depressive symptoms.

Respondents rated each item on a 4-point Likert scale, ranging from 0 (Strongly Disagree) to 3 (Strongly Agree). To ensure reliability, Cronbach's alpha analysis was conducted, yielding a high value of 0.90 for the depression subcomponent, indicating strong internal consistency. This confirms that the instrument is effective for measuring depression within the context of psychopathology and its relationship to suicide risk among male drug addicts in rehabilitation settings.

C. Data Procedure and Analysis

The study used SPSS software for data analysis, focusing on demographics, frequency, and percentage distribution. Descriptive statistics were calculated to summarize participant characteristics, while the prevalence of depression was assessed through the frequency of responses in the depression subcomponent. Correlation analyses were conducted to examine the relationship between depression and suicide risk. Additionally, Cronbach's alpha was used to ensure the reliability of the measurement tool. Overall, these analyses provided insights into the prevalence of depression and its association with suicide risk among male drug addicts in rehabilitation centers.

IV. RESULTS

Table 1 summarizes the socio-demographic characteristics of the respondents (n = 322), providing essential insights into the population being studied. The analysis reveals a diverse age distribution among the participants. The largest group of respondents is aged between 31 and 35 years, comprising 21.7% of the sample, indicating that this age range may be particularly relevant for understanding the issues surrounding drug addiction in the study population. Following closely, 20.5% of respondents fall within the 36-40 years

age group, suggesting that these middle-aged individuals are also significantly affected by drug-related issues. In examining the age at which respondents initially became involved in drug addiction, it is notable that the majority (38.5%) reported beginning their substance use between the ages of 20 and 25 years. This finding highlights a critical window during young adulthood when individuals may be particularly vulnerable to initiating drug use, possibly due to social, economic, or psychological factors. Additionally, 15.5% of respondents started their drug use between the ages of 14 and 19 years, further emphasizing the importance of early intervention strategies targeted at younger populations.

Regarding educational attainment, the majority of respondents (78.9%) have completed secondary school, indicating a relatively high level of education within this sample. This educational background may influence the respondents' understanding of health-related issues, including drug addiction and mental health. However, a small percentage of respondents reported having no formal education (5.0%), which may suggest a need for targeted educational programs to reach individuals with lower educational backgrounds who are at risk of drug addiction.

Finally, the marital status of the respondents reveals that a significant majority are single (61.2%). This finding could be indicative of the social dynamics surrounding drug addiction, where single individuals may have different support systems and life challenges compared to married individuals. The data suggests that social relationships and support networks could play a crucial role in both the onset of drug use and the recovery process.

Table 1. Socio-demographic Characteristics of the Respondents (N=322)

Socio-demographic Characteristics		Frequency (*f*)	Percentage (%)
Age (years)	16-20	8	2.5
	21-25	35	10.9
	26-30	51	15.8
	31-35	70	21.7
	36-40	66	20.5
	41-45	50	15.5
	46-50	27	8.4
	51-55	15	4.7
Age of Initial Involvement in Drug Addiction (years)	13 and below	17	5.3
	14-19	50	15.5
	20-25	124	38.5
	26-31	85	26.4
	32-37	41	12.7
	38-43	3	0.9
	44-49	2	0.6
Level of Education	No formal education	16	5.0
	Primary school	19	5.9
	Secondary school	254	78.9
	College/University	33	10.2
Marital Status	Single	197	61.2
	Married	88	27.3
	Divorced	37	11.5

Table 2 presents a descriptive analysis of depression-related items assessed among drug addicts in rehabilitation centers, providing crucial insights into their mental health challenges. Each item reflects specific aspects of depression, including self-perception, behavioral tendencies, and emotional states, summarized in terms of frequency (*f*), percentage (%), mean score, and standard deviation (SD). For instance, Item 1, "I am often reprimanded for talking to myself," was reported by 100 respondents (31.1%), with a mean score of 2.210 (SD = 0.024). This suggests that respondents generally agree with the statement, indicating that a significant portion recognizes self-talk as a behavioral concern.

Several items highlight significant emotional and social challenges faced by participants. Item 5, "I feel disturbed and stressed when in the company of others," was endorsed by 156 respondents (48.4%), with a mean score of 2.241 (SD = 0.023), reflecting considerable social anxiety. This finding aligns with Item 6, which states, "I prefer to isolate or distance myself from others," where 124 individuals (38.5%) expressed agreement, resulting in a mean score of 2.260 (SD = 0.024). These results suggest that many respondents experience social withdrawal and anxiety, potentially hindering their recovery efforts. Additionally, Item 7, "I often feel guilty and ashamed of the bad things I have done," received 136 responses (45.3%) and a mean score of 2.312 (SD = 0.026), underscoring the emotional burden carried by many individuals in this population.

The analysis also reveals cognitive and physical symptoms that complicate the recovery process. For example, Item 9, "I often feel weary, weak, and lacking in energy," garnered 107 responses (33.2%) with a mean score of

2.405 (SD = 0.029), indicating that physical fatigue is common among respondents. Similarly, Item 10, "I frequently experience uncontrollable mood swings and irritability," was affirmed by 107 individuals (33.2%) with a mean score of 2.340 (SD = 0.028), highlighting emotional dysregulation as a significant issue.
Overall, the data emphasize critical aspects related to depression, particularly in the context of social engagement, self-care practices, and feelings of guilt and shame experienced by individuals with depression. These elements are interconnected and can significantly impact an individual's mental health and recovery journey.

Table 2. Descriptive Analysis of Depression Among Drug Addicts in Rehabilitation Centers (N=322)

	Item	f	%	Mean	SD
1	I am often reprimanded for talking to myself.	100	31.1	2.210	0.024
2	I have been advised to undergo a mental health examination due to peculiar behaviour.	86	26.7	2.236	0.024
3	I constantly feel healthy and see no need to take care of my health.	90	27.9	2.130	0.023
4	I constantly feel clean and see no need to maintain personal hygiene.	82	24.8	2.254	0.023
5	I feel disturbed and stressed when in the company of others.	156	48.4	2.241	0.023
6	I prefer to isolate or distance myself from others.	124	38.5	2.260	0.024
7	I often feel guilty and ashamed of the bad things I have done.	136	45.3	2.312	0.026
8	My mind easily gets distracted or tangled when facing even small problems.	88	27.3	2.397	0.029
9	I often feel weary, weak, and lacking in energy.	107	33.2	2.405	0.029
10	I frequently experience uncontrollable mood swings and irritability.	107	33.2	2.340	0.028

Table 3 outlines the depression levels among drug addicts in the study (n = 322). A small percentage (18.0%) reported no symptoms of depression. However, the majority exhibited depressive symptoms, with 42.9% classified as having "Low" depression. Additionally, 23.0% experienced "Moderate" depression, while 12.1% fell into the "High" depression category, indicating significant distress. A further 4.0% reported "Very High" levels of depression, highlighting an urgent need for intervention.

Table 3. Depression Levels Among Drug Addicts in Rehabilitation Centers (N=322)

Category	Frequency (*f*)	Percentage (%)
Very High	13	4.0
High	39	12.1
Moderate	74	23.0
Low	138	42.9
None	58	18.0
Total	322	100.0

Table 4 presents the correlation between depression levels and various socio-demographic variables. A strong positive correlation is observed between DASRA scores and depression levels, with a correlation coefficient of 0.594 and a highly significant p-value of 0.001. This indicates that higher DASRA scores are associated with increased depression, suggesting that individuals facing greater challenges in stress management are more likely to exhibit depressive symptoms.
Conversely, a weak negative correlation exists between age and depression levels ($r = -0.213$, $p = 0.024$), indicating that older individuals tend to report lower levels of depression. This may reflect the greater life experience and coping strategies that come with age. A moderate positive correlation is found between the age of initial involvement in drug use and depression levels ($r = 0.331$, $p = 0.000$), suggesting that those who began using drugs at an earlier age are more likely to experience higher depression levels, underscoring the need for early intervention.
Additionally, a weak negative correlation is observed between the level of education and depression ($r = -0.174$, $p = 0.045$), indicating that higher educational attainment is associated with lower depression levels, potentially due to better coping skills. Finally, a positive correlation between marital status and depression ($r = 0.210$, $p = 0.032$) suggests that single individuals may experience higher levels of depression, possibly due to a lack of social support. The results emphasize the need for targeted interventions for drug addicts, considering the complex relationship between depression and socio-demographic factors.

Table 4. Results of Pearson's Correlation Coefficient Analysis of Depression Among Drug Addicts in Rehabilitation Centers

Variable	Correlation Coefficient (r)	p-value
DASRA	0.594**	0.001
Age	-0.213*	0.024
Age of Initial Involvement	0.331**	0.000
Level of Education	-0.174*	0.045
Marital Status	0.210*	0.032

Notes: * indicates a statistically significant correlation at $p < 0.05$.
** indicates a highly statistically significant correlation at $p < 0.01$.

V. DISCUSSION

The current study highlights the alarming prevalence of depression among male drug addicts in Malaysian rehabilitation centers and its role as a significant predictor of suicide risk. The findings reveal that a substantial proportion of participants exhibited moderate to very high levels of depression, which correlates positively with an increased risk of suicidal thoughts. This aligns with existing literature that emphasizes the relationship between depression and suicidal behavior in populations with substance use disorders [21], [22], [23], [24]. Specifically, nearly 43% of participants in this study exhibited low levels of depression, while approximately 39% reported moderate to very high levels of depressive symptoms. The interplay between depression and substance addiction creates a complex challenge for treatment, as depressive symptoms can exacerbate substance use and hinder recovery efforts [25], [26].

Moreover, the prevalence of feelings of guilt and shame among respondents can contribute to negative self-perception and increase susceptibility to suicidal thoughts [14]. The correlation between depression and suicide risk identified in this study corroborates findings from previous research, indicating that untreated depressive symptoms may significantly elevate suicide risk among male drug addicts. Given the alarming rates of suicidal thoughts and the established link between depression and suicide, it is imperative to integrate mental health interventions into rehabilitation programs that focus on the identification and treatment of depression [27].

By prioritizing mental health support, rehabilitation facilities can create a more conducive environment for recovery, ultimately reducing suicide risk [22]. Early detection of depressive symptoms, coupled with targeted therapeutic approaches, is crucial for facilitating successful recovery and improving overall well-being. Moreover, the findings underscore the importance of integrating mental health services into substance use rehabilitation programs. The interaction between drug addiction and depression underscores the complexity of addiction, emphasizing the need for comprehensive treatment approaches that address both conditions simultaneously [28], [29]. Tailored interventions that combine psychosocial support, psychotherapy, and pharmacological treatment for depression may enhance recovery outcomes and reduce suicide risk among male drug addicts.

This study contributes valuable insights into the relationship between depression and suicide risk among male drug addicts in Malaysia. The findings underscore the urgent need for early detection and targeted interventions that address mental health challenges within rehabilitation settings. By implementing comprehensive strategies that prioritize mental health support, it is possible to mitigate the risk of suicide and promote long-term recovery among individuals struggling with substance use disorders.

CONCLUSION

In conclusion, this study provides valuable insights into the complex relationship between depression and suicide risk among male drug addicts in Malaysia. The findings emphasize the urgent need for early detection of mental health issues and the implementation of targeted interventions specifically designed for individuals in rehabilitation settings. The results indicate that depression significantly contributes to the heightened suicide risk in this population, underscoring the necessity of addressing mental health challenges alongside drug addiction. Approaches that tackle both conditions simultaneously are crucial for effective treatment. This can be achieved through tailored interventions that integrate psychosocial support, psychotherapy, and pharmacological treatment for depression. Such comprehensive strategies have the potential to enhance recovery outcomes by alleviating depressive symptoms and reducing the likelihood of suicidal thoughts and behaviors.

Moreover, the study underscores the importance of a holistic approach that prioritizes mental health support within rehabilitation programs. By fostering a supportive environment that recognizes the mental health needs of individuals struggling with substance use disorders, it is possible to create pathways toward long-term recovery. This may include training for rehabilitation staff in mental health awareness, establishing routine mental health screenings, and ensuring access to psychological services.

Furthermore, the findings advocate for the need to develop policies and frameworks that promote integrated mental health care within drug rehabilitation services. Future research should continue to explore effective

models of intervention that can improve the well-being of this vulnerable population. Ultimately, addressing the intersection of depression and substance use disorders is essential for mitigating suicide risk and fostering resilience in individuals on their recovery journey.

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