RESEARCH PAPER

Development and Validation of the Drug Addict Suicide Risk Assessment (DASRA) in Malaysia.

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Received: 19th Oct, 2025; Revised: 15th Dec, 2025; Accepted: 16th Jan, 2026; Available Online: 15th Feb, 2026

ABSTRACT
Suicide remains a major public health concern among drug addicts, who are exposed to elevated risk due to the interaction of psychosocial vulnerabilities and psychopathological distress. Early identification of suicide risk is therefore essential for effective prevention and intervention; however, validated assessment instruments specifically designed for this population remain limited, particularly within the Malaysian context. This study aimed to develop and validate Drug Addict Suicide Risk Assessment (DASRA), a psychometric instrument designed to assess psychosocial and psychopathological components of suicide risk among drug addicts in Malaysia. A quantitative survey-based design was employed, involving 322 drug addicts recruited from rehabilitation centres and community-based programmes along the East Coast of Malaysia. The final instrument comprised 40 items rated on a four-point Likert scale. Reliability was examined using Cronbach's alpha, while construct validity was assessed through Exploratory Factor Analysis (EFA) with varimax rotation. The findings demonstrated excellent internal consistency, with an overall Cronbach's alpha of 0.91. EFA supported a four-factor structure encompassing drug dependence, emotional disorders, depression, and anxiety, which collectively explained 64.41% of the total variance. All items exhibited strong factor loadings exceeding 0.50, indicating satisfactory construct validity. Significant correlations among the four sub-components further supported the internal consistency and coherence of the instrument. Overall, DASRA is a reliable and valid instrument for assessing suicide risk among drug addicts. Its multidimensional structure enables comprehensive evaluation of psychosocial and psychopathological risk factors, supporting early detection, targeted intervention, and evidence-based suicide prevention strategies within clinical and rehabilitation settings.

Keywords: suicide risk, drug addicts, psychosocial disorders, psychopathological disorders, instrument development
How to cite this article: Norshahira Osman1*, Lukman Zawawi Mohamad1, Hayuni Mazlan.1; Development and Validation of the Drug Addict Suicide Risk Assessment (DASRA) in Malaysia. Int J Drug Deliv Technol.
How to cite this article: Osman N, Mohamad LZ, Mazlan H.., Development and Validation of the Drug Addict Suicide Risk Assessment (DASRA) in Malaysia....Int J Drug Deliv Technol. 2026; 16(2): 251-263; DOI: 10.25258/ijddt.16.2.28
Source of support: Nil.
Conflict of interest: None

INTRODUCTION

Suicide among drug addicts constitutes a significant global public health concern, as this population is particularly vulnerable due to impaired self-regulation, emotional instability, and co-occurring psychopathological conditions (GBD 2021 Suicide Collaborators, 2025; Vaghela et al., 2025). The heightened vulnerability of drug addicts underscores the critical importance of early identification and systematic assessment of suicide risk to enable timely intervention and prevent fatal outcomes. In recognition of the severity of this issue, the World Health Organization (2014) emphasized the urgent need for institutional strategies specifically targeting suicide prevention and cautioned against underestimating suicide risk among high-risk populations.

Despite increasing awareness of suicide risk among drug addicts, there remains a notable scarcity of validated instruments specifically designed to assess suicide risk in this population. Most existing suicide risk assessment tools were developed for general populations and often fail to capture the complex interplay of psychosocial and psychopathological factors that characterize drug addicts

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(Ding et al., 2024; Marie et al., 2025). As a result, the applicability and sensitivity of these instruments in drug rehabilitation and community-based settings remain limited.

Psychosocial disorders, such as drug dependence and emotional disorders, frequently coexist with psychopathological disorders, including depression and anxiety, among drug addicts, creating a multifaceted risk profile that requires comprehensive and integrative measurement (Chiappini et al., 2025; Liu et al., 2021). The absence of an assessment instrument that systematically integrates these critical dimensions constrains both clinical detection and empirical research efforts aimed at suicide prevention within this high-risk group (Soper, 2023).

Accordingly, the present study seeks to address this gap by developing and validating the DASRA, an instrument designed to assess suicide risk among drug addicts in Malaysia. Employing a rigorous three-stage scale development process involving literature review, item generation, and pilot testing, and applying Exploratory Factor Analysis (EFA), this study examines the factorial structure and initial psychometric properties of DASRA. The development of this instrument is intended to provide a theoretically grounded and practically applicable tool to support early detection, targeted intervention, and evidence-based suicide prevention strategies within clinical and rehabilitation settings.

LITERATURE REVIEW

Empirical evidence consistently demonstrates that suicide risk among drug addicts is closely associated with the interaction of psychosocial difficulties and psychopathological conditions, as documented across diverse clinical and community-based studies (Huguet et al., 2025; Alsubaie, 2023; Hesse et al., 2020). Drug addicts commonly experience psychosocial difficulties such as persistent preoccupation with drugs, uncontrollable cravings, impaired social functioning, emotional dysregulation, rapid mood fluctuations, feelings of worthlessness, and social withdrawal. These psychosocial disturbances undermine coping capacities and erode protective social bonds, thereby increasing vulnerability to suicidal behaviour (González Roz et al., 2024; Armitage et al., 2015).

In addition to psychosocial challenges, psychopathological disorders, including depression and anxiety, frequently co-occur among drug addicts. These conditions impair cognitive functioning, emotional regulation, and behavioural control, which intensifies suicidal ideation and elevates the risk of suicide attempts. Empirical studies consistently indicate that the co-occurrence of depression and anxiety with drug dependence substantially increases suicide risk beyond the effect of any single factor in isolation (Pillon et al., 2019; Leza et al., 2024). This evidence highlights the necessity of adopting an integrated assessment approach that simultaneously considers psychosocial and psychopathological dimensions.

Despite extensive research on suicidal behaviour, there remains a lack of validated assessment instruments capable of comprehensively measuring the broad range of psychological and social factors contributing to suicide risk among drug addicts. Many existing suicide risk assessment tools focus on isolated constructs, such as depressive symptoms or substance dependence, and therefore fail to capture the dynamic interaction between psychosocial disorders and psychopathological conditions that characterise this population (Millner et al., 2017; Hom et al., 2015; Huguet et al., 2025). As a result, the sensitivity and practical applicability of these instruments in clinical, rehabilitation, and community-based settings are limited.

Theoretical frameworks provide important conceptual foundations for understanding suicide risk among drug addicts. The Interpersonal Psychological Theory of Suicide emphasises perceived burdensomeness, thwarted belongingness, and acquired capability for self-harm as key precursors to suicidal behaviour (Joiner, 2005). Similarly, the Stress–Diathesis Model highlights how pre-existing vulnerabilities, such as emotional instability and mental health problems, interact with external stressors, including social isolation and life adversity, to precipitate suicidal behaviour (Buckner et al., 2017; Chu et al., 2017). Collectively, these theories underscore the importance of integrating psychosocial and psychopathological components in suicide risk assessment. However, few existing instruments have operationalised these theoretical constructs into measurable domains tailored specifically to drug addicts.

Epidemiological trends further indicate an increasing prevalence of psychosocial difficulties and psychopathological disorders among drug addicts globally, reinforcing the need for multidimensional and context-sensitive assessment tools (Huguet et al., 2025; Alsubaie, 2023). In Malaysia, empirical research on suicide risk among drug addicts remains limited, and culturally relevant assessment instruments suitable for local clinical and rehabilitation contexts are scarce. Cultural norms, social stigma, and contextual factors may influence the expression of distress and help-seeking behaviour, underscoring the necessity of culturally appropriate measurement tools (Armitage et al., 2015).

In light of these gaps, the present study focuses on the development of the DASRA, a psychometrically robust instrument designed to comprehensively assess suicide risk among drug addicts in Malaysia. DASRA integrates psychosocial disorders (drug dependence and emotional disorders) and psychopathological disorders (depression and anxiety) within a single measurement framework. By providing a theoretically grounded and culturally appropriate assessment tool, this study aims to enhance early identification of suicide risk, inform targeted intervention strategies, and strengthen evidence-based

suicide prevention efforts within Malaysian rehabilitation and clinical settings.

METHODS

This study employed a quantitative descriptive research design using a survey-based approach to collect empirical data. The primary objective was to develop and validate DASRA as a suicide risk assessment instrument tailored to drug addicts within the Malaysian context. The conceptual foundation of the instrument was informed by prior empirical and theoretical work examining psychosocial and psychopathological risk factors associated with suicidal behaviour among drug addicts (Norshahira et al., 2024). Ethical approval was obtained from the Departmental Research Ethics Committee, and all participants provided informed consent prior to participation. A total of 322 drug addicts were recruited from rehabilitation centres located along the East Coast of Malaysia. The development of DASRA followed a deductive and systematic multi-stage process, comprising literature review, item generation, pilot testing, and exploratory factor analysis, consistent with recommended procedures for psychometric instrument development as detailed below.

Literature Review

A comprehensive review of relevant literature was conducted to inform the conceptual development of DASRA. Sources included academic books, peer-reviewed journal articles, research reports, and other scholarly publications related to psychosocial disorders, psychopathological disorders, drug addiction, and suicide risk. Particular emphasis was placed on identifying psychosocial and psychopathological factors associated with suicidal behaviour among drug addicts. Based on this review, two overarching components were identified. The first component, psychosocial disorders, comprised drug dependence and emotional disorders. The second component, psychopathological disorders, consisted of depression and anxiety. These components formed the theoretical foundation for item development.

Item Generation

An initial pool of 41 items was generated based on the identified components and sub-components derived from the literature. Each component was represented by a distinct set of items reflecting key psychosocial and psychopathological characteristics associated with suicide risk. The preliminary items were systematically reviewed to eliminate redundancy and ensure conceptual clarity. Content validity was established through evaluation by a panel of subject-matter experts with expertise in psychology, counselling, and substance abuse studies. Based on expert feedback, ambiguous and double-barrelled items were removed or revised, resulting in a final set of 40 items. Each item was measured using a four-point Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). The use of a four-point scale was intended to minimise neutral responses and enhance the precision of measurement in assessing suicide risk among drug addicts.

Table 1
Components, sub-components, number of items and item statements

	Components	Sub-Components	No of Items	Statements
1	Psychosocial Disorders	Drug Dependence	10	I can't forget about drugs.
				I can't live without drugs.
				I don't regret being involved with drugs.
				I feel that being a drug addict is not a mistake.
				I'm not sure if I can continue this life without drugs.
				I still have a strong desire to take drugs.
				I feel satisfied and happy when I can take drugs.
				I'm not strong enough to overcome the problem of drug abuser.
				I need drugs to forget life's problems.
				If given the choice, I don't want to recover or be in a drug rehabilitation centre.
		Emotional Disorders	10	Frequent restlessness characterizes my soul.
				Facing life's challenges triggers unstable emotions, leading to simultaneous tears and laughter.
				Contemplating fate often induces sadness and tears.
				A pervasive sense of uselessness affects my interactions with others and myself.
				Lack of appreciation is a common experience from those around me.

				Perceived resentment and criticism from people in my surroundings are prevalent.
				Blame is commonly attributed to me during unfortunate events.
				Frequent feelings of weakness and powerlessness arise from mistreatment by others.
				Difficulty controlling anger is a recurring issue.
				Damaging possessions is a common response during moments of anger or stress.
2	Psychopathological Disorders	Depression	10	I am often reprimanded for talking to myself.
				I have been advised to undergo a mental health examination due to peculiar behaviour.
				I constantly feel healthy and see no need to take care of my health.
				I constantly feel clean and see no need to maintain personal hygiene.
				I feel disturbed and stressed when in the company of others.
				I prefer to isolate or distance myself from others.
				I often feel guilty and ashamed of the bad things I have done.
				My mind easily gets distracted or tangled when facing even small problems.
				I often feel weary, weak, and lacking in energy.
				I frequently experience uncontrollable mood swings and irritability.
		Anxiety	10	I am profoundly disappointed and feel that my life has lacked meaning for a long time.
				I often feel restless, reflecting on the shattered life of the past.
				I frequently cry and worry about continuing life beyond this point.
				I am excessively anxious when contemplating the life problems I face.
				I often feel restless, anxious, and have no desire to live any longer.
				I am afraid to rise again with the aim of a better life.
				I feel hopeless about continuing this life further.
				I often contemplate death because I feel that this life has failed.
				When experiencing extreme unrest, I feel incapable of living any longer.
				I see death as the best way to resolve the problems I am facing.

Source: Authors' own work

Pilot Testing

A pilot study was conducted to assess the reliability of DASRA prior to full-scale analysis. Participants for the pilot study comprised drug addicts drawn from rehabilitation settings. Internal consistency reliability was evaluated using Cronbach's alpha coefficient, a widely accepted measure in psychometric research. As presented in Table 2, the overall Cronbach's alpha for DASRA was 0.91, indicating a high level of internal consistency. The reliability coefficients for each sub-components ranged from 0.89 to 0.95, demonstrating strong reliability across all dimensions. Descriptive statistics for individual items, including means and standard deviations, are reported in Table 3 and indicate consistent response patterns across the scale.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was conducted to examine the underlying factor structure and establish the construct validity of DASRA. Prior to factor extraction, the suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO value of 0.915 and a statistically significant Bartlett's test ($p <$

0.001), as presented in Table 4, indicated that the data were appropriate for factor analysis.

The EFA was performed using varimax rotation to achieve a clearer and more interpretable factor structure. Factor retention was guided by eigenvalues greater than 1 and visual inspection of the scree plot (Figure 1). As shown in Table 5, four factors were extracted from the 40-item scale, collectively explaining 64.41% of the total variance. The first factor labelled *Psychosocial Disorders: Drug Dependence*, accounted for 20.52% of the variance and consisted of ten items reflecting compulsive drug use and psychological dependence. The second factor, *Psychosocial Disorders: Emotional Disorders*, explained 19.77% of the variance and comprised ten items related to emotional instability and maladaptive emotional responses. The third factor, *Psychopathological Disorders: Depression*, contributed 16.52% of the variance and included ten items capturing depressive symptoms. The fourth factor, *Psychopathological Disorders: Anxiety*, accounted for 7.61% of the variance and consisted of ten items reflecting anxiety-related symptoms.

The rotated component matrix (Table 6) indicated that all items loaded strongly on their respective factors, with factor loadings exceeding 0.50 and no substantial cross-loadings, supporting satisfactory construct validity. Descriptive statistics, including skewness and kurtosis values (Table 7), fell within acceptable ranges (±2), indicating adequate univariate normality of the data. Following factor extraction, inter-correlations among the four components were examined to further assess internal consistency and construct distinctiveness. As presented in Table 8, all components were significantly correlated at the 0.01 level. The pattern of correlations indicated moderate to strong associations among the four components, suggesting that the constructs are related yet distinct, with no evidence of multicollinearity.

Table 2

Reliability statistics

No.	Components	Sub- components	No of Item	Cronbach's Alpha Based on Standardized Items
1.	Psychosocial Disorders	Drug Dependence	10	0.94
		Emotional Disorders	10	0.94
2.	Psychopathological Disorders	Depression	10	0.89
		Anxiety	10	0.95
Overall Reliability			40	0.91

Source: Authors' own work

Table 3

Descriptive Statistics of DASRA Items

Item	Minimum	Maximum	Mean	SD
Item 1.	1	4	1.35	0.95
Item 2.	1	4	1.15	0.95
Item 3.	1	4	1.05	0.95
Item 4.	1	4	0.98	0.99
Item 5.	1	4	1.06	0.96
Item 6.	1	4	1.04	0.88
Item 7.	1	4	0.99	0.86
Item 8.	1	4	1.07	0.95
Item 9.	1	4	1.04	0.92
Item 10.	1	4	1.28	0.99
Item 11.	1	4	1.20	0.97
Item 12.	1	4	1.04	0.94
Item 13.	1	4	1.14	1.01
Item 14.	1	4	1.01	0.86
Item 15.	1	4	1.41	1.01
Item 16.	1	4	1.29	0.96
Item 17.	1	4	1.38	1.01
Item 18.	1	4	1.13	0.96
Item 19.	1	4	1.08	0.93
Item 20.	1	4	1.06	0.99
Item 21.	1	4	1.21	0.88
Item 22.	1	4	1.36	0.92
Item 23.	1	4	1.37	0.85
Item 24.	1	4	1.30	0.92

Item 25.	1	4	1.27	0.92
Item 26.	1	4	1.32	0.92
Item 27.	1	4	1.05	0.91
Item 28.	1	4	1.16	0.98
Item 29.	1	4	1.17	0.96
Item 30.	1	4	0.86	0.86
Item 31.	1	4	0.83	0.89
Item 32.	1	4	0.96	0.94
Item 33.	1	4	1.04	0.91
Item 34.	1	4	1.05	0.91
Item 35.	1	4	0.86	0.94
Item 36.	1	4	0.83	0.89
Item 37.	1	4	0.89	0.92
Item 38.	1	4	0.88	0.92
Item 39.	1	4	0.87	0.93
Item 40.	1	4	0.69	0.79

Note: Lower mean values indicate stronger endorsement of negatively worded items.
Source: Authors' own work.

Table 4

KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.915
Bartlett's Test of Sphericity:	Approx. Chi-Square	14550.722
	Df	780
	Sig.	.00

Source: Authors' own work

Table 5

Total variance explained

Total Variance Explained									
Item	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	19.905	49.763	49.763	19.905	49.763	49.763	8.207	20.517	20.517
2	3.407	8.516	58.280	3.407	8.516	58.280	7.906	19.766	40.283
3	2.149	5.372	63.652	2.149	5.372	63.652	6.606	16.516	56.798
4	2.010	5.024	68.676	2.010	5.024	68.676	3.045	7.612	64.410
5	1.290	3.225	71.901	1.290	3.225	71.901	2.437	6.092	70.502
6	1.141	2.853	74.754	1.141	2.853	74.754	1.701	4.252	74.754
7	.937	2.343	77.097						
8	.879	2.197	79.294						
9	.756	1.889	81.183						
10	.715	1.788	82.971						
11	.589	1.471	84.442						
12	.554	1.386	85.828						
13	.541	1.352	87.180						
14	.473	1.183	88.364						
15	.446	1.115	89.479						
16	.388	.971	90.450						
17	.354	.884	91.334						
18	.342	.855	92.189						
19	.305	.762	92.951						
20	.280	.701	93.652						
21	.268	.671	94.322						
22	.243	.606	94.929						

23	.219	.547	95.476						
24	.203	.508	95.984						
25	.169	.422	96.406						
26	.163	.407	96.813						
27	.152	.381	97.194						
28	.142	.354	97.548						
29	.135	.337	97.885						
30	.124	.309	98.194						
31	.114	.285	98.479						
32	.103	.257	98.735						
33	.096	.239	98.975						
34	.081	.203	99.178						
35	.072	.181	99.359						
36	.061	.153	99.512						
37	.052	.130	99.642						
38	.049	.123	99.766						
39	.048	.121	99.886						
40	.045	.114	100.000						
Extraction: Exploratory Factor Analysis with varimax rotation.									

Source: Authors' own work

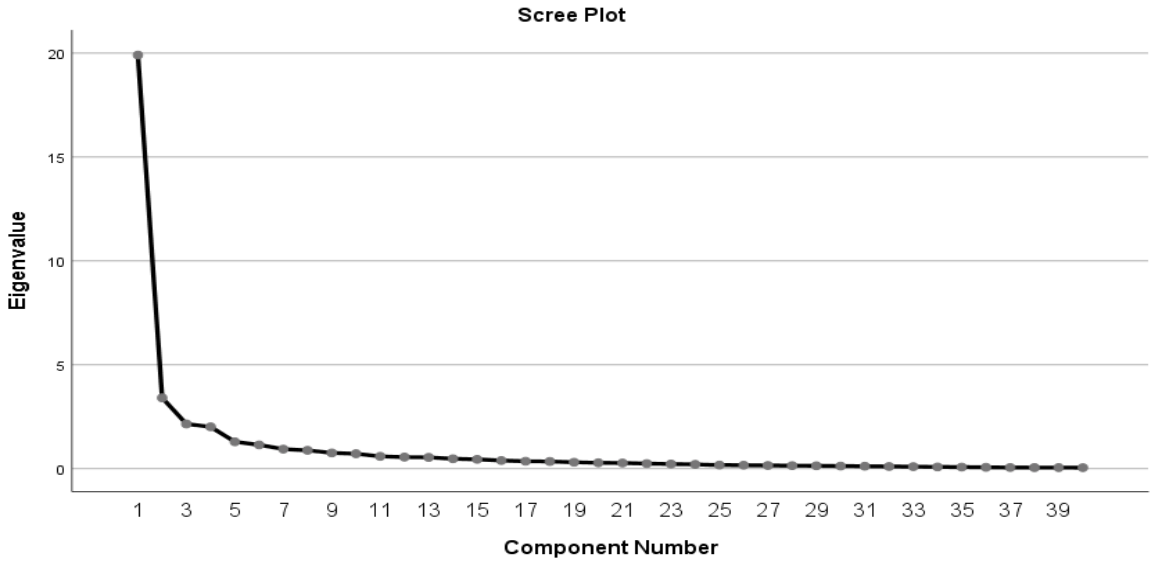

Figure1. Scree plot of DASRA factor structure

Note: Factors with eigenvalues greater than 1 were retained
Source: Authors' own work

Table 6

Rotated Component Matrix for DASRA

Item	**Components**			
	Psychosocial Disorders		**Psychopathological Disorders**	
	Drug Dependence	**Emotional Disorders**	**Depression**	**Anxiety**
Item 1.	0.557			
Item 2.	0.756			
Item 3.	0.764			
Item 4.	0.785			
Item 5.	0.786			
Item 6.	0.794			

Item 7.	0.795			
Item 8.	0.804			
Item 9.	0.818			
Item 10.		0.714		
Item 11.		0.731		
Item 12.		0.771		
Item 13.		0.775		
Item 14.		0.788		
Item 15.		0.811		
Item 16.		0.801		
Item 17.		0.812		
Item 18.		0.813		
Item 19.		0.823		
Item 20.			0.556	
Item 21.			0.564	
Item 22.			0.746	
Item 23.			0.818	
Item 24.			0.850	
Item 25.			0.885	
Item 26.			0.668	
Item 27.			0.646	
Item 28.			0.602	
Item 29.			0.808	
Item 30.			0.668	
Item 31.				0.688
Item 32.				0.700
Item 33.				0.766
Item 34.				0.795
Item 35.				0.820
Item 36.				0.829
Item 37.				0.844
Item 38.				0.848
Item 39.				0.855
Item 40.				0.880

Rotation Method: Varimax with Kaiser Normalization
Note: Only factor loadings ≥ 0.50 are reported.
Source: Authors' own work

Table 7
Item means and standard deviation, skewness and kurtosis.

Descriptive Statistics	**Mean**	**SD**	**Skewness**		**Kurtosis**	
			Statistic	**Std. Error**	**Statistic**	**Std. Error**
Item 1.	1.35	0.95	.044	.136	-.978	.271
Item 2.	1.15	0.95	.565	.136	-.531	.271
Item 3.	1.05	0.95	.486	.136	-.758	.271
Item 4.	0.98	0.99	.714	.136	-.574	.271
Item 5.	1.06	0.96	.445	.136	-.868	.271
Item 6.	1.04	0.88	.502	.136	-.497	.271
Item 7.	0.99	0.86	.585	.136	-.260	.271
Item 8.	1.07	0.95	.411	.136	-.898	.271
Item 9.	1.04	0.92	.570	.136	-.526	.271
Item 10.	1.28	0.99	.238	.136	-1.004	.271
Item 11.	1.20	0.97	.512	.136	-.676	.271
Item 12.	1.04	0.94	.627	.136	-.478	.271
Item 13.	1.14	1.01	.621	.136	-.660	.271
Item 14.	1.01	0.86	.557	.136	-.344	.271
Item 15.	1.41	1.01	.026	.136	-1.118	.271

Item 16.	1.29	0.96	.279	.136	-.842	.271
Item 17.	1.38	1.01	.203	.136	-1.042	.271
Item 18.	1.13	0.96	.623	.136	-.488	.271
Item 19.	1.08	0.93	.374	.136	-.859	.271
Item 20.	1.06	0.99	.464	.136	-.928	.271
Item 21.	1.21	0.88	.239	.136	-.705	.271
Item 22.	1.36	0.92	-.041	.136	-.921	.271
Item 23.	1.37	0.85	-.193	.136	-.788	.271
Item 24.	1.30	0.92	.178	.136	-.805	.271
Item 25.	1.27	0.92	.194	.136	-.825	.271
Item 26.	1.32	0.92	.135	.136	-.860	.271
Item 27.	1.05	0.91	.567	.136	-.461	.271
Item 28.	1.16	0.98	.489	.136	-.739	.271
Item 29.	1.17	0.96	.501	.136	-.656	.271
Item 30.	0.86	0.86	.874	.136	.234	.271
Item 31.	0.83	0.89	1.012	.136	.387	.271
Item 32.	0.96	0.94	.821	.136	-.148	.271
Item 33.	1.04	0.91	.571	.136	-.446	.271
Item 34.	1.05	0.91	.401	.136	-.790	.271
Item 35.	0.86	0.94	.857	.136	-.217	.271
Item 36.	0.83	0.89	1.012	.136	.387	.271
Item 37.	0.89	0.92	.815	.136	-.173	.271
Item 38.	0.88	0.92	.788	.136	-.273	.271
Item 39.	0.87	0.93	.728	.136	-.533	.271
Item 40.	*0.69*	*0.79*	*1.148*	*.136*	*1.012*	*.271*

Note: Skewness and kurtosis values fall within acceptable ranges (±2), indicating adequate univariate normality
Source: Authors' own work.

Table 8

Correlations among components

Components		**Psychosocial Disorders**		**Psychopathological Disorders**	
		Drug Dependence	**Emotional Disorders**	**Depression**	**Anxiety**
Psychosocial Disorders	Drug Dependence	1.000	.801**	.626**	.834**
	Emotional Disorders	.801**	1.000	.679**	.723**
Psychopathological Disorders	Depression	.626**	.679**	1	.653**
	Anxiety	.834**	.723**	.653**	1.000
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Authors' own work

DISCUSSION

The findings of this study provide empirical support for the development and initial validation of an instrument designed to assess suicide risk among drug addicts. The exploratory factor analysis revealed a stable two-component structure comprising psychosocial disorders (drug dependence and emotional disorders) and psychopathological disorders (depression and anxiety). The strong factor loadings and high internal consistency observed across components indicate that the instrument effectively captures distinct yet interrelated dimensions of suicide risk within this high-risk population.

The psychosocial disorder component, particularly the sub-component of drug dependence, underscores the critical role of compulsive drug-seeking behaviour and psychological reliance on substances in elevating suicide risk. Empirical evidence consistently indicates that impaired control over drug use, persistent cravings, and psychological dependence are strongly associated with heightened suicidal ideation and suicide attempts among drug addicts (Hawton et al., 2013; Hesse et al., 2020; Khani Jeihooni et al., 2021; Leza et al., 2024: Been & Byeon, 2023). Individuals who perceive drugs as essential for emotional regulation or daily functioning are more vulnerable to feelings of hopelessness and entrapment, which further increase suicide risk (Borges et al., 2010; López-Goñi et al., 2019). These findings reinforce the importance of incorporating systematic assessments of drug dependence into suicide prevention strategies and rehabilitation initiatives.

The emotional disorders sub-component further demonstrates how emotional instability and maladaptive coping patterns contribute to suicide risk among drug addicts. Participants frequently reported feelings of

worthlessness, emotional dysregulation, interpersonal conflict, and difficulties managing anger and stress (Gratz & Roemer, 2004; Fox et al., 2015; Weiss et al., 2022; Wilcox et al., 2004; Aldao et al., 2016**)**. Such emotional disturbances have been consistently linked to suicidal behaviour, as they weaken resilience and intensify psychological distress. These findings point to the need for interventions that strengthen emotional regulation skills, psychosocial support, and adaptive coping strategies as core elements of comprehensive suicide prevention efforts (Na et al., 2022; Volkow & Blanco, 2021).

The psychopathological disorder component, encompassing depression and anxiety, aligns with extensive empirical evidence identifying mood and anxiety disturbances as strong predictors of suicidal behaviour. Depressive symptoms such as hopelessness, guilt, and persistent fatigue, together with anxiety-related manifestations including restlessness, excessive worry, and fear about the future, substantially elevate suicide risk among drug addicts. These results are consistent with prior research demonstrating a robust association between psychopathological distress and suicidal behaviour in drug-using populations (Borges et al., 2010; López-Goñi et al., 2019; Nock et al., 2008; Ribeiro et al., 2016). The significant correlations observed among all four sub-components further indicate that psychosocial and psychopathological disorders are interconnected, supporting the adoption of multidimensional assessment approaches in clinical and rehabilitation settings.

The instrument demonstrated excellent internal consistency, with Cronbach's alpha values ranging from 0.89 to 0.95 across subscales and an overall reliability coefficient of 0.91. In addition, the satisfactory total variance explained (64.41%) and strong factor loadings provide initial evidence of factorial and construct validity. Collectively, these results support the utility of DASRA as a reliable and comprehensive assessment tool for the early identification of suicide risk among drug addicts. Despite these promising findings, several limitations should be acknowledged. The sample was limited to drug addicts recruited from rehabilitation centres and community-based programmes along the East Coast of Malaysia, which may restrict the generalisability of the findings to other regions or populations. Furthermore, the cross-sectional design precludes conclusions regarding predictive validity, highlighting the need for longitudinal studies to examine the instrument's ability to predict future suicidal behaviour. In addition, although DASRA captures key psychosocial and psychopathological dimensions, other influential risk factors such as socioeconomic adversity, exposure to trauma, and co-occurring physical health conditions were not included. Future research should consider integrating these variables to enhance the comprehensiveness and ecological validity of the instrument, in line with contemporary models of multifactorial suicide risk assessment (Klonsky et al., 2021; Turecki et al., 2019). Overall, this study makes a meaningful contribution to the development of a psychometrically robust instrument for assessing suicide risk among drug addicts within the Malaysian context. DASRA offers an empirically grounded framework that can inform evidence-based clinical practice, guide targeted intervention strategies, and support policy initiatives aimed at reducing suicide-related morbidity and mortality. Future research should prioritise longitudinal validation, cross-cultural adaptation, and potential integration into digital health platforms to further enhance the accessibility, applicability, and impact of the instrument.

CONCLUSION

This study successfully developed and validated DASRA as a psychometric instrument for assessing suicide risk among drug addicts in Malaysia. The instrument demonstrated high reliability, strong internal consistency, and satisfactory factorial validity across its four sub-components, namely drug dependence, emotional disorders, depression, and anxiety. These findings indicate that DASRA effectively captures the multidimensional nature of suicide risk by integrating interrelated psychosocial and psychopathological factors that are critical for the early identification of individuals at elevated risk.

The rigorous development process, which involved literature review, item generation, pilot testing, and exploratory factor analysis, ensured both theoretical relevance and practical applicability. In line with previous work emphasising the importance of culturally grounded assessment approaches (Chu et al., 2017; Ryan & Oquendo, 2020; Sherekar & Mehta, 2025), the present findings further support the need for contextually appropriate instruments to enhance the accuracy and effectiveness of suicide risk assessment among drug addicts. Consistent with earlier empirical contributions in this area (Norshahira et al., 2024; Norshahira et al., 2023), DASRA offers a structured and evidence-informed framework that can support suicide prevention efforts within the Malaysian context.

The study was limited to participants recruited from rehabilitation centres along Malaysia's East Coast and employed a cross-sectional design. Nevertheless, the findings provide a strong foundation for future research. Longitudinal validation, cross-cultural adaptation, and integration into digital health platforms are recommended to enhance the generalisability, accessibility, and practical impact of DASRA. Overall, the instrument represents a meaningful advancement in suicide risk assessment by addressing a critical gap in culturally relevant and multidimensional evaluation tools for drug addicts.

Implications of the Study

The development of DASRA carries important implications for clinical practice, policy formulation, and future research. First, the instrument provides a culturally appropriate and empirically validated tool that can be implemented in rehabilitation centres, community-based programmes, and healthcare settings to enhance early detection of suicide risk among drug addicts. Its multidimensional structure enables practitioners to identify both psychosocial and psychopathological vulnerabilities, thereby supporting comprehensive and individualised intervention planning.

Second, DASRA offers policymakers and service providers evidence-based insights that can inform the design of targeted prevention strategies, resource allocation, and professional training initiatives aimed at reducing suicide-related morbidity and mortality among drug-using populations. Finally, this study contributes to the broader scientific literature by presenting a validated measurement framework that can be further refined and tested across diverse cultural contexts. Its application in future longitudinal, cross-regional, and multi-ethnic studies may strengthen empirical understanding of suicide risk trajectories and support the development of globally relevant assessment approaches.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to all individuals and institutions who contributed to the successful completion of this study. Appreciation is extended to the participants from rehabilitation centres and community-based programmes for their willingness to share their experiences. The authors also acknowledge the valuable contributions of the experts and research assistants who provided guidance throughout the instrument development process. Special thanks are extended to Universiti Sultan Zainal Abidin for the institutional support and facilitation that made this research possible.

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