ORIGINAL ARTICLE

Suicide risk among rural youths, a public health concern – Voicing the unvoiced

Manish RC[1], Renuka M[2], Kishor M[3], Rituparna Kundu[4]

[1]Postgraduate, School of Public Health, JSS Medical College, JSS Academy of Higher Education and Research, Mysore, Karnataka; [2]Professor, Department of Community Medicine, JSS Medical College, JSS Academy of Higher Education and Research, Mysore, Karnataka; [3]Professor & Head, Department of Psychiatry, JSS Medical College, JSS Academy of Higher Education and Research, Mysore, Karnataka; [4]Postgraduate, School of Public Health, JSS Medical College, JSS Academy of Higher Education and Research, Mysore, Karnataka

CORRESPONDING AUTHOR

Dr. Manish RC, School of Public Health, JSS Medical College, JSS Academy of Higher Education and Research, Sri Shivarathreeshwara Nagar, Mysore – 570015, Karnataka, India

Email: drmanishrc1503@gmail.com

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Abstract

Background: Youth transition from dependence to independence with fluid boundaries, facing challenges like anxiety and peer pressure despite good health. Prior suicide attempts stand out as a significant risk factor, highlighting its importance in the broader population. **Aim & Objectives**: This study aimed to assess suicidal risk prevalence among rural youths in Southern Karnataka and identify associated risk factors. **Methods**: This study employed population proportionate sampling of 15-24-year-olds from four villages of Sutturu, a rural field practice area of JSS Medical College, Mysuru for six months. Socio-demographic data were collected using a pre-tested proforma, while suicide risk was assessed via the SAFL app. Data analysis utilized IBM SPSS Version 25. **Results**: Of 239 participants, 35.2% were males and 64.8% females, with a majority aged 20-24. Notably, 41.2% of females attended school. Depression prevalence was high (65.2%), with 51% experiencing minimal depression, more so in males. Treatment-seeking for psychiatric issues was low, with varying suicide attempt rates. **Conclusion**: The study emphasizes significant associations between youth suicide risk and factors like prior attempts, family history, and psychiatric conditions, particularly among males aged 20-24. Lower educational attainment also correlates with increased risk, highlighting the multifaceted nature of this issue.

Keywords

Suicidal Behavior; Suicidal Ideation; Suicide; Suicide Attempts; Youths; Rural

Introduction

Youths often turn to self-harm and contemplate suicide as coping mechanisms when confronted with life challenges, often stemming from difficulties and feelings of inferiority. This behavior is exacerbated by factors such as low educational attainment, substance abuse, heightened aggression, and compromised reproductive and sexual health. Notably, these issues are strongly linked to poor mental health in young individuals.(1) Certain vulnerable groups, including daily

wage laborers, marginalized populations, and students, face an elevated risk of suicide-related fatalities. Multiple studies worldwide have consistently highlighted suicide as a significant public health issue, ranking among the leading causes of death on a global scale.

According to the World Health Organization (WHO), suicide ranks as the tenth leading cause of death across all age groups. It is imperative to grasp the risk factors connected with suicide, including mental health disorders, social isolation, substance abuse, prior suicide attempts, and access to lethal means, to formulate effective preventive measures.(2) Strategies for tackling this public health issue encompass raising awareness about mental health, diminishing stigma, ensuring the availability of accessible mental health services, and enacting community support programs. Research findings consistently show that suicide-related deaths are most prevalent in early adolescence and young adulthood.

The CDC's 2017 findings highlight that suicide has become the leading cause of death among youth. The National Crime Records Bureau (NCRB) report underscores a troubling trend, indicating a 66% increase in the suicide rate among young people over the past decade. This rise is attributed to various psychosocial factors beyond mental health issues.(3)

Among the identified contributors to this concerning trend among young individuals are professional/career problems, a pervasive sense of isolation, experiences of abuse and violence, family-related issues, mental disorders, alcohol or substance addictions, financial setbacks, and chronic pain.

It is essential to emphasize that suicide deaths are preventable, and adolescent population represents a crucial window for suicide prevention, potentially saving many more years of life. Present study was undertaken with an objective to assess the prevalence of suicide risk among youths and identify the contributing factors in the rural field practice area of JSS Medical College, Mysuru.

Objectives:

1. assess the suicidal risk among the youth in the rural field practice area.
2. to identify various factors associated with suicidal risk among youths.

Material & Methods

Study Design: A cross-sectional community-based study.

Study Setting: In the present study, one Rural Health and Training Centre (RHTC) out of the three centers was randomly selected namely Kadakola, Hadinaru, and Sutturu, all of which fall under the purview of the Department of Community Medicine at JSS Medical College, Mysuru. Within the chosen RHTC, a multistage sampling method was employed to include 50% of the total villages within that area.

Study Population: All individuals between the ages of 15 to 24 years residing in the selected villages were invited to participate in the study. A comprehensive introduction to the study was provided to each participant before commencing the interview process.

Informed Consent: Informed written consent was obtained from the parents or guardians of participants below 18 years of age, while individuals aged 18 years and above provided their own consent.

Data Collection: Data on various factors including age, education, and socio-economic status were collected. Information pertaining to the education, occupation, income of parents, and family type was obtained through structured interview using a pre-designed questionnaire. Socio-economic status was assessed using the modified Kuppuswamy scale. The data collection process involved conducting interviews with participants, utilizing a pre-tested semi-structured questionnaire to capture socio-demographic details. Suicidal risk assessment was performed using the SAFL (Self-Assessment For Life) mobile application, which included specific questions for this purpose. Additionally, the presence of depression among participants was assessed using the PHQ-9 questionnaire.

SAFL (Self-Assessment For Life) is an application, developed by Minds United for Health Sciences and Humanity Trust, Mysuru launched on November 19, 2020.(4) The result of assessment is as per WHO guidelines and is divided into three categories. Three different

sentences appear based on the assessment. 1. Take help urgently = High Risk; 2. It is important to take help = Moderate Risk; 3. Take help when required = Low Risk or Risk Negligent at the time of assessment as per information provided.

Data Analysis and Software: Data was entered into MS-Excel 2010 worksheet and analysis done using IBM SPSS version 25. Descriptive statistical methods, such as percentage, was calculated for qualitative data, while quantitative data were presented in terms of mean and standard deviation. Differences and associations were considered statistically significant when the p-value was equal or less than 0.05.

Inclusion Criteria: All subject within the age group of 15 to 24 years, in the rural field practice area of JSS Medical College and whose parents provided consent, and youth giving assent for study participation and are permanent resident of that particular village.

Exclusion Criteria: Parents who do not consent and children who do not give assent for participation in the study. And subjects who are not available at the time of study.

Ethical Issues: Ethical approval was obtained from the Institutional Ethical Committee, JSS Medical College, Mysuru, (Ref no.: JSS/MC/PG/90/2022-2023) before commence of the study.

RESULTS

Table 1 shows that out of 239 participants aged 15 to 24 years, 84 (35.2%) were males, and 155 (64.8%) were females. 93 (38.9%) participants belonged to the 15-19 years age group, while 146 (61.1%) were in the 20-24 years age group. Regarding literacy, among the 155 females, majority (41.2%) had attended school, with only 1.5% reporting as illiterate. Among the 84 males, 38% had intermediate or diploma qualification, and 1.2% was illiterate.

Table 1 - SOCIODEMOGRAPHIC PROFILE OF THE STUDY POPULATIONS

		Gender		Total (number,%)
		Male (%)	Female (%)	
Age (in years)	15-19	42 (50%)	51 (33%)	93 (38.9%)
	20-24	42 (50%)	104 (67%)	146 (61.1%)
Educational Level	Graduate	23 (27.3%)	54 (34.8%)	77 (32.4%)
	Intermediate/Diploma	32 (38.0%)	35 (22.5%)	67 (28.0%)
	Attended School	28 (33.5%)	64 (41.2%)	92 (38.4%)
	Illiterate	01 (1.2%)	02 (1.5%)	03 (1.2%)
Marital Status	Married	16 (19%)	60 (39%)	76 (32%)
	Unmarried	67 (80%)	92 (59%)	159 (67%)
	Widowed	01 (1%)	03 (2%)	04 (2%)
	Alone	01 (1.0%)	01 (1.0%)	02 (1.0%)
Living Status	Away from family	05 (6%)	17 (11%)	22 (9.0%)
	With family	71 (85%)	131 (85%)	202 (85%)
	With friends	03 (4.0%)	01 (1.0%)	04 (2.0%)
	With relative	04 (4.0%)	05 (2.0%)	09 (3.0%)
Type of family	Three generation	11 (13%)	06 (4%)	17 (7%)
	Joint	28 (33%)	58 (37%)	86 (36%)
	Nuclear	45 (54%)	91 (59%)	136 (57%)
Socio-economic status	5-10 upper lower	66 (79%)	102 (66%)	168 (70%)
	11-15 lower middle	11 (13%)	31 (20%)	42 (18%)
	<5 lower	07 (8%)	22 (14%)	29 (12%)
Occupation	Employed	26 (31%)	16 (10%)	42 (18%)
	Student (school or college)	42 (50%)	74 (48%)	116 (48%)
	Unemployed	16 (19%)	65 (42%)	81 (34%)
	Total	84 (35.15%)	155 (64.85%)	239

Table 2 shows, 11 (7.1%) of the 155 females and 15 (17.9%) of the 84 males had attempted suicide in their lifetime. Notably, a significant proportion had not sought help or treatment for any psychiatric illness.

Table 2 - PSYCHOLOGICAL PROFILE OF THE STUDY POPULATION

Suicide attempt	Gender		Total (number, %)
	Male (number, %)	Female (number, %)	
Yes	15 (17.9%)	11 (7.1%)	26 (10.9%)
No	69 (82.1%)	144 (92.9%)	213 (89.1%)
H/o suicide among family members			
Yes	07 (8.3%)	08 (5.2%)	15 (6.3%)
No	77 (91.7%)	147 (94.8%)	224 (93.7%)
H/o psychiatric illness, previously/ currently in family			
Yes	06 (7.2%)	08 (5.2%)	14 (5.9%)
No	78 (92.8%)	147 (94.8%)	225 (94.1%)
Previously/currently taking treatment for any psychiatric illness			
Yes	04 (4.8%)	04 (2.6%)	08 (3.3%)
No	80 (95.2%)	151 (97.4%)	231 (96.7%)
H/o Sexual Abuse			
Yes	02 (2.4%)	08 (5.2%)	10 (4.2%)
No	82 (97.6%)	147 (94.8%)	229 (95.8%)
Use of Alcohol			
3 or more times a week	02 (2%)	02 (1%)	04 (2%)
Once a month	14 (16%)	09 (6%)	23 (9%)
Does not take	69 (82%)	143 (93%)	212 (89%)
Suicide Risk			
High Risk	21 (25.0%)	20 (12.9%)	41 (17.2%)
Moderate Risk	25 (29.8%)	38 (24.5%)	63 (26.4%)
Low Risk	38 (45.2%)	97 (62.6%)	135 (56.5%)

Table 3 shows that 80 (51%) participants had minimal depression, with 36 (58%) males and 44 (47%) females falling into this category. 56 (36%) participants showed mild depression 15 (24%) males and 41 (44%) females.

Statistically significant association was present between suicide risk and various factors, viz., age, gender, marital status, living arrangements, religion, history of previous suicide attempts, family history of suicide, family psychiatric illness, psychiatric treatment history, epilepsy treatment, sexual abuse, alcohol use, recent distress causes, and depression (Table 3).

Table 3 - Association of socio-demographic and psychological variables with the prevalence of Suicide risk (n=239)

Variable	High Risk	Moderate Risk	Low Risk	Chi-square value	df	p-value
Age						
15 – 19 years	10 (10.8%)	20 (21.5%)	63 (67.7%)	8.414	2	0.015
20 – 24 years	31 (21.2%)	43 (29.5%)	72 (49.3%)			
Gender						
Female	20 (12.9%)	38 (24.5%)	97 (62.6%)	8.116	2	0.017
Male	21 (25.0%)	25 (29.8%)	38 (45.2%)			
Marital Status						
Married	19 (25%)	14 (18.4%)	43 (56.6%)			
Unmarried	22 (13.8%)	46 (28.9%)	91 (57.2%)	10.957	4	0.027
Widowed	-	03 (75.0%)	01 (25.0%)			
Living Status						
Alone	-	02 (100.0%)	-			

Variable	High Risk	Moderate Risk	Low Risk	Chi-square value	df	p-value
Away from family	02 (9.1%)	06 (27.3%)	14 (63.6%)			
With family	35 (17.3%)	48 (23.8%)	119 (58.9%)	17.897	8	0.022
With relative	02 (22.2%)	05 (55.6%)	02 (22.2%)			
With friends	02 (50.0%)	02 (50.0%)	-			
Suicide Attempt						
Yes	26 (100%)	-	-	140.888	2	<0.001
No	15 (7.0%)	63 (29.6%)	135 (63.4%)			
History of Suicide in Family						
Yes	15 (100%)	-	-	77.290	2	<0.001
No	26 (11.6%)	63 (28.1%)	135 (60.3%)			
Psychiatric Illness in Family						
Yes	09 (64.3%)	05 (35.7%)	-	28.150	2	<0.001
No	32 (14.2%)	58 (25.8%)	135 (60%)			
Psychiatric illness treatment						
Yes	03 (37.5%)	05 (62.5%)	-	10.774	2	0.005
No	38 (16.5%)	58 (25.1%)	135 (58.4%)			
Sexual abuse						
Yes	10 (100%)	-	-	50.402	1	<0.001
No	31 (13.5%)	63 (27.5%)	135 (59.0%)			
Use of Alcohol						
Three or more times a week	02 (50.0%)	02 (50.0%)	-			
Once a month	05 (21.7%)	11 (47.8%)	07 (30.4%)	14.031	4	0.007
Does not take	34 (16.0%)	50 (23.6%)	128 (60.4%)			
Depression						
Mild	09 (16.1%)	16 (28.6%)	31 (55.4%)			
Minimal	14 (17.5%)	27 (33.8%)	39 (48.8%)	38.854	8	<0.001
Moderate	05 (62.5%)	03 (37.5%)	-			
Moderately Severe	03 (25%)	07 (58.3%)	02 (16.7%)			

DISCUSSION

Creating a healthy and stress-free environment is a pivotal factor in facilitating the overall development of youths. According to the United Nations' classification, youth encompasses the age group spanning from 15 to 24 years. During this period, life is profoundly influenced by a myriad of factors, including socio-demographic profiles, job-related stress, peer relationships, family dynamics, and more. Unfortunately, amid these associated factors, suicide emerges as the leading cause of death within this age group.

The results obtained in this study revealed a higher prevalence of suicide risk among the age group of 20-24 years and a higher incidence among males compared to females. Interestingly, these findings contrast with the results of studies conducted by Zygo et al. and Zakharov et al., where they observed a higher prevalence of suicide risk among the 14-18 years age group, with females being significantly more susceptible to suicide risks than males.(5,6)

These discrepancies in findings could potentially be attributed to cultural differences, as well as variations in family dynamics and societal expectations. It's possible that in some cultures, there may be greater pressure and expectations placed on males, which could contribute to a higher incidence of suicide risk in this group. Additionally, cultural norms and attitudes toward mental health and suicide may vary,

influencing how individuals perceive and report their experiences with suicide risk.

Regarding the educational status of the youths in our study, it's noteworthy that individuals with intermediate or diploma qualifications exhibited a higher risk of suicide (19.4%), followed by graduates (18.2%). This observation prompted further exploration, revealing that higher levels of education often come with increased expectations, both in terms of career prospects and family responsibilities.

Present study found persons who were employed were at a higher risk (23.8%), with another significant portion at moderate risk (31.0%). This underscores the complex interplay of factors contributing to suicide risk, where employment status and educational attainment play a critical role.

These findings are consistent with research by Shojaei et al.,(7) which also highlighted the significance of gender, age, and educational levels as key factors influencing suicide attempts and the methods employed in those attempts. The relationship between education, employment, and suicide risk underscores the need for comprehensive support and mental health interventions that consider these multifaceted dynamics.

Present study revealed a high suicide risk among married individuals (25%), and a moderate risk among unmarried participants (28.9%). These findings align with the results obtained by Naess et al.(8) Their study indicated an increased suicide risk across all single statuses in both genders and across all age groups. Furthermore, present study investigated the type of family among the study participants and found that those from joint families were significantly more at a high risk of suicide, with a prevalence of 23.3%, compared to other family types. Additionally, we observed an alarming high risk of suicide among individuals who were separated or divorced. These findings underscore the importance of considering marital status and family dynamics as critical factors in understanding suicide risk among youths, highlighting the need for tailored interventions and support for individuals in different family and marital situations.

The studies conducted by Salzinger et al. and Brown et al. shed light on an important aspect of youth suicide risk, indicating that many young individuals attempt suicide due to physical and psychological violence they experience from family members and peers.(9), (10) These studies highlight the repeated occurrence of family problems and parental alcoholism as contributing factors to the high suicide risk observed among participants from joint families, which may expose them to increased stress and interpersonal conflicts.

Additionally, research by Riggs et al. underscores the detrimental impact of sexual abuse and physical abuse on young people's mental health, with those who experience such abuse being more likely to have a high risk of suicide compared to their peers who do not undergo such traumatic experiences.(11)
Furthermore, the study by Zoroglu et al. adds to the body of evidence by revealing that young individuals with a history of suicide attempts have often endured emotional, physical, and sexual abuse in their lifetime.(12) These studies collectively emphasize the critical need for addressing and preventing various forms of abuse and violence among youths, as they significantly contribute to the heightened risk of suicide.

LIMITATION

Present study was quantitative in nature & conducted within a single geographical location & small sample size, which limits the generalizability of the findings to a broader population.
Data was collected by one-to-one interview and telephonic interview, which might have introduced response bias or limit the comprehensiveness of participants' responses. Furthermore, the timing of our surveys, conducted during working hours, may have led to the absence of participants who were attending schools, colleges, or work at the time of the survey.

Conclusion

Present study underscores the pressing need to educate youths on how to cope with distressing life situations, family problems, and related issues. It's imperative to provide them with the knowledge and skills necessary to recognize signs and symptoms of depression or suicide risk in themselves and others and to encourage them to report and seek timely advice.

This study highlights the critical factors contributing to suicide risk among youths and underscores the importance of addressing these factors to foster the development of a healthier society in the near future.

Authors Contribution

All authors have contributed equally.

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Nil

Conflict of Interest

There are no conflicts of interest.

Declaration Of Generative Ai And Ai Assisted Technologies In The Writing Process

During the preparation of this work, we used Grammarly tools, in order to correct grammatical mistakes, punctuations, etc. After using this tool, we reviewed and edited the content as needed and take (s) full responsibility for the content of the publication.

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