

Suicidal attempt among patients with schizophrenia: A cross-sectional study from Morocco

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Abstract:

Suicide constitutes the greatest risk factor for mortality in individuals with schizophrenia. Although numerous risk factors have been suggested as important predictors of suicidality in schizophrenia, most studies have focused on Caucasian and Chinese patients.

This study aimed to examine the prevalence of suicide attempts in schizophrenia patients in Rabat-Sale-Kenitra, Morocco, and to identify associated clinical and sociodemographic characteristics.

A cross-sectional study was conducted at the Ar-RAZI Psychiatric Center of Ibn Sina Hospital in Rabat. We examined 175 Moroccan schizophrenic patients. The sociodemographic and clinical variables were analyzed based on the presence or absence of suicide attempts.

The prevalence of suicide attempts among patients was 32%. 43% of them had reported multiple suicide attempts. The majority of those who attempted suicide were single, younger, and with a lower economic status. Visual hallucinations were significantly prevalent among attempter patients compared to non-attempters ($p=0.032$).

Consequently, visual hallucinations could be a risk factor for suicide attempts in the Moroccan population.

Understanding sociodemographic and clinical characteristics associated with suicide attempts can help identify patients at higher risk and provide appropriate support and interventions to prevent suicide among the Moroccan population.

Keywords: suicide attempt, schizophrenia, sociodemographic factors, hallucination, Moroccan patients.

Introduction

Suicide is a serious worldwide health concern that affects families, communities, and societies [1,2] According to the World Health Organization, it is the fourth leading cause of death globally among young people [2].

There is a strong correlation between psychiatric disorders and suicide [3,4,5]. Studies over the past few years have consistently shown that life expectancy can be reduced by an average of 15 years for people diagnosed with schizophrenia [6,7], a chronic mental disorder that profoundly impacts an individual's thoughts, behavior, and senses [8]. Suicide is one of the greatest risk factors for mortality among patients with schizophrenia. It has been reported that 5 to 10% of schizophrenia patients die by suicide during their lifetime [9] and this rate is considerably higher than that observed in the general population [10,11].

Around the world, including in Morocco suicidal behavior is a common issue among individuals with schizophrenia [5,13]. Some sociodemographic characteristics can help identify individuals with suicidal attempts (SA). Research suggests that Caucasians are more likely to experience SA compared to African-Americans and Hispanics [14,15]. Employment and marital status have also shown associations with SA, as unemployed and unmarried individuals are more likely to experience SA [15]. Although Suicide risk is particularly high among individuals with a history of suicidal behavior, substance abuse, and young people [16], these characteristics are commonly observed in schizophrenia patients [16,17,18]. Despite the high prevalence of suicide among schizophrenic patients in Morocco, little is known about the specific rate of SA among patients with schizophrenia neither the factors that could be associated with this phenomenon in the Moroccan population. This lack of interest restricts the availability of accurate data and comprehension of suicidal risk among Moroccan patients. Consequently, the need for appropriate strategies and programs has become highly challenging to prevent suicide among schizophrenia patients. Therefore, further research is necessary to increase awareness of suicidality and identify the factors contributing to this heightened vulnerability.

In this regard, the present study aims to evaluate the prevalence of suicide attempts among patients with schizophrenia in the region of Rabat-Sale-Kenitra, to characterize the epidemiological profile of Moroccan patients, and to identify sociodemographic and clinical factors associated with suicide attempts. By achieving these objectives, this research seeks to provide valuable insights into the specific characteristics of suicide attempts among individuals with schizophrenia in the region of Rabat-Sale-Kenitra and will serve as an important reference for further studies in this field.

Materials and methods:

A cross-sectional study was conducted between May 2020 and December 2021. In this study, a total of 175 hospitalized patients (most of them males; age ranged between 20 and 65 years; mean age = 32 ± 3.05) with a confirmed diagnosis of schizophrenia using DSM V (the fifth version of the Diagnostic and Statistical Manual of Mental Disorders) [19], were selected based on a non-probability convenience sampling method. The evaluation was done at the Ar-Razi University Psychiatric Center of Ibn Sina Hospital of Rabat (CHUIS), Morocco. The data was collected using a pre-established questionnaire completed by the clinical investigator during the interview with each patient regarding anonymity and confidentiality. The data were collected after obtaining the approval from Hospital Ethical Committee of Rabat, Morocco. All included patients were informed about the principles and objectives of the study and gave their consent to participate.

Suicidal attempt measures:

In this study, we wanted to understand suicide behavior. We defined a suicide attempt as an intentional act where someone tries to harm himself, but not to the point of causing death. The clinical investigator asked all participants if they had ever tried to commit suicide before, the question was "Have you ever attempted suicide?" responses to this question were coded by 'yes' or 'no'. To confirm any history of suicide attempts, a trained psychiatrist conducted interviews, if possible, with the family members of the patient also, the medical records of every participant were reviewed.

Statistical analysis:

We present the rate of suicide attempts and sociodemographic characteristics of our population using descriptive statistics. the Pearson chi-square test was used for categorical variables in order to identify factors strongly associated with suicide attempts. All analyses were conducted using SPSS 15.0, with a bilateral p-value of 0.05.

Characteristics of the study sample

The following study included a total of 175 participants diagnosed with schizophrenia, with 160 of them (91.4%) being male. The average age of the sample was 32 years (standard deviation [SD]: 3.04). The majority of participants were single (81%) and unemployed (82%), while a significant proportion (51.4%) belonged to a low economic level. About 51.4% of the participants had completed secondary education. In terms of residential areas, 93% lived in urban areas, while only 17% hailed from rural regions. The study also revealed a high prevalence of substance abuse, with 79% of patients exhibiting dependence on either illicit drugs or nicotine dependence. 147 of patients (84%) reported auditory or visual hallucinations or both.

Results

1- Evaluation of suicide attempt rates in the study population

Among patients with a history of suicide attempts, a considerable proportion (43%, n = 24) reported multiple suicide attempts, nearly half of the patients (48%, n = 27) had made a suicide attempt once, while a significant portion (25%, n = 14) had attempted suicide twice. Additionally, a subgroup of ten patients (18%, n = 10) reported more than two suicide attempts. Approximately 9% of patients (n = 5) didn't provide information regarding the number of suicide attempts they had made; the suicide assessment is shown in figure1.

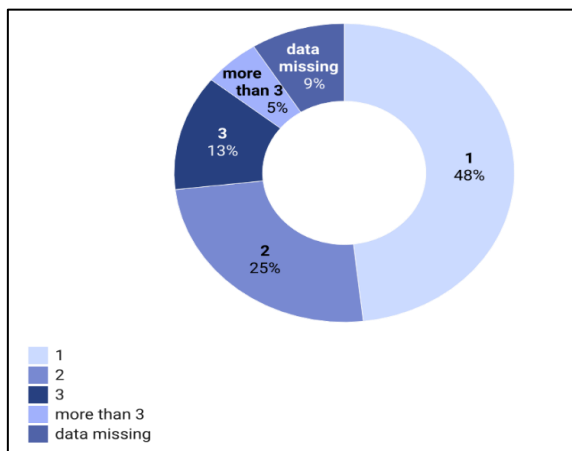


Figure 1: Distribution of Suicide Attempts in our sample

2- Socio-demographic and clinical characteristics

Table 1 compares the sociodemographic characteristics of attempters and non-attempters among patients. The overall prevalence of suicide attempts in the patient group was 32%, with rates of 89.3% (50/56) in males and 10.7% (15/56) in females, indicating a significant gender difference ($\chi^2 = 0.483$, $df = 1$, $p < 0.05$). A higher proportion of attempters (89.3%) were single compared to non-attempters (77%). Sixty-one percent had completed secondary education, and 82% (n=46) were unemployed.

Half of the suicide attempters had a low economic level; no significant association was found between residence and suicide attempts, with 53 from urban areas (95%).

In terms of age, individuals in the 20-30 age range exhibited a higher tendency to attempt suicide (53.6%). The age groups between 30-35, 35-40, and 40 and above had lower proportions of suicide attempts, representing 23.2% (13/56), 12.5% (7/56), and 10.7% (6/56) of the total attempts, respectively ($\chi^2=5.876$, $p < 0.05$). Substance abuse was reported in 80% of patients, showing a significant association with suicide attempts.

Related to clinical symptoms, the presence of global hallucination was almost equal between attempters (87.5%) and non-attempters (82%), visual hallucination was statistically associated with suicide attempts ($p=0.032 < 0.05$) contrary to auditory hallucination ($p=0.415$). Additionally, the presence of delusional ideation was similar in attempters (96%) and non-attempters (93%).

Table 1: Sociodemographic and clinical characteristics of attempter and non-attempter patients.

		Suicide attempts		Pearson's Chi-Square		
		Yes 56(32%)	No 119(68%)	Value	Df	Asymptotic Significance (2-sided)
Age	[20-25[15(26.8%)	16(13.4%)	5.876*	4	.001
	[25-30[15(26.8%)	30 (25 %)			
	[30-35[13(23.2%)	37 (31%)			
	[35-40[7(12.5%)	15(12.6%)			
	[40 +	6(10.7%)	21(17.6%)			
Gender	Male	50(89.3%)	110 (92%)	.483*	1	.000
	Female	6(10.7%)	9 (7.5%)			
Marital status	Single	50(89.3%)	92(77.3%)	4.829*	3	.000
	Married	2(3.6%)	16(13.4%)			
	Divorced	4(7.1%)	10(8.4%)			
	Widow	0	1 (0.8%)			
Education level	Primary	10(18%)	31(26%)	7.530*	3	.002
	Secondary	34(61%)	56 (47%)			
	University	9(16%)	31(26%)			
	Illiterate	3(5%)	1(0.8%)			
Professional activity/ occupation	Unemployed	46(82%)	97(81.5%)	0.679*	3	.000
	Student	4(7%)	6(5%)			
	Employed	1(2%)	4(3.3%)			
	Freelance	5(9%)	12(10%)			
Economic level	Low	28(50%)	62(52%)	0.134*	2	.000
	Moderate	26(46%)	52(43.6%)			
	High	2(4%)	5(4.2%)			
Residence	Urban	53 (95%)	111(93.2%)	0.121	1	.082
	Rural	3(5%)	8(6.7%)			
Substance abuse	Yes	45(80%)	79% (94%)	3.43	2	0.002
	No	9(16)	27(22.7%)			
Hallucination	Yes	49(87.5%)	98(82%)	0.751*	1	.000
	No	7(12.5%)	21(17.6%)			
Visual Hallucination	Yes	18(32.1%)	21(17.6%)	4.620	1	.032
	No	38(67.8%)	98(82%)			
Auditive Hallucination	Yes	48(85.7%)	96(80.6%)	0.664	1	.415
	No	8(14.2%)	23(19.3%)			

Delusion ideation	Yes	54(96.4%)	111(93.2%)	0.702	1	.402
	No	2(3.5%)	8(6.7%)			

Discussion

To our best knowledge, this study is the first to investigate the prevalence of suicide attempts among schizophrenia patients in the region of Rabat-Sale-Kenitra, we found a prevalence of 32%, which is consistent with recent studies indicating that approximately 25-50% of individuals with schizophrenia attempt suicide at least once in their lifetime [20,21,22]. However, other studies in China reported lower rates of suicide attempts among schizophrenic inpatients 9.6% and 7.5% by Xiang et al and Ran et al., respectively [23,24]. This discrepancy suggested that the difference in social, cultural, and economic factors, as well as psychiatric care between populations, can lead to varying rates of suicide attempts.

We found the highest rate of suicide attempters in the youngest age group between 20-30 years. This finding is in agreement with other studies [25,26,27,28] and goes in line with the nature of schizophrenia and its early age of onset. In addition, a recent study on the general population in Morocco reported that adults and adolescents are the most affected by suicide [29], which shows the necessity to pay particular attention to suicide risk among young patients.

In terms of gender, studies have reported different results regarding the association between sex and suicide attempts [16,30,31]. In our study, we found a statistically significant association between gender and suicide, indicating that men were more likely to attempt suicide than women (89.3%). However, it is important to consider the social status of women and the traditional customs prevalent in Moroccan society, where men tend to receive priority in terms of healthcare and are more likely to seek medical attention. Also, gender stigmatization plays a role, as women's mental health concerns are often perceived as emotional sensitivity and not a serious health condition. All These factors explain the highest prevalence of men in our results.

For marital status, a significantly higher proportion of suicide attempters were found to be single compared to non-attempters. This observation underscores the potential impact of social isolation and lack of social support on the risk of suicidal behavior in individuals with schizophrenia. Our results had been supported by many other studies [12,16,21,32]. In contradictory, some Indian studies reported that married people were at higher risk of attempting suicide than unmarried ones [33,34]

Furthermore, unemployment was prevalent among the participants who had attempted suicide, highlighting the potential role of socioeconomic factors in suicidal attempts. This association could be attributed to feelings of hopelessness and despair, which increase the risk of suicide attempts [35].

Our findings suggest a statistically significant association between substance abuse and suicide attempts in patients with schizophrenia. Specifically, a higher percentage of patients with substance abuse (80%) had attempted suicide compared to those who did not (16%). This finding aligns with a systematic review conducted by Altamura et al. indicating that comorbid diagnoses of substance abuse or dependence (other than alcohol) are more frequently present among suicide attempters. However, a Canadian study by McGirr and Turecki [36] has shown that substance abuse does not increase the risk of suicide among patients with schizophrenia.

Hallucinations are an important aspect of schizophrenia. They include visual, olfactory, auditory, and gustatory hallucinations, in our case we studied the association of auditory and visual hallucinations with suicide attempts. The prevalence of hallucinations was comparable between attempters (87.5%) and non-attempters (82%). This finding is supported by a study

by Altamura et al.[37], which showed that hallucinations were equally prevalent among both suicide attempters (68.2%) and non-attempters (53.5%). Visual hallucination was statistically associated with suicide attempts ($p=0.032$), a higher percentage of patients who express visual hallucination (VA) had attempted suicide compared to those who didn't. Recent studies also found higher levels of suicidal ideation in patients with VH compared to patients with auditory hallucinations or no hallucinations [38,39]. In contrast, other studies indicated a strong significant association between suicidal behavior and command auditory hallucinations even in the presence and absence of non-auditory hallucinations (NAH) [40,41]. Based on these observations, we suggest that psychiatrists should routinely inquire about hallucination and its associated phenotypes in schizophrenia disorder and that VH may be an important factor in estimating suicide risk among patients.

This study was not free from limitation, the sample size of the study was limited due to the data collection period, which coincided with covid 19 pandemic. The pandemic led to reduced hospitalizations and posed challenges in accessing the hospital and engaging with patients. secondly, our study was cross-sectional in nature and do not allow us to determine causality regarding the relationship between factors and suicide attempts in schizophrenia.

However, this cross-sectional study has shed light on the crucial need to assess the risk factors associated with suicide attempts in Moroccan patients with schizophrenia. The findings of this study reveal a significant association between suicide attempts and several factors, including younger age, unmarried status, low economic level, and comorbid substance abuse.

Moreover, the study identifies relevant associations with visual hallucinations, emphasizing the importance of future research to elucidate the clinical risk factors. It is recommended to employ psychiatric rating scales such as PANSS (Positive and Negative Syndrome Scale) and BPRS (Brief Psychiatric Rating Scale) to assess hallucination experiences and other symptoms that may contribute to suicide among Moroccan patients.

Conclusion

This study is considered as a preliminary study that underscores the importance of early identification and intervention for patients with schizophrenia who are at high risk for suicidal behavior. Healthcare providers should be aware of these risk factors and take appropriate measures to address them in order to prevent future suicide attempts. Additionally, efforts should be made to reduce the stigma surrounding mental illness in Moroccan society to encourage more individuals to seek help when needed. By addressing these issues head-on, we can work towards reducing the incidence of suicide among patients with schizophrenia in Morocco and improving their overall quality of life.

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