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Epidemiological Characteristics of Suicide Attempts in Patients with Schizophrenia Hospitalized at Ar-Razi Hospital in Salé, Morocco

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Abstract **Original Research Article**

Understanding suicidal behaviors in patients with schizophrenia is essential. This work aims to describe the epidemiological profile of suicidal patients with schizophrenia at Ar-RAZI hospital in Salé. This is a retrospective descriptive and analytical study conducted on a sample of 430 patients. The results show that 67.2% of patients are aged 20 to 40 years, 69.4% are men, 76.7% are single, and 81.2% have no children. In addition, 20% of cases are not in school or have only a primary education, 44.5% have never worked, 49.8% come from a low socioeconomic level, and 41.9% have poor family integration. Our results align with existing literature, although some differences may be related to the specificities of the samples studied. Prevention and management of suicidal behaviors should adopt a multidisciplinary approach.

Keywords: Suicide Attempt, Socio-Demographic Characteristics, Schizophrenia, Suicide Risk.

I- INTRODUCTION

Schizophrenia is a common illness that affects populations around the world. It is ranked as the eighth most common disability among people aged 15 to 44 years according to the World Health Organization (WHO).

Its global prevalence is estimated at around 1% [1], and results from the interaction of various factors, including genetic, biological, psychological and environmental factors.

According to the latest WHO estimates, published in the publication "Suicide worldwide in 2019", each year, more people die by suicide than from HIV, malaria or breast cancer, or from wars or homicides, and was the fourth leading cause of death among people aged 15-29 worldwide in 2019. (WHO) [2].

It is ranked as the eighth most common disability among people aged 15 to 44 according to the WHO.

It is therefore crucial to identify all factors, whether clinical or epidemiological, likely to predict the risk of committing suicide, with the aim of improving prevention.

Objective Of The Study:
Our Work Aims To:

- Identify and analyze the epidemiological characteristics of patients with schizophrenia who have attempted suicide and are hospitalized at Ar Razi Hospital Center.
- Establish a correlation between the different factors and the suicide risk.

II - MATERIALS AND METHODS:

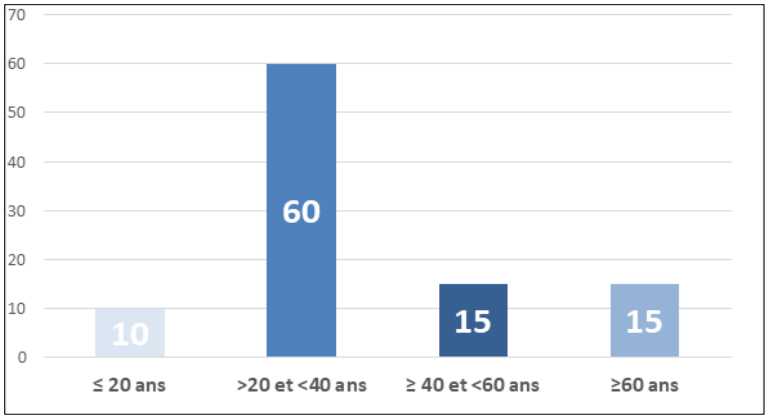
- This descriptive and analytical, retrospective study was carried out within the Ar-RAZI hospital center in Salé over a period of 5 years.
- The total sample included 431 patients.
- The inclusion criteria concerned hospitalized patients suffering from schizophrenia and having made a suicide attempt.
- The following were excluded from the study:
- Patients with confusional syndrome,
- Those who are seriously disorganized or unstable,
- As well as patients who have committed superficial self-mutilations.

- Sociodemographic data were collected from medical records and recorded in a pre-established operating sheet.
- Data entry and analysis were carried out using Microsoft Excel software.
- Descriptive and statistical analyses were carried out using SPSS software.

III - RESULTS

1. Age

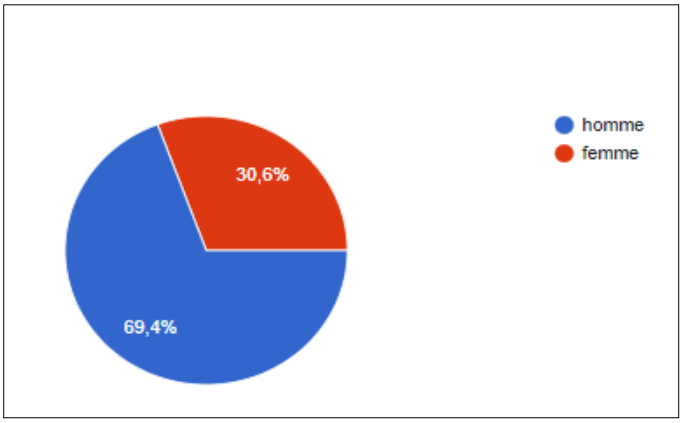
Distribution of Patients by Age Group



The age between 20 and 40 years was the most predominant: with a percentage of 60%.

2- Gender:

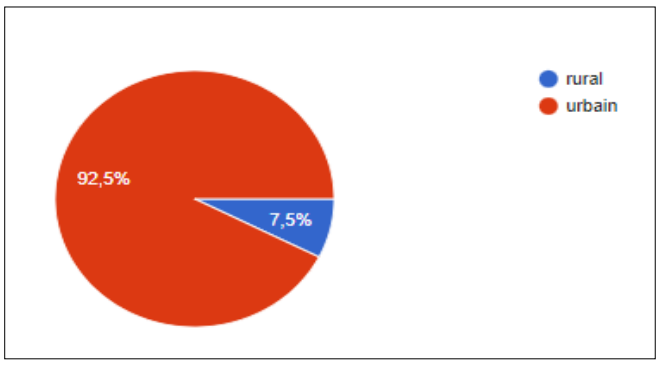
Distribution of patients by gender



The male gender was clearly predominant representing 69% of our population.

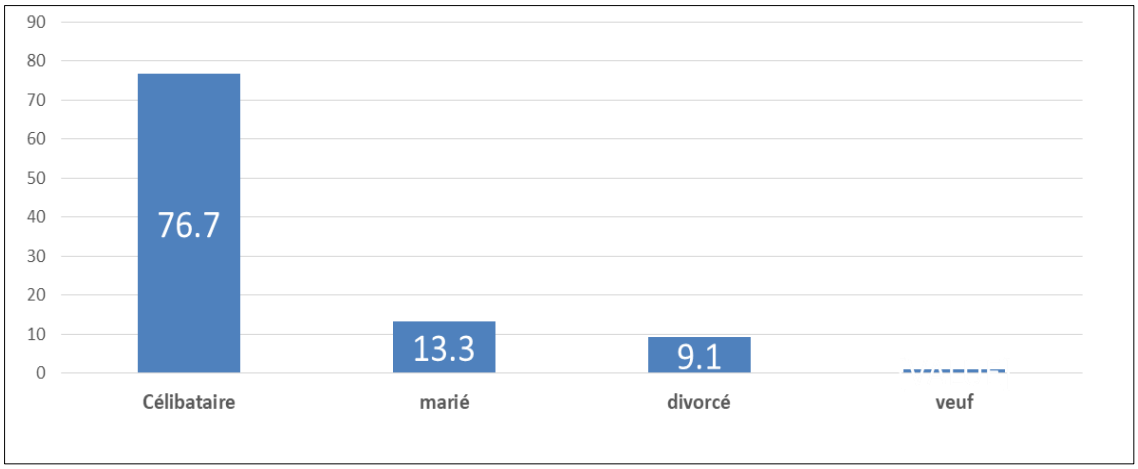
3. Living Environment

Distribution of Cases According to Living Environment



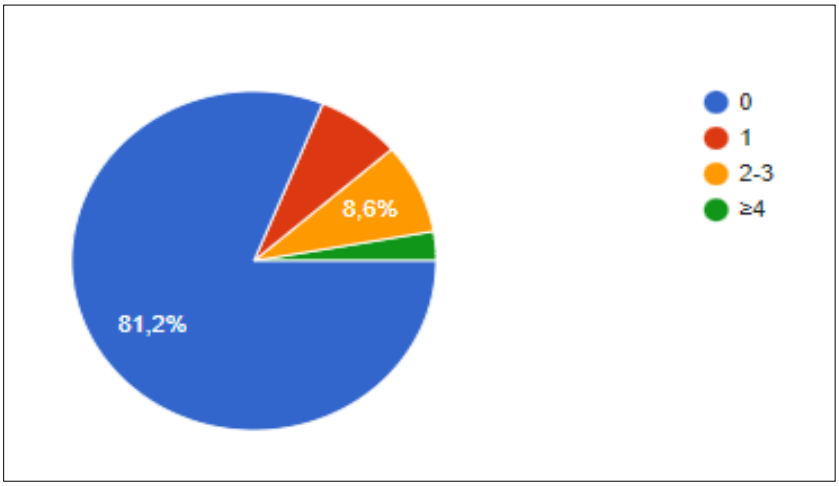
92% of patients resided in urban areas,

4- Marital status
Distribution of Cases According to Marital Status



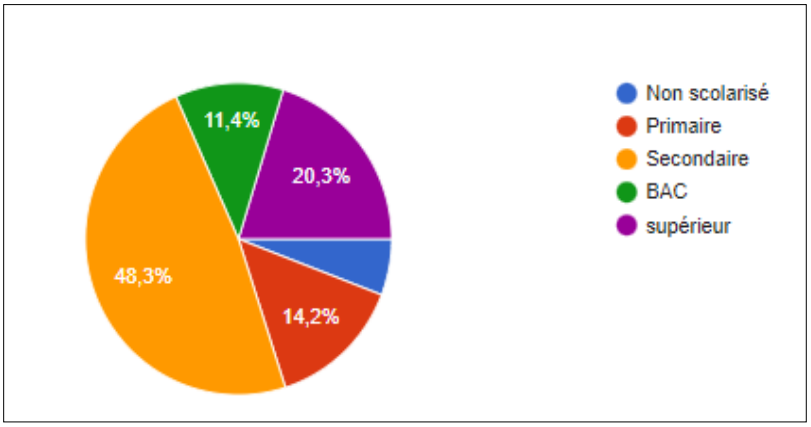
It is noted that the majority of patients were single (76.7%).

5. Number of Children
Distribution of Cases According to the Number of Children



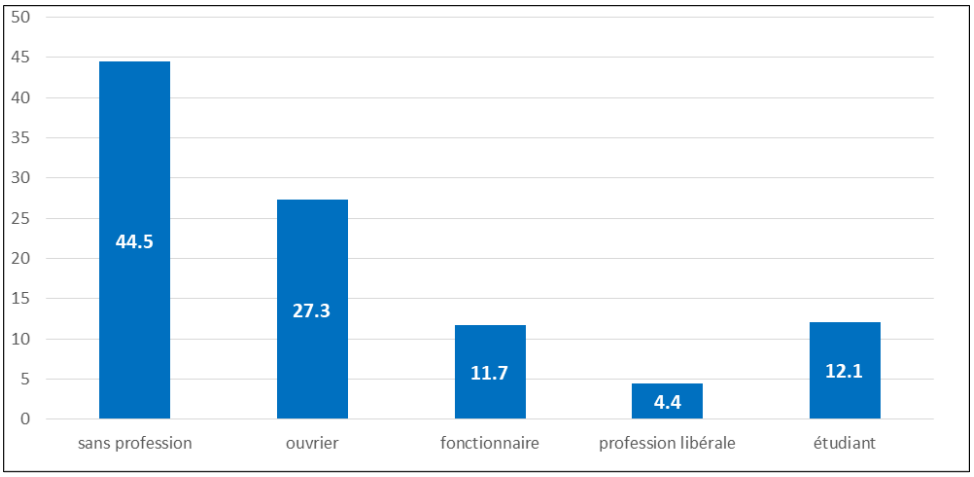
The majority of patients did not have children

6- School Level
Distribution of Cases by School Level



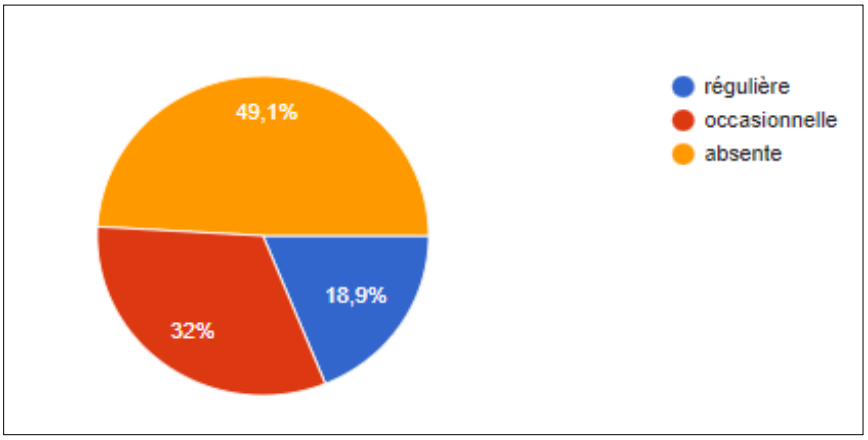
Almost half of the patients had a secondary education level

7-Professional Activity
Distribution of Cases According to Professional Activity



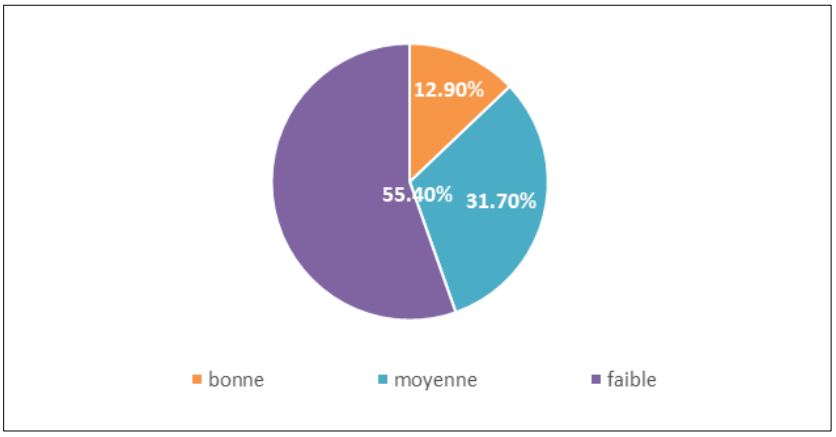
44.5% of patients had never had a profession;

8 - Professional Stability
Distribution of Cases According to Professional Stability



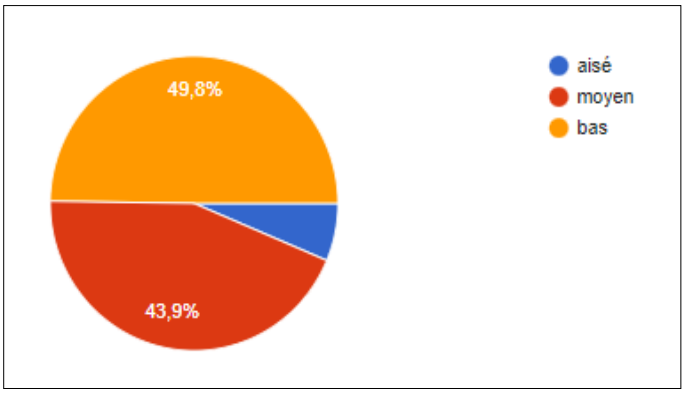
Among patients who had a profession, almost half (49%) were professionally inactive after the onset of the disorder.

9. Job Satisfaction
Distribution of Cases According to Professional Satisfaction



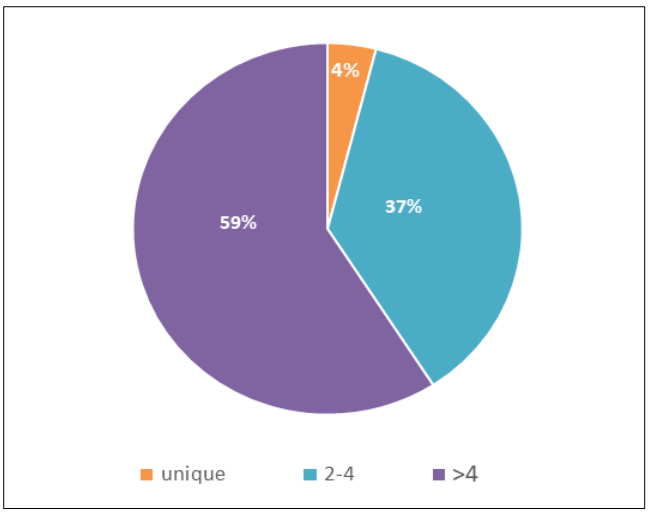
Among patients with a profession, only 12.9% had good job satisfaction

10 - Socio-Economic Level:
Distribution of Cases According to Socio-Economic Level



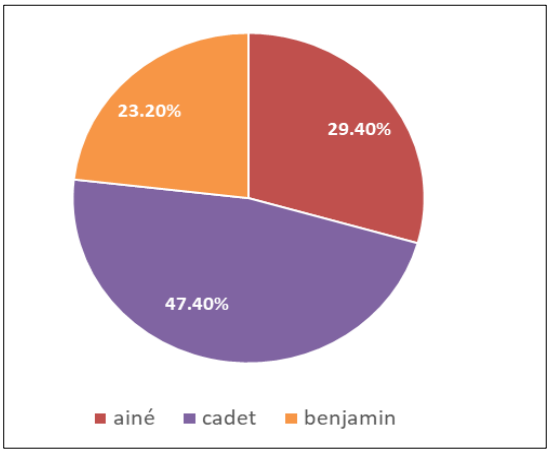
Half of the patients (49.8%) were of low socioeconomic level

11. Number of Siblings
Distribution of Cases by Number of Siblings



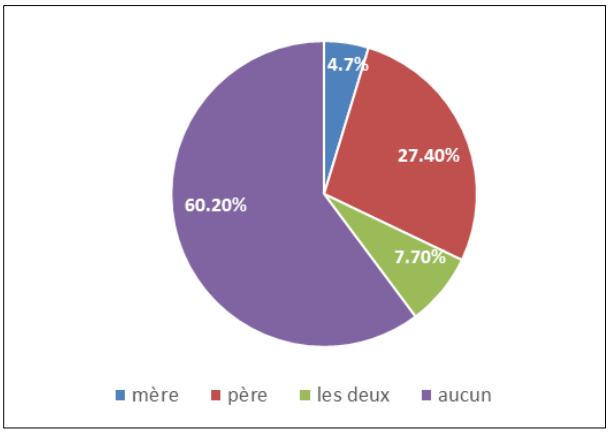
The majority of patients lived in a sibling group of more than 4.

12- Order in the Siblings
Distribution of Cases According to the Order in the Siblings



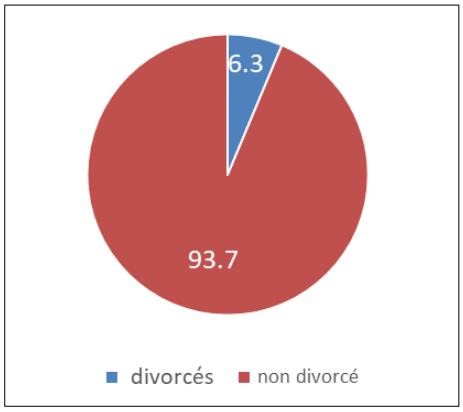
47.4% of patients were cadets.

13. Loss of Parents:
Distribution of Cases According to Loss of Parents



39.8% of patients had lost one or both parents

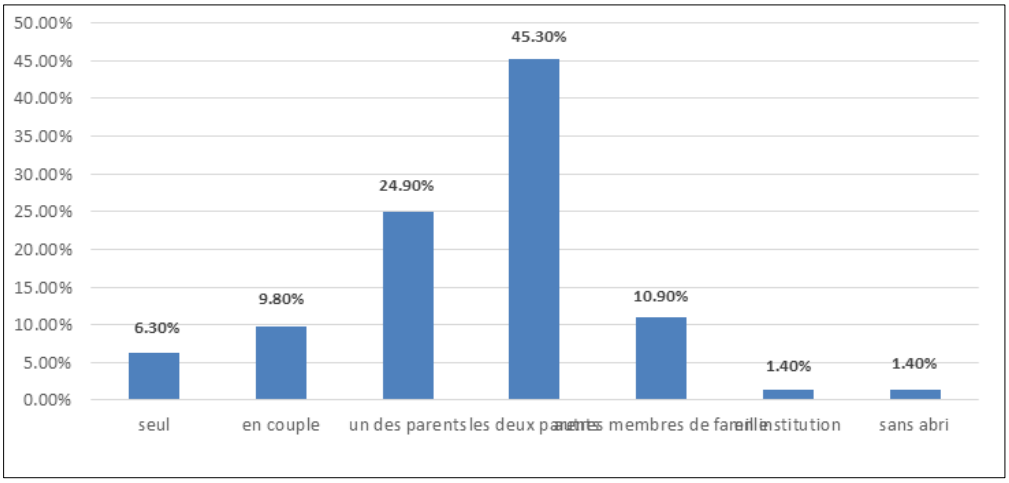
14 - Divorce of Parents
Distribution of Cases According to Parents' Divorce



6.3% of patients had divorced parents;

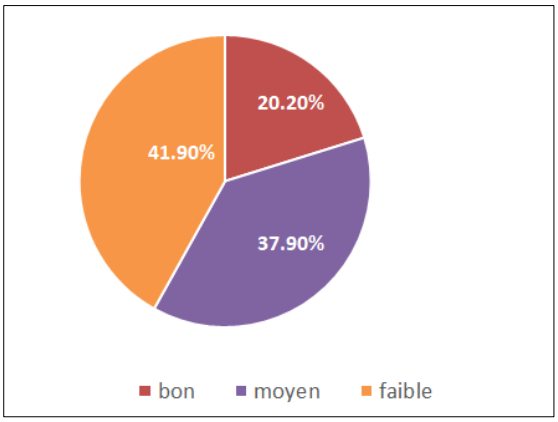
It should be noted that the divorce took place in the majority of cases during their adolescence with a percentage of 44.4%.

15. Social Life
Distribution of Cases According to Social Life



Almost half (45.3%) of the patients lived with both parents.

16- Family Support:
Distribution of Cases According to Family Support



41.9% of patients had poor family support, while 20% had good family support.

VI- DISCUSSION

We will compare our epidemiological data results with literature data.

1. Age, Gender

Features	Our study	Results consistent	Controversial results
Age	20-40 years (67%)	Kelly DL [3] , Muller DJ [4] , Nordentoft M [5] , Copas *et al.*,	-----
Sex	Male gender (69%)	Berak Y. [6], DE Hert, [7] Hawton K, Lester D. [8]	Popovis D and Harkavy-Friedman JM [9,10,11,12,13,14]

Our patients are mainly young adults aged 20 to 40 years old. This is seen in several works such as that of Kelly DL [3] , Muller DJ [4] , Nordentoft M [5] , and others.

Schizophrenia usually manifests at a young age, with a peak in early adulthood. Positive symptoms, as well as those related to mood, are more common in younger patients. As patients age, they develop more negative symptoms and cognitive impairment, reducing their impulsivity, thus decreasing the risk of suicide.

In our study, the male predominance was clear. This result is in agreement with the work of Berak Y., DE Hert, Hawton K, and Lester D [6-18].

However, other studies, such as that of Popovic D., have suggested that women have a higher risk of suicide, or even that there is no significant difference according to Harkavy-Friedman JM [9 -14].

2. Living Environment, Marital Status, Number of Children, School Level, Profession

Features	Our study	Consistent results	Controversial results
Living environment	urban environment (92.5%)	Hirsch and Zaheer (19, 20)	**Hor K and Taylor M.** (21)
Marital status	single (76.7%)	Casadebaig (22) , FentonWS (23) , Siris (24) , Balhara (25) and Roy (26)	-------
Number of children	no children (81.2%)	Muller DJ (27) , Modestin (28) and Shah (29)	------
School level	low level of education	Addington DE and Kim CH (30, 31)	Montross (32) , Roy, (33) ; Drake (34)
Occupation	unemployment	Siris, Roy, Harkavy-Friedman, Fenton WS (24, 25, 26, 35, 36, 23) .	Hunt, Kapur, Webb, Robinson, Burns, Turnbull *et al*., (37)

In our study, subjects who live in an urban environment are clearly predominant. This is consistent with studies conducted by Hirsch and Zaheer [19, 20] . But not that of Hor and Taylor [21]. The majority of patients were single and had no children, this result is consistent with the literature.

Almost the majority of suicidal people in our study had a low level of education, this result is consistent with previous studies. On the other hand, some authors, notably Montross [32], and Drake [38], consider that a high level of education can be a risk factor for suicide, because it allows the patient to become aware of his illness and the multiple difficulties that it causes in his life.

Half of the individuals who attempted suicide were professionally inactive, thus constituting a risk factor, as other studies have reported.

3- Socio-Economic Level, Family Integration, Tragic Loss

Features	Our study	Consistent results	Controversial results
Socio-economic level	an average and low economic level	Grunebaum MF (39), Qin P (40), Johansson LM (41) and Kim MD (42),	Agerbo, Mortensen, Eriksson, Qin and Westergaard-Nielsen (44), Agerbo (43)
Family integration	family residence lack of family support	Chang Q (45), Sha F (46), Bolton C (47), Raymont V (48)	Fenton WS (23), Fleischhacker (49), Hor and Taylor (50), Martin-Fumadó (52), Mauri (51), Montross (32), Radomsky (52) and Hawton (15) ,
Tragic loss	loss of a parent 39.8% divorced parents. 6.3%	Cotton., Drake and Gates (38), Sinyor (53), Foster (54). and Pompili (55).	--------

According to the studies of Johansson LM [41], and Kim MD [42] , it is rather the lower social classes which are linked to suicide, which is consistent with our results.

- a minority of our patients lived alone or were homeless.

These findings are different from the results of several studies; which can be explained by the family structure which is still largely traditional in Morocco.

- In our study, we highlighted the lack of family support as a risk factor; which is consistent with the literature
- Several researchers have highlighted parental loss or divorce as a trigger for suicide, but schizophrenic patients may tend to underreport life events.

2. Analytical Results:

Comparing the two groups according to gender and using the Chi-square test (x2) or Fisher's exact test, we find that there is a statistically significant difference with a P <0.05 in age, marital status, number of children, educational level, professional activity, loss of parents.

Table I: Comparison of different socio-demographic characteristics between the two sexes

features	Workforce (N=430)	Women	Man	P
The age				
≤ 20 years	10%	27 (49.1%)	28 (50.9%)	
>20 and <40 years old	60%	69 (23.7%)	222 (76.28%)	
≥ 40 and <60 years	15%	31 (43.1%)	41 (56.9%)	
≥60 years old	15%	5 (45.45%)	6 (54.54%)	**<0.001**
Living environment				
Urban	92.5%	122 (30.88%)	273 (69.11%)	
Rural	7.5%	9 (29.03%)	22 (70.96%)	0.829
Marital status				
Bachelor	76.7%	86 (26.13%)	243 (73.8%)	
Married	13.3%	27 (47.36%)	30 (52.63%)	
Divorce	9.1%	16 (41.02%)	23 (58.97%)	
Widower	0.9%	3 (75%)	1 (25%)	**<0.001**
Number of children				
0	81.2%	91 (26.14%)	257 (73.85%)	
1	7.4%	11 (34.37%)	21 (65.63%)	
2-3	8.6%	21 (56.76%)	16 (43.24%)	
4 or more	2.8%	9 (75%)	3 (25%)	**<0.001**
School level				
Not in school	5.8%	21 (84%)	4 (16%)	
Primary	14.2%	22 (36.1%)	39 (63.9%)	

Secondary	48.3	47 (22.82%)	159 (77.18%)	
Bac	11.4%	16 (32.66%)	33 (67.34%)	
Superior	20.3%	26 (29.88%)	61 (70.12%)	**<0.001**
Professional activity				
Without profession	44.5%	71 (37.37%)	119 (62.63%)	
Worker	27.3%	21 (17.95%)	96 (82.05%)	
Official	11.7%	13 (26%)	37 (74%)	
Liberal profession	4.4%	2 (10.53%)	17 (89.47%)	
Student	12.1%	25 (48.07%)	27 (51.93%)	**<0.001**
Professional stability				
Absent	49.1%	72 (37.5%)	120 (62.5%)	
Occasional	32%	21 (16.94%)	103 (83.06%)	
Regular	18.9%	18 (24.66%)	55 (75.34%)	**<0.001**
Job satisfaction				
Weak	55.4%	17 (26.56%)	47 (84.37%)	
Average	31.7%	7 (26.92%)	19 (73.07%)	
Good	12.9%	15 (13.39%)	97 (86.60%)	0.059
Socio-economic level				
Down	49.8%	70 (33.18%)	141 (66.82%)	
AVERAGE	43.9%	55 (29.4%)	132 (70.6%)	
Easy	6.3%	5 (18.52%)	22 (81.48%)	0.267
Number of siblings:				
Unique	4%	4 (21.05%)	15 (78.95%)	
2-4	37%	43 (27.74%)	112 (72.26%)	
4 or more	59%	65 (30.95%)	145 (69.05%)	0.139
Loss of parents:				
None	60.2%	72 (27.9%)	186 (72.1%)	
Father	27.4%	36 (30.51%)	82 (69.49%)	
Mother	4.7%	8 (40%)	12 (60%)	
Both	7.7%	16 (48.48%)	17 (51.52%)	0.084
Parents' divorce:				
No	93.7%	122 (30.35%)	280 (69.65%)	
Yes	6.3%	10 (37.03%)	17 (62.97%)	0.466
Social life Alone	6.3%	3 (50%)	3 (50%)	
In a relationship	9.8%	9 (33.33%)	18 (66.67%)	
One of the parents	24.9%	21 (50%)	21 (50%)	
Both parents	45.3%	23 (21.5%)	84 (78.5%)	
Other mber	10.9%	47 (24.23%)	147 (75.77%)	
Institution	1.4%	26 (55.32%)	21 (44.68%)	
Homeless	1.4%	3 (50%)	3 (50%)	**<0.001**
Family integration:				
Weak	41.9%	57 (31.84%)	122 (68.16%)	
Average	37.9%	45 (27.6%)	118 (72.4%)	
Good	20.2%	30 (34.5%)	57 (65.5%)	0.490

Table II: Multivariate analysis between the two groups of patients

Features	**P**	**Odds ratio**	**95% Confidence Interval Lower upper**	
Age				
>20 and <40 years - ≤ 20 years	0.631	1,3628	0.3853	4,820
≥ 40 and <60 years -≤ 20 years	0.762	1,2763	0.2627	6,200
≥60 years -≤ 20 years	0.364	4,3924	0.1794	107,546
Marital status				
Married - Single	0.187	0.2580	0.0345	1,930
Divorced - single	0.328	0.3999	0.0637	2,511
Widowed - single	0.959	0.7653	2,6905	21779,123
Number of children				
1 - 0	0.975	1.0342	0.1295	8,258
[2-3] - 0	0.420	0.4242	0.0528	3,410

4 or more - 0	0.734	0.5927	0.0289	12,170
School level				
Primary – not in school	0.016	15.7860	1.6751	148,768
Secondary – not in school	0.007	21.0009	2.2552	195,562
Baccalaureate - not in school	0.012	22.1991	1.9804	248,841
Higher – not enrolled				
Professional activity				
Occasional - absent	0.026	2.6365	1.1224	6.193
Regular - absent	0.021	3.0659	1.1820	7,952
Loss of parents				
Father - none	0.036	0.4082	0.1764	0.944
Mother - none	0.459	0.5596	0.1202	2.606
Both - None	0.166	0.4192	0.1225	1,434

Using multivariate logistic regression and adjusting for confounding factors we conclude that:

- Lack of professional activity increases the risk of suicide attempts in patients by three times.
- Not attending school increases this risk by 20 times.

V- CONCLUSION

Despite therapeutic progress, suicide represents 9 to 13% of the causes of death in this population. The description of the sociodemographic profiles of suicidal subjects and the identification of risk factors constitute a fundamental issue for the development of care strategies.

Recent research increasingly emphasizes factors that predispose to suicidal recurrence, emphasizing the importance of adequate training for emergency service teams and medical personnel. The establishment of protocols to identify psychiatric disorders, ensure their management, and guarantee appropriate follow-up in all settings appears essential to reduce the risk of repeat suicidal acts.

This calls for a redoubling of efforts, with initiatives such as the integration of psychiatric care within emergency services, the training of health professionals, the simplification of collaboration between the various care services, the creation of detection and prevention cells at the national level, and the involvement of the media and civil society in awareness-raising campaigns.

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