



Relationship Between Body Mass Index and Risk of Depression in Moroccan Adults Case of the Rabat-Sale- Kenitra region

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Article History

Volume 6, Issue Si4, 2024

Received : 04 June 2024

Accepted : 25 June 2024

doi:

[10.48047/AFJBS.6.Si4.2024.3406-3417](https://doi.org/10.48047/AFJBS.6.Si4.2024.3406-3417)

Abstract:

The challenges related to obesity and depression are enormous for people and health systems across the world. These are two major health problems whose relationship has been shown, through multiple studies, to be complex and two-dimensional. Thus, the objective of our study is to determine the relationship between body mass index (BMI) and the risk of depression in Moroccan adults given the lack of data relating to this subject in our context. We analyzed data from the Beck Depression Test Inventory: IDB) among 134 respondents to determine the relationship between body mass index (BMI) and the risk of depression. BMIs were categorized according to international standards (BMI: 18.5–24.9 = normal weight; 25–29.9 = overweight; ≥ 30 = obesity). The distribution of participants according to their BMI reveals that 47.01% are classified as obese, 25.37% are considered overweight while 27.61% are of normal weight. 68% show signs of depression (including 6% who had severe symptoms of depression). A statistically significant correlation was revealed between depression and gender (67.67% of women versus 44% of men). And between depression and low income (76.92% of people having declared an income of less than 1,000 MAD). The relationship between BMI and depression revealed an attributable risk of 22.61%, favoring those classified as being at risk due to their weight. More studies are needed to accurately determine the link between obesity and depression, as well as the importance of this relationship for the prevention and treatment of these two health problems. Given the implications of depression, we recommend that

healthcare professionals assess the risk of depression in their obese

patients before initiating any medical treatment.

Keywords: Obesity; BMI; Depression; Adults; Morocco

INTRODUCTION

Obesity and depression are two major health problems that pose considerable challenges to both individuals and health systems across the world. The interconnection and complexity of the bond that unites them is attracting growing interest in the scientific and medical community. Over the years, multiple studies have highlighted a significant association between obesity and depression, they have also analyzed the exact nature of this relationship which is becoming increasingly clear involving biological, psychological and social interactions. The results obtained from these studies are varied. Some research suggests that a high BMI, particularly in obesity, may be associated with an increased risk of depression. Luppino et al., through a meta-analysis, found bidirectional associations between depression and obesity. Indeed, obese people had a 55% increased risk of developing depression over time, while depressed people had a 58% increased risk of becoming obese (Luppino et al., 2010). Thus, obesity can lead to problems with self-esteem, social stigma, emotional difficulties related to body image, and biochemical changes that can contribute to the development of mood disorders, anxiety disorders and relationship difficulties (Luppino et al., 2010; Garipey et al., 2010; Friedman et al., 2005). Conversely, depression can impact a person's BMI. Through different research, it has been shown that some people with depression may experience big changes in their eating habits, such as an increase in the consumption of foods high in calories and sugars, or a decrease in activity. physical, this can lead to weight gain and an increased risk of obesity (Blaine, 2008). From a metabolic perspective, depression can also influence functional processes in the body, such as the regulation of appetite, fat and glucose metabolism, which can contribute to changes in BMI and body weight (Shelton and Miller, 2010; Milaneschi et al., 2019).

However, other studies have shown no relationship between obesity and depression. In a meta-analysis by de Wit and colleagues, no significant association was found between obesity and depression in the community population (de Wit et al., 2010).

Interestingly, it is important to take into account that the relationship between obesity and depression can be influenced by many factors, and that the results of studies can vary depending on the population studied, the methodology used and other variables.

This article examines the relationship between obesity and depression in Moroccan adults. Additionally, we will explore the importance of this relationship for public health and clinical practice, highlighting avenues for preventing and treating these two interrelated health problems in the most effective way.

MATERIAL AND METHODS

Study location and population

The study was carried out in the Rabat-Salé- Kenitra region at several medical structures (hospital, diagnostic center, health centers), at certain companies as well as 2 sports halls. Our sample is composed of adults of both sexes (n=134).

Sampling methods and measurement tools

Our sampling is horizontal simple random sampling (SRS). The data was collected with the absolute consent of the respondent. Respondents are asked to complete a questionnaire which includes two parts:

- First part is composed of sociodemographic and anthropometric questions
- Second part concerns the items of the questionnaire relating to depression.

Calculation of BMI

To assess the body mass of an adult we used the Body Mass Index (BMI) whose formula is as follows:

$$\text{BMI} = \text{Weight (in kilograms)} / (\text{Height (in meters)} * \text{Height (in meters)})$$

The BMI categories are as follows for adults:

BMI less than 18.5: Underweight

BMI between 18.5 and 24.9: Normal weight

BMI between 25 and 29.9: Overweight

BMI between 30 and 34.9: Class I obesity

BMI between 35 and 39.9: Class II obesity

BMI of 40 or more: Class III obesity (severe obesity).

Beck Depression Questionnaire Short Form Inventory

To confirm or refute the presence of depression among the respondents as well as to assess its degree of severity, we opted for the short Beck questionnaire or the Beck Depression Inventory (BDI). It is a psychometric tool widely used in clinical research on depression. The BDI consists of 21 progressive multiple-item items measuring known symptoms of depression. Each item was evaluated by 4 sentences corresponding to 4 degrees of increasing intensity of a symptom: from 0 to 3, among others: mood, desire to work, appetite, projection into the future, the degree of satisfaction with one's life and that of guilt, the feeling of success or failure, as well as the presence of dark or suicidal ideas...

Subsequently, depression was classified from mild to severe according to the score obtained as follows:

- 0-4: no depression;
- 5-7: mild depression;
- 8-15: moderate depression;
- ≥ 16 : severe depression.

Data analysis

The data was entered on Excel support and after filtration, these data were transposed onto an SPSS sheet. Qualitative characteristics are expressed as frequency and quantitative characteristics are expressed as mean $\pm$ standard deviation. The chi2 test of independence and analysis of variance were applied at an error of 5%.

RESULTS

Sociodemographic characteristics

The table below presents the results relating to the socio-demographic characteristics of the respondents. Indeed, the women surveyed constitute a majority with 62.7% (the female/male sex ratio is 1.68 women for each man). Furthermore, the average age of the respondents is 39.34 ± 1.08 years (minimum age = 18 years and maximum age = 69 years). It is interesting to note that the most common age category within our sample is people under 40, representing 50.74% of the total participants. However, among the people interviewed who had a monthly income of less than 1,000 MAD ($n = 40$), 82.5% of them are women. This observation highlights the marked gender disparity in financial resources. Furthermore, 65.12% come from urban areas and 70% have a level of education that does not exceed high school.

The distribution of participants according to their BMI shows that 27.61% of people have a normal weight, while 25.37% are considered overweight and 47.01% ($n = 63$) are classified as obese.

Table 1: Sociodemographic characteristics of respondents:

VARIABLE	MODALITY	WORKFORCE (NI)	VALID PERCENTAGE
SEX	Women	84	62.7
	Man	50	37.3
PLACE	OF Rural	45	34.9

RESIDENCE	Urban	84	65.1
ACADEMIC LEVEL ACHIEVED	Fundamental	47	36.2
	Middle school or high school	44	33.8
	Superior	39	30.0
MONTHLY INCOME IN MAD	<1000	40	30.3
	Between 1000 and 3000	48	36.4
	Between 3000 and 5000	11	8.3
	Between 5000 and 10000	4	3.0
	>10000	29	22.0
BMI (WEIGHT/HEIGHT²)	Normal build	37	27.6
	Overweight	34	25.4
	Obese	63	47.0
AGE CLASS IN YEAR	1	68	50.7
	2	38	28.4
	3	22	16.4
	4	6	4.5

Study of the Beck or Beck Depression test Inventory (IDB)

Frequency of responses to the different propositions by item

The measurement of Internal Consistency Reliability shows that the Cronbach index is 0.72. The total score is obtained by adding the scores corresponding to each question. Furthermore, the average score is 6.57 ± 0.30 , with a minimum score of 1 and a maximum score of 16 points. The distribution of scores was very heterogeneous with a dispersion coefficient of more than 50%. Table 2 displays the frequency of responses to different requests for each item. The data presented in this table proves that:

All of the participants, i.e. 100%, do not consider harming themselves, while 92.5% have no feeling of guilt. Of these respondents, an overwhelming majority of 88.08% said they did not feel any sense of disappointment towards them. Furthermore, 76.1% showed no loss of interest in other people, while 73.1% recognized the absence of any perception of failure in their existence. Approximately 50% to 70% of participants reported that they were able to make decisions with the same ease as before and that they experienced no change in their perceived physical appearance, continuing to perceive themselves as as attractive as ever. Additionally, their appetite remained unchanged, showing no signs of diminishing. The third category includes items for which the response rate is less than 50%. These specific indicators are: I do not feel significantly sad (30.6%), I am not particularly discouraged or pessimistic about the future (47.8%), I do not feel a sense of sadness notable dissatisfaction (26.9%), I continue to perform my tasks with the same ease as before (43.3%) and I do not feel more tired than usual (44%). Finally, 8 respondents think they hate themselves, while only one person responded that they are so sad and unhappy that they can't stand it.

Thus, the aforementioned results elucidate the distribution of responses among the participants, shedding light on their perspectives and emotional states in relation to the different questions presented. The comprehensive analysis of the data highlights the prevalence of certain attitudes and feelings, while also highlighting the range of experiences reported by those surveyed. This information contributes to a better understanding of individuals' mental and emotional well-being, providing valuable information for further research and intervention strategies. The statistical breakdown presented in Table 2 provides a

valuable resource for researchers, clinicians, and public policy makers, allowing them to identify patterns and develop targeted approaches to meet the diverse needs of the study population.

Table 2: Percentage of people responding to a proposal for each series:

Item	PROPOSAL 1 Neither(%)	PROPOSAL 2 Neither(%)	PROPOSAL 3 Neither(%)	PROPOSAL 4 Neither(%)
D1	41(30.6)	53(39.6)	39(29.1)	1(0.7)
D2	64(47.8)	61(45.5)	9(6.7)	
D3	98(73.1)	36(26.9)		
D4	36(26.9)	94(70.1)	4(3.0)	
D5	124(92.5)8	2(1.5)	8(6)	
D6	119(88.8)	6(4.5)	1(0.7)	8(6.0)
D7	134(100.0)			
D 8	102(76.1)	24(17.9)	8(6.0)	
D9	90(67.2)	38(28.4)	6(4.5)	
D10	82(61.2)	35(26.1)	17(12.7)	
D11	58(43.3)	49(36.6)	27(20.1)	
D12	59(44.0)	51(38.1)	23(17.2)	
D13	68(50.7)	43(32.1)	23(17.2)	

ni :Absolute frequency

D: Beck test item

Correlation between the 13 items

Table 2 illustrates the results of the correlations between the items in pairs. It emerges from this table that:

- Item 6 (I am not disappointed in myself) is positively correlated with items 2 (I am not particularly discouraged or pessimistic about the future), 5 (I do not feel guilty), 10 (I do not feel uglier than before), 11 (I work as easily as before), 12 (I am not more tired than usual) and 13 (My appetite is still also good).
- Item 8 (I have not lost interest in other people) is positively correlated with item 9 (I am able to make up my mind as easily as usual).

When I have no feelings of disappointment or dissatisfaction with myself, I am also not prone to discouragement or pessimism about the future. Furthermore, no guilt weighs on my conscience. Additionally, I don't feel like my physical appearance is any less attractive than it was before, and I don't experience any increased levels of fatigue compared to my usual state. However, my appetite remains unchanged and continues to be as robust as ever, without any notable fluctuations. Conversely, when I have lost no interest or enthusiasm for engaging with others, I find that my ability to make decisions and draw conclusions is as easy as it has always been. It remains to be noted that Item 7 does not appear because all respondents answered the same way.

Table 3: Multiple correlation between the 12 items:

	D1	D2	D3	D4	D5	D6	D8	D9	D10	D11	D12	D13
D1	1.00	0.18 4 *	0.02	0.10	0.03	0.11	0.02	0.03	0.15	0.24 7 **	0.04	.188 *
		0.03	0.81	0.27	0.76	0.19	0.85	0.70	0.09	0.00	0.69	0.03
D2	0.18 4 *	1.00	-	0.12	0.24	0.21	-0.10	-0.07	0.09	0.15	0.07	0.11
			0.01		9 **	4 *						
		0.03	0.94	0.17	0.00	0.01	0.26	0.39	0.29	0.09	0.44	0.22
D3	0.02	-0.01	1.00	0.16	-0.14	-0.13	0.07	0.08	-0.13	-0.10	-0.07	0.02
	0.81	0.94		0.07	0.11	0.15	0.45	0.38	0.13	0.24	0.39	0.78
D4	0.10	0.12	0.16	1.00	0.07	0.16	-0.06	-0.08	0.14	0.05	0.07	0.03
	0.27	0.17	0.07		0.44	0.07	0.46	0.35	0.11	0.55	0.43	0.77
D5	0.03	0.24 9 **	-	0.07	1.00	0.82	0.04	0.02	0.17	0.08	0.12	0.19 0 *
			0.14			1 **			0 *			0 *
	0.76	0.00	0.11	0.44		0.00	0.64	0.79	0.05	0.35	0.16	0.03
D6	0.11	.214 *	-	0.16	.821 **	1.00	0.10	0.11	0.29 0 **	0.20 2 *	.286 **	0.31 6 **
			0.13									
	0.19	0.01	0.15	0.07	0.00		0.27	0.22	0.00	0.02	0.00	0.00
D8	0.02	-0.10	0.07	-	0.04	0.10	1.00	0.75 7 **	-0.10	-0.06	0.07	0.02
			0.06									
	0.85	0.26	0.45	0.46	0.64	0.27		0.00	0.24	0.46	0.44	0.78
D9	0.03	-0.07	0.08	-	0.02	0.11	0.75 7 **	1.00	-0.01	0.01	0.08	0.14
			0.08									
	0.70	0.39	0.38	0.35	0.79	0.22	0.00		0.87	0.91	0.35	0.12
D10	0.15	0.09	-	0.14	0.17	0.29	-0.10	-0.01	1.00	0.35 8 **	0.17 8 *	0.35 2 **
			0.13		0 *	0 **						
	0.09	0.29	0.13	0.11	0.05	0.00	0.24	0.87		0.00	0.04	0.00
D11	0.24 7 **	0.15	-	0.05	0.08	0.20	-0.06	0.01	0.35 8 **	1.00	.288 **	0.45 0 **
			0.10			2 *						
	0.00	0.09	0.24	0.55	0.35	0.02	0.46	0.91	0.00		0.00	0.00
D12	0.04	0.07	-	0.07	0.12	0.28	0.07	0.08	0.17 8 *	0.28 8 **	1.00	0.29 5 **
			0.07			6 **						
	0.69	0.44	0.39	0.43	0.16	0.00	0.44	0.35	0.04	0.00		0.00
D13	0.18 8 *	0.11	0.02	0.03	.190 *	0.31 6 **	0.02	0.14	.352 **	0.45 0 **	0.29 5 **	1.00
	0.03	0.22	0.78	0.77	0.03	0.00	0.78	0.12	0.00	0.00	0.00	

*The correlation is significant at the 0.05 level (two-tailed). **The correlation is significant at the 0.01 level (two-tailed).

Distribution of respondents according to the stage of depression

The data presented in Figure 1 provides an overview of the distribution of respondents based on their level of depression. It is evident that a significant proportion, namely 68%, show signs of depression, including 6% who presented serious symptoms of depression. And this compared to 32% who do not suffer from depression. It should also be noted that 32% of respondents presented a mild form of depressive disorder, while 30% presented a more moderate manifestation of this mental health disorder. These results highlighted the diversity of depressive experiences experienced by the people interviewed, highlighting the need to put in place interventions adapted to the specific needs of each category of people.

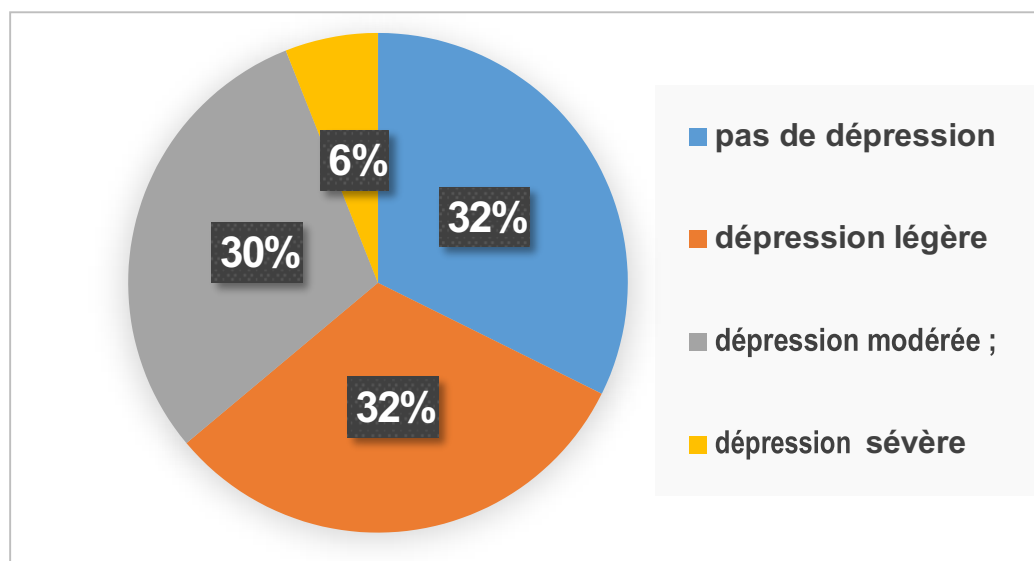


Figure 1: Distribution of respondents according to stages of depression.

Principal component analysis

Figure 2 shows that the two components in isolation absorb 52% of the total variation. It should be noted that upon closer examination of the component matrix after rotation, a pattern emerges: component 1 can be mainly attributed to items 5 (in particular, the statement "I don't feel guilty", which has a correlation coefficient of 0.791) and 6 (i.e., the statement "I am not disappointed in myself," which has a correlation coefficient of 0.853). Conversely, we can deduce that component 2 is mainly shaped by elements 8 (more precisely, the statement "I did not lose interest in others", which has a correlation coefficient of 0.768) and 9 (in particular, the statement "I am able to make up my mind as easily as usual", which has a correlation coefficient of 0.716). It is important to note that this relationship is reciprocal in nature, as components 1 and 2 define each other. Furthermore, it is essential to emphasize the complete independence of these two newly identified factors.

When considering the projection of respondents based on their level of depression and their corresponding item responses, a distinct contrast emerges between individuals suffering from varying degrees of depression. People who have succumbed to severe depression tend to experience feelings of guilt and disappointment, in stark contrast to people who have never experienced such emotions. Conversely, people who have experienced mild or moderate levels of depression are characterized by a noticeable loss of interest in others and are able to make decisions easily, as they typically did under normal circumstances.

In conclusion, the results of this study shed light on the complex relationship between the identified components and the levels of depression experienced by individuals. The distinct trends observed in the component matrix and the projection of respondents highlight the different emotional states and cognitive abilities of individuals at different levels of depression. These findings provide valuable insight into the complex nature of depression and highlight the importance of understanding the multiple factors that contribute to its manifestation.

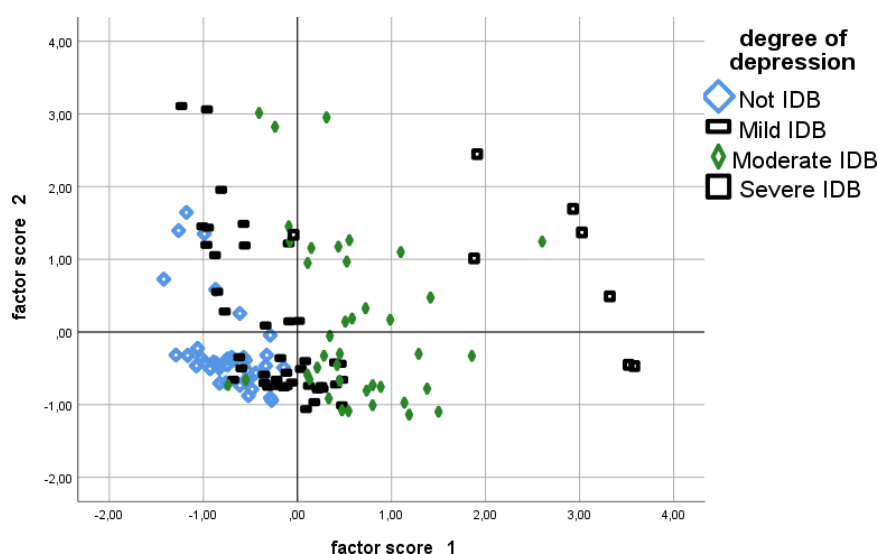


Figure 2: Projection of the respondents' scores according to the degree of depression.

Study of determining factors

To carry out this study, we grouped the three categories of people who showed depression in the same class and the control group. Table 3 presents the results of the chi2 test of independence between the depressive disorder trait and certain sociodemographic parameters. Indeed, three factors showed a significant link with depressive disorder, namely sex ($\chi^2=20.52$; $p<0.000$), social level (7.07 $p<0.05$) and BMI (6.24 ; $p<0.012$). Moreover, The prevalence of people exhibiting symptoms indicative of depression among the female population stands at 67.67%, while the corresponding rate among their male counterparts is 44%. Upon further examination of the data, it becomes apparent that the attributable risk is actually 37.93%, which clearly favors women. This suggests that women are significantly more prone to depressive episodes than men. Additionally, the odds ratio, which serves as a measure of the association, is calculated at 5.77, supporting the idea that women are more likely to suffer from depression. It should be noted that the confidence interval, which provides an estimate of the precision of this association, ranges from 2.62 to 12.72.

If we consider the rate of people presenting signs of depression in specific income brackets, it turns out that 76.92% of people who declared an income less than 1,000 MAD present depressive symptoms. On the other hand, among those surveyed who confirmed a monthly income between 1,000 and 3,000, the rate of people suffering from depression was 64.58%. These data highlight the potential influence of income on mental health, suggesting that people with lower incomes may be more susceptible to depressive symptoms.

Regarding the relationship between body mass index (BMI) and depressive disorders, it is observed that people of normal build have a prevalence of depression of 51.35%. In contrast, overweight or obese people have a significantly higher prevalence of depressive symptoms, reaching 73.96%. This indicates that people who are overweight or obese are more likely to experience depressive episodes. In addition, the attributable risk is calculated at 22.61%, in favor of people classified as being at risk due to their weight. The odds ratio, which measures the strength of the association, is determined to be 0.37. Additionally, the confidence interval, between 0.17 and 0.81, provides an estimate of the precision of this association.

In summary, the prevalence of depression in women is significantly higher than in men, with women at greater risk of experiencing depressive symptoms. On the other hand, income appears to impact the likelihood of people developing depression, with people with lower

incomes experiencing higher rates of depressive symptoms. Additionally, people who are overweight or obese have a higher prevalence of depression than those with a normal BMI.

Table 5: Chi2 test of independence between depressive disorder and sociodemographic characteristics.

Variable	Modality	Band		Total	Chi2 value) (p
		Witness	IDB+		
Sex	Women	15	68	83	20.52*** (p<0.000)
	Man	28	22	50	
Total		43	90	133	
Place of residence	Rural	12	33	45	1.19 (p<0.28)
	Urban	30	53	83	
Total		42	86	128	
Social level	<1000 MAD	9	30	39	7.07* (p<0.05)
	Between 1000 and 3000 MAD	17	31	48	
	Between 3000 and 5000 MAD	3	8	11	
	Between 5000 and 10000 MAD	0	4	4	
	>10000 MAD	14	15	29	
Total		43	88	131	
BMI	Normal build	18	19	37	6.24** (p<0.012)
	Overweight or obese	25	71	96	
Total		43	90	133	
Age	1.00	19	48	67	1.29 (p<0.73)
	2.00	13	25	38	
	3.00	9	13	22	
	4.00	2	4	6	
Total		43	90	133	

*: significant difference at 5%; *** significant difference at 1 per thousand

DISCUSSION

It was found through the analysis of the data collected that women are more likely to suffer from depression than men. This observation has been confirmed by several studies, notably a meta-analysis carried out by Léon et al through longitudinal studies on the link of overweight and obesity with depression and which revealed that depressive disorders are twice as important in women than in men (1). Another study carried out in Belgium also revealed that the prevalence of depression is twice as high in women (2). The same conclusion was drawn from a Canadian study confirming marked differences in the prevalence of major depression between the two sexes, favoring women (3). Along the same lines, a Dutch survey including 1,115 participants noted an increased prevalence of depression in women (24.6% versus 17.3%; $p = 0.009$) (4). Also 2 studies carried out respectively in Spain and Germany established the same increased tropism of the female gender for depression (5) (6).

Thus the present studies have shed light on a common epidemiological finding according to which there is a preponderance of depression in the female gender compared to the male gender. This finding has made it possible to better push epidemiological studies to analyze this difference and identify the biological and socio-cultural aspects of mood disorders in women in order to better prevent and treat them.

On the other hand, our study highlighted a statistically significant relationship between socioeconomic level and depression, which relationship has been reported by several studies, notably one carried out in the psychiatry department "A" at the Sfax University Hospital in Tunisia including 302 women. who concluded that low socioeconomic level constitutes a major risk factor for depression (7). A second study carried out by the same university hospital showed that low socio-economic level was identified as a risk factor for depression in elderly subjects

(8). Also, another Belgian study which carried out a systematic annual evaluation by interview for 7 consecutive years of a representative sample of 11,909 people revealed that a lower socio-economic status was associated with a higher prevalence of depression (9). In France, the GAZEL study, which followed a community sample of 12,650 individuals for 13 years, concluded that: "participants at intermediate and lower professional levels were significantly more likely than those at high levels to have a trajectory of unfavorable depression and suffer from persistent depression" (10).

Therefore, it is essential not to neglect the importance of socioeconomic factors in the occurrence of depressive disorders. This observation would surely help to develop more relevant preventive and therapeutic measures to prevent the damaging consequences of depression. This prevention requires screening which could be carried out very early by identifying people at higher risk who should be promoted in terms of their mental health.

Concerning the relationship between body mass index (BMI) and depressive disorders, our study shows that overweight or obese people have a significantly higher prevalence of depressive symptoms than those of normal build with an attributable risk of 22.61%, in favor of people classified as being at risk because of their weight. This link between body mass index (BMI) and depression has been widely studied in the literature. Thus, numerous studies and meta-analyses have found that obese and overweight people are more at risk of suffering from depression compared to those with a normal BMI (11). The same conclusion was drawn from a study published by the journal *Diabetes & Metabolism* which revealed that overweight or obese subjects are at risk of developing depressive mood disorders, and of having increased perception of stress (12, 13).

It should be emphasized that BMI above normal does not alone explain depression, it is rather a multifactorial pathology that it is necessary to understand the different factors that contribute to it in order to develop solutions. effective prevention and treatment strategies.

CONCLUSION

Although the relationship between BMI and depression is complex and multifactorial, scientific evidence suggests that there is a significant association between the two. This understanding may be important for the development of integrated prevention and treatment strategies for these two major public health problems.

Conflicts of Interest

The authors declared no conflicts of interest.

Acknowledgments

Grateful acknowledgments to the volunteers who participated in this research work for their consent, time and energy and to all persons who aided to make this study successful.

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Questionnaire abrégé de Beck (Beck Depression Inventory) :

Chaque item est constitué de 4 phrases correspondant à 4 degrés d'intensité croissante d'un symptôme :

de 0 à 3.

1/ 0 : Je ne me sens pas triste.

1 : Je me sens cafardeux ou triste.

2 : Je me sens tout le temps cafardeux ou triste, et je n'arrive pas à en sortir.

3 : Je suis si triste et malheureux, que je ne peux pas le supporter.

2/ 0 : Je ne suis pas particulièrement découragé, ni pessimiste au sujet de l'avenir.

1 : J'ai un sentiment de découragement au sujet de l'avenir.

2 : Pour mon avenir, je n'ai aucun motif d'espérer.

3 : Je sens qu'il n'y a aucun espoir pour mon avenir, et que la situation ne peut s'améliorer.

3/ 0 : Je n'ai aucun sentiment d'échec de ma vie.

1 : J'ai l'impression que j'ai échoué dans ma vie plus que la plupart des gens.

2 : Quand je regarde ma vie passée, tout ce que j'y découvre n'est qu'échecs.

3 : J'ai un sentiment d'échec complet dans toute ma vie personnelle (dans mes relations avec mes

parents, mon mari, ma femme, mes enfants).

4/ 0 : Je ne me sens pas particulièrement insatisfait.

1 : Je ne sais pas profiter agréablement des circonstances.

2 : Je ne tire plus aucune satisfaction de quoi que ce soit.

3 : Je suis mécontent de tout.

5/ 0 : Je ne me sens pas coupable.

1 : Je me sens mauvais ou indigne une bonne partie du temps.

2 : Je me sens coupable.

3 : Je me juge très mauvais, et j'ai l'impression que je ne vauds rien.

6/ 0 : Je ne suis pas déçu par moi-même.

1 : Je suis déçu par moi-même.

2 : Je me dégoûte moi-même.

3 : Je me hais.

7/ 0 : Je ne pense pas à me faire du mal.

1 : Je pense que la mort me libérerait.

2 : J'ai des plans précis pour me suicider.

3 : Si je le pouvais, je me tuerais.

8/

0 : Je n'ai pas perdu l'intérêt pour les autres gens.

1 : Maintenant je m'intéresse moins aux autres gens qu'autrefois.

2 : J'ai perdu tout l'intérêt que je portais aux gens et j'ai peu de sentiments pour eux.

3 : J'ai perdu tout l'intérêt pour les autres, et ils m'indiffèrent totalement.

9/

0 : Je suis capable de me décider aussi facilement que de coutume.

1 : J'essaie de ne pas avoir à prendre de décisions.

2 : J'ai de grandes difficultés à prendre des décisions.

3 : Je ne suis plus capable de prendre la moindre décision.

10/

0 : Je n'ai pas le sentiment d'être plus laid qu'avant.

1 : J'ai peur de paraître vieux ou disgracieux.

2 : J'ai l'impression qu'il y a un changement permanent dans mon apparence physique, qui me fait paraître disgracieux.

3 : J'ai l'impression d'être laid et repoussant.

11/

0 : Je travaille aussi facilement qu'auparavant.

1 : Il me faut faire un effort supplémentaire pour commencer à faire quelque chose.

2 : Il faut que je fasse un très grand effort pour faire quoi que ce soit.

3 : Je suis incapable de faire le moindre travail.

12/

0 : Je ne suis pas plus fatigué que d'habitude.

1 : Je suis fatigué plus facilement que d'habitude.

2 : Faire quoi que ce soit me fatigue.

3 : Je suis incapable de faire le moindre travail.

13/

0 : Mon appétit est toujours aussi bon.

1 : Mon appétit n'est pas aussi bon que d'habitude.

2 : Mon appétit est beaucoup moins bon maintenant.

3 : Je n'ai plus du tout d'appétit.

The authors would to gratefully thank the volunteers who participated in the study their parents, their teachers, health workers, local authorities, and all persons who aided to make work research successful.

Conflicts of Interest

+e authors declared no conflicts of interest.

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Acknowledgments

Special acknowledgments to the respondents of this study, to health workers, local authorities, and to all persons who contributed, directly or indirectly, to the success of this work.

Acknowledgement

The authors wish to thank kindly all the participants in this study for their consent, time and energy. They also thank the staff of the Nutrition Unit, Hygiene and Collectivity Medicine Ward at the Military Hospital of Instruction Mohammed 5th (M.H.I.M.5, Rabat-Morocco) for their assistance and support.