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Sexual Assault and Its Psychopathological Repercussions in the Life of Female Students in Northeastern Benin (2023)

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Abstract

Objective: The aim of the present study was to investigate the psychic repercussions of sexual assault among female students in Parakou in 2023. **Methods:** Descriptive cross-sectional study conducted from December 2022 to July 2023 among all students at the University of Parakou. The sampling technique was stratified non-proportional at two levels. The dependent variable was self-reported sexual assault. The psychopathological repercussions linked to sexual assault and explored in these students were: post-traumatic stress disorder assessed with the Post Traumatic Stress Disorder Checklist-5 (PCL-5) scale; and current depression screened with the Patient Health Questionnaire-9 (PHQ-9) scale. **Results:** A total of 376 female students from the University of Parakou meeting the inclusion criteria were surveyed. The average age of the subjects surveyed was 20.56 ± 2.46 years, with extremes of 16 and 32 years. A predominance of subjects under 25 was observed. The prevalence of sexual assault among female students at the University of Parakou was 10.63%. The types of aggression suffered were mostly rape (18 people; 45%) and sexual touching (16 people; 40%), and the aggressors were mainly friends/boyfriends (13; 32.5%), family members (12; 30.0%) and people from the house/neighborhood (9; 22.5%). Psychological repercussions included

depression in 72.5% (29) of cases, with mild depression in 30% (12), moderate depression in 37.5% (15) and severe depression in 5% (2). Anxiety disorders were present in 27.50% (11) of victims. The risk factors associated with sexual assault in these students were gravidity (p = 0.014; OR = 15.32), unhappy life events (p = 0.01; OR = 17.24), and age of first sexual intercourse (p = 0.016; OR = 4.608). **Conclusion:** One in ten female students in Parakou has been sexually assaulted. Once again, preventive action through effective sex education is a means of fighting the problem that should be prioritized for every girl and boy from an early age. Psychological support by specialists should be offered to any victim discovered without delay. Communication on the subject should be multiplied in all family and academic educational environments, from the lowest to the highest levels.

Keywords

Sexual Assault, Psychopathological Repercussions, Benin, 2023

1. Introduction

According to the World Health Organization (WHO), around 20% of women have been victims of sexual assault [1]. Several studies have tackled the issue of sexual assault from different angles, such as in the United States, where at least one in five women undergoes sexual violence or assault during her years of study [2]. Prevalence studies carried out in Nepal and Quebec put the figure at 46% in 2012 and 10.3% in 2018 respectively, with a predominance of female victims [3] [4]. In Africa, the prevalence of female student victims of sexual assault was 0.84% in 2016 at the University of Sokoto in Nigeria and 2.6% in Congo Brazzaville, with a predominance of 98% female and 2% male, *i.e.* a sex ratio of 0.02 [5] [6]. Studies also show the extent of the phenomenon among women seen in consultation in other African countries, with a frequency of 2% in Mali in 2014 and 4.37% in Lomé in 2013, although these figures are still underestimated [7] [8]. In Benin, more precisely in Parakou, a study by Akanni *et al.* in 2019 reported a prevalence of 10.63% of student victims of sexual harassment at the University of Parakou's Faculty of Medicine [9].

The most damning feature of sexual assaults remains their repercussions. They are multiple and can be particularly traumatic, ranging from physical injuries to long-term psychopathological and social repercussions. Psychopathological and social repercussions thus include a variety of mental health problems, such as post-traumatic stress disorder, anxiety, depression, suicidal ideation, eating disorders, stigmatization and even discrimination, considerably compromising social well-being, intimate relationships, professional life and self-esteem [10] [11]. In Brazil in 2016, Mondin *et al.* found a 29.2% risk of suicide, 24.4% of depressive episode, 13.9% of mixed episode and 3.1% of (hypo)manic episode among individuals who had suffered sexual violence [12]. There are several fac-

tors behind the rise in the number of sexual assaults worldwide. Age, female gender and low socio-economic status are among the most common associated factors, especially in schools [13] [14]. Several studies have been carried out to this effect, but very few have addressed the psychopathological and social repercussions on victims, hence the choice of conducting the present study, which was initiated as part of a doctorate in basic medical studies.

2. Study Framework and Methods

2.1. Population and Procedures

Descriptive cross-sectional study conducted from December 2022 to July 2023 in northeastern Benin. The study population consisted of all female students at the University of Parakou. The sample size was calculated using Schwartz's formula, taking as a reference a study conducted in Mali where the prevalence of sexual assault was 2%. The minimum sample size thus calculated was 188 female students. The sampling technique was initially a non-proportional stratified convenience sampling at the level of the study entities of the University of Parakou (Faculty of Agronomy; Faculty of Law and Political Science; Faculty of Economics and Management; Faculty of Medicine; University Institute of Technology ; Faculty of Letters, Arts and Human Sciences; National training school for senior health technicians and epidemiological surveillance; National School of Statistics, Population and Demography; Nursing and obstetrics training institute) made up of students at various levels of study. In a second stage, simple random sampling was used to obtain the number of female students. All female students regularly enrolled at the University of Parakou and having given their free and informed consent were included in the study.

2.2. Measurements

A digitized survey form was used, containing information on socio-demographic data, clinical data and standardized scales.

The dependent variable was the existence of sexual assault (declarative variable) among female students at the University of Parakou. The psychopathological repercussions linked to sexual assault and explored in these students were: post-traumatic stress disorder assessed with the Post Traumatic Stress Disorder Checklist-5 (PCL-5) scale and current depression screened with the Patient Health Questionnaire-9 (PHQ-9) scale.

Post-Traumatic Stress Disorder Checklist-5 (PCL-5): This is a measurement tool that assesses symptoms of post-traumatic stress disorder. Created in 2013 by Weathers *et al.* [15] of the National PTSD Symptom Center, it was translated into French by Alain Brunet *et al.* and validated in 2016. It consists of 20 items that assess nightmares, flashbacks, avoidance, hypervigilance and physical and emotional reactions in relation to the memory of the trauma. Respondents are asked to rate how much they have been bothered by each of the 20 items over the past month on a 05-point scale (Likert scale ranging from 0 to 4). Items are

added together to give a total score ranging from 0 to 80. A threshold score of 44 was taken as significant.

Patient Health Questionnaire-9 (PHQ-9)

This is a brief tool used to diagnose and measure the severity of depression. The PHQ-9 is shorter than many other depression screening instruments and can be self-administered. The PHQ-9 includes the two cardinal signs of depression: anhedonia and depressed mood. The PHQ-9 was developed by Robert L. Spitzer, Janet W.B. Williams and Kurt Kroenke in 1999 [16]. Each item is rated on a severity scale ranging from 0 to 3, where the respondent is asked to rate how often each symptom has occurred in the last two weeks (0-not at all; 1-few days; 2-more than half the days or 3-almost every day), producing a total score ranging from 0 to 27. The respondent is also asked to what extent the identified problems have interfered with work, home or social life. However, responses to this item are not scored or included in the total score, which is interpreted as follows:

- 1 - 4: minimal depression
- 5 - 9: mild depression
- 10 - 14: moderate depression
- 15 - 19: moderately severe depression
- 20 - 27: severe depression

The Hospital Anxiety and Depression scale (HAD) [17] is a screening instrument for anxiety and depressive disorders. It was developed by Dr Phillip Snaith and Antony Zigmond in 1983 and translated in 1985 by JP Lépine et *al.* It comprises 14 items scored from 0 to 3. Seven (07) items relate to anxiety (total A) and seven (07) to depression (total D), giving a maximum score of 21 for each. Completion time was short, between 2 and 6 minutes. Only questions concerning anxiety were taken into account. The final score corresponds to the addition of the items as follows: 1 + 3 + 5 + 7 + 9 + 11 + 13 for anxiety and 2 + 4 + 6 + 8 + 10 + 12 + 14 for depression. To screen for anxiety symptoms, the following interpretation is proposed for each of the scores (A and D): <07: no symptoms; [8 to 10]: doubtful symptoms; ≥11: definite symptoms.

Female Sexual Function Index (FSFI) questionnaire [18]

To assess sexual functioning, we used the Female Sexual Function Index (FSFI) scale, validated in French in 2012 by Dargis L. *et al.* in Quebec. It comprises 19 questions assessing 06 domains: desire (1, 2); arousal (3, 4, 5, 6); lubrication (7, 8, 9, 10); orgasm (11, 12, 13); satisfaction (14, 15, 16); pain (17, 18, 19). The threshold value used to define impaired sexuality is a score less than or equal to 26.55.

2.3. Analysis

Data were analyzed using SPSS 26 software. Central tendency and dispersion parameters were used for quantitative variables, and proportions for quantitative variables with their confidence intervals (CI). Pearson's Chi-2 statistical test and

Fisher's exact test were used to compare the dependent variable with the independent variables. Means were compared by Student's t-test or by Leven and Kolmogorov in the case of a cross between a nominal or ordinal qualitative variable and a quantitative variable. The difference was statistically significant at $p < 0.05$. Variables associated in bivariate analysis were introduced into the initial multivariate analysis model. The associated variables were identified from the binary logistic regression analysis with determination of the odd ratios (OR) and their 95% confidence intervals (95% CI).

3. Ethical Considerations

This work was carried out in compliance with current deontological and ethical standards by obtaining ethical advice. Prior to the start of data collection, a survey authorization was obtained from the rectoral authorities of the University of Parakou. Free and informed consent, anonymity and confidentiality were respected.

4. Results

A total of 376 female students from different parts of the University of Parakou were surveyed, 40 of whom had been victims of at least one form of sexual assault, *i.e.* a prevalence rate of 10.63%.

4.1. Socio-Demographic Characteristics

The average age of the female students surveyed was 20.56 ± 2.46 years, with extremes of 16 and 32 years, and a predominance of subjects under the age of 25.

The majority of female students who had been sexually assaulted were single (82.50%) (33) (Table 1).

Table 1. Distribution of surveyed female students by socio-demographic characteristics (Parakou, 2023).

	Sample (N = 376)	Female students victims of sexual assault	
		No (n = 336)	Yes (n = 40)
Age			
16 - 24 years	352 (93.62%)	318 (94.64%)	34 (85.00%)
25 - 32 years old	24 (06.38%)	18 (05.36%)	6 (15.00%)
Religion			
Christian	281 (74.73%)	248 (73.81%)	33 (82.50%)
Muslim	84 (22.34%)	78 (23.21%)	6 (15.00%)
Endogenous	11 (02.93%)	10 (02.98%)	1 (02.50%)
Marital status			
Single	347 (92.29%)	314 (93.45%)	33 (82.50%)
Cohabiting	23 (06.12%)	18 (05.36%)	5 (12.50%)
Married	6 (01.60%)	4 (01.19%)	2 (05.00%)

4.2. History

Most victims had no medical (36; 90%) or surgical (37; 92.50%) history. Only 5% (2) of victims had suffered from mental illness. Obstetrical history showed that 7.50% (3) were primigravida and primiparous with a live child. None of them reported a criminal record (Table 2).

Table 2. Distribution of students surveyed by background (Parakou, 2023).

	Sample (N = 376)	Female students victims of sexual assault	
		No (n = 336)	Yes (n = 40)
Medical history			
No	333 (88.56%)	297 (88.39%)	36 (90.00%)
Yes	43 (11.44%)	39 (11.61%)	4 (10.00%)
Surgical history			
No	350 (93.09%)	313 (93.15%)	37 (92.50%)
Yes	26 (06.91%)	23 (06.85%)	3 (7.50%)
Psychiatric history			
No	370 (98.4%)	332 (98.81%)	38 (95.00%)
Yes	6 (01.60%)	4 (01.19%)	2 (05.00%)
History of addiction			
No	364 (96.81%)	326 (97.02%)	38 (95.00%)
Yes	12 (03.19%)	10 (02.98%)	2 (05.00%)
Criminal record			
No	371 (98.67%)	331 (98.51%)	40 (100.00%)
Yes	5 (01.33%)	5 (01.49%)	-
Gyneco-obstetrical history			
Gravidity			
0	354 (94.10%)	321 (95.50%)	33 (82.50%)
1	16 (04.30%)	13 (03.90%)	3 (07.50%)
>1	6 (01.60%)	2 (00.60%)	4 (10.00%)
Parity			
0	366 (97.30%)	330 (98.20%)	36 (90.00%)
1	8 (02.10%)	5 (01.50%)	3 (07.50%)
>1	2 (00.50%)	1 (00.30%)	1 (02.50%)
Number of living children			
0	366 (97.30%)	330 (98.20%)	36 (90.00%)
1	8 (02.10%)	5 (01.50%)	3 (07.50%)
>1	2 (00.50%)	1 (00.30%)	1 (02.50%)

4.3. Characteristics Relating to Sexual and Emotional Development

Menarche for the majority of victims had begun before the age of 13 (52.50%). More than half had had their first sexual intercourse after the age of 18 (62.50%), and the majority had consented (21; 52.50%). On average, they had one sexual partner (30; 75.00%) and 56% (14) had frequent sexual intercourse (Table 3).

4.4. Description of Sexual Assaults by Type

The most frequent types of sexual assault were rape 45% (18) and sexual touching (16; 40%), frotteurism and voyeurism (3; 7.50%) and finally sexual harassment for 2 of the victims (5.00%). According to the results, some 17 (42.50%) of the victims had been assaulted more than once, and 32.50% (13) had been assaulted by a friend or boyfriend, and 30.00% (12) by a family member. These assaults generally occurred during the day (19; 48.72%) and during home visits (21; 37.5%). In 32.50% (13) of cases, the victims had been subjected to physical coercion and in 20.00% (8) to psychological coercion by the aggressors (Table 4).

Table 3. Distribution of female students surveyed according to their sexual and sentimental development characteristics (Parakou, 2023).

	Sample (N = 376)	Female students victims of sexual assault	
		No (n = 336)	Yes (n = 40)
Menarche before 13 years			
Yes	148 (39.40%)	127 (37.80%)	21 (52.50%)
No	228 (60.60%)	209 (62.20%)	19 (47.50%)
Sexual intercourse before 18 years			
Yes	35 (16.40%)	20 (11.50%)	15 (37.50%)
No	179 (83.60%)	154 (88.50%)	25 (62.50%)
Consent to first sexual intercourse			
Consenting	165 (73.00%)	144 (77.40%)	21 (52.50%)
Indifferent	22 (09.70%)	15 (08.10%)	7 (17.50%)
No consent	39 (17.30%)	27 (14.50%)	12 (30.00%)
Number of sexual partners			
None	127 (33.78%)	122 (36.30%)	5 (12.50%)
1	236 (62.77%)	206 (61.30%)	30 (75.00%)
≥1	13 (03.46%)	8 (02.38%)	5 (12.50%)
Frequency of intercourse			
Rarely	59 (39.60%)	50 (40.30%)	9 (36.00%)
Often	77 (51.70%)	63 (50.80%)	14 (56.00%)
Very often	13 (08.70%)	11 (08.90%)	2 (08.00%)

Table 4. Breakdown of female students surveyed by description of sexual assault (Parakou, 2023).

	Female students victims of sexual assault (n = 40)
Number of attacks	
Once	23 (57.50%)
More than once	17 (42.50%)
Types of sexual assault	
Rape	18 (45.00%)
Sexual touching	16 (40.00%)
Voyeurism and frotteurism	3 (07.50%)
Sexual harassment	2 (05.00%)
Relationship to attacker	
Friend/boyfriend	13 (32.50%)
Family member	12 (30.00%)
Household/neighborhood	9 (22.50%)
Academic senior	3 (07.50%)
Former sexual partners	2 (05.00%)
Teacher trainer	2 (05.00%)
Place of sexual assault	
Home	21 (52.50%)
Place of work	2 (05.00%)
Place of study	3 (07.50%)
Outing with friends	2 (05.00%)
No specify	12 (30.00%)
Time of assault	
Daytime	19 (48.72%)
Evening	7 (17.95%)
Night	13 (33.33%)
No specify	1 (02.50%)
Use of physical restraint (blows) during the attack	
No	26 (65.00%)
Yes	13 (32.50%)
No specify	1 (02.50%)
Use of psychological restraint during the attack (swearing)	
No	31 (77.50%)
Yes	8 (20.00%)
No specify	1 (02.50%)

4.5. Psychopathological and Social Repercussions of Sexual Assault in Student Victims

To assess the various repercussions of sexual assault, the following scales were used: Post traumatic stress disorder checklist-5 (PCL-5) which assesses symptoms of post-traumatic stress disorder; patient health questionnaire (PHQ-9) which assesses depression; Female Sexual Function Index (FSFI) which assesses female sexual dysfunction and Hospital Anxiety and Depression (HAD) which assesses anxiety.

Psychological repercussions were reflected by depression in 72.5% (29) of cases, including mild depression in 30% (12), moderate depression in 37.5% (15) and severe depression in 5% (2). Anxiety disorders were present in 27.50% (11) of victims. Symptoms of post-traumatic stress disorder were present in 5 victims (12.5%). Sexual dysfunction was noted in 77.5% (31) of cases (Table 5).

4.6. Search for Statistically Significant Associations with Sexual Assault in Bivariate Analysis

In bivariate analysis, the following variables showed a statistically significant association with sexual assault: age ($p = 0.018$), marital status ($p = 0.035$), gender ($p < 0.001$), parity ($p = 0.008$), virginity ($p = 0.002$), earliness of sexual intercourse ($p = 0.005$), consent of first sexual intercourse ($p = 0.024$) and number of sexual partners ($p = 0.009$).

Table 5. Distribution of female students surveyed according to psychopathological and social repercussions of sexual assault (Parakou, 2023).

	Female students victims of sexual assault (n = 40)
Anxiety symptoms	
Absent	21 (52.50%)
Doubtful	8 (20.00%)
Certain	11 (27.50%)
Post-traumatic stress disorder	
Absent	35 (87.50%)
Present	5 (12.50%)
Depression	
None	11 (27.50%)
Mild	12 (30.00%)
Moderate	15 (37.50%)
Severe	2 (05.00%)
Sexual dysfunction	
Absent	9 (22.50%)
Presence	31 (77.50%)

4.7. Multivariate Analysis of Factors Associated with Sexual Assault

Multivariate analysis shows that potential predictors of sexual assault among female students at the University of Parakou in 2023 were gravidity: greater than 1 (OR (IC95%): 15.32 ([1.731 - 135.69]), p = 0.014), significant negative life events (OR (IC95%: 17.24 ([1.99 - 149.24]), p = 0.010), first sexual intercourse before age 18 (OR (IC95%: 4.608 ([1.32 - 16.03]), p = 0.016) and first consensual sexual intercourse (OR (IC95%: 0.21 ([0.07 - 0.62]), p = 0.005). Risk factors for sexual assault were multigestation, significant negative events and early sexual debut (before age 18). Multi-gestational students were 15.33 times more likely to be sexually assaulted than non-gestational students, the presence of a negative event in the student's life was associated with a high risk of sexual assault, 17.24 times more than those with a positive event, and early sexual intercourse increased the risk of sexual assault by a factor of 4.

Consensual first intercourse, on the other hand, is a protective factor compared to non-consensual first intercourse. The risk of sexual assault is reduced by 79% when the first sexual experience is pleasant (Table 6).

Table 6. Potential predictors of sexual assault in the lives of female students (Parakou, 2023).

	Sexual assault		Odds ratio (CI)	p-value
	No (n = 336)	Yes (n = 40)		
Gravidity				
0	321 (85.37%)	33 (08.78%)	1	
1	13 (03.46%)	3 (00.80%)	1.96 ([0.419 - 9.23])	0.391
>1	2 (00.53%)	4 (01.06%)	15.32 ([1.731 - 135.69])	0.014
Negative events				
No	124 (32.98%)	1 (00.27%)	1	
Yes	212 (56.38%)	39 (10.37%)	17.24 ([1.99 - 149.24])	0.010
Sexual intercourse before age 18				
No	153 (75.74%)	22 (10.89%)	1	
Yes	18 (08.91%)	9 (04.46%)	4.608 ([1.32 - 16.03])	0.016
Consent to first sexual intercourse				
Without consent			1	
With consent	144 (66.36%)	17 (07.83%)	0.21 ([0.07 - 0.62])	0.018
Indifference	15 (06.91%)	4 (01.84%)	0.306 ([0.05 - 1.81])	0.005

5. Discussion

5.1. Socio-Demographic Characteristics

5.1.1. Age

In the present study, the average age was 20.56 +/− 2.46 years, with extremes ranging from 16 to 32 years. This result is close to that found by Théra *et al.* [7] in Mali in 2014 (mean age: 21 years); and by Amar Wiem *et al.* [19] in southern Tunisia in 2023 (mean age: 21.23 +/− 10.67 years). In Nancy, France, Kolopp *et al.* [20] found a mean age of 23.9 years in 2017.

This average age is higher than those found by other authors: Enouani *et al.* [6] in Brazzaville in 2020 (average age: 14 years); Khemakhem *et al.* [21] in Tunisia in 2023 (average age: 10 +/− 3.9 years); Chérif *et al.* [22] in Donka, Guinea in 2021 (mean age: 8 years); Diallo *et al.* [23] in 2017 in Dakar, Senegal (mean age: 12.33 +/− 6.28 years); Vaillancourt Morel *et al.* in 2014 in Quebec (mean age: 9.55 years) and Leye *et al.* in 2019 in Senegal (mean age: 16.3 +/− 7.9 years) [24] [25].

This non-negligible difference between the averages could be explained by several factors: the difference in the research setting and the type of population, but also by the search for easy gain at a very early age by some victims, the low socioeconomic level, the sexual curiosity of boys their age and, above all, the lack of sex education among young people.

5.1.2. Marital Status

The majority of respondents in this study were single 33 (82.50%). This result is similar to that of Thaljawi *et al.* [26] in 2023, who found 78.6% of women to be single. Diallo *et al.* [27] in 2017 in Dakar, Senegal, reported a lower proportion of 72.1%. Amar Wiem *et al.* [19] found in 2023 in southern Tunisia a much lower proportion (46.1%) of unmarried female victims of sexual assault. This difference can be explained by the fact that the victims in the present study, who are still students, usually remain single until the end of their university studies.

5.2. Prevalence of Sexual Assaults

Of the 376 targets surveyed, 40 had been victims of at least one form of sexual assault. This represents a prevalence of 10.63%. This prevalence corroborates that of Hebert *et al.* in the city of Marseille in France which was 10.3% in 2018. Essiben *et al.* in the cities of Douala, Yaoundé and Baganté in Cameroon reported a prevalence of 9.5% in 2018 among students from specific universities in these cities [28].

Nevertheless, this prevalence is much higher than in other authors. In Mali, Théra *et al.* and Thierno *et al.* found a prevalence of 2% and 0.22% respectively in 2015 and 2021 [7] [29]; Niort *et al.* [27] in France in 2014 a prevalence of 1.5%. Similarly, Enouani *et al.* [6] found 2.6% in Congo Brazzaville in 2020. The samples were 37 out of a total of 1810 in Théra *et al.* in Mali; 107 out of 47729 in Thierno *et al.* in Mali; 592 out of 39469 in Niort et al. in France; and 150 out of

5620 in Enouani *et al.* in Congo Brazzaville [6] [7] [29]. This low frequency can be explained by the fact that victims do not systematically report the trauma they have suffered. According to the WHO, the reasons for this include inadequate support systems, shame, fear or risk of reprisals, and fear or risk of being blamed or accused. The low proportion should not systematically mean that the phenomenon does not exist, leading to its trivialization.

On the other hand, some authors have reported higher prevalences than in this study: Vaillancourt Morel *et al.* [24] found a prevalence of 15.32% in 2014 in Quebec; Chérif *et al.* [22] in 2021 in Donka, Guinea, which was 16%. Puri *et al.* [3] report a prevalence of 46% in Nepal in 2012. This high figure in Nepal can be explained by the fact that the study was carried out in rural areas among married women who are afraid to denounce their husbands who have abused them within a marriage.

5.3. Type of Sexual Assault

Rape was the most common type of sexual assault, accounting for 45.0% (18). Sexual touching accounted for 40% (16), voyeurism and frotteurism for 7.5% (3) and sexual harassment for 5% (2). The same finding has been made by other authors, with higher proportions than in the present study: Adama *et al.* [8] in Togo 2013 found a rape rate of 62.2%. Diallo *et al.* [23] in Dakar in 2017 found rape in a proportion of 79.3%, followed by sexual touching 12.9%. For Dembele *et al.* [30] in 2021 in Mali, the percentage of rape was 86.27%. This can be explained on the one hand by the fact that vaginal intercourse is the usual and culturally valued form of sexual intercourse in African countries. And on the other hand, the study populations were predominantly minors and young women unable to defend themselves physically against their attackers due to unequal physical strength. Other types of aggression, such as sexual harassment, touching and exhibitionism are often downplayed and are not often reported.

5.4. Psychopathological Consequences of Sexual Assault

The consequences of sexual assault are such that they can have irreversible effects on the lives of the victims. At the end of the study, the consequences found among victims were mild depression (30%), moderate depression (37.5%) and severe depression (5%); post-traumatic stress symptoms (12.50%); and anxiety disorders (27.50%). In a similar vein, Bourgou *et al.* [31] in Tunisia observed psychiatric disorders in 58% of cases, with post-traumatic stress disorder in 19.3% and full-blown depressive disorders in 8%. Khemakhem *et al.* [21] found post-traumatic stress symptoms in 32.7% of subjects and depression in 5.8%. For Hebert *et al.* [4], the data also indicate that more victims of sexual assault present post-traumatic stress disorders reaching the clinical threshold of (27.9%; n = 173), compared with non-victims (9.1%; n = 310). Vaillancourt Morel *et al.* [24] report that these assaults expose victims to a high degree of psychological distress (48.15%) and abandonment anxiety (67.29%).

Several authors discuss the various repercussions experienced by victims, which corroborates our findings. A lack of psychological care for victims and poor follow-up would explain the occurrence and persistence of these psychological repercussions in some victims.

5.5. Factors Associated with Sexual Assault in the Life of Female Student Victims of Sexual Assault

5.5.1. Gravidity and Sexual Assault

In the present study, there was a statistically significant association between sexual assault and gestational age ($p = 0.014$; OR = 15.32).

According to Puri *et al.* [3] an absence of pregnancy or child was found to be a significant risk factor. Nuligravida and nulliparous women were 2 times more likely to be sexually abused by their husbands. It should be noted that the study population was married women in rural Nepal. A pregnancy in a young, unmarried woman in our context sends out a bad image. This creates a risk in the sense that they are vulnerable, unlike nulligravida. This factor multiplies a woman's risk of being sexually assaulted by 15.32.

5.5.2. Age of First Sexual Intercourse and Sexual Assault

There is a significant relationship between age at first intercourse ($p = 0.016$) and sexual assault. Puri *et al.* [3] also report that early sexual debut is a risk factor for sexual violence.

The age of first intercourse is crucial to a fulfilling sex life. In this respect, early sexual relations are closely linked to a succession of bad decisions such as bad company, multiple sexual partners and exposure to sexually transmitted diseases and unwanted pregnancies. This would strip a woman of all credibility, attracting to her profiteers and people of dubious morality. All of which would be conducive to aggression and abuse of all kinds.

5.5.3. Consensual First Intercourse and Sexual Assault

Sexual assaults show a statistically significant link with first consensual intercourse ($p = 0.005$).

In fact, first times are a decisive step in all things and in all areas, particularly sexuality, where a first time without consent would be a traumatic and stressful experience. The victim in such a case is often desperate, and looks to future relationships for reassurance and approval from her partners that she is up to the task. This situation increases the risk of sexual assault.

5.6. Study Strengths and Limitations

In this study, the non-probability sampling method was used. The sample size was calculated using Schwartz's formula based on an average prevalence of sexual assault victims estimated at 2% in Mali in 2014 [7]. The minimum size obtained after calculation was 188 students, while the size obtained during data collection was 376 students. The data collected came from subjective statements and the questions asked were sensitive and related to traumatic events in the

past. Information bias could therefore not be entirely ruled out.

6. Conclusion

At least one student in ten has been sexually assaulted at least once in her life. Rape was the most frequently reported form of aggression; friends or boyfriends, family members and people in the home or neighborhood were the most frequently reported aggressors. Most assaults occurred at home during the day. Psychological repercussions included mild to severe depression, anxiety disorders and sexual dysfunction. Once again, preventive action through effective sex education is a means of combating the problem that should be prioritized with every girl and boy from an early age. Psychological support by specialists should be offered to any victim discovered without delay. Communication on the subject should be multiplied in all educational environments, whether family or school, from the lowest to the highest level.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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