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ORIGINAL ARTICLE

Prevalence and determinants of perceived stress in moroccan nursing students – A cross-sectional study

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Abstract

INTRODUCTION: Stress is a widespread phenomenon among the student population, particularly among nursing students. It can positively or negatively impact their academic performance and well-being. The objective of this study is to determine the prevalence of perceived stress among nursing and technical health students and analysing the influencing factors.

MATÉRIEL ET MÉTHODES: This is a descriptive, analytical, cross-sectional quantitative study, realised on nursing and technical health care students at the Higher Institutes of Nursing Professions and Techniques of Health of Fez and Rabat using a questionnaire containing socio-demographic data and a scale measuring perceived stress PSS10.

RESULTS: The study involved 696 students. The results of the study showed that the majority of students have a perceived stress level ranging from medium (74.9%) to high (19.4%). In addition, good and very good mentions characterize the results of the majority.
The determinants related to stress identified were: sex, somatic or psychological disease, the consumption of a psychotropic, sleep disorders, a past trauma, the perception of training as (stressful, or/ and motivating), the training load, the difficulties related to the training, the difficulties related to the examinations and the mentions obtained. The results of the study showed that students with higher grades had a higher perceived stress score.

CONCLUSION: Our results show that stress levels are higher among the best-performing students. Improving students' mental health and promoting their well-being is a vital necessity. This can be achieved by integrating specific units for stress management and personal development of students into training programs.

Introduction

The issue of student mental health is at the heart of current concerns in higher education. (Shankland *et al.* 2022), in particular that of nursing students, given the specific nature of this training, which involves direct contact with patients, their families and health-care staff (Mohebbi *et al.* 2019).

Due to many stressors that are related to it, nursing education poses a real challenge for students' mental health (Timmins *et al.* 2011).

This training can make students vulnerable to the point of leading them to manifest psychopathological clinical symptoms. (Morenon *et al.* 2017)

Indeed, stress among nursing students is a growing concern (Sharma & Kaur 2011), it is a well-known feature of the lives of nursing students around the world (Smith & Yang 2017), and most often relates to academic concerns, clinical practice and social factors (Aljohani *et al.* 2021).

In Morocco, a study conducted at Higher Institute of Nursing Professions and Techniques of Health in Rabat reported that 19.2% of the student nurses studied had high levels of stress and were therefore at risk of psychopathological problems (Bandadi *et al.* 2020).

Stress is a state that causes an imbalance in the human body, and it is the individual's own assessment of the situation that determines its extent (Robert-McComb *et al.* 2001). Indeed, stress can result in psychological distress, physical complaints, behavioral problems and poor academic performance (Sharma & Kaur 2011).

Students may lack confidence in their ability to meet patients' needs, which can negatively impact their self-efficacy and self-esteem and lead to mood disturbance and distress (Merkley 2016).

Stress can also impact the future work life of nursing students when it is associated with harmful substance use (Ashton *et al.* 1995 ; Newbury-Birch *et al.* 2001), and decreased empathy among these students (Woloschuk *et al.* 2004).

However, stressful situations can also be approached in a positive way. In this sense, nursing students report needing a certain level of stress and physiological excitement in order to achieve optimal performance (Gibbons *et al.* 2008).

In this context, we carried out this study with the aim of determining the prevalence of perceived stress among nursing and technical health students and analysing the influencing factors in order to contribute to the promotion of the well-being of these students.

Materials and methods

This is a descriptive, analytical, cross-sectional quantitative study, realised between 01/03/2022 and 30/06/2022 at Higher Institute of Nursing Professions and Techniques of Health of Fez and Rabat. A representative sample by convenience was recruited from the two institutes to represent the population of nursing and technical health care students in Morocco.

The students solicited had to be students enrolled in the license cycle and enrolled in the nursing or technical health sector. Excluded were military students, questionnaire pre-test participants and students who refused to participate in the study.

The sample size, noted n, is calculated as follows:

$$n = t^2 \cdot p\ (1-p)\ /m^2$$

t: fixed at a value of 1.96 for a confidence interval of 95%.

m: Accuracy set at 4%.

p: prevalence value set at 50% (Given that the prevalence of stress levels reported in the literature varies greatly from one study to another, the statistically recommended value is 50%).

$$n = (1.96)^2 \cdot 0.5^* (1-0.5) / (0.04)^2 = \textbf{601 students}$$

Data was collected using a self-administered questionnaire containing :

- Characteristics linked to the student
- Characteristics linked to training whose academic performance was evaluated by the last mention obtained by the student
- Perceived Stress Scale(PSS10)

This scale was originally developed in 1983 (Cohen *et al.* 1983; Cohen & Williamson 1988) and translated and validated in French by Bellinghausen and collaborators (2009), is an instrument that measures the extent to which life situations are generally perceived as threatening, i.e. as unpredictable, uncontrollable and distressing. It measures non-specific perceived stress.

It contains ten items about feelings and thoughts over the past month. Examples of items include: "in the last month, how many times did you feel things were going your way" and "In the last month, how many times have you found that you could not cope with all the things you had to do". Six out of 10 items were formulated and noted in the non reversed direction (i.e., “how many times have you felt unable to control the important things in your life”). Four of the 10 items were noted in the opposite direction (i.e., “how many times did you feel things were going your way”).

Responses are populated on a 5-modality Likert scale, ranging from 0 “never” to 4 “very often”. Individual PSS scores can range from 0 to 40, with higher scores indicating higher perceived stress. Thus, scores from 0 to 13 would be considered low stress, scores from 14 to 26 would be considered moderate stress, and scores from 27 to 40 would be considered high perceived stress.

A descriptive analysis was carried out for all the variables in the study. Qualitative variables were presented as proportions. Quantitative variables with normal

Tab. 1. Distribution of students by student-related data

		n	(%)
Age (Years)		19.9 (Mean)	1.4(sd)
Gender	female	556	79.9%
	Male	140	20.1%
Nationality	Moroccan	661	95.0%
	Foreign	35	5.0%
Socioeconomic level	Low	83	11.9%
	Medium	602	86.5%
	high	11	1.6%
Current residence	With the family	477	68.5%
	alone /	219	31.5%
Scholarship	Yes	380	54.6%
physical disease	Yes	78	11.2%
Psychological/psychic problem	Yes	190	27.3%
Psychotropic treatment	Yes	34	4.9%
Past trauma	Yes	251	36.1%
Smoking	Yes	19	2.7%
Alcohol	Yes	20	2.9%
Drugs	Yes	5	0.7%
Practice of sports	Yes	252	36.2%
Sleep disorder	Yes	261	37,5%

distribution were presented as mean ± standard deviation. Means were compared using Student's t test and ANOVA. The significance level was set at 0.05. The data were analysed using SPSS software version 26.0.

Before starting data collection, a request for prior authorisation was sent to the institutes directorates in Fez and Rabat. The study obtained the agreement of the Hospital-University of Fez Ethics Committee, referenced under N° 9/22.

Students were informed about the objectives of the study. They were also informed that participation in the study is completely voluntary and that they have the right to refuse or withdraw from the study at any time. A consent sheet and a fact sheet were distributed to each participant

Results

696 questionnaires were completed by students among 729 distributed; a response rate of 95.5%

Descriptive Results

Student characteristics:

The average age of the students participating in the study was 19.9 ± 1.4 years, and they were predominantly female (79.9%). Of these students, 68.5% lived with their family, compared with 31.5% who lived alone.

On the socio-economic level, most students, a rate of 86.5%, reported an medium socio-economic level, against 11.9% of low socio-economic level, and 1.6% of high socio-economic level. On the other side, more than half of the students or a rate of 54.6% declared to benefit from the scholarship.

Concerning the state of health of the students, a proportion of 11.2% suffers from a somatic disease and 27.3% of them suffer from a psychological or psychic disease. Further more, almost 5% of students reported using psychotropic medication. In addition, 36.1% of students reported having experienced trauma, 2.7% are smokers, 2.9% reported drinking alcohol and 0.7% reported using drugs. On the other hand, the majority of surveyed students (63.8%) reported that they do not practice sports and 37.5% reported having a sleep disorder. (Table 1)

Characteristics of Student Training:

Most of the students who responded to the questionnaire were from the nursing stream, with a rate of 74.7%, compared with 25.3% from the Health Techniques sector. Students enrolled in semester 2 (S2) represent 45.0% compared to 26.3% in semester 4(S4) and 28.7% in semester 6.(S6) Among all these students, 78.4% perceive their training at Institute as rewarding, 67.8% perceive it as motivating, and 86.1% perceive it as stressful. Moreover, 53.6% said that the load of their

Tab. 2. Distribution of students by training characteristics

		n	(%)
Perception of training	Rewarding	546	78,4%
	Stressful	599	86,1%
	Motivating	472	67,8%
Training load	Very important	373	53,6%
	Correct	278	39,9%
	Low	45	6,5%
Training difficulties	Yes	427	61,4%
	Theoretical courses	292	42,0%
	Clinical placement	270	38,8%
	If clinical placement with;		
	Field staff	221	31,8%
	Teachers/ supervisors	109	15,7%
	Patients	51	7,3%
Exam difficulties	Yes	252	36,2%
Conflicts at the institute	Yes	59	8,5%

training is very high, compared to 39.9% who consider it correct while only 6.5% who perceive it as low. In addition, more than half of the sample studied (61.4%) reported difficulties in their training of which 42% have theoretical difficulties and 38.8% have clinical difficulties of which 31.8% have problems with field staff, 15.7% with teachers and supervisors and 7.3% with patients. Finally, 36.2% meet difficulties related to exams and 8.5% have conflicts within the institute. (Table 2)

Prevalence of perceived stress among students

The overall mean score of the perceived stress scale was 22.2±5.3 with a median of 23.

The results of the Perceived Stress Scale (PSS10) shown in graph 1 show that around 20% of the students surveyed have high stress, almost three quarters have moderate stress and only 5.7% have low

The mean scores for perceived stress levels were 28.8 for high stress, 21.5 for moderate stress and 8.1 for low stress. (Table 3)

Student responses to items on the perceived stress scale

From this table, we can see that more than half of the students (58.9%) said that they felt nervous and stressed and 51.3% felt that they were not confident in their ability to manage their personal problems over the past month. (Table 4)

Factors related to perceived student stress

Perceived stress and student characteristics

There is a significant link between perceived stress among students and gender ($p = 0.00$), female students show more perceived stress compared to their male colleagues. In addition, there was a significant link between the level of stress perceived by students and having a somatic illness ($p = 0.00$), having a psychological and/or psychic illness (p = 0.00), taking psychotropic medication ($p = 0.03$), experiencing a past trauma ($p = 0.00$), and having sleep problems ($p = 0.00$). Thus, students with a physical illness or a psychological/ psychic illness, those taking psychotropic medication, people who have experienced trauma in their past and people with sleep problems have higher stress levels than others. (Table 5)

Perceived stress and training-related characteristics:

There was a significant relationship between students' perceived stress on the one hand and their perception of the training as stressful ($p = 0.00$), their perception of the training as motivating ($p = 0.02$), their percep-

Tab. 3. Characteristics of PSS10 scores by stress level

	n	Mean score	sd
High stress	134	28.8	1.7
Moderate stress	523	21.5	3.0
Low stress	38	8.1	4.8

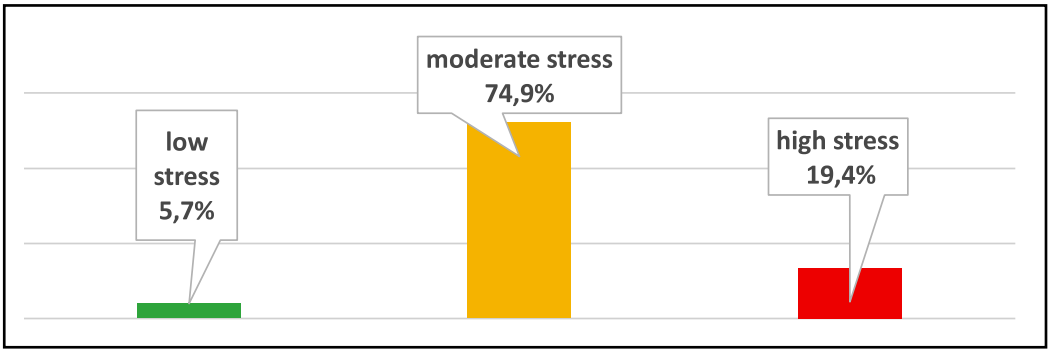

Fig. 1. Distribution of students by perceived stress levels

tion of the training load (p = 0.02), the fact of having difficulties related to the training (p = 0.00), the existence of difficulties related to examinations (p = 0.00) and students' academic performance (p = 0.002) on the other. Therefore, students who perceive training as stressful have a higher level of perceived stress, students who perceive training as motivating have a lower level of perceived stress, students who report perceiving the training load as very high have a higher level of perceived stress, students who have difficulties in clinical settings tend to be more stressed compared to those who have difficulties with theory, and students with very good marks have the highest stress level while those with fair marks have a lower stress level. (Table 6)

Discussion

The mental health of students is an ongoing concern that must be taken into consideration. It can have a positive or negative impact on their academic performance and well-being, and vice versa. It also has an impact on their future professional and personal lives.

Our research focused on the study of perceived stress and associated factors in nursing and technical health care students, the health professionals of tomorrow, a profession that requires a positive psychological load due to their constant contact with a vulnerable population.

Our study enabled us to estimate the perceived stress of nursing and health techniques students using

Tab. 4. Student responses to perceived stress scale items

	Never %	Almost never %	Sometimes %	Fairly often %	Very often %
Item1 : In the last month, how often have you been upset because of something that happened unexpectedly?	17 .7	19	42.0	13.9	7.5
Item2 : In the last month, how often have you felt that you were unable to control the important things in your life?	8.0	20.0	22.2	19.5	10.2
Item3 : In the last month, how often have you felt nervous and stressed?	2.9	6.6	31.6	31.9	27.0
Item4 : In the last month, how often have you felt confident about your ability to handle your personal problems?	20.3	31.0	36.5	8.6	3.6
Item5 : In the last month, how often have you felt that things were going your way?	7.2	31.0	42.7	14.2	4.9
Item6 : In the last month, how often have you found that you could not cope with all the things that you had to do?	7.0	17.1	44.1	23.6	8.2
Item7 : In the last month, how often have you been able to control irritations in your life?	8.9	33.5	39.5	13.8	4.3
Item8 : In the last month, how often have you felt that you were on top of things?	8.5	30.7	42.8	13.9	4.0
Item9 : In the last month, how often have you been angered because of things that happened that were outside of your control?	6.9	17.2	43.0	22.4	10.5
Item10 : In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	8.3	18.1	36.9	24.4	12,2

Tab. 5. Student characteristics and level of perceived stress

		n	Mean score PSS	*p*
Gender	Femele	556	22,6	**$<10^{-3}$**
	Male	140	20,5	
Parents' housing	City of the Institute	388	22,0	NS
	City outside institute	308	22,4	
Areas	Urban	559	22,3	NS
	Rural	137	21,2	
Nationality	Moroccan	559	22,3	NS
	Foreign	137	21,7	
Current residence	With family	477	22,6	NS
	Alone	219	21,9	
Socioeconomic level	Low	83	21,9	NS
	Medium	602	22,2	
	High	11	21,4	
Scholarship	Yes	380	22	NS
	No	316	22,4	
Physical disease	Yes	78	24,2	**$<10^{-3}$**
	No	618	21,9	
Psychological/psychic problem	Yes	190	24,6	**$<10^{-3}$**
	No	506	21,3	
Psychotropic treatment	Yes	34	24,1	**0,03**
	No	662	22,1	
Past trauma	Yes	251	23,6	**$<10^{-3}$**
	No	445	21,4	
Smoking	Yes	19	22,1	NS
	No	677	22,19	
Alcohol	Yes	20	21,6	NS
	No	676	22,2	
Drougs	Yes	5	23,6	NS
	No	691	22,2	
Sleep disorder	Oui	261	23,2	**$<10^{-3}$**
	Non	435	21,5	
Practice of sports	Yes	252	21,8	NS
	No	444	22,4	
Body mass index	Normal	509	22	NS
	> or < to normal	187	22,7	

the PSS10 scale. The results showed that the majority of students have a level of perceived stress ranging from medium to high, 74.9% have a medium level of stress and 19.4% suffer from high stress, with an overall average score of 22.2.

Our results are in the same direction as those of a study conducted in Morocco by Bandadi and his collaborators (2020) who found that 78.20% of nursing students were stressed with a predominance of medium stress (59.10%) and a proportion of 19.20% who showed high stress. In France, a report by the National Federation of Nursing Students published in 2017 identified that 78.2% of nursing students report being stressed all the time or often. Similarly; a study that took place in three countries belonging to three different continents: Greece, Philippines and Nigeria, reported that nursing

Tab. 6. Training-related characteristics and level of perceived stress

		n	Score moyen PSS	*p*
Streams	Nursing care	520	22,2	NS
	Health techniques	176	22,1	
Semester	S2	313	21,9	NS
	S4	183	22,1	
	S6	200	22,7	
Motivating training	Yes	472	21,7	**0,002**
	No	224	23,1	
Stressful Training	Yes	599	22,6	**$<10^{-3}$**
	No	97	19,5	
Rewarding Training	Yes	546	22,0	NS
	No	150	22,7	
Training load	Low	45	21,3	**0,01**
	Correct	278	21,6	
	Very important	373	22,7	
Training difficulties	Yes	427	23,0	**$<10^{-3}$**
	No	269	20,8	
Exam difficulties	Yes	252	23,1	**$<10^{-3}$**
	No	444	21,6	
Conflicts at the institute	Yes	59	22,8	NS
	No	637	22,1	
Academic performance	Fair	31	19,8	0,002
	Quite good	169	21,7	
	Good	322	22,1	
	Very good	145	23,4	
Catch-up pass	Yes	360	21,9	NS
	No	336	22,4	

students experience moderate stress. (Labrague *et al.* 2017). However, perceived stress is also common among students not belonging to the nursing profession, indeed a Moroccan study conducted among students of the Faculty of Medicine of Rabat showed that the stress rate is high among student doctors (Lahlou *et al.* 2015), while a study conducted on French university students reported a high level of perceived stress with an average of 30.48 stress among these students (Saleh *et al.* 2015).

This obtained prevalence of perceived stress was consolidated by the perception of stress declared by the students, thus 86.1% declared that they perceived their training at Higher Institute of Nursing Professions and Techniques of Health as stressful; a determinant which can partly explain the variation in stress levels, independently of its positive or negative character (Sharma & Kaur 2011).

The study of the determinants of perceived stress among nursing and health techniques students yielded important results:

On the socio-demographic level, our study showed the existence of a significant difference between female and male sex in terms of perceived stress, in fact female students have a higher level of stress compared to male students with an average score of 22.6 and 20.5 respectively. Similarly, a study in Morocco reported that nursing students are more vulnerable to stress (71.9%) compared to their male colleagues (21.9%) (Koubri *et al.* 2021). This finding was observed in other literature research (Aslan & Pekince 2021; Karaca *et al.* 2019; Özdemir *et al.* 2020).

The reasons for this difference may be linked to the greater expression of emotions and anxiety in women than in men and gender differences in psychological morbidity (Karaca *et al.* 2019).

However, unlike other studies (Abasimi *et al.* 2015, Pulido-Martos *et al.* 2012; Timmins *et al.* 2011), our results found no significant relationship between perceived stress in students and other socio-demographic factors.

Regarding the health status of students, our results reported a prevalence of 11.2% and 27.3% of students who respectively suffer from a physical and mental health problem. These pathological aspects are significantly related to the stress perceived by students.

These results may be due to the burden of chronic diseases on the psychological aspect of the individual. Thus, to limit the adverse effects of chronic disease on their physical and psychological well-being, individuals with this type of pathology develop different adjustment strategies including psychological resources to promote and maintain a state of well-being and functioning adapted to various situations experienced as difficult (Robieux & Bridou 2022).

The relationship between stress and addictions to psychoactive substances (tobacco, alcohol, coffee, psychotropic drugs) was reported by several authors (Folkman *et al.* 1987 ; Pérodeau *et al.* 2001). Indeed, exposure to stressful situations and the subjective effect of stress (perceived stress) lead to the use of tobacco-related substances such as alcohol and coffee and would maintain smoking (Terry *et al.* 1981). Yet, addictions are a phenomenon generally associated with younger generations, while this problem has no age limit. (Fernandez *et al.* 2010).

Our results did not suggest significant links between perceived stress and substance use. This is probably due to the low prevalence of substance use reported in this study: 2.7% use tobacco, 2.9% use alcohol and 0.7% use drugs.

In addition, a proportion of 4.9% reported having used psychotropic drugs, this use was significantly related to stress perceived by students, a similar study in France found that 3,1% of nursing students reported using sleeping pills or tranquilizers twice a week or more and 9.8% took them 1-5 times a month (Lamaurt *et al.* 2011). The use of these drugs by some students can be seen as a way of dealing with stress suffered at nursing training institutes. In this sense, Hughes (2020) reported that the use of medical treatment to cope with stress was used as a coping method by students.

For physical activity, the results of our study showed that 63.8% do not practice sports, this proportion is slightly higher than that found by the French National Federation of Nursing Students which reported a proportion 40.5% of them/ they admit not to do sports, and among physical activity practitioners, 69% ensure that, although they/they do sport, this practice has decreased

Regarding the quality of sleep of nursing students, 37.5% of students in our sample reported having sleep disorders. In this sense, French IFSI nursing students reported that their amount of sleep varies between insufficient and very insufficient for 66.3% of them (French National Federation of Nursing Students 2017). These sleep disorders are probably related to the states of stress experienced by students, a significant link between the presence of sleep disorders and the stress perceived by students was observed in our study. (National Federation of Nursing Students 2017). This decrease in physical activity is due to nursing-intensive employment that does not leave enough time for recreation and sport. which does not leave sufficient time for leisure activities and sport.

Beside this negative health behaviors, 36.1% of students reported having experienced a past trauma, with the recording of a significant link with the stress perceived by students. This can be explained by the development of post-traumatic stress disorder following an experience of trauma (Astitene *et al.* 2021); in this respect, Lazarus & Folkman (1984) cited that the more stressors are perceived by a person as trying, exceeding their resources and endangering their well-being, the higher the level of stress (Lazarus & Folkman 1984).

In terms of training, the stress experienced by nursing students in academic and clinical environments is widely reported in the literature (Aedh *et al.* 2015; Chernomas & Shapiro 2013; Devkota & Shrestha 2018; Labrague *et al.* 2017; Perng *et al.* 2020).These findings prompted us to study the link between the stress perceived by nursing and technical healthcare students and factors related to training.

The results of our survey showed no significant difference in perceived stress between students in the nursing sector and those in the health technical sector, These results are consistent with those reported in a study conducted at Higher Institute of Nursing Professions and Techniques of Health in Marrakech, which found that students enrolled in 4 nursing options and 2 health techniques options exhibit a high level of stress (Hababa *et al.* 2022). These results show that the specificity of the nursing system requiring closer contact with vulnerable patients does not induce additional stress.

However, without the difference being significant, the stress level among our students increases slightly by progressing in training to reach an average score of 22.7 among students in S6, these results are in the same direction as those reported by the National Federation of Nursing Students (2017). On the contrary, a study at the Higher Institute of Nursing Professions and Techniques of Health in Marrakech revealed that the level of stress perceived by students was higher for students in S2 (Hababa *et al.* 2022).

Regarding the difficulties encountered by students, the majority (70.5%) have problems related to training, 42.0% have difficulties related to theory and 38.8% have difficulties related to practice, 53.6% said that the training load is very high. Similarly, an Egyptian study reported that more than three-quarters (79.7%) of students had a high level of academic stress and the rest had a moderate level, of which 74.3% had patient care-related stress and 70,0% experience workload stress (Basal *et al.* 2018). Lamaurt and his collaborators (2011) reported that the pace of training was very high for 57.9% of students, while 24.8% of students reported

that their theoretical training was not good and 37.3% reported the same for their practical training.

These training-related problems can be explained by the demands of nursing training, particularly for students seeking excellence.

Our results revealed significant links between students' perceived stress and the presence of training-related difficulties, and this relationship was found in both the theoretical and clinical components.

To add, the results showed that 36.2% of students had difficulties with exams significantly related to students' perceived stress, so students who had difficulties with exams were more stressed than those who did not. In this sense, examination load and course load have been reported as major stressors (Edwards *et al.* 2010; Lavoie-Tremblay 2022, McCarthy *et al.* 2018, Milton-Wildey *et al.* 2014), This is the case of a previous Moroccan study which revealed that assessments and examinations are the main source of stress perceived by students, with a rate of 36.9%, followed by the programme load, with a rate of 24.2% (Koubri *et al.* 2021).

As for the academic performance of the students, the majority of them have mentions between good and very good. Moreover, the average scores of perceived stress for students increase with the increase in mention so students with mention very good are the most stressed and those with the fair mention are the least stressed.

The higher level of stress among the best performing students is probably due to competition between students, so students who work harder show more stress. Murphy and his collaborators (2009) identified competition for marks as a stress factor. Fear of failure may also explain the stress perceived by these students (Pulido-Martos et and 2012). So students who are worried about their training tend to work harder to get good marks and succeed in their training by bearing a stress load that accompanies their efforts.

Among the results that support this finding, 67.8% of the students in our study perceived their training as motivating and 86.1% perceived it as stressful, both perceptions have a significant link with the perceived stress measured by the PSS10, thus students who perceive their stressful or/and motivating training manifest more stress. This finding prompted us to consider this stress as a motivating factor for learning (Gibbons 2010) which contributes to performance improvement (Shors 2004).

Conclusion

Stress is a widespread phenomenon in the student population, particularly among nursing and health technology students. It can have a positive or negative impact on performance.

This study described a significant prevalence of perceived stress among nursing and technical health students at the Higher Institute of Nursing Professions and Techniques of Health in Fez and Rabat, ranging from average stress (74.9%) to high stress (19.4%).

The main factors related to the stress perceived by the students are: the difficulties related to the training, the difficulties related to the exams, the load of the training, the stressful perception of the training, the motivating perception of the training, and the academic performance. Thus, the level of stress is higher among the most successful students.

The results of this research can be used as a basis for projecting interventions to limit the negative effects of stress perceived by nursing and technical health students.

Managers' efforts should be directed towards improving the mental health of students and promoting their well-being. This can be achieved by incorporating units specific to stress management and personal development of students into training programs.

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