



Research Paper

Suicidal behaviors, social support and reasons for living among nursing students

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SUMMARY

Background: The transition to higher education involves many changes for students.**Objectives:** The aim of the study was to characterize nursing students' suicidal behaviors, use of medication, social support and reasons for living.**Design:** A quantitative cross-sectional and correlational descriptive study was conducted at a Portuguese nursing college.**Methods:** The Social Support Satisfaction Scale (Pais-Ribeiro, 1999) and the Reasons for Living Inventory (Matias and Santos, 2014) were used.**Results:** Most nursing students are women, with a mean age of 20 years, and most of them have siblings. The majority of them lives outside the city of Coimbra. Approximately 5% of students showed suicidal behaviors, being more frequent among women. Around 20% of the students take medication, with a higher prevalence among women. Fourth-year students had the lowest reasons for living and satisfaction with social support scores. **Conclusions:** Five percent of the students had a history of suicidal behaviors. Nine percent of the students take psychotropic medications. The students who take medication are 2.3578 times more likely to have suicidal behaviors. Fourth-year students had the lowest mental health scores. Third-year students were the most satisfied with social support, whereas fourth-year students were the least satisfied. First-year students had the highest reasons for living scores, whereas fourth-year students had the lowest scores.

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Introduction

According to Oliveira (2006), in 2012, suicide was the second leading cause of death among Portuguese adolescents aged between 15 and 24 years, with a suicide rate of 4.5 in males and 1.4 in females (INE, 2013).

Suicidal behaviors are a public health issue. According to the World Health Organization (2014), at least one million people worldwide die by suicide every year. However, the greatest concern is the recent increase in suicide rates among young people.

Suicide is one of the leading causes of death among both boys and girls. Therefore, it is important to identify the warning signs and the causes of suicide and suicide attempts (Peixoto et al., 2006). Important contributors to self-harm and suicide include genetic vulnerability and psychiatric, psychological, familial, social, and cultural factors (Hawton, Saunders and O'Connor, 2012).

When young people experience deep personal pain, feel hopeless and cannot find reasons to live, it is necessary to provide a space for

dialogue and proximity, and be available to listen to them and help them enjoy life again (Oliveira, 2006).

According to Oliveira et al. (2001), young people think a lot about death and suicide, but they usually have no appropriate means available to express their concerns.

Considering that the transition from adolescence to young adult life and the entry into higher education occur simultaneously and are potential sources of stress, it is important to better understand suicidal behaviors at this life stage. Transition to higher education involves multiple changes for students, and its true impact depends on the student's characteristics and social support (Pinheiro and Ferreira, 2005).

Transition is a familiar concept in development, adaptation and stress theories. Chick and Meleis (1986) defined transition as the passage or movement from one state, condition or place to another, encompassing the continuity and discontinuity inherent in the life process of human beings.

The transition to higher education implies and is concomitant with a series of changes in the student's life, whose impact relies on the developmental characteristics of the young person, and the requirements and support of the new contexts involved (Santos and Almeida, 2001).

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The demands and difficulties associated with this transition may lead to increased anxiety, depressive symptoms and substance use/abuse, thus increasing the risk of suicidal behaviors (Almeida and Cruz, 2010).

During their studies, higher education students in the health area experience feelings and situations which cause psychological pain and mental health issues, and may consider suicide as a solution to end their psychological suffering (Pereira, 2013; Gonçalves et al., 2011).

According to Serra (2008), nursing students' process of adaptation to higher education is very specific due to the peculiarities inherent in the socialization process of nursing as a profession and may be at higher risk for suicide than other college students (Goetz, 1998).

Health care professionals, particularly nurses, have to deal with strong and contradictory feelings and their mental health status has been an object of study due to occupational stress, the ambiguity of the profession, and the importance of their bio-psychological integrity in the face of human suffering. During their studies, nursing students begin to experience these feelings and ambiguities.

Another important issue is the change of residence, being the social, physical and psychological isolation a risk factor (Botega et al., 2005). Thus, the higher the students' perception of the social support available (the unconditional acceptance of parents, friends and relatives or their social network), the more positive and satisfactory will be their academic experiences and the better will be their adaptation to the program, the institution, the relationships with peers and teachers, and the perception of their own physical and psychological well-being (Pinheiro and Ferreira, 2005).

Considering that the literature on suicidal ideation among Portuguese nursing students is scarce and the increase of suicidal behaviors among nursing students, we believed that it was important to conduct a study in this area.

Therefore, the purpose of this study on suicidal ideation and social support among undergraduate nursing students in Coimbra was to characterize nursing students regarding their self-harm behaviors, social support, and use of medication, as well as make recommendations for the prevention of suicidal behaviors.

Research Questions

In view of the abovementioned objectives and based on the existing evidence, the following research questions were formulated:

- How are nursing students characterized regarding their suicidal behaviors;
- How are nursing students characterized regarding their reasons for living;
- How are nursing students characterized regarding their perception of social support;
- How are nursing students characterized regarding their use of medication?

Methodology

The population in this study was composed of the undergraduate nursing students of the Nursing School of Coimbra, Portugal.

The study included all students enrolled in the undergraduate program who accepted to participate in the study. Students participating in exchange programs (Erasmus or others) and students from other countries were excluded from the study.

Data were collected between September 24, 2012, and March 29, 2013, in a population of 1500 students. A total of 1130 students agreed to participate, accounting for 75.33% of the total population.

We used descriptive and inferential statistics and a binary logistic regression analysis was performed to predict suicidal behaviors.

A questionnaire was designed to obtain data on the socio-demographic characteristics of nursing students, as well as their

satisfaction with social support and reasons for living. The questionnaire was divided into two parts.

Students' Characteristics

The first part aimed to obtain information on the nursing students' gender, age, household, year of study, residence prior to starting the program, contact with family members throughout the program, suicidal behaviors, and use and type of medication.

Scales

The Social Support Satisfaction Scale (SSSS) (Pais-Ribeiro, 1999) is a 15-item questionnaire designed to measure satisfaction with social support, namely with those people with whom they interact, such as family and friends, and the social activities in which they participate. The scale showed good internal consistency. We found the same Cronbach's alpha in this study as the authors of the scale ($\alpha = .85$).

The Portuguese version of the Reasons for Living Inventory (RFLI) (Linehan et al., 1983) was translated and adapted by Matias and Santos (2014). It assesses suicidal ideation and behaviors and consists of 48 items grouped into five categories. The Portuguese version showed good internal consistency. Cronbach's α for the global RFLI was 0.94 (Matias and Santos, 2014). We found a Cronbach's α of 0.91 in this study.

These scales have no mean point. In both scales, higher scores mean better results.

The present study followed all ethical and legal procedures for scientific research. Students gave voluntary informed consent to participate. Anonymity and confidentiality were ensured.

The Board of the Nursing School of Coimbra granted permission for the undergraduate students to complete the questionnaire.

Permission to use the scales was also obtained from the authors.

Results

Students' Characteristics

Of the 1130 nursing students in the sample, most of them (83.19%) were women, with a mean age of 20 years. No difference was found in the mean age between male and female students.

As for the distribution of students by year of study, 28.67% of them were in the 1st year, 27.52% were in the 4th year, 24.51% were in the 2nd year, and 19.29% were in the 3rd year.

As for the city of residence (excluding the period of academic activities), most students (65.13%) lived outside the city of Coimbra. Most households were composed of four or five people (57.43%), followed by households of two to three people (37.08%).

Suicidal Behaviors

As for suicidal behaviors, 5.22% had already had this type of behavior which was more common among women (5.43%) than men (4.21%). No difference was found between years of study.

Use of Medication

The use of medication, which was common in 19.47% of the students in this sample, was also more prevalent among women (88.63%). This may be partially explained by the use of contraceptives. Anxiolytics (4.16%) were the most commonly used drugs, followed by antidepressants (2.57%) and analgesics (2.04%).

Overall, students taking medication were less satisfied with social support (Table 1). This was also true for the subscales related to satisfaction with friends, intimacy and social activities, where lower levels of satisfaction were found in students taking medication. The exception

Table 1
Relation between satisfaction with social support and use of medication (t-student).

Satisfaction with social support	Use of medication	n	\bar{X}	s	T	p
Total scale	Yes	220	55.58	9.52	−4.28	0.000
	No	908	58.50	8.93		
Satisfaction with friends	Yes	220	19.64	3.91	−3.53	0.000
	No	908	20.64	3.29		
Intimacy	Yes	220	15.72	3.58	−2.86	0.004
	No	908	16.47	3.08		
Satisfaction with the family	Yes	220	11.61	2.53	−1.46	0.144
	No	909	11.89	2.47		
Social activities	Yes	220	8.61	3.01	−4.00	0.000
	No	909	9.49	2.91		

was the level of satisfaction with the family, in which no difference was found depending on the use of medication.

Satisfaction with Social Support

During the school term, 47.43% of the students contact with their family members on a weekly basis and 45.66% on a daily basis. Some students only contact with their family members on a monthly basis (4.69%) or during the academic holidays (2.04%).

Results show statistically significant differences in social support depending on the type of contact with the family members. Therefore, the higher the social support, the higher is the contact with the family.

In the Social Support Satisfaction Scale, students scored on average 57.92 points (out of 75 points). In a detailed analysis of the four years of the undergraduate nursing degree, we found that third-year students ($\bar{X} = 59.12$; $s = 9.02$) were the most satisfied with social support, followed by first-year students ($\bar{X} = 58.53$; $s = 8.88$), second-year students ($\bar{X} = 57.38$; $s = 8.71$) and fourth-year students ($\bar{X} = 56.92$; $s = 9.70$).

Reasons for Living

As regards the Reasons for Living Inventory, we found an overall average of 4.31 points, with no statistically significant differences between the various years of study. The analysis of the influence of suicidal behaviors on the reasons for living showed statistically significant differences in the overall reasons for living ($t = 3118$; $p = 0.002$), as well as in survival beliefs and coping mechanisms ($t = 4.38$; $p = 0.000$). Students with a history of suicidal behaviors showed lower scores than the students without suicidal behaviors.

Finally, a binary logistic regression analysis (Table 2) was performed to predict suicidal behaviors ($n = 1130$). Three statistically significant variables were used $\chi^2 = 69.513$; $df = 1$; $p < .05$. The most important predictor was medication, with an odds ratio of 2.357. Reasons for living and satisfaction with social support are protective factors, with an odds ratio lower than 1.

Therefore, the respondents who take medication (who answered yes) are 2.3578 times more likely to have suicidal behaviors. With regard to scores of scales, there is increased likelihood that young people do not have suicidal behavior, becoming as a protective factor

Table 2
Logistic regression predicting the likelihood of nursing students have suicidal behavior.

Predictors	B	S.E.	Wald	df	p	OR	95% C.I. para OR	
							Lower	Upper
Medication	.857	.295	8.453	1	.004	2.357	1.322	4.202
Reasons for Living	−.009	.004	4.304	1	.038	.991	.982	.999
Satisfaction with Social Support	−.091	.015	39.444	1	.000	.913	.887	.939
Constant	3.655	1.003	13.277	1	.000	38.685		

Discussion

In this study, the majority of the 1130 nursing students were women (83.19%), which reflects the predominance of women in the nursing profession. This fact is confirmed by data of the Portuguese Nurses Association (*Ordem dos Enfermeiros*, 2013), according to which most of employed nurses in Portugal in 2012 (latest data) were women (81.31%). This predominance was also found in the central region (79.19%), where the school under study is located. Therefore, the characteristics of the study population are similar to those of the population of nurses working in Portugal.

Given the fact that the offer of higher education is higher in urban areas, a significant percentage of students lived outside the city of Coimbra (65.13%), that is, far from the city where they study. This forces them to live away from home during the school term. Thus, it is understandable that a large percentage of students (47.43%) only contact with their family only a weekly basis, mostly on weekends.

According to the *Statistics Portugal* (2013), the most common households of couples with children are composed of four to five people, which were also the most common ones in this study.

Thus, we created the profile of the nursing student: most of them are women, with a mean age of 20 years, living outside the city of Coimbra, with siblings.

As for the type of suicidal behaviors among nursing students, we found that 5.22% of the sample had already a history of suicidal behaviors and that they were more frequent in women at a rate of four to one. These results are consistent with those obtained by *Saraiva* (2006) in suicide consultations at the Coimbra University Hospital. Saraiva showed that 69% of parasuicides and attempted suicides are committed by women. *Borges and Werlang* (2006) also reported that women have a higher rate of suicidal ideation during adolescence, being four times higher in women than in men. Moreover, the study of *Pereira* (2013) on the association between suicidal ideation and emotional state in university students concluded that it is mostly women who have this type of thoughts and experience them in a more intense way. In their study on the levels of anxiety and depression in nursing students, *Claudino and Cordeiro* (2006) showed that female students have higher levels of anxiety and depression, maybe because nursing students are under tremendous stress during the various stages of their education (*Melissa-Hailikopoulou et al.*, 2011).

As for medication, 19.47% of the sample took medication on a regular basis. Women (88.63%) take more medication than men. Anxiolytics, antidepressants and analgesics were the most common medications. These results are in line with the *Infarmed report* (2013), which showed a high rate of antidepressant use, particularly in recent years. There was also a high percentage of another type of medication, namely contraceptives and antiallergenics.

With regard to satisfaction with social support, we found that third-year students were more satisfied than fourth-year students. This result is in line with the study of *Pereira* (2013), in which third-year nursing students had the lowest levels of anxiety, distress, and depression and the lowest psychological pain, whereas fourth-year students had the highest levels of anxiety, distress, and depression.

We also found that men were more satisfied with their friends and social activities than women. This is confirmed by *Custódio* (2010) in her study with nursing students. *Claudino et al.* (2006) put forward a possible reason for men to have greater social support. According to the authors, men participate in a larger number of social and recreational activities, thus they have more opportunities to establish stronger bonds with their peers.

Overall, the students taking medication had lower levels of social support. This was also true for all subscales (lower satisfaction with friends, intimacy and social activities), with the exception of the level of satisfaction with the family, in which no difference was found depending on the use of medication. The use of medication may only

have an impact on the environment outside the family, probably because the diseases requiring medication limit their social contact.

Overall and in all subscales, social support was statistically lower in individuals with suicidal behavior. Some studies report that a weak social support and social, physical and psychological isolation increase the risk for suicidal behaviors (Wasserman, 2001; Freitas and Botega, 2002). Special attention should be given to this fact since many students live outside their household during the week, which may increase social isolation.

Statistically significant differences were found in social support depending on the type of contact with the family members, both in the overall scale and the subscales of intimacy, satisfaction with family and social activities. The overall satisfaction and the satisfaction in each area increased with a more frequent contact with the family members. We may, therefore, infer the existence of good family relationships, with the frequent contact increasing satisfaction. According to Seco et al. (2005), young people with higher levels of perceived social support adapt better to higher education, which has a positive impact on their satisfaction with life in general. As confirmed by Arria et al. (2009) in a multivariate analysis on suicidal ideation among university students, the transition to higher education involves changes in the relationships with family and peers, and it may reduce social support and increase affective deregulation, thus increasing suicidal ideation.

With regard to the influence of the contact with the household, statistically significant differences were found in the subscales of Survival Beliefs and Coping Mechanisms, and Responsibility to family and Children-related concerns, which reinforces the family as a protective factor in terms of reasons for living. Eisenberg et al. (2007) concluded that parental education has a predictive effect on suicidal ideation. The family network and the peers help to find solutions to the problems believed by young people to be endless, inevitable, and unbearable. According to Peixoto (2004), the quality of family relationships has a significant impact on several aspects of the adolescent's life.

The reasons for living did not differ depending on the use of medication, that is, the use of medication had no impact on the reasons for living. This is not in line with some studies that consider the disease to be a risk factor for suicidal behavior (Hawton et al., 2012). The perception of the disease by the students taking medication may, therefore, be questioned. However, in this study, the use of medication is the strongest predictor of suicidal behaviors.

In general, students with suicidal behaviors who used medication had fewer reasons to live than those without suicidal behaviors. Similarly, students with suicidal behaviors had less Survival Beliefs and Coping Mechanisms. Based on these results, we question how the problems leading to suicidal behaviors were solved and the vulnerability of the present situation, particularly in Portugal, where the crisis seems to have a negative impact on mental health and health care-seeking behaviors, particularly among vulnerable groups (Sakellarides et al., 2014). If young people are not able to use effective coping mechanisms, the probability of becoming depressed will increase and they will not be able to solve their problems. As suggested by Guerreiro et al. (2013), in a critical review, avoidance coping strategies have consistently been associated with suicidal behaviors. According to Pinheiro (2004), the end of the transition to higher education will mark the beginning of the road to progress, but may only culminate with the transition to the work environment. According to Schumacher and Meleis (1994), transitions are accompanied by a wide range of emotions, many of which attest to the difficulties encountered during transition.

The study population is undergoing a developmental transition from adolescence to young adult life and a situational transition from secondary education to higher education.

Conclusion

Based on these results, we are now able to answer the research questions on the characterization of the undergraduate nursing students of

the Nursing School of Coimbra. Around one-fifth of students were women, with a mean age of 20 years. Most of them lived outside the city of Coimbra and had daily or weekly contacts with their families.

Approximately % of them had a history of suicidal behaviors, which was more frequent among women. Around 20% of them, mostly women, took medication on a regular basis, namely anxiolytics, followed by antidepressants.

Third-year students were the most satisfied with social support, whereas fourth-year students were the least satisfied. As for the reasons for living inventory, first-year students had the best reasons for living, whereas fourth-year students showed the worst results.

We recommend that special attention be given to aspects related to the students' suicidal behaviors, use of medication, social support and reasons for living, particularly among fourth-year students and those who are away from home and have less contact with their families as they were the least satisfied with social support and had lower scores in the reasons for living inventory. High risk individuals should be identified and given special attention.

The limitations of this study were the long period of data collection (from September to March), which may have biased the results.

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