MENTAL HEALTH OF NURSING STUDENTS WITH REGARD TO THEIR PREVIOUS EDUCATION AND SATISFACTION WITH STUDYING

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Abstract:

Introduction: Mental health is defined as the well-being in which an individual realizes his/her potential, is able to cope with normal life stress, and can be productive for the community. Compared to the general population, students under 25 years are more susceptible to various mental difficulties and disorders.

Objectives: The aim of this study was to examine the differences in the mental health of nursing students with regard to previous education and association between mental health, satisfaction with studying, age and year of study.

Methods: The study was conducted on a sample of 76 students, by using the MHS-38 Mental Health Inventory, which examines anxiety, depression, loss of control, well-being, emotional ties, general positive affect, life satisfaction, and the mental health index. To test the differences between the results on mental health scales and students' satisfaction with respect to prior education, the Mann-Whitney U test was used. Association between variables was analyzed using Spearman's correlation coefficient. Linear regression was used to identify predictors of student's mental health.

Results: The nursing students with prior vocational education had lower well-being, emotional ties, general positive affect and higher levels of depression, and showed lower life satisfaction scores than students with prior general education. In spite of that, students with prior vocational education showed higher scores in the Mental Health Inventory which indicates better mental health. The study's satisfaction has a significant contribution to mental health, with no contribution of previous education.

Conclusion: There is a difference in the mental health status of nursing students with regard to previous education. The mental health of nursing students is connected with age and satisfaction with studying. Further research is needed to establish a real relationship between mental health and students' satisfaction in the sense of causative consequence, and real differences in respect to the students' prior education.

Introduction

Numerous factors are essential for the overall and functional life of a person, and one of the most important is certainly health. Health represents an opportunity for an individual to live a socially and economically productive life (Yuvaraj et al., 2016). In addition to the physical, the notion of health also implies mental health (Ware et al., 1981).

Mental health is defined as the well-being in which an individual realizes his or her potential, is capable of dealing with normal life stress and can be productive and contribute to the community (World Health Organization, 2014). Mental health of an individual can be positive and negative (Schönfeld et al., 2016). Positive mental health is most often described as the ability to successfully confront an individual with stressful situations, the integrity of an individual in the life community, self-actualization, general satisfaction with life, achieved mental wellbeing, and a satisfactory perception of reality (Deci & Ryan, 2008; Keyes et al., 2002; Lamers, 2012). Negative mental health of the individual implies mental difficulties and dysfunctional behavior, difficult participation in community life, inability to work, weakening of social relationships and general dissatisfaction with life (Keyes, 2002). The person with good mental health is mostly positive and satisfied. Such a person is able to create and maintain friendships, embrace other people, deal with stress and everyday life and work challenges. The absence of mental illness of an individual does not simultaneously imply the presence of positive mental health (Keyes, 2002).

Mental health of all young people, including students, is an important basis for their personal and professional development. Although there are many similarities between students and the general population, students still have a greater risk of developing mental disorders and disorders due to different kinds of stress they face (Eisenberg et al., 2016). The study period simultaneously represents

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the development of young adults, which inevitably brings about varied changes in their lives. Despite the opinion that this is the most beautiful time in life, it is also noted that numerous mental disorders have started just then, and so far relevant research has shown that one of three US students has some mental problem (Eisenberg et al., 2016). Authors Miller and Chung in their review point out that students under the age of 25 are more vulnerable to mental difficulties and illnesses, such as depression, anxiety, suicidal thoughts, psychosis, addiction, risk of suicide and others, than the general population (Miller & Chung, 2009). Most often anxiety and depression stand out (Miller & Chung, 2009) as well as problematic behaviour, excessive alcohol consumption, aggressiveness, eating disorders, and so on (Cleary et al., 2012). Transitional stressors, such as the transition from high school to university education and from adolescence to adulthood, are the most important stressors (Nuqali et al., 2018; Yuvaraj et al., 2016). Certainly not negligible are the other circumstances that accompany student life, such as frequent relocation to the new environments and separation from parents, new friendships, self-management of finances, and new obligations on their studies.

These stressors are part of the daily life of all students, including nursing students (Cleary et al., 2012; Stillwell et al., 2017). Some authors point out that nursing students are exposed to stress more than other students (Mutair et al., 2018). During learning and training for their future profession, nursing students are faced with great challenges to meet the strict academic standards and conditions of a complex and changeable health system (Stillwell et al., 2017). The recently published survey in England that covered the period from 1990 to 2017 states that various elements of negative mental health are increasingly found amoungst nursing students (Li et al., 2018). Authors Barry and Ward have been exploring the comprehension and knowledge of mental health of nursing students and pointing out that study programs do not offer enough mental health education to help students in their personal life and work with future patients (Barry & Ward, 2017). Since nursing is a profession requiring high levels of physical and psychological engagement from students, it is important to evaluate the mental status of students and include activities that will contribute to the development of mental health, its preservation or improvement (Cleary et al., 2012).

Furthermore, the concept of satisfaction of nursing students in today's education system becomes an important factor for achieving expected learning outcomes, student excellence and student education (Lovrić et al., 2017). Assessment of students' satisfaction in each educational organization is considered to be a significant activity that contributes to the development of the quality of studies and directs further behaviour and processes in the educational process (Hakim, 2014). Previous relevant research conducted on nurses confirms that mental health is a key predictor to their overall satisfaction (Khosrojerdi et al., 2018).

The aim of this study was to examine the differences in mental health of nursing students with regard to previous education and association between mental health, satisfaction with studying, age and year of study. Following the review of available literature (Khosrojerdi et al., 2018) we expect to find a connection between students' mental health and their satisfaction with studying.

Materials and methods

The research was conducted in the summer semester of the academic year 2017/2018 at the Department of Health Studies, University of Zadar, Croatia.

Participants

The study included 76 voluntary students of the Undergraduate Study of Nursing, University of Zadar (N=76). The largest number of students was between the age of 20 and 21 (51.9%), with an average age of 21.88 years. The students' age ranged from 18 to 32 year. The same number of students, 30 (39.5%), had previously completed a medical school nursing course and general education secondary school. A total of 9 (11%) of students completed the vocational school, while the smallest number i.e. 7 students (9.2%) completed another course in a medical school (laboratory technician, physiotherapist) prior to enrolment. Amongst these 76 students, 41 (53.9%) were first year students, 19 (25%) second year students and 16 (21%) third year students. Of the total number, six (7.9%) participants were male and 70 (92.1%) were female.

Data collection procedures

Questionnaires with a thorough explanation of all research details were forwarded through the joint student e-mail (First year, Second year and Third year) in the form of Google Forms questionnaires.

All participants voluntarily agreed to participate in the research. They sent their filled out Google Forms questionnaires to the researchers anonymously through the joint student e-mail. Of the total 101 questionnaires which were disseminated, 76 of them were returned completely and thoroughly filled.

Ethical approval

The proposed research was conducted in accordance with ethical principles for research on human participants based on the principles of the Helsinki Declaration and in accordance with all applicable guidelines of the code of ethics of the profession. The Ethics Committee of the University of Zadar confirmed and gave approval for conducting the research.

Measuring instrument

To assess the Mental health index (MHI), we used the Croatian version of the Mental Health Inventory (MHI-38) (Veit & Ware, 1983). The questionnaire was translated and validated in Croatian (Brdar, 2016). This questionnaire was selected because it includes positive mental states, not just the presence of difficulties and psychopathological symptoms (Vuletić et al., 2018). The MHI-38 instrument contains 38 statements that measure different aspects of psychological well-being and psychological distress experienced in the last four weeks. MHI-38 includes anxiety, depression, loss of behavioral /emotional control, general positive affect, emotional ties, and life satisfaction. MHI-38 was designed with no clinical cutoffs. Psychological distress presents a negative emotional state and psychological well-being presents a positive emotional state. The positive and negative emotional states are complementary. On a scale higher scores indicate a higher level of each construct. A total of 14 statements refer to positive aspects of mental health, such as claim 1. "How often have you been happy or satisfied with your personal life in the past month?" while 24 statements measure negative aspects of mental health, such as claim 3. "How often have you been nervous or irritable when you have faced unexpected or exciting situations in the last month? ". Reliability of the whole scale is Cronbach alpha 0.96, scale psychological well-being Cronbach alpha 0.94, and scale psychological distress Cronbach alpha 0.96. For each of the questions except 9 and 28, 6 possible responses were offered. For questions 9 and 28 there were offered 5 possible answers. The research participant selects only one answer that he/she personally believes to be the best in describing his/her feelings in the last month. The results are calculated for each scale in a way that sums up the answers to their claims, and the higher score indicating a higher level of psychological well-being or psychological distress. In addition to the MHI-38 of the research participants, data on gender, study year, age, previous education (completed high school) and satisfaction with studying were requested. The satisfaction with studying was examined by ranking the claim from 1 to 5, where 1 meant complete dissatisfaction, and 5 was completely satisfied with studying.

Statistical methods

Statistical analysis of the results was conducted with the help of the program: Statistic windows 13 (TIBCO Software Inc., 2017). Descriptive data (median, inter-quartile range) was used during data processing. To test the differences between the results on mental health scales and satisfaction with studying in respect to prior education the Mann-Whitney U test was used. The Spearman's rank correlation was used for assessment association between prior education, students′ satisfactions and mental health. Taking into consideration the sample size, we used a linear regression model with one dependent variable (mental health) and four predictors (age, previous education, study satisfaction and year of study).

Results

The findings in Table 1 reveal that students' with previous vocational education had higher levels of depression, lower levels of well-being, emotional ties and general positive affect, and lower levels of life satisfaction than students with prior general education. There were no significant differences in terms of anxiety and loss of control. In spite of that, they showed a higher score in Mental Health Inventory which indicates better mental health.

Correlation coefficient results between the questionnaire subscale and satisfaction with studying are shown in Table 2. All subscale correlated with satisfaction with studying except loss of control and emotional ties. All subscales of MHI-38 were also correlated mutually.

In the assessment association between prior education, students' satisfactions and mental health there is a significant positive correlation between mental health, age and satisfaction with studying (Tab. 3.)

Table 1: Mental health index respect to previous education

| Scales of mental health | Prior education | | | | | |
| | Vocational (N=46) | | General (N=30) | | | |
	Me(IQR)	Mean Rank	Me(IQR)	Mean Rank	Z	p*
Anxiety	41.0 (10.5)	41.68	39.0 (9.3)	33.62	-1.559	0.119
Depression	18.0 (4.3)	44.10	16.0 (4.3)	29.92	-2.750	0.006
Loss of control	36.0 (3.0)	37.59	36.0 (4.0)	39.90	-0.451	0.652
Well being	44.0 (13.8)	34.03	47.5 (16.0)	45.35	-2.186	0.029
Emotional ties	10.0 (2.0)	34.34	11.0 (3.0)	44.88	-2.076	0.038
General positive affect	39.0 (13.0)	34.39	42.5 (14.0)	44.80	-2.011	0.044
Life satisfaction	3.0 (1.0)	34.72	3.0 (1.0)	44.30	-1.969	0.049
Mental Health Index	164.0 (41.0)	42.96	152.5 (34.0)	31,67	-2.179	0.029

Note: Me = median; IQR = interquartile range; Z= z score.
*p < 0.05.

Source: Author

Table 2: Correlation coefficient between MHI-38 subscale and satisfaction with studying

Variables	SS	A	D	LC	WB	ET	GPA	LS
A	0.29**							
D	0.33**	0.75**						
LC	0.08	0.32**	0.30**					
WB	-0.25*	-0.66**	-0.76**	-0.36**				
ET	-0.07	-0.32**	-0.38**	-0.30**	0.73**			
GPA	-0.27*	-0.67**	-0.75**	-0.33**	0.99**	0.65**		
LS	-0.36**	-0.52**	-0.56**	-0.40**	0.73**	0.56**	0.73**	
MHI	0.28*	0.89**	0.88**	0.37**	-0.89**	-0.52**	-0.90**	-0.68**

Note: SS = study satisfaction; A = anxiety D = depression; LC = loss of control; WB = well-being; ET = emotional ties; GPA = general positive affect; LS = life satisfaction; MHI = mental health index.
*p < 0.05, **p < 0.01

Source: Author

Table 3: Connection MHI, age, previous education, study year and study satisfaction (N=76)

Variables	Mental Health Index	Age	Previous education	Study satisfaction
Age	0.264*			
Previous education	-0.137	-0.183		
Study satisfaction	0.281*	-0.034	0.131	
Year of study	0.115	0.205	0.151	-0.151

*p < 0.05.

Source: Author

The regression model showed that age, previous education, study satisfaction and year of studying explained a significant proportion of variance in the Mental Health Index (R^2=0.28, F(4,71)=7.00, p<0.001). Significant contribution are age, study satisfaction and year of studying. The increase in age of 1 year is corelated to a change in MHI-38 of 1.8 (p = 0.034).The age change of respondents will cause variation in MHI of 0.22 standard deviations. Changing the satisfaction level by 1 point means changing the MHI variation by 17.5 points on the MHI-38 scale (p<0.001), which confirms a significant contribution to satisfaction in mental health variance. The Beta ponder of study satisfaction shows that change in satisfaction with studying of 1 standard deviation will lead to a change in MHI of 0.5 standard deviations. Clearly, study satisfaction significantly predicted MHI scores (b = 0.47, t(71) = 4.54, p<0.001) while the previous education did not significantly affect the result (Table 4).

Table 4: Contribution age, study year, satisfaction with the studies in explanation variance of Mental Health Index (N=76)

	Mental Health Index					
	B	SE	ß	T	*p*	*95%CI for B (LL, UL)*
Age	1.80	0.83	0.22	2.16	0.034	(0.13, 3.46)
Previous education	-5.14	2.96	-0.18	-1.74	0.087	(-11.04, 0.76)
Study satisfaction	17.46	3.85	0.47	4.54	<0.001	(9.78, 25.13)
Year of studying	7.58	3.56	0.22	2.13	0.037	(0.48, 14.68)
R^2	0.28					
F for change in R^2	7.00					

Source: Author

Discussion

The results of this study show that nursing students with prior vocational education had higher scores on the Mental Health Inventory scale, compared to the students of prior general education. But, students with prior vocational education showed lower life satisfaction, well-being and emotional ties and expressed higher levels of depression. However, we found that study satisfaction significantly contributes to the mental health, while there is no contribution from previous education.

Students with previous general education have expressed a lower incidence of negative symptoms in the last month compared to students with previous vocational education. Nonetheless, students with previous vocational education express a higher MHI. We suppose that students with previous vocational education compensate the occurrence of negative symptoms better and there is no significant reduction in the overall mental health index. We base this assumption on different education systems, that is, on the fact that students who completed vocational education were exposed to requirements arising from the practical part of their schooling as well as the ones arising within the classroom. Therefore, they have probably developed some compensatory and defensive mechanisms earlier. This assumption certainly needs to be additionally examined in future research because it is a relatively small sample of research participants from just one university.

Furthermore, the analysis of the relationship between satisfaction of study and subclass MHI-38 indicates the interconnectedness of all subclasses of MHI-38, with the exception of loss of control and emotional ties. The aforementioned goes to the fact that the study takes an important, significant place in student life, which places additional responsibility on educational institutions. Similar results, which also confirm study satisfaction as a significant factor in mental health, were published in a study conducted on nursing students in Turkey with a goal of examining the relationship between mental health and stressful student experience during studies, ways of coping and social support (Karaca, Yildirim, Cangur, Acikgoz, & Akkus, 2019). These results indicate that universities, apart from the obligation to acquire the necessary learning outcomes, also have the role of mental health preservation of students. Thus, studies should, apart from teaching theoretical and practical skills, be flexible in relation to the students' abilities and psychological resources, thus contributing to their psychological growth (Dalgard et al., 2007). Such recommendations are also cited by the authors Cleary at al. in their review work "Mental Health Behaviours among Undergraduate Nursing Students: Issues for Consideration". The same authors point out that many students during their studies experience numerous interpersonal and intrapersonal difficulties, which leads to an increase in the rate of depression, personality disorders, and behavioural changes just during their studies. For this reason, they are appealing to nurse educators at universities and clinical departments who can identify the students' problem on time, which would significantly influence early identification and appropriate student treatment and provide the best possible results (Cleary, Horsfall, Baines, & Happell, 2012). Possible explanation for this could be the fact that students have not yet fully completed the adaptation process in terms of transition from adolescence to adulthood (Hamshire et al., 2013), establishing quality contacts with the environment and their colleagues or gotten acquainted with the clinical environment (Alyousef, 2018; Schönfeld, Brailovskaia, Bieda, Zhang, & Margraf, 2016). It is also important to note that nursing students, unlike many other students, are not only exposed to study

requirements in classrooms but also to the requirements of clinical practice, which places them with even more burdens (Li et al., 2018). Specifically, this refers to students who have completed general upper secondary education and did not have combined theoretical and practical education. Our results are partly consistent with the results of research conducted in Australia that surveyed the predictors of mental health, psychological distress, anxiety and depression of nursing students (Moxham et al., 2018). The results of the mentioned study also indicate a significant age-related correlation with MHI scales. Our results are also consistent with the results of similar studies conducted with medical students. A study conducted in Iran that investigated the contribution of the education of students to the development of psychological distress states that students with lower grades, experienced higher levels of distress (Jafari et al., 2012). Similar results were found in a study conducted in Sweden (Dahlin et al., 2011). Karaca et al. also confirmed that the satisfaction with studying in Turkish nursing students had a strong relationship with mental health (Karaca et al., 2019). The results of previous studies including ours, support the facts that the mental health of students is required to be continuously monitored during their studies. Developing the ability to deal with stressful situations during their studies will contribute to the psychophysical balance of students. This will facilitate their entry into the dynamic working environment, contribute to successful career development and positively affect to the quality of working processes and of nursing care. That's precisely why the concern for individuals' mental health especially students should be considered a new challenge at the workplace and the educational institutions as well. The relationship between mental health and students' satisfaction in the sense of causative consequence, and a real differences respect to the students' prior education may have an impact on nursing practice.

Limitations

In our study we used the MHI-38 to measure psychological distress and psychological well-being. This questionnaire was complex for interpretation because it is not strictly defined. The results presented in this paper were collected at only one university with the students that were available and the generalizability of the study results is limited and the results should be undertaken with caution. Another limitation was a relatively small sample size and we considered this as the greatest limitation of this study.

For future research, we recommend that longitudinal studies with a large sample size should be conducted to detect the real relationship of previous education, age and study satisfaction with MHI.

Conclusion

The results of our research indicate that the mental health status of nursing students is connected to the satisfaction with studies. There is a difference in the mental health of nursing students in regard to previous education expressed in depression, well-being, emotional ties and life satisfaction scales as well as the mental health index. These indicate that medical schools need to focus more on activities that will lead to greater satisfaction by studying which will ultimately result in better mental health amongst nursing students. Positive mental health will positively affect the personal and professional development of future nurses who will be able to provide quality and safe nursing care in their dynamic and challenging working environment. Indeed, future studies should include longitudinal research to assess the relationship between the mental health of nursing students and nurses in the working environment to anticipate professional development and improve nursing practice.

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