

## RELIGIOSTY AND MENTAL HEALTH IN NURSING STUDENTS

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### SUMMARY

**Background:** Young people and nursing students are prone to stress and psychological consequences of it. The aim of the current study was to assess the associations between psychopathology and religiosity in the group of nursing university students.

**Subjects and methods:** The study included 100 nursing students of the Faculty of Health Studies in Mostar. The participants were assessed with the SCL-90-R and Dimensions of Religiosity Questionnaire. Sociodemographic data were also collected.

**Results:** All SCL-90-R subscales negatively correlated with religiosity showing that the strength of religiosity was associated with better mental health of nursing students. Twenty two percent of potential cases of mental disorder were detected based on the GSI cut-off score. Religiosity was a significant predictor of mental disorder in logistic regression based on the GSI. The year of the study and quality of family relations were associated with students' religiosity. Gender, socioeconomic status and parents' education were associated with higher psychopathology scores.

**Conclusion:** Religiosity showed to be important factor of resilience for nursing students. Further studies are needed.

**Key words:** nursing students - SCL-90-R – religiosity - mental health

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### INTRODUCTION

Mental health problems are highly prevalent in the population of young adults (Kessler et al. 2005). Students' population may be especially vulnerable, and comparisons between medical and nursing students and other undergraduate student groups have shown a higher level of stress and depression among the former (Bramness et al. 1991). They face heavy stress from academic load, clinical practice, licence examination and concern for employment. Presence of social, emotional, physical and family problems may affect their learning abilities and academic performance (Beck & Srivastava 1991, Sharma & Kapur 2011). Even 55% of students reported depressive symptoms, increase in burn out and frequency of alcohol use during educational years in a follow up studies (Dyrbye et al. 2006, Doolittle et al. 2013).

For establishing proper education and professional training of nursing students it is important to achieve their optimal well-being and quality of life during the years of training.

Religiosity has been proposed as potential factor of resilience in various populations (Mihaljević et al. 2012). It has been associated with higher self-efficacy, well-being and less burn out (Doolittle et al. 2013). Previous studies demonstrated an inverse association between measures of psychopathology including depression, suicide rates, alcoholism and religious

commitment (Mihaljević et al. 2015, Hovey et al. 2014, Hilton et al. 2002). However, those relations are researched in population of older adults and medically ill, while in young adults there are much less studies.

There are no studies that assessed the association of psychopathology and religious commitment in the population of nursing students. Given the prevalence and importance of religiosity in the population in general, it is reasonable to consider if religious beliefs, practices and traditions may have on mental health in this population.

The aim of the study was to assess associations between mental health and religiosity among medical nursing students using explorative approach in cross-sectional study.

### SUBJECTS AND METHODS

The sample consisted of the proportionally included all five years of the magisterial nursing program students of Faculty of Health Studies in Mostar, Bosnia and Herzegovina. A total of 100 students (66% female) were assessed. Due to high predominance of Catholic religious denomination in this part of the state, only students of this denomination were included to achieve more homogenous sample. Mean age was 23.45; SD 4.14 years (range 18-43), with low socioeconomic status present in 23% and middle in 68%; 15% student had grades between 4-5, and 63% between 3-4. Ten percent

never consumed alcohol and 3% consumed it regularly; 47% never smoked and 18% regularly smoked; 55% of the students' fathers had elementary school and 26% had higher education; 57% mothers had elementary school and 19% higher education. Family relations were marked as very good by 43%, and good by 47%.

A hundred and twenty students were approached during July, 2013. Six of them refused to participate due to lack of time, 12 were of other religious denominations and 2 were excluded because of the missing data. Exclusion criteria were belonging to other religion denomination but Catholic and previous or current treatment for psychiatric disorder.

All participants gave informed consent to the study. The study was approved by the university's institutional review board.

Symptom Check List 90 R (SCL-90-R) was used for the assessment of mental health state (Derogatis 1977). It is a widely used measure of psychological distress in psychiatric patients as well in general population. It has been previously used in population of Bosnia and Herzegovina (Klarić et al. 2007). Each of the 90 items is rated on the Likert 5-point scale (0 - "not at all" to 4 - "extremely"). There are nine primary symptoms dimensions: somatisation, obsessive-compulsive scale, interpersonal sensitivity, depression, anxiety, anger-hostility, phobic anxiety, paranoid ideation and psychoticism. The sum of all nine subscales is the Global Severity Index (GSI), which can be used as a summary of the test, reflecting overall psychological distress. Based on the previous studies (Norbala et al. 1998, Nojomi 2007), we used cut-off 0.7 and above for GSI designated as possible case of mental disorder.

Religiosity was assessed with Dimensions of Religiosity Questionnaire (DRQ) (Ćorić 1998). It consists of 66 items and 11 subscales. Every subscale has 6 items. On particular item, multiple choice answers were offered, ranging from 1 to 4 (1 - strongly disagree; 2 - disagree; 3 - agree; 4 - strongly agree) or (1 - never; 2 - sometimes; 3 - often; 4 - regularly). An example of an item is: "I feel that God is strength and energy behind all of the life and world" or "I think and feel that there is Someone we call God or some other name". Only general score of the religiosity scale was used. In our sample, the Cronbach's alpha coefficient was 0.92.

Sociodemographic data as age, gender, year of the study, average grade, socioeconomic status, parents' education level, smoking and alcohol consumption level were collected.

Means and standard deviations of SCL-90-R subscales, GSI and religiosity scale are shown in Table 1.

### Statistical Analysis

Statistical analyses were performed using the SPSS 20.0 statistical package. Standard descriptive statistics including means, standard deviations, frequency counts, percentages, as well as internal consistency coefficients

were calculated. The Kolmogorov-Smirnov test was applied for assessing whether the distribution of continuous variables was normal. The t-test and ANOVA were used for comparisons of continuous variables. Pearson coefficients of correlation were calculated between the measures of psychopathology and religiosity. Logistic regression was used to assess the association between lower and higher score of GSI and religiosity. All p-values were two-tailed, and were estimated at the significance level of 0.05.

**Table 1.** Means and standard deviations of SCL-90-R subscales, GSI and religiosity

Variable	Means (SD)
Somatisation	0.35 (0.27)
Obsessive-compulsive	0.68 (0.36)
Interpersonal sensitivity	0.56 (0.45)
Depression	0.55 (0.36)
Anxiety	0.54 (0.33)
Phobic anxiety	0.21 (0.29)
Paranoid ideation	0.68 (0.53)
Psychoticism	0.19 (0.23)
Global Severity Index	0.48 (0.31)
Religiosity	192.47 (20)

## RESULTS

In order to assess the associations between measures of psychopathology in the group of nursing students and religiosity we performed Pearson correlations. All subscales of SCL-90-R were negatively correlated with religiosity (Table 2). Based on the GSI cut off of >0.7, there were 22% of potential cases for mental disorder detected in our sample. In order to assess the relationship of the presence of psychopathology and religiosity, logistic regression was performed and showed religiosity to be significant predictor of potential mental disorder (OR=0.96; CI95% 0.934-0.986). Sociodemographic data were compared with scale of religiosity and subscales of SCL-90-R using t-test and ANOVA.

**Table 2.** Pearson coefficients of correlation between SCL-90-R and religiosity

SCL-90-R subscale	Religiosity
Somatisation	-0.214*
Obsessive-compulsive	-0.404**
Interpersonal vulner.	-0.460**
Depression	-0.422**
Anxiety	-0.322**
Phobic anxiety	-0.360**
Paranoid ideation	-0.345**
Psychoticism	-0.323**
Global Severity Index	-0.443**

\* p<0.05; \*\* p<0.01

Religiosity differed based on the year of the study ( $F=8.006$ ;  $P=0.001$ ) and family relations ( $F=8.189$ ;  $P=0.001$ ). In post hoc analysis students of the first year were less religious in comparisons with other year groups and those with poor family relations were less religious in comparisons with those with good and very good family relations.

Considering sociodemographic data and subscales of SCL-90 R, there was the difference based on gender for phobic anxiety subscale. Females scored higher in phobic anxiety than males ( $t=2.771$ ;  $p=0.007$ ).

There were significant differences found between the students' parents education level and presence of psychopathology. The somatisation ( $F=6.049$ ;  $P=0.003$ ), obsessive-compulsive subscale ( $F=3.480$ ;  $P=0.035$ ), anxiety ( $F=3.855$ ;  $P=0.024$ ), phobic anxiety ( $F=3.559$ ;  $P=0.032$ ) and paranoid ideation subscale ( $F=4.286$ ;  $P=0.016$ ) differed between the groups for level of fathers' education. In post hoc analysis those having fathers with lower education level showed more problems in the mentioned subscales. The anxiety ( $F=3.678$ ;  $P=0.029$ ) and phobic anxiety ( $F=3.347$ ;  $P=0.039$ ) subscales differed for level of mothers' education. Post hoc analysis showed that those having mothers with lower education level had more anxiety and phobic anxiety problems in comparisons with other groups.

Socioeconomic status assessed with three self-assessed categories showed difference in presence of somatisation ( $F=4.708$ ;  $p=0.011$ ), obsessive-compulsive symptoms ( $F=9.07$ ;  $P=0.0001$ ), interpersonal sensitivity ( $F=3.794$ ;  $P=0.026$ ), depression ( $F=4.177$ ;  $P=0.018$ ) anxiety ( $F=5.130$ ;  $P=0.008$ ), anger-hostility ( $F=5.741$ ;  $P=0.004$ ) and paranoid ideation subscale ( $F=18.132$ ;  $P=0.0001$ ). In post hoc analysis those with lower the economic status had higher were scores on all mentioned subscales in comparisons with other two categories. Comparisons between GSI and sociodemographic showed associations between SES ( $F=7.464$ ;  $P=0.001$ ), fathers' education ( $F=4.362$ ;  $P=0.003$ ) and family relations ( $F=4.197$ ;  $P=0.018$ ).

We also assessed if religiosity and SCL-90-R subscales were associated with smoking and usage of alcohol using ANOVA, but there were no such associations.

## DISCUSSION

Our results point to the previously shown association between the higher religiosity and better mental health (Stavrova et al. 2013). Although the measures on all SCL-90-R subscales were relatively low, they all negatively correlated with religiosity. Religiosity has shown to be a resilience factor for the nursing students. It is frequently cited mechanism of dealing with stressful events, including those characteristic for nursing student population. Potential mechanisms of its protective effects are enhancement of social support, impact on the way people view the world, solve the

problems and on capacity to forgive and feel gratitude. According to this, truly religious people may be more efficient in adapting to stressful situations (Aukst Margetić & Margetić 2005).

Some demographic factors showed the relationship with religiosity as association with the year of study and family relations. The difference in religiosity level between students of various years has been previously shown (Lopez et al. 2014). Although our sample is relatively small, it is possible that process of maturation and professional grow may reflect the change in religiosity during the education process. In our research, higher religiosity was associated with better family relations. Better family relationships and marital-family stability were shown also in previous research (Stawbridge et al. 2001).

Our data show no significant differences in alcohol consumption or smoking based on religiosity. Effect of religiosity on frequency of alcohol drinking has been described in previous studies (Patock Peckham 1998, Kindler et al. 2015). Potential reason is high level of religiosity found in our sample and high religiosity level in the general population of this area (Agency for statistics of Bosnia and Herzegovina 2013). Further, presence of previous psychiatric disorder (including alcoholism) was the exclusion criterion in this study. It has been described that the effect of religiosity on alcoholism is stronger in Protestants than in Catholics (Patock Peckham et al. 1998).

Most research shows higher prevalence of religiosity in female population which was not the case in our sample. The studies showing previously mentioned results are mostly from the population of older adults, while the studies in students and young adults' population do not show uniformly such results (Doolittle et al. 2013, Loewenthal et al. 2001)

Our data showed the difference in prevalence of symptoms in the Phobic anxiety subscale in females. This subscale showed better diagnostic efficacy in comparisons to other SCL-90-R subscales. However, the SCL-90-R is not a diagnostic measure and results based on cut-off scores should be treated with caution (Pedersen & Karterund 2004). It has been shown that female students reported higher level of stress than their male counterparts also on almost any measure in various studies including depression, alcohol use and personal problems (Toews et al. 1993). The GSI was significantly higher in first year of study in comparisons with third, fourth and fifth year, implicating higher level of stress during the first year possibly associated with process of adjustment to university regime.

Our data confirm that nursing students are prone to stress and psychopathology. There are various factors responsible for those associations, most of them are well known factors associated with more stress as low economy status, lower parents' education and poor family relations (Rudman et al. 2012, Van Soest et al. 2012). Grades were not associated with psychopathology in our results.

The study has some obvious methodological limitations. The data are cross-sectional and therefore may not determine causality. Due to relatively small sample size our results could be evaluated with caution in relation with making generalizations. Further, self-report psychopathology measures have limitations and should be used in diagnostics with caution (Pedersen & Karterud 2004). Future studies should include larger sample sizes and should use longitudinal follow-up design to elucidate effect of religiosity during the education process. In this study we analysed only general scores of the Dimensions of Religiosity Questionnaire. As religiosity is multidimensional (Aukst Margetić & Margetić 2005), analysing data using particular religious dimensions of the scale may help us elucidate which facets of religiosity are protective for mental health.

The strength of the study is the homogeneity of the sample consisting only from students affiliated with one educational branch and one religious denomination. Namely, the studies have shown differences in psychological well-being among different religious affiliations (Lavric & Flere 2008).

## CONCLUSION

Despite these limitations, our study shows the associations of higher religiosity with better mental health in university nursing students. Therefore, higher religiosity may be considered as a potential resilience factor in nursing students' population. Given the prevalence and importance of religiosity in the population, its regular inclusion in the well-being studies is necessary. Further studies with larger samples that should explore causal relationships are needed.

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**Conflict of interest:** None to declare.

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