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## Assessment of spiritual health and its relation with perceived stress among medical students. A cross- sectional study

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### Abstract

**Background:** Lack of attention to the spiritual needs among medical student's leads to increased stress, decreased hope and spiritual isolation.

**Objectives:** To assess the spiritual health and its relation with perceived stress among medical students.

**Methodology:** This cross-sectional study was conducted among medical students by using self-administered questionnaire. Spiritual health was assessed by using Spiritual Health Assessment Scale (SHAS) and perceived stress was assessed by using Perceived stress scale (PSS).

**Results:** A total of 430 students were included in the study of which 43.7% were male and 56.5% were females. The prevalence of low, moderate and high stress was 21.67%, 60.98%, 17.35% respectively. The prevalence of good, fair and poor spiritual health was 39.80%, 57.72%, 2.47% respectively.

**Conclusion:** Majority of the students (60.98%) were having moderate stress and 57.72% were having fair spiritual health. There was significant association between perceived stress and spiritual health among medical students.

**Keywords:** Spiritual Health, Perceived stress, Medical students, Spiritual Health Assessment Scale, Perceived stress scale

### Introduction

"Health is a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity" (WHO Definition). Spiritual health is the 4th dimension of health. Spiritual health refers to that part of the individual which reaches out and strives for meaning and purpose in life. It is the intangible "something" that transcends physiology and psychology<sup>[1]</sup>. It includes integrity, principles and ethics, the purpose in life, commitment to some higher being and belief in concepts that are not subject to "state of the art" explanation. Spirituality has now been identified globally as an important aspect for providing answers to many questions related to health and happiness. The WHO is also looking beyond physical, mental and social dimensions of the health i.e. the spiritual health and its impact on the overall health and happiness of an individual<sup>[2]</sup>.

Stress has been defined as the extent to which persons perceive their demands exceed their ability to cope. Stress has been identified as an important indicator of the students' overall health as it has been consistently associated with mental and physical health effects<sup>[3]</sup>. The topic of stress among medical students has been the subject of much research for many years. Researchers have found that the perception of high stress levels in students can lead to poor academic performance, depression, attrition and serious health problems<sup>[4]</sup>. Studying in medical college is one of the stressful stages of life, because the person experiences stressful events such as education, moving away from home, separating from family members, and changes in friendship relations<sup>[5]</sup>. The study of medicine is extensive, time-consuming, and highly stressful. Students are subjected to endless working hours, and examinations. Peer, teacher, or parental pressures add an extra burden. With the intention of getting an outstanding percentage, students often have to work over and above their threshold strength. Hence, medical students experience substantial stress. This stress can have negative academic, emotional, and health outcomes<sup>[6]</sup>.

Spiritual health is not given its due importance since long time. But nowadays modern medicine is seen in relation to spiritual health. Lack of attention to the spiritual needs among medical students leads to increased stress, decreased hope and spiritual isolation.<sup>7</sup> Therefore,

medical students should pay special attention to this dimension of health. Hence this study was conducted on medical students to assess the perceived stress and its association with spiritual health.

**Materials and Methods**

This cross-sectional study was conducted among medical students of MVJ Medical College and Research Hospital, rural Bangalore (Karnataka), over a period of 2 months i.e., August and September 2019.

**Sample size:** Calculated sample size was 426. With reference to a study done by Younkyung Lee,<sup>[8]</sup> the mean ± SD value of spiritual health score was 76.03 ± 15.74

$$\text{Sample Size} = \frac{Z^2 \times S^2}{d^2}$$

Z = Standard Normal Deviate at 95% CI (Z = 1.96)

S = Sample Standard Deviation (SD = 15.74)

d = clinically expected variation / Margin of error (d = 1.5)

$$N = \frac{(1.96)^2 \times (15.74)^2}{(1.5)^2} = 426$$

**Inclusion and exclusion criteria**

Students from all the semesters who had completed at least 6 months in medical college and those individuals who gave consent for participation in the study were included in the study. Those students who were absent on the day of data collection and those who did not consent were excluded.

**Methodology**

A structured questionnaire was prepared consisting of socio-demographic profile and two scales i.e., Perceived Stress Scale (PSS)<sup>[9]</sup> and Spiritual Health Assessment Scale (SHAS)<sup>[10]</sup> to assess perceived stress and spiritual health respectively. The questionnaire was sent through online Google forms and responses were recorded. Each semester students were addressed separately about the study and its importance in the classrooms and on taking consent the Google questionnaire link was distributed.

**Table 1:** Show level of stress scores between

Level of Stress	Scores between
Low Stress	0-13
Moderate Stress	14-26
High Stress	27-40

“Perceived Stress” was measured by using the PSS-10 scale, which comprised of 10 questions, with responses varying from 0 to 4 for each item on the basis of their occurrence during 1 month before the survey. The PSS-10 has a possible range of scores from 0 to 40. The data was analysed and the mean scores of PSS was calculated. The PSS score is interpreted as follows:

Spiritual health was measured by using SHAS, which comprised of 21 questions divided into 3 domains equally- each domain consisting of 7 items. The 3 domains are: Self-development, Self-Actualization and Self- Realization. Each of the items is scored from 1to 5 on Likert Scale from ‘never’ to ‘always’. It has a possible range of score from 21 to 105. The data was analysed and the mean scores of SHAS was calculated. The SHAS score is interpreted as follows:

**Table 2:** Level of spiritual health scores between

Level of Spiritual Health	Scores between
Poor Spiritual Health	21-49
Fair Spiritual Health	50-77
Good Spiritual Health	78-105

Statistical analysis was done using Microsoft excel sheet and SPSS version 22. The categorical data was expressed in terms of rates, ratios and percentages while continuous data was expressed as mean ± standard deviation. Chi square test was used to test the association between PSS and SHAS categories. Pearson’s correlation was used to see the correlation between PSS score and SHAS scores. At 95% CI a probability value (p value) of ≤ 0.05 was considered as statistically significant.

**Results**

This cross-sectional study was conducted among 430 medical students. Of which 187 (43.4%) were males and 243 (56.6%) were females with male to female ratio of 1:1.3. Table 3 shows the socio-demographic profile of the study participants. Students age ranged from 17 to 27years and the mean age was 21.13 ± 2.21. Majority of the study participants 226 (55.13%) belonged to 21-25 years of age group, 352 (83.40%) were Hindu by religion, and 355 (82.43%) lived in nuclear families, 422 (98.65%) were unmarried. More than half of them 241 (56.72%) said their academic performance was fair followed by 115 (27.86%) good and 74 (15.43%) poor.

**Table 3:** Sociodemographic profile of the study participants

Variables	Males N= 187 (%)	Females N= 243 (%)	Total N= 430 (%)	
Age group	17-20 years	65 (32.16%)	126 (47.90%)	191 (41.20%)
	21-25 years	111 (60.56%)	115 (51.10%)	226 (55.13%)
	26-30 years	11 (7.28%)	2 (1%)	13 (3.67%)
Religion	Hindu	154 (82.98%)	198 (83.72%)	352 (83.40%)
	Muslim	17 (8.36)	12 (4.34%)	29 (6.05%)
	Christian	11 (5.02)	25 (8.43%)	36 (6.98%)
	Others	5 (3.65)	8 (3.51%)	13 (3.57%)
Family Type	Joint/ extended family	37 (20.22%)	38 (15.61%)	75 (17.57%)
	Nuclear family	150 (79.78%)	205 (84.39%)	355 (82.43%)
Marital status	Unmarried	183 (97.65%)	239 (99.39%)	422 (98.65%)
	Married	4 (2.35%)	4 (0.61%)	8 (1.35%)
Academic performances	Good	52 (29.28%)	63 (26.80%)	115 (27.86%)
	Fair	100 (53.16%)	141 (59.35%)	241 (56.72%)
	Poor	35 (17.55%)	39 (13.85%)	74 (15.43%)

Stress which was measured by using perceived stress scale showed, nearly 61% (274) of them were in moderate stress followed by 22% (90) in high stress and 17% (66) of them in low stress. Spiritual health which was measured using

spiritual health assessment scale showed, majority of the study participants having fair spiritual health 252 (57.72%) followed by good 168 (39.80%) and poor 10 (2.47%) spiritual health which is shown in table 4.

**Table 4:** Distribution of the study participants according to perceived stress and spiritual health categories

Variables		Males N= 187 (%)	Females N= 243 (%)	Total N= 430 (%)
Perceived Stress	High stress	21 (11.62%)	69 (29.12%)	90 (21.67%)
	Moderate stress	126 (62.58%)	148 (59.80%)	274 (60.98%)
	Low stress	40 (25.79%)	26 (11.09%)	66 (17.35%)
Spiritual Health	Good	81 (42.37%)	87 (37.90%)	168 (39.80%)
	Fair	101 (54.30%)	151 (60.26%)	252 (57.72%)
	Poor	5 (3.32%)	5 (1.84%)	10 (2.47%)

Table 5 shows the scores of the 3 domains of SHAS. The mean value for self-development domain is almost same in both gender whereas mean values of self-actualization and self-realization domains are higher in males compared to females. The total SHAS mean score is high in males compared to females hence males had better spiritual health.

The perceived stress scale, mean score was high in females which means females had more stress compared to males. There was significant association between perceived stress and spiritual health among medical students i.e., if the spiritual health is good then they would have less stress and vice-versa as shown in table 5.

**Table 5:** Spiritual health assessment scale domains and its scores, perceived stress scale scores obtained by study participants

Variables	Min Score	Max Score	Males Mean ± Sd	Females Mean ± Sd	Total Mean ± Sd
Self-Development	7	35	26.39 ± 4.77	26.12 ± 4.03	26.24 ± 4.36
Self-Actualization	7	35	25.72 ± 5.03	24.56 ± 4.55	25.07 ± 4.80
Self-Realization	7	35	23.35 ± 5.85	22.62 ± 5.37	22.94 ± 5.59
SHAS Score	21	105	75.5 ± 13.1	73.3 ± 11.5	74.2 ± 12.2
PSS score	0	30	18.6 ± 6.3	22.3 ± 6.5	20.7 ± 6.7

**Table 6:** Association between Perceived stress and spiritual health of the study participants

Variable		Stress Categories			Chi-Square P Value
		High N= 90 (20.9%)	Moderate N=274 (63.7%)	Low N=66 (15.3%)	
Spiritual Health	Good N=168 (39.1%)	25 (5.8%)	104 (24.2%)	39 (9.1%)	χ <sup>2</sup> =20.310 Df= 4 P < 0.05
	Fair N=252 (58.6%)	60 (14.0%)	165 (38.4%)	27 (6.3%)	
	Poor N=10 (2.3%)	5 (1.2%)	5 (1.2%)	0	

Table 6 shows the correlation between perceived stress scale scores and spiritual health assessment scale and its domain scores. The PSS score is negatively correlated with SHAS

score and all its domain scores. Which means as the PSS score increases the total SHAS score and all its domain scores decreases and vice versa.

**Table 7:** Correlation between PSS score and SHAS scores and its domains

Variable		Self-Development	Self-Actualization	Self-Realization	SHAS Score
PSS score	Pearson Correlation co-efficient	-0.255**	-0.189**	-0.255**	-0.197**
	p Value	0.000	0.000	0.000	0.000

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Discussion**

This study included 430 students, of which 43.7% were males and 56.5% were females. The mean age of students was 21.13 ± 2.21 years, majority (83.4%) were found to be Hindus and belonged to (82.4%) nuclear family. Similar results were seen in studies done on medical students in Kolkata<sup>7</sup> and Australia<sup>[11]</sup>.

The mean PSS score of medical students in this study was 20.7 ± 6.7 respectively. This was high compared to the studies done in Mysore<sup>[6]</sup> and Saudi Arabia<sup>[12]</sup> which were 17.7 ± 5.5 and 17.31 respectively but low compared to a study done in Tamil Nadu<sup>[13]</sup> wherein it was 25.64 ± 5.44. According to PSS nearly 61% of the students were in Moderate stress followed by 22% in High stress and 17% of them in low stress. Whereas a study done in Mysore<sup>6</sup>, showed that 70% experienced moderate stress and only 6% experienced severe stress. This was very high compared to

the present study. Different geographical area, college, environment and regional socio-cultural factors might have been the reason for this difference.

In this study mean PSS score among female students (22.3 ± 6.5) was higher than that of male students (18.6 ± 6.3). This shows females were more stressed than males. Similar result was shown in a study done in Tamil Nadu<sup>[13]</sup> wherein mean PSS score among females (26.19±5.57) was higher than males (24.83±5.15). However, study conducted in Saudi Arabia<sup>[12]</sup> showed PSS scores among male students (17.9 ± 4.39) was slightly higher than female students (16.73 ± 6.11). The reason behind significant gender differences found in other countries might be due to socio-cultural difference.

According to SHAS, majority of study participants had Fair spiritual health 252 (57.72%) followed by Good spiritual health 168 (39.8%) and Poor spiritual health 10 (2.47%).

Similar result was seen in a study done by Poorkiani *et al.*<sup>[14]</sup> which showed 75.11% had moderate spiritual health followed by 23.07% of students had low spiritual health and 8.1% had high levels of spiritual health. Whereas a study done in Jaipur by Dr. Meenakshi Sharma<sup>15</sup> showed that, majority of study participants had Poor spiritual health (71.3%) followed by Fair spiritual health (14.78%) and Good spiritual health (13.91%). In this study males had better spiritual health compared to females whereas studies done by Poorkiani *et al.*<sup>[14]</sup> showed females having better spiritual health. PSS score was negatively correlated with SHAS and its domain scores. Similar results were seen in studies done by Younkyung Lee<sup>[8]</sup>, Manpreet Ola<sup>[16]</sup>, Radha Yadav *et al.*<sup>[17]</sup> and Seyed Moghadam RM *et al.*<sup>[18]</sup>.

### Conclusion

Majority of students experienced moderate stress and were having fair spiritual health. Males had better spiritual health and low stress compared to females. Spiritual health was negatively correlated with stress of medical students.

### Recommendations

Students should be equipped with better life skills like appropriate time management, study planning, and relaxation techniques like yoga, meditation and extracurricular activities. There is also a need to look into the medical curriculum and incorporate a few changes keeping in mind the mental health of the students. Practice of annual rituals will influence the development of spiritual health and augmenting the Self-Actualization domain.

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