

**Assessment of life skills of medical students in Mashhad, Iran, in 2015**

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**Type of article:** Original

**Abstract**

**Background:** Developing social skills and mental health is a crucial part of the psychosocial health status of medical students.

**Objective:** The aim of this study was to assess the life skills of medical students in Mashhad University of Medical Sciences (MUMS).

**Methods:** This cross-sectional study was performed in Mashhad University of Medical Sciences, Iran in 2015. By census method, 146 interns were entered into the study. The life skill questionnaire, consisting of 144 questions, was used as the measurement tool. Over 3 months, all the medical students in internship period were asked to complete the questionnaire. Data were analyzed by independent-samples t-test, one-way ANOVA, and Mann-Whitney with SPSS version 11.5 software.

**Results:** Women were shown to have higher decision-making ability than men ( $p=0.046$ ). It was also shown in the study that social behavior ( $p=0.018$ ), participation in activities that improve benefits ( $p=0.006$ ), critical thinking ( $p=0.007$ ), observing and using safety points ( $p=0.005$ ), and mental health status ( $p=0.034$ ) were significantly lower in men than in women. The data also suggests that men ( $13.97\pm 4.7249$ ) are more likely to become global citizens than women ( $12.15\pm 3.6298$ ) ( $p=0.010$ ). Furthermore, there was a significant difference when comparing smoking and non-smoking in freedom and justice ( $p=0.003$ ) and becoming a global citizen ( $p=0.012$ ).

**Conclusion:** Our study provides helpful information about medical students' life skills for policy makers and university authorities. We suggest that gender differences should be considered during life skill training.

**Keywords:** Social skills, Medical student, Smoking, Mental health, Critical thinking, Justice

**1. Introduction**

Life skills are abilities required to provide the basis for proper stress management and manifestation of positive behaviors (1). These skills may lead to better acceptance in social responsibilities, interpersonal skills and other demands and expectation. Moreover, a person with higher life skills is more likely to be able to control his interpersonal issues and thus, benefit from lower social and mental stress (1, 2). Psychological morbidities are more common in doctors and medical students (3, 4). Although there is no significant difference in stress between medical and other students (5), after starting the training course it has become more notable (6) that medical students' mental

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Received: October 04, 2016, Accepted: August 10, 2017, Published: October 2017

iThenticate screening: August 06, 2017, English editing: September 18, 2017, Quality control: September 25, 2017

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status reduces more dramatically compared to other students (7). Duke university medical school reported that depression is a common finding in 20% of undergraduate students (8), while its prevalence in the normal population is about 18% (9). Similarly, the results of a cross-sectional study on 604 Iranian students revealed that 40.7% of the medical students suffer from a mental disorder, which was more prevalent in female students (6). Life depression will increase the medical prescribing errors in medical residents (10). Developing life skills can improve mental health status (11), educational problems and students' well-being (12, 13). However, the level of life skills varies in different countries and even in different regions of Iran. Azari et al showed that students in Sari Azad University have good life skills (14). Another study in Tehran showed that 47.5% and 43.2% of the Tehran university students have moderate and good life skill levels, respectively (15). Another study in Mazandaram University of Medical Sciences showed a moderate life skill level among the students (16). Regarding the diversity of the life skill level in different regions of Iran, local authorities and decision makers should setup their plan for educating life skills according to the regional needs. To the best of our knowledge, there is no comprehensive study regarding medical students' life skill levels in northeastern Iran. The aim of this study is to evaluate the life skills of medical students in Mashhad University of Medical Sciences (MUMS) which can elucidate their problems so that further programs could be applied to increase the life skills of these future physicians.

## 2. Material and Methods

This cross-sectional study was performed in Mashhad University of Medical Sciences, Iran in April 2015. By census method, 146 interns were entered into the study. Students who have completed at least one month from the beginning of the internship course or studying at the time of research were included, and interns who were divorced or had a history of mental disorders, along with foreign students were excluded from the study. We used the life skill questionnaire which consists of 144 questions and its reliability and validity were confirmed by Ghiasi in Iran (17). In the Ghiasi study, for the evolution of the reliability of the questionnaire, after the pilot study on 30 research samples, the Cronbach's alpha factor was calculated to be 0.97. The questions addressed 19 topics including communication skills, responsibility, critical thinking, decision making, problem-solving, self-awareness, interpersonal relations, physical and mental health status, teamwork skills, social behavior, creativity, justice and equality, professional skills, the ability to use new technology, participation in activities that improve benefits, purposefulness, being a global citizen and observing and using safety points. This questionnaire was a 5-point Likert scale. During a 3-month period, the interns in different wards completed the questionnaire. All the subjects were informed about the study prior to answering the questions. Total points of life skills is obtained from the sum of the life skill variables. The study was approved by the Ethics Committee of Mashhad University of Medical Sciences. Data were analyzed using SPSS 11.5 software. Different aspects of life skills were expressed with mean and standard deviation. Data were analyzed by the independent-samples t-test, One-way ANOVA and Mann-Whitney were applied to compare quantitative variables.  $P < 0.05$  were considered as significant in this study.

## 3. Results

A total of 148 students were entered into this cross-sectional study. Among participants, 50 (33.8%) people were male and 91 (62.8%) were single, while 55 (37.2%) were married. Among interns, 17 (11.5%) of the medical were cigarette smokers. The relation between gender and different aspect of life skills were evaluated using Mann-Whitney and independent sample t-test. Women were shown to have higher decision-making abilities than men ( $p=0.046$ ). Moreover, it was also shown that social behavior ( $p=0.018$ ), participation in activities that improve benefits ( $p=0.006$ ), observing and using safety points ( $p=0.005$ ), critical thinking ( $p=0.007$ ) and mental health status ( $p=0.034$ ) were significantly higher in women. Men's tendency to become global citizens is significantly higher than women's ( $p=0.010$ ). However, no notable difference was found between males and females in parameters such as justice and equality, creativity, team working, physical health status, problem-solving, self-awareness, interpersonal relationship, responsibility and using new technologies, also, the total points of life skills is significantly higher in the female group ( $315.30 \pm 67.37$ ) than the male group ( $346.97 \pm 61.39$ ) ( $p=0.018$ ) but there are no significant differences between smoking ( $337.80 \pm 64.16$ ) and non-smoking ( $337.24 \pm 65.01$ ) ( $p=0.98$ ), and single ( $336.64 \pm 67.41$ ) and married ( $338.46 \pm 60.26$ ) ( $p=0.89$ ) students in the total score of life skills. Data of the participants are presented in Table 1. The comparison between single and married students revealed that not only marital status and the total score of life skills are not related to each other but also, none of the variables of life skills have any significant difference between married and single groups. Likewise, the relation between accommodation status and life skills was not significant. Data of the participants are presented in Table 1. There is a significant difference between smoking and non-smoking in liberty and justice ( $p=0.003$ ) and becoming a global citizen ( $p=0.012$ ) but there was no association between smoking and other life skills. In terms of total points of life skills, there is no difference between smokers and non-smokers ( $p=0.770$ ). Data of the participants are presented in Table 1.

**Table 1.** Comparison of 19 sub-variables of life skills between sex, marital status and smoking groups in medical students of Mashhad University of Medical Sciences.

Life skills	Sex			Marital status			Smoking		
	Male <sup>b</sup>	Female <sup>b</sup>	p-value	Single <sup>b</sup>	Married <sup>b</sup>	p-value	Smoker <sup>b</sup>	Non-smoker <sup>b</sup>	p-value
Decision making*	20 (16, 22)	21 (17.75, 24)	0.046 <sup>α</sup>	20 (17, 24)	20 (17, 23)	0.662 <sup>α</sup>	19 (16, 22)	21 (17, 24)	0.404 <sup>α</sup>
Social behavior*	10 (8, 12)	11 (9, 14)	0.018 <sup>α</sup>	11 (8.75, 13.25)	10 (9, 13)	0.429 <sup>α</sup>	12 (10, 13.75)	11 (8, 13)	0.245 <sup>α</sup>
Participate in activities that improve benefits*	15 (12.5, 18)	18 (15, 21)	0.006 <sup>α</sup>	17 (13, 20)	17 (15, 20)	0.553 <sup>α</sup>	18 (13, 23)	17 (14, 20)	0.339 <sup>α</sup>
Justice and equality§	11 (8.5, 14)	18 (15, 21)	0.592 <sup>α</sup>	10 (8, 14)	10 (7, 13)	0.565 <sup>α</sup>	13 (10, 15)	10 (7, 13)	0.003 <sup>α</sup>
Critical thinking*	23 (20, 26)	25 (22, 30)	0.007 <sup>α</sup>	24 (20, 29)	24 (21, 29)	0.796 <sup>α</sup>	23 (20, 27)	24.5 (21, 29)	0.455 <sup>α</sup>
Creativity	15 (12, 16)	16 (12, 18)	0.068 <sup>α</sup>	15 (12, 18)	15 (12, 18)	0.498 <sup>α</sup>	15 (12, 18)	15 (12, 18)	0.893 <sup>α</sup>
Teamwork skills	19 (16, 22)	21 (17, 24)	0.080 <sup>α</sup>	21 (16, 24)	20 (18, 24)	0.675 <sup>α</sup>	21 (18, 25.75)	20 (16, 24)	0.318
Physical health status	32 (24, 37)	31 (24, 36)	0.653 <sup>α</sup>	31 (26, 36)	31 (22, 36)	0.717 <sup>α</sup>	33 (24.75, 40.5)	31 (24, 36)	0.262 <sup>α</sup>
Problem solving	16 (12.75, 18)	17 (13, 19)	0.174 <sup>α</sup>	17 (13, 19)	17 (12.75, 18)	0.526 <sup>α</sup>	16.5 (12.5, 18)	17 (13, 19)	0.631 <sup>α</sup>
Communication skills	27 (21, 31)	28 (24, 32)	0.135 <sup>α</sup>	28 (22, 32)	27.5 (22.25, 31)	0.912 <sup>α</sup>	27.5 (22, 32.75)	28 (22, 32.75)	0.959 <sup>α</sup>
Mental health status*	26 (22, 29)	28 (25, 31)	0.034 <sup>α</sup>	27 (24, 30)	28 (24, 30)	0.572 <sup>α</sup>	5.56±1.35	6.31±0.55	0.905 <sup>β</sup>
Self-awareness	37.45±8.70	39.36±8.15	0.206 <sup>β</sup>	38.81±8.63	38.59±7.95	0.881 <sup>β</sup>	38.5 (33.5, 45.75)	40 (34, 43.5)	0.872 <sup>β</sup>
Interpersonal relations	27.42±7.42	28.45±6.32	0.391 <sup>β</sup>	28.07±6.65	28.17±6.84	0.936 <sup>β</sup>	30 (24, 33)	29 (24, 33)	0.618 <sup>β</sup>
Responsibility	9.04±2.29	9.22±2.52	0.666 <sup>β</sup>	9.20±2.56	9.09±2.25	0.779 <sup>β</sup>	10 (8, 12)	9 (8, 11)	0.184 <sup>β</sup>
Global citizen*§	13.97±4.7249	12.15±3.6298	0.010 <sup>β</sup>	12.81±4.12	12.67±4.10	0.839 <sup>β</sup>	15 (12.5, 16.5)	12 (10, 15)	0.012 <sup>β</sup>
Using new technologies	14.00±4.72	15.18±4.39	0.141 <sup>β</sup>	14.44±4.45	15.37±4.62	0.240 <sup>β</sup>	17 (12, 18)	15 (12, 18)	0.297 <sup>β</sup>
Being purposeful	14.08±3.25	15.23±4.00	0.092 <sup>β</sup>	15 (12.5, 18)	13.5 (12, 17)	0.137 <sup>β</sup>	15 (13, 17)	15 (12, 17.75)	0.751 <sup>β</sup>
Observe and use safety points*	6.16±2.83	7.42±2.36	0.005 <sup>β</sup>	7.12±2.61	6.83±2.55	0.521 <sup>β</sup>	6 (4.5, 9)	7 (5, 9)	0.646 <sup>β</sup>
Professional skills*	11.55±3.51	11.87±3.55	0.599 <sup>β</sup>	14.44±4.45	15.37±4.62	0.837 <sup>β</sup>	13 (10, 15.5)	12 (10, 15)	0.374 <sup>β</sup>

\*Significant between the two different genders (p<0.05); §: significant between the two different smoking groups (p<0.05); P: Mean ± SD or Median (quartiles 25%, quartiles 75%); α: Mann-Whitney U test; β: Independent-samples t-test.

#### 4. Discussion

Investigations have revealed the high prevalence of mental disorders in students, which is increasing in their further educational course (18). Psychological disorders in English students, was showed to be doubled during the first two years of university (19). WHO recommends that the best way to develop social skills and mental status, which is more frequent in a medical student's lifespan, is to achieve and be informed about life skills. Our study showed that female students benefit from higher life skills than males. Boys and girls have different views and preferences for their life, which may explain this difference. This finding, projects the importance of life skills training according to gender differences and regarding the males' priority. These findings are in accordance with similar studies in this area. Azari et al assessed the life skills of Sari Islamic Azad University and showed better life skills in girls (14); However, some studies showed that some types of life skills such as mental health status is significantly lower in female medical students. Many articles explain that anxiety and depression are more in female students (3, 20, 21). Hojat et al. reported that the scores of anxiety among female and male students was the same at the beginning of medical courses, but after one year, anxiety levels increased significantly in the female group (22). Nevertheless, in

our study, the mental health status of the female group is lower than the in male group; perhaps the reason for this result is that this study was conducted on students in the final year of medical school; however, the previous studies had been done in the early years of medical training. Interestingly, we found no relation between marital status and development in life skills. These results need to be interpreted with caution since this study did not cover other contributing factors in marriage such as childbirth and type of relationship (e.g. Married, engaged or partnered). However, our results are in contrast with earlier studies. Married medical students are less exposed to social stress due to the emotional support of spouses (23, 24). It is observed that positive life events such as marriage are more common in the general population than in medical students (25) reflecting the fact that medical students are more predisposed to stress and thus, lower quality of life and life skills. Law J, et al suggest that although childbirth is commonly known as a positive part of life, it may carry some kind of intricacy to medical student life (26). Moreover, girls are more likely to be depressed than boys in the wake of a childbirth (27). Many articles suggest that learning life skills can be effective in abstaining from cigarette smoking (28). Brian R Flay in a review study, expressed that learning life skills among students can be prevented by up to 30%, through the incidence of smoking by the end of high school (29). Although some studies suggest the opposite result; however, this study claims a reduction in the quantity of tobacco consumption among people who have learned life skills. Surprisingly, we did not find a direct relation between smoking and total points of life skills, however; some types of life skills are reduced by cigarette smoking like understanding justice, liberty and becoming a global citizen, among medical students. Regarding the study limitation, in this study we did not compare life skills of medical students with a normal population also, we suggest comparing life skill variables in various academic years. Also, we suggest designing a study for comparison of life skills between students of various academic disciplines.

## 5. Conclusions

In this study, we found that female medical students have a higher level of life skills than men. So, we believe that male students should be trained more to improve their social skills. We investigated that there is no relation between total score of life skills and marital status. We found that cigarette smoking did not affect significantly the total score of life skills; nevertheless, there is significant relation between cigarette smoking and justice, liberty and being a global citizen. Our study provides helpful information about medical students' life skills for policy makers and university authorities. We suggest that gender differences be considered during life skill training.

## Acknowledgments:

We are thankful to the research council, Mashhad University of Medical Sciences for financial support.

## Conflict of Interest:

There is no conflict of interest to be declared.

## Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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