



Original Article

A General Assessment of Confidence and Life Orientation Among Medical Students

Tahira Ashraf^{1*}, Zunaira Iqbal², Seema Shafique³, Asif Hanif⁴, Ashraf Chaudhry⁵ and Iqra Sabir⁶¹University Institute of Radiological Sciences and Medical Imaging Technology, The University of Lahore, Lahore, Pakistan²University Dental Hospital, The University of Lahore, Lahore, Pakistan³Operative Dentistry Department, The University of Lahore, Lahore, Pakistan⁴University Institute of Public Health, The University of Lahore, Lahore, Pakistan⁵Department of Community Medicine, CMH Medical and Dental College, Lahore, Pakistan⁶Research Consultant

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*Corresponding Author:

ZunairaIqbal,
Dental hospital, The University of Lahore, Lahore,
Pakistan
zunaira9466@gmail.com

ABSTRACT

The belief of being able to rely on oneself is termed as confidence. A good level of confidence is the ultimate key of personal and professional success as it boosts faith in one person's capabilities. **Objective:** To measure the level of confidence and components of life orientation among medical students and compare the confidence level with respect to gender and study program. **Methods:** This cross-sectional study was conducted at CMH Medical and Dental College, Lahore, Pakistan. Non-probability convenience sampling was used to collect data from 385 students using a Standard questionnaire developed and available online by the University of Stirling. Mann-Whitney U test and Kruskal Wallis test were used to compare confidence level of students with respect to gender and study programs. **Results:** There were 49.73% males and 50.27% females in this study and among them, 82.97% MBBS students, 10.81% of Nursing and 6.22% of the Bachelor of Dental Surgery (BDS) students. The mean self esteem level in students was very low i.e. 15.8351±3.1178, mean optimism level, self-efficacy and mindset level were all low i.e. 6.3568±2.28753, 2.8792±.56600, and 3.9061±1.25499 respectively that means students were generally under-confident. There was no median difference of any component of confidence level with respect to gender and study programs, except optimism which was slightly higher in males compared to females. **Conclusions:** The average level of four components of life orientation i.e. optimism, self-esteem, self-efficacy and mindset as well as average confidence level were all low among medical students irrespective of gender and study programs.

INTRODUCTION

The belief of being able to rely on oneself is termed as confidence. A good level of confidence is the ultimate key of personal and professional success as it boosts faith in one person's capabilities. The feeling of or belief that one can have faith in or rely on yourself is called confidence [1,2]. It basically believes in one's abilities that ultimately lead to success [3]. In broader prospect, confidence has been defined in two basic domains, being sure of one's own abilities and having trust in other persons, motives and the future [3,4]. Therefore, confidence is a complicated concept that does not only mean certainty about things

going well, but it encompasses one's capacity of judgment and faith about own as well as other people's abilities. Sometimes confidence is interchangeably used with optimism which is one component but not all of the confidence [5,6]. Medical students are expected to be confident and audacious as they will, in future, deal with human lives and will have to take decisions that may have life-saving or fatal consequences [7,8]. Medical students with positive confidence tend to make better decisions and approach treatment management plans more effectively which may produce favorable outcomes [9]. Studies

suggest that independent, material and critical learning and teaching modes involving discussions and student involvement increases the level of self-esteem and confidence among students. This may be because of continued up-gradation of latest knowledge for students in this mode of learning that provides them platform for self assessment in comparison to other peers and colleagues [12,13].

A number of factors may influence the level of confidence among medical students including, but not limited to, gender, age, and mode of learning, experience and social circle [14,15]. A study showed that female medical students were significantly less confident compared to male medical students ($F=4.45$, $p<0.05$) [16]. Similarly, another study reported a positive correlation between clinical experience and level of confidence, however, could not find its impact on students' performance [17]. Doctors, in particular, need to be very well groomed, motivated, and self-confident because in future they are supposed to take life-saving decisions about their patient's health [18]. However, unfortunately, no study in Pakistan has been conducted so far to address the confidence level of neither medical professionals nor students. Therefore, we decided to conduct this study to assess the level of confidence and general orientation of life of students among graduating medical students. It is the first study of its kind and may serve in the future as a basis for more similar studies at larger levels. The objectives of this research include measuring the level of confidence and components of life orientation among medical students and comparing the level of confidence and components of life orientation among students of MBBS, BDS and Nursing.

METHODS

This was a cross sectional study conducted at CMH Medical and Dental College, Pakistan. Non-Probability Convenience Sampling Technique was used to collect data from a sample of 385 graduate students taking 5% error and 0.05% level of significance. The data collection tool in this study was a standard questionnaire developed and available online by University of Stirling. The questionnaire consisted of four sections, which included Mind Set, Rosenberg Self Esteem scale, General Self-Efficacy (GSE) and Life Orientation Test- Revised version (LOT-R) for Optimism and each section consisted of further questions relevant to sub-domain. The scores of these sub-domains were then recalculated to find our overall confidence level. The scores for all four components are calculated and mean is taken individually. The overall mean tells us about the confidence level. According to scoring criteria of self esteem, the score ranges from 10-30 with more self

esteem as the score goes higher. Optimism score of students, according to criteria should be close to 24. For self efficacy, the score near to 4 is interpreted as good self efficacy, whereas, for mindset a score of 6 is considered more of a mature mindset.

The participants were briefed about the purpose of study and components of questionnaire. Informed consent of willing participants was taken. Standardized questionnaires were given to the subjects. The demographic information of students was noted. The subjects were then asked to fill these questionnaires within a period of 50 minutes and submit them. Four recruiters with questionnaires of each component collected the data. SPSS version 20 was used for data entry and analysis. The data entered consisted of both quantitative and qualitative variables. Quantitative variables were reported using Mean \pm Standard Deviation. Qualitative variables were reported using Percentages and Frequencies. Kolmogorov-Smirnov Test was used to test the normality of quantitative data. All quantitative variables were found to be non-normal. Therefore, non-parametric alternatives were used to assess the mean difference of different components of confidence level.

RESULTS

There were 49.73% males and 50.27% females in this study. There were 82.97% MBBS students, 10.81% of Nursing and 6.22% of the Bachelor of Dental Surgery (BDS) students. Among all students, 83% were from a Nuclear Family System and only 17% were from Combined Family System. The mean previous academic result of students in percentage was 79.11 ± 9.46 % with minimum and maximum results of 65.00% and 94.00% respectively. The mean height of medical students was 5.68 ± 2.6 ft. with minimum and maximum height of 4.00 to 6.50. The mean weight was 61.9 ± 12.5 Kg ranging from 40.00 to 106.00 kg. The mean Mother's education was 14.96 ± 3.4 years ranging from 0.00 to 22.00 years. The mean Father's education was 16.4 ± 3.9 years ranging from 0.00 to 24.00 years (Table 1). The mean score of Self-Esteem was 15.8351 ± 3.1178 , median (IQR) was 16.0000 (4.00), with maximum 10.00 and minimum 24.00. In our study, students had a low self esteem and maximum score observed was 24.00. The mean score of Optimism was 6.3568 ± 2.28753 and median (IQR) was 6.000 (3.00). The minimum score was 1.00 and maximum was 12.00 making a range of 11.00. Optimism score of students, according to criteria should be close to 24. However, our student's optimism score was very low hence students generally were pessimistic. The score near to 4 is generally interpreted as good self efficacy. In our study, the mean score for Self - Efficacy was 2.8792 ± 5.6600 and median

(IQR) was 3.0000 (0.60). The minimum was 1.00 and maximum 3.90 making the range of 2.90. Generally a score of 6 is considered more of a growth of mindset. The mean for Mindset score was 3.9061 ± 1.25499 with median of 4.0000 (1.50). The minimum was 1.25 and maximum was 17.50 with a range of 16.25 (Table 2). All components of confidence were positively correlated with each other. The correlation between optimism and mindset, optimism and self esteem, and self efficacy and self esteem was significantly correlated (p -values= 0.000, 0.013 & 0.000 respectively) (Table-3). Using Kolmogorov-Smirnov test, the p -value for all variables was <0.001 for self-esteem, optimism, self-efficacy and mindset. Hence the data was not normal so we opted for non-parametric tests to see mean difference of these scores with respect to program of study and gender. Kruskal-Wallis test was used to compare the mean difference of all four components with respect to study program. The p -value for Optimism was 0.492, for Self-Efficacy 0.774, for Mindset 0.348 and Self-Esteem 0.394. Conclusively students of all programs had very low self esteem and optimism and also considerably low self efficacy and mindset irrespective of study program. (Table 2). Mann-Whitney Test was done to compare mean scores with gender. Using the Mann-Whitney test, the p -value for Self-Esteem was 0.996, Mindset and 0.584 and for Self-Efficacy 0.124. However, Optimism was the only factor with a p -value of 0.020, hence according to median score males were more optimistic compared to females (Table 2).

Variables	Previous Academic Result (%age)	Mean Height (ft)	Mean Weight (kg)	Mother's education (Years)	Father's education (Years)
Mean	79.11±9.46	5.6±2.59	61.88±12.50	14.96±3.42	16.40±3.89
Range	94.00	51.00	104.00	28.00	33.00
Minimum	65.00	4.00	40.00	.00	.00
Maximum	94.00	6.50	106.00	22.00	33.00

Table 1: Descriptive Statistics of Socio-Demographic Variables

Component	Statistics	Mean difference in Gender* (p-value)	Mean difference with respect to study program** (p-value)	
Self Esteem	Mean± SD	15.84±3.12	0.996	0.394
	Median (Interquartile Range)	16.00 (4.00)		
	Min-Max	10-24		
Optimism	Mean± SD	6.36±2.29	0.020	0.492
	Median (Interquartile Range)	6.00 (3.00)		
	Min-Max	1-12		
Self-Efficacy	Mean± SD	2.8792±.56600	0.124	0.774
	Median (Interquartile Range)	3.0000 (0.60)		
	Min-Max	1-3.9		
Self-Efficacy	Mean± SD	3.91±1.255	0.184	0.348
	Median (Interquartile Range)	4.00 (1.50)		
	Min-Max	1.25-17.50		

Table 2: Mean Scores of Components of Life Orientation
+Mann-Whitney U test ++Kruskal-Wallis test

		Optimism Score	Self Efficacy Score	Mindset	Self Esteem
Optimism Score	Pearson Correlation	1	.029	.220	.128
	p-value		.578	.000	.013
Self Efficacy Score	Pearson Correlation	.029	1	.100	.227
	p-value	.578		.054	.000
Mindset	Pearson Correlation	.220	.100	1	.090
	p-value	.000	.054		.084
Self Esteem	Pearson Correlation	.128	.227	.090	1
	p-value	.013	.000	.084	

Table 3: Correlation of Components of Confidence

DISCUSSION

Confidence is a fundamental tool to measure the capability of an individual and extent to which he can perform an assigned duty [19]. Medical professionals need to have a positive confidence level in order to take major life saving and urgent decisions for patients [20]. A positive confidence refers to integral bold attitudes and not over or underconfidence as both extremes can lead to mismanagement and wrong decisions, which could prove fatal for patients [21]. In our study, both genders were almost equally involved for study as 49.73% males and 50.27% females were included. There were 82.97% MBBS students, 10.81% of Nursing and 6.22% of the Bachelor of Dental Surgery (BDS) students. The mean self esteem level in students was very low i.e. 15.8351 ± 3.1178 , mean optimism level was also very low i.e. 6.3568 ± 2.28753 , self-efficacy was also low i.e. $2.8792 \pm .56600$, and mindset level was also low 3.9061 ± 1.25499 . Therefore, students were overall, under-confident. The overall confidence level, according to University of Stirling, depends upon self-esteem, optimism, self-efficacy and mindset. In our research, all components of confidence were overall low, especially optimism and self-esteem. The overall confidence level was therefore, low, in our sample. A number of factors may have influenced this poor level of confidence. Some of which include pressure of studying and performing in medical studies, competition and personal issues. Excessive mobile usage and social media addiction has also been attributed to be connected with low self esteem, fake persona and under confidence [22,23]. According to a research performed in 2010 in Taiwan by Yuan-Sheng Etall on self-esteem in adolescents using problematic cell phones and alcohol abusers. They found a positive relation between low self-esteem among students with problematic cell phone use and alcohol abuse [23]. In 2009 research was performed by M. Dahlin Etall on performance based self esteem and burn out in a cross sectional study of medical students. According to this research high performance based self esteem was present in 41.7% of respondents and poor health in 10.7% [24]. In 2002

research was done By PJ Morgan and Dcleave in Canada on comparison between medical student experience, confidence and competence. Analysis of 144 data showed good correlation between clinical experience and level of confidence. There was no correlation between clinical experience, level of confidence and performance in a standardized simulation test. Neither was there any correlation between level of confidence and clinical grades or written examination marks [17]. Moreover, in our study, no difference of confidence level was seen among study programs and gender. In 2007 research done by Robin A Stewart Etall on "A crash course in procedural skill includes medical students self assessment of proficiency, confidence and anxiety. According to this research there were no gender differences in responses. Following the course there was significant improvement in self assessed proficiency and confidence. ' Another cross-sectional study was conducted in March 2007 to see gender differences in self-perceptions of clinical confidence among physicians in Japan. The overall confidence score ranged between 2.9-3.1 whereas, females were relatively younger ($p=0.001$), more oriented to life compared to work ($p<0.01$) and lesser confident in clinical knowledge and practice ($p<0.01$) [25]. This is the first study of its kind in Pakistan and it will serve as a cornerstone for future studies. More studies are thus recommended for in-depth exploration of related factors.

CONCLUSION

The study concluded that the overall confidence level among all medical students was low. The average level of optimism, self esteem, self efficacy and mindset individually were also low. There was no difference of average confidence level overall, and in individual components among study programs or gender. Only significant factor was optimism that was higher among male students compared to female students.

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