ORIGINAL ARTICLE

Emotional Intelligence of Medical and Dental Doctors with Different Clinical Experiences: A Cross Sectional Study

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ABSTRACT

Objectives: To measure Emotional intelligence scores of medical and dental doctors with different years of clinical experience.

To establish a correlation between domain specific Emotional Intelligence scores and years of clinical experience of medical and dental doctors.

Study Design: A Quantitative; Cross-sectional Survey was conducted at Fatima memorial college of Medicine & Dentistry, Lahore.

Place and Duration of Study: Study was conducted from August 4th, 2019 to October 6th, 2019 i.e. (2 months) duration.

Materials and Methods: A total of 150 medical and dental doctors were selected using convenience sampling in 3 different categories according to clinical experience. After ethical approval & informed consent of participants, data was collected using pre-validated "Leadership Toolkit Emotional Intelligence Questionnaire." Data was summarized using descriptive statistics in SPSS 23. Mean and standard deviation for each group was calculated. Comparison between groups & five domains of EI was using cross tabulation & Pearson's chi-square test.

Results: A total of 150 doctors with 55.3% females and 44.7% males participated in the study. Emotional quotient was assessed based on 5 domains by plotting responses on 5-point Likert scale. Majority of the participants scored, well in self-awareness (63%), empathy (66%), while low in managing emotions (37.3%), self-motivation (45%) and social skills (38%). Total global-EI score increases with years of experience. Consultants scored statistically higher in all domains except managing emotions. House-officers scored lowest in managing emotions while post-graduates scored lowest in social skills.

Conclusion: There is a positive correlation between global EI scores and years of clinical experience with a downward trend in scores of self-motivation and social skills among post graduate trainees.

Key Words: *Consultants, Emotional Intelligence, House-Officers, Post-Graduate Trainee, Years of Experience.*

Introduction

Over the early part of the last century the concept of Intelligent Quotient (IQ) i.e. cognitive proficiencies and mental aptitudes were the prime source for prediction of academic and non-academic successes.[1] The research over the last 3 decades have highlighted the importance of socio-emotional capabilities affecting the daily life and hence performance of an individual.[2] The concept of EI was first given by Peter Salovey & John D Mayer as mental abilities model. They traced the emotional hierarchy as ability to correctly perceive, use, understand and manage emotions.[3,4] Daniel Goleman in 1990's highlighted the importance of emotional intelligence over Cognitive intelligence. He rationalized emotional intelligence in the domains of self-awareness, self-management, social awareness and social skills.[5,6] So, EI is social intelligence that enmeshes one's ability to assess, monitor & discriminate between one's emotions as well as others, correctly label the emotions and use this ability in guiding one's own thinking and actions.[7] A fine interplay of cognitive intelligence, empathy and emotions, i.e. Emotional Intelligence, is needed to

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enhance beliefs and philosophies of personal dynamics. There are three main models of EI. Ability Model focuses on the balance between discrete mental abilities and emotion processing abilities, Mixed model incorporates multiple attributes like assertiveness, flexibility, motivation etc. in regulation of emotional abilities, Integrative model combines multidimensional skills from different domains of EI to mental abilities to describe a performance framework.[8]

EI is the driver of success vehicle in both our personal and professional lives. Cognitive intelligence and emotional intelligence are not foes, they are acquaintances which work hand in hand for a holistic success.[9] Studies have shown that people with high EI performs better at workplace and personal life because they are equipped with the power of regulating their emotions which help them in managing conflicts, taking decisions and adapting to the situation.[10,11] EI has a strong effect on communication skills, job satisfaction, academic and workplace performance, stress and burnout which then exerts a string effect on doctor patient relationship and patient satisfaction.[12,13,14] General intelligence (Emotional + Cognitive) is a dynamic entity which varies with time, and environment and can be improved.

The attributes of EI are integral to health professional role, especially doctors and nurses. Both formal and informal efforts are being made at different levels of health sector to increase awareness about emotional intelligence and its effects on performance. In Pakistan various studies have been conducted to assess the level of emotional intelligence, describe its relation to workplace performance and to establish a correlation between IQ and EQ. But little research has been done to understand the relationship between different time frames of clinical experience in relation to the specific domains of emotional intelligence. Moreover, only a couple of studies in this context have been done on dental doctors in Pakistan. In general, Emotional intelligence improves with the experience and training but literature is scarce on how it varies across different domains. The study is directed to assess the 5 different domains of emotional intelligence in correlation to the years of clinical experiences. This will ultimately help us in devising targeted interventions to improve emotional intelligence. A study was planned to measure EI scores of medical and dental doctors with different years of clinical experience & to establish a correlation between domain specific EI scores and years of clinical experience of medical and dental doctors

Materials and Methods

A cross-sectional survey was conducted at Fatima Memorial college of Medicine & Dentistry, Lahore for time duration of 2 months i.e. Aug 4th 2019 to Oct 6th 2019.

A sample of 150 medical and dental doctors was selected using convenience sampling. Data collection was completed within 1 week. The doctors were selected in 3 different categories according to clinical experience i.e. 50 each from House officers, Post-graduate trainees and consultant's category. Both males and females in clinical practice were included in the study. Medical and dental undergraduate students & basic sciences post-graduate trainees and consultants were excluded from the study.

Ethical approval was sought from Institutional Review Board. After taking informed consent of the participants, data was collected using pre-validated 'Leadership Toolkit Emotional intelligence questionnaire'. The participants recorded their response on a 5-point Likert scale for each question. The questionnaire consisted 50 questions; 10 from each emotional competency of Self-awareness, managing emotions, motivating oneself, Empathy, Social skills. Individual results of questions of each domain were aggregated to give a consolidated score for the said domain which was then re-categorized into 3 classes i.e. strength, needs attention and developmental priority (as per the existing tool). No incentive or reward was given to the participants for inclusion in the study.

Collected data was entered into SPSS 23. The data for each group was summarized using descriptive statistics. As the data was symmetrically/ parametrically distributed so mean and standard deviation was calculated for each group. For the comparison between the 3 groups of participants and the five domains of EI questionnaire cross tabulation was done using Pearson's chi-square test.

Results

A total of 150 medical and dental doctors participated in the study with age group ranging from 25 to 44 years with mean age of 34.5 years. Equal number of participants was recruited in each category. There were 83 (55.3%) females and 67 (44.7%) male participants. Majority of the participants were in their thirties (83) while some juniors (42) were in twenties and some consultants (25) in forties. The detailed distribution of participants is given in table I.

Table I: Frequency Table of participants in HO, PG's & Consultant Categories

Clinical Experience	No. of Participants	Gender Distribution		Mean age (Years)
		Male	Female	
HO	50	28	36	26 ± 1.96
PG	50	18	26	34 ± 2.04
Consultant	50	21	20	42 ± 3.07

Majority of the participants 95 (63%) scored well while 55 (37%) needs improvement in domain of *self-awareness*. In the domain of self-awareness, consultants scored statistically higher than others (P value= 0.025). 38% house officers, 74% post graduate trainees and 78% consultants obtained scores in strength category. None of the scores were in developmental priority category. (Table II).

Majority of the participants 94 (62.6%) needs improvement in domain of *Managing emotions* while only 56 (37.3%) scored well. In the domain of managing emotions, Post Graduate Trainees scored statistically higher than others (P value= 0.05). 20% house officers, 48% post graduate trainees and 44% consultants obtained scores in strength category. (Table II)

Majority of the participants 83 (55%) needs improvement in domain of self-motivation while only 67 (45%) scored well. In the domain of self-motivation, consultants scored statistically higher than others (P value= 0.001). 24% house officers, 72% post graduate trainees and 78% consultants obtained scores between 34-50 (strength category). None of the scores were in developmental priority category. (Table II)

Majority of the participants 99 (66%) scored well while 51 (34%) needs improvement in domain of *empathy*. In the domain of empathy, consultants scored statistically higher than others (P value= 0.011). 38% house officers, 76% post graduate trainees and 84% consultants obtained scores in strength category. (Table I).

Table II: Emotional Quotient Interpretation & Comparison among House Officers, Residents & Consultants

Domains of EI	House Officers % Age of Participants		Post Graduate Trainees % Age of Participants		Consultants % Age of Participants		Pearson Chi-Square value	Likeli-hood Ratio value
	Need Improv-ment	Strength	Need Improve-ment	Strength	Need Improve-ment	Strength	(P-value)	(P-value)
Self-Awareness	62	38	26	74	22	78	7.38 (0.025)	8.02 (0.018)
Managing Emotions	80	20	52	48	56	44	6.60 (0.05)	6.86 (0.053)
Self-Motivation	76	24	68	72	22	78	13.63 (0.001)	14.13 (0.001)
Empathy	62	38	23	76	16	84	8.99 (0.011)	8.87 (0.012)
Social Skills	70	30	82	18	34	33	4.50 (0.005)	4.55 (0.031)

Majority of the participants 93 (62%) needs improvement in domain of *social skills* while only 57 (38%) scored well. In the domain of social skills, consultants scored statistically higher than others (P value= 0.005). 70% HO'S, 82% PG's and 34% consultants obtained scores between 18-34 (needs attention category). None of the scores were in developmental priority category. (Table II).

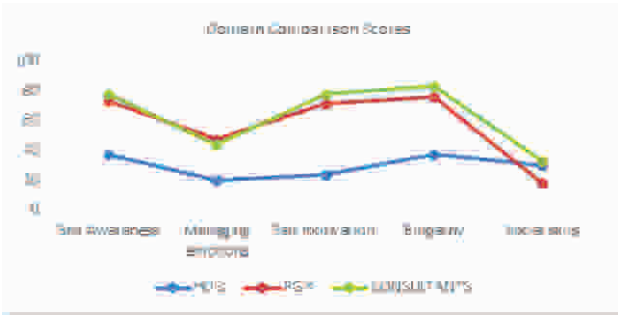

Fig 1: Line Diagram Showing Strength Scores In Each Emotional Domain

Discussion

In this study emotional intelligence is assessed across gender, years of experience and qualification categories with respect to domain specific scores in EI. A general positive trend in EI scores was noted however statistically significant lower scores were observed in managing emotions and social skills domain across all the categories, raising a question about what are the possible causes of such a finding. The total emotional scores in this study vary directly with the increase in years of experience i.e.

consultant scores > PG trainee scores > House officers scores. The consultants scored higher in domains of self-awareness, managing emotions and self-motivation while the scores are relatively less in domains of managing emotions and social skills. House officers need improvement in all the domains generally, however PG trainees scored well in managing emotions as compared to consultants but scored very poor in social skills.

In my study the female participants (55.3%) were more than (44.7%) male participants. This is in accordance with a similar study conducted in Lahore, Pakistan showing more prevalence of female doctors.[15] However, couple of Indian studies on emotional intelligence reported more male predisposition in hospital settings.[16,17] Generally in Pakistani context the ratio of female doctors is more than male doctors.

Overall the scores of HO's and PG's need drastic improvement in self-motivation, empathy & in social skills domain. Scores in managing emotions domain needs improvement in all categories of participants. The scores of PGs' are least in social skills domain while the scores of HO's are the least in managing emotions domain.

The overall scores of emotional intelligence in my study show a direct relationship with age and experience. The scores of consultants are more than that of PG'S, and PG's have scored well than HO's. Golman has also reported a positive correlation of age and experience with emotional intelligence due to physiological and mental maturity processes.[6] McKinley study has also shown that emotional intelligence increases with age and maturity.[18,19] Cabello also reported that extremes of age have low EI while mid population has higher EI (20). Literature suggests that health care providers may experience a negative physical and emotional toll when pre occupied with treating severely ill patient with high morbidity and mortality. This negative cuff may even be amplified for doctors in the initial phases of their clinical experience.[13] This literature evidence supports the results of this study, as the house officers have scored lowest while the consultants have scored highest in most of the domains. This positive trend in EI in relation to the years of experience should be reconfirmed with longitudinal re investigation to see for the effect size and confirmation of the said notion. A multi-level qualitative exploration is needed for reconfirmation of finding as these outcomes may be due to normal age maturation, varied life experiences, structured training, mentoring or other unidentified & unrevealed factors.

Although the total EI scores shows an increasing trend with years of training, yet postgraduate trainees show a downward trend in the domains of self-motivation and social skills. This downstream observation can be justified by the social and mental stresses, exams, depression, burnouts and financial problems encountered by trainees during the training phase. Satterfield has highlighted that decrease in EI during training phase in his study, due to depersonalization, stress, burnout and desensitization.[21] Papanagnou et al. has reported a mid-training downwards trend in overall emotional intelligence of medicine trainees.[22,23] Sarah has also reported a decrease in emotional intelligence in military surgical residents during mid-training phase.[24] The possible explanation for lower scores in managing emotions and social skills domain may be attributed to either poor baseline scores or other medicating variables like stress, depression, over commitment & self-doubt which could manifest as a deficit in the scores of these domains. Increased level of responsibility along with mental and physical stress may be another contributing factor towards the declining scores.[19] Residents are a wet soil, and training period is crucial to promote their emotional wellbeing and competency. So, efforts should be made to improve their stress tolerance, assertiveness, resilience, optimism , self-perception and self-expression which in turn will ensure development of emotionally intelligent consultants. Open lines of communication, accessible and broad learning culture, real time feedback and promotion of self-reflection and self-efficacy can further augment healthcare professional's wellness and hence emotionally intelligent providers and individuals.[17]

The scores in self-awareness and empathy domains are higher than other domains. This might be attributed to either good baseline EI scores or it might be a manifestation of other intervening variables. Structured training, regular medical education workshops, psychiatric counselling,

communication skills workshops, mentoring and support groups, stress management and conflict management exercises during weekly CPC's and portfolio development with reflective practice, may have contributed to the increasing trend in global EI scores and domain specific EI scores. Literature suggests that active learning sessions, hands-on practice and situated learning improves emotional skills. Deliberate and planned efforts for early clinical exposure, integrated teaching and learning, situated learning and workplace role modeling might have been an instrumental factor for improvement in empathy in doctors. Regular educational training workshops by medical education department in domains of self-reflection, self-efficacy, self-regulated learning and portfolio development might be a contributory factor to improved self-awareness. A multi-level re exploration is required for confirmation of findings.

Perception, management, and utilization of emotions is a prime factor in patient care and hence ensures successful career of a doctor.[13, 25] Formal and informal training of emotional intelligence improves communication or social skills, empathy, attitude and patient care.[26] Small group teaching and workshops have been proven as the most effective way of letting people understand and label their emotions.[27] Mindfulness can be promoted by role modeling which is essential for patient care.[28]

Conclusion

There is a positive correlation between global EI scores and years of clinical experience. There is a downward trend in the scores in domains of self-motivation and social skills in post graduate trainees while House officers needs improvement in all domains. Consultants need to improve predominately in managing their emotions.

Limitations

This is a unicentric study with small sample size so some observations may be context specific however the findings of my study are parallel with the other international studies. This study is unique in incorporating both medical and dental doctors but it is a cross- sectional study, a more rigorous approach would be to conduct this study in a longitudinal design. The leadership toolkit emotional intelligence questionnaire used in the study is based on a 5-point Likert scale so it is difficult to know the real impact of the small differences in the scores.

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