Exploring the Relationship between Doctors' Emotional Intelligence and Patient Satisfaction: An Empirical Analysis

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Abstract— Some doctors seem more successful in building trust and satisfying relationship with their patients as compared to others. Emotional Intelligence (EI) may account for this variation. Emotional intelligence refers to an individual's ability to recognize, monitor, and regulate one's own and others feelings and emotions, to differentiate among them, and to use this information to guide one's thinking and action. Majority of complaints about doctors relate to poor communication and behaviour, and not clinical competence. Emotional intelligence can possibly fill this gap as an ability to read and manage patient's emotions. It can improve communication and behaviour which might enhance the patient-doctor relationship, resulting into increased level of patient satisfaction. The present paper empirically explores the relationship between doctor's emotional intelligence and patient satisfaction with the help of correlation and independent samples t-test analysis.

Keywords— Emotional Intelligence; Patient Satisfaction; Patient-doctor Relationship

I. INTRODUCTION

The Indian healthcare sector has been experiencing rapid growth during the past few years. The various health care providers, viz., healthcare professionals and hospitals provide a wide range of medical services for a large group of patients, serving an increasing population. In this context, it is necessary to understand how patients perceive health care providers. Patient satisfaction has gained immense interest in the recent years as an important differentiator of providing value-based health care services and is reported to help patients to choose among the various health care providers. A mutually satisfying patient-doctor relationship not only has therapeutic benefits for patients but leads to patient loyalty and positive word-of mouth. It is a critical factor in today's competitive health care environment. Doctors vary in their ability to understand the patient's perspective affecting their mutual relationship and consequently patient satisfaction.[1] argues that doctors who are better at recognizing patient's emotions and showing empathy have a competitive edge and there is a connection between patient loyalty and continued income generation.

[2]described components such as active listening on the part of the physician, responding to patients' emotions, physician self-awareness, and respect for individuals as being an effective contributor to the relationship. Moreover, a physician has to put their patients at ease so that they are able to focus on the information being given to them. In order to ensure this level of focus a physician must display emotional intelligence competencies such as empathy, mindfulness, and empathetic communication style[3].These components are similar to the domains of non-cognitive intelligence, Emotional Intelligence (EI).

EI has received attention in the corporate world as an attribute which can improve the quality of work and increase productivity and lead to personal and organizational success. However, EI is a relatively new construct in healthcare and its potential role in delivering patient-centred care is unexplored. The present paper empirically explores the relationship between doctor's emotional intelligence and patient satisfaction.

Emotional Intelligence
Theorist's conceptualizations of EI vary, but in brief, it includes an individual's awareness of his/her own and other's feelings correctly, characteristics beyond technical skill and traditional cognitive intelligence. [4]have conceptualized emotional intelligence as an *ability* to:a.) Perceive, appraise, and express emotion accurately; b.) To access and generate feelings when they facilitate cognition; c.) To understand affect-laden information and make use of emotional knowledge; d.) To regulate emotions to promote emotional and intellectual growth and well-being. The three theories/models of EI that have generated the most interest in

terms of research and application are the *Ability* Model[5], Trait Model[6,7]; and Emotional and Social competencies model[8, 9].[7]defined his model in terms of an array of traits and abilities related to emotional and social knowledge that influence one's overall ability to effectively cope with environmental demands. Such ever-growing challenges for doctors exist especially during stressful situations when patient volume increases and face time with each patient decreases.

The recent approach to emotional intelligence by [10]formulated it in terms of a theory of performance defining it as an array of emotional and social competencies. Emotional competencies are learned capabilities and can be acquired. They are shaped by characteristics of continuous performance in different emotional situations. Twenty competencies have been identified that underlie the four emotional intelligence domains or clusters: *Self Awareness, Self-Management, Social Awareness,* and *Relationship Management.* Thus, emotional intelligence is understanding the values and character of self and others which enable an individual to balance emotions and reason. In his/her routine practice, doctors are expected to spend considerable time with their patients and display intensive involvement. Therefore, does doctors' EI enhance patient satisfaction merits consideration.

Assessing EI varies according to the models adopted and the purpose of the research. The present research has used the ability based EI instrument as previous studies suggest that from a doctors' perspective this allows for a greater likelihood of change than if it were a personality trait[11]. Further, studies based on an ability- based model for EI suggest that EI is a facet of intelligence which is mildly correlated with general mental ability and that it is developmental in nature. This implies that EI increases with age and life experiences[5, 12, and 13].

Patient Satisfaction

Patient-centred care is a multi-dimensional concept which addresses patients' needs for information, views the patient as a whole person, promotes concordance and enhances the professional-patient relationship[14]. To provide patient-centered care a culture needs to be inculcated that accepts people for, who they are and where they are in life cycle, by meeting their needs at that point along with the hospital's mission to care for the body, mind and spirit of patients. Patients are the foundation of the medical practice, hence, they must be satisfied while in or out of the hospital. Patient satisfaction is widely recognized to be a multi-faceted concept that is personal and at the core of patient-centred care. It is determined by the perception and expectations of the patient's evaluation of doctor's core clinical competencies, the physical facilities, core functional components of service and attitudes/behaviour of both the para-medical and medical staff. Researches show that how one perceives and experiences ones health care is also reflected by socio-demographic characteristics such as education, age, race/ethnicity, income and health status. Studies consistently show that younger patients are less satisfied than older patients, patients with higher education and income, and those who are sicker tend to be more satisfied than patients who consider themselves healthier or less well-off[15]. Perceived waiting time is a strong predictor of patient satisfaction. If waiting time is longer than what is expected or considered appropriate, dissatisfaction will arise no matter how long the actual waiting time is[16].Patient satisfaction is, thus, the strongest determinant of hospital functioning.

Earlier in medical practice, doctor was viewed as GOD, the supreme authority and patient as the disciple. With changing lifestyles and globalization medical practice evolved and acquired a corporate culture where doctors are now viewed as service providers and patients as customers, the supreme authority. Hospitals are thus primarily patient centric. Their ultimate goal is satisfaction of its customers, not only to satisfy and care for patients and their families, but also a positive outcome for its staff, the community and the hospital's own health. Patient satisfaction depends on para-medical and medical staff's motivation, dedication and duty towards the patients. Patients and their families are in a state of anxiety, fear and pain when they approach a doctor and he/she needs to focus on preventing or lessening these feelings to communicate that they care.[17]demonstrated that emotions have a significant effect on satisfaction. Positive emotions positively influence patient satisfaction; whereas negative emotions have a negative effect. Doctors often find themselves in the difficult situation of effectively communicating important information to their patients in a finite period of time without seeming terse or abrupt. Patient experience is, therefore, critical to an organization's successful improvement process.

Satisfied patients are more likely to adhere to prescribed treatment plans, maintain an ongoing relationship with a health care provider and realize subsequent benefits relating to health outcomes. Provider's interests are also well served by satisfied patients, and may realize improved volume related to community reputation, reduced malpractice claims, more satisfied staff resulting into decreased turnover, and improved efficiency[18].

II.   LITERATURE REVIEW

[19] in their pioneering study found a limited relationship between doctor's scores on a test of EI and patient satisfaction. However, there was a significant difference between doctors with 100% satisfied patients and less than 100% satisfied patients on the happinesssubscale of Bar-

On(t=2.76,p=.010).[20]reported improved performance quality in surgeons after they had undergone a brief training for social skills focusing EI resulting in enhanced patient contentment. In another related study conducted on residents from Pediatrics and Med-Peds residency programs in Loyola University Medical Center as a way to improve patient care and physicians' well-being, it was found that the median score for both groups as a whole for overall emotional intelligence was higher than the national average of 110. The highest median subcomponent scores were in Impulse Control (114) and Empathy (113) and the lowest subcomponent scores were in Independence (101) and Assertiveness (102). No difference was seen between pediatric residents and medicine-pediatric residents in their total EI scores or the various components. Residents in their early years of training (PGY 1-2) compared to later years of training (PGY 3-4) showed significant differences in the component of Assertiveness (100 vs 109, p=0.002) and Empathy (115.5 vs 110, p=0.03)[21].

In addition to improved perception of a physician and the organization, patient trust can also have a positive impact on the patient's health[22].It has been observed that patients valued a personal doctor-relationship and preferred to see these physicians when experiencing a significant health problem. Findings stated that personal doctor-relationship improved patient enablement and compliance with directions. In a similar study the researchers found that patients demonstrated higher degrees of trust in physicians when the patient had been hospitalized or evaluated for a serious medical condition[23]Empathy focuses on deeper and unseen expressions of compassion and concern by doctors[24]. Patients want health care professionals to be not only friendlyand courteous, but also having personalized knowledge of the patients, and showingindividualized kindness, sympathy and attention to them. Receivingindividualized care can strengthen patients' emotional safety and trust, which can reduce theirfeeling of vulnerability and anxiety[25].Using groups clustered by their EI profile, male and female nurses were analyzed separately and results revealed that female nurses with high EI did not provide a buffer against burnout; however, generally low scores were associated with higher burnout. Conversely, lowsocial skills seemed to protect against burnout. In male participants problem solving and stress tolerance, EI scores were related to better personal accomplishment i.e., low burnout[26].

In a related study[27]reported no significant association between EI and stress on a sample of mental health nurses.Female nurses with less experience had low EI scores but it was not the same for the male participants. [28]found that high EI was associated with lower perceived stress among dental students. However, only the sub scale of optimism/ mood regulation predicted perceived stress.

Type of hospital and length of service significantly influence the level of emotional intelligence of doctor's.Data collected from 150 doctors from different private and government hospitals of Meerut and J.P. Nagar District, the doctors from private hospitals had a mean score of 109.03 as compared to government hospitals with mean score of 95.96[29].

III. RATIONALE OF THE STUDY

The literature review reveals the limited investigation and applicability of the EI construct to the doctor-patient relationship. The potential role of EI remains unclear as to what extent EI assists in understanding the differences in doctor's behavior, the quality of the relationship, or the relation between the doctor's characteristics and patient satisfaction.The present study is an attemptto examine the relationship between EI scores of doctors with patient satisfaction.

IV. OBJECTIVES OF THE STUDY

The literature leads to the following objectives:
- To study the relationship between doctor's emotional intelligence and patient satisfaction.
- To study the relationship between doctors high/low level of emotional intelligence and high/low level of patient satisfaction.

V. HYPOTHESES OF THE STUDY

Keeping in view the literature review, the following hypotheses are formulated to achieve each of the objectives:
H_{01}: There is no significant relationship between emotional intelligence of doctors and patient satisfaction.
H_{02}:There is no significant relationship between high emotional intelligence of doctors and high patient satisfaction.
H_{03}:There is no significant relationship between high emotional intelligence of doctors and low patient satisfaction.
H_{04}:There is no significant relationship between low emotional intelligence of doctors and high patient satisfaction.
H_{05}: There is no significant relationship between low emotional intelligence of doctors and low patient satisfaction.

VI. RESEARCH METHODOLOGY

The Study
The present study is a co-relationalinvestigationto examine the relationship between emotional intelligence of doctors and patient satisfaction in the various hospitals of Indore city.
The Sample
Doctors belonging to varied specializations including surgeons, urologists, physicians, gynecologists, ophthalmologists, clinical psychologist, pediatrics, and sonologists were provided with questionnaires. A sample of 107 respondents, 13 doctors and 94 patients weretaken into

consideration. In the sample of doctors 10 were males and 3 were females. The average age was 40 years and experience more than 5 years (As shown in Table No.1).In the patient sample 47were males and 49 were females. The average age of the patients was 29 years, 34 were from district areas, 18 from Tehsil areas and 42 from urban areas (As shown in Table No. 2).

Tools for Data Collection

Two psychometric tools were administered on each respondent for data collection. The tools used were: Wong and Law'sEmotional Intelligence Scale[30] and Patient Satisfaction Questionnaire which was developed on the basis of Patient Satisfaction Scale[31]. The Emotional Intelligence Scale consists of 16 items using a set of 7 point Likert's scale for each item ranging from "strongly disagree" to "strongly agree". The variable is conceptualized by the ability to understand emotions in self and others and perceiving emotions and facilitating thought. The Cronbach Alpha Reliability Coefficient for the instrument is .89 which is on the higher side. A higher score indicates a greater level of a participant's emotional intelligence.

The second variable is conceptualized by the individual's attitude and perception towards patient-centred care and is operationalized by using 5point Likert's scale to measure patient satisfaction. The questionnaire was bilingual i.e., Hindi and English languages were used for the understanding of the respondents. The rating scale ranging from "strongly disagree" to "strongly agree" was used for each statement, which were 23 in number. The Cronbach Alpha Reliability Coefficient for the instrument is .76 and is acceptable for analysis purpose. A higher score indicates a greater level of a participant's patient satisfaction.

Tools for Data Analysis

Kolmogorov-Simonov Test was applied to examine the normal distribution of data and due to the normality of data Pearson's Correlation Coefficient Test and independent samples t-test were applied to test the various hypotheses(As shown in Table No.4). Statistical Package for Social Sciences (SPSS version 18.0) was used to analyze and interpret data.

VII. RESULTS

1. $r = 0.363$, $p = 0.112$

H_0 stands accepted.
There is a weak correlation between emotional intelligence of doctor and patient satisfaction (**As shown in Table No. 3 and No. 5**).
Doctors were subsequently dichotomized on the emotional intelligence score as "High" (n= 5) and "Low" (n=6) for patients who reported "High" satisfaction (n=40) versus those who had "Low" satisfaction (n=41).
Independent t-test was applied to test the variance in the data. F= 5.598; p=0.04. There is a significant difference between the patient satisfaction scores of doctors with high emotional intelligence and doctors with low emotional intelligence (**As shown in Table No. 6**).

Table 3: Results for Pearson Correlation Analysis

S. No	Variable 1	Mean	Variable 2	Mean	R	P (0.05)	Impact Status
1	Emotional Intelligence (EI)	83.54	Patient Satisfaction (PS)	683.77	0.363	0.112	Insignificant
2	High EI of doctors	90	High PS	812.20	-0.822*	0.04	Significant
3	High EI of doctors	90	Low PS	740	0.771	0.06	Insignificant
4	Low EI of doctors	78	High PS	676.83	-0.902*	0.01	Significant
5	Low EI of doctors	78	Low PS	616.67	0.490	0.16	Insignificant

*Significant at the 0.05 level

2. $r = -0.822$, $p = 0.04$

H_{02}stands rejected.
There is a strong negative correlation between high emotional intelligence of doctors and high patient satisfaction(**As shown in Table No. 3 and No. 7**).
This implies that when score of emotional intelligence of doctors is high, patient satisfaction decreases.

3. $r = 0.771$, $p = 0.064$

H_{03} stands accepted.

There is a weak correlation between high emotional intelligence of doctors and low patient satisfaction (**As shown in Table No. 3 and No. 8**).

4. $r = -0.902$, $p = 0.014$

H_{04} stands rejected.
There is a strong negative correlation between low emotional intelligence of doctors and high patient satisfaction (**As shown in Table No. 3 and No. 9**). This implies that when score of emotional intelligence of doctors is low, patient satisfaction decreases.

5. $r = 0.490$, $p = 0.16$

H$_{05}$stands accepted.

There is a weak correlation between low emotional intelligence of doctor and low patient satisfaction (**As shown in Table No. 3 and No. 10**).

VIII. DISCUSSION

The results of the study reveal a limited relationship between EI of doctors and patient satisfaction. This is consistent with the earlier researches with similar results[19]. However, the findings that high EI of doctors' leads to a decrease in patient satisfaction and low EI of doctors' also lead to a decrease in patient satisfaction are somewhat unexpected. These imply that among the various determinants of patient satisfaction, EI of doctors is not a significant determinant of patient satisfaction. The above results also support the main finding that the EI of doctors and patient satisfaction are not significantly related. Some people do seem to be more able to deal with their own emotions and those of others, but how much of it is reflected in the quality of their care needs to be ascertained. In other words, possession of the emotional competencies is not enough; they have to be performed in different emotional situations. Patient's emotions are also a major determinant in evaluating the satisfaction level. Patients are always afraid of their illnesses. They want the doctors to be friendly, showing respect for patients, protecting patient privacy and confidentiality, and acting as advocates for the patients[25]. Thorough explanation of patient's medical condition and treatment can make patients feel safe and relaxed, which contribute to patient satisfaction. Communication between doctors and patients can alleviate patient feelings of uncertainty and vulnerability as patients are more comfortable when informed about their medical conditions and the importance of treatments. The majority of patient complaints are due to communication breakdowns between patients and physicians [32, 33]. Communication can influence patient evaluations of their satisfaction level. If the doctors are provided training in social skills focusing on EI, the number of complaints may reduce. This is supported by the findings of [20]who reported improved performance quality in surgeons after they had undergone a brief training for social skills focusing EI resulting in enhanced patient contentment. The greatest increase occurred in the patients' contentment with their surgeon meeting their expectations, suggesting that surgeons had developed skills in the important area of becoming better attuned to the needs of their patients. This item had the lowest initial score before the social skill training focusing emotional intelligence intervention. Physicians in health care industry have ethical obligations which are not required for the other business people; patients expect physicians to give priority to the professional obligations rather than monetary profits[34]. Perhaps patients expect a professional approach from the doctors. They expect doctors to be professionally competent, honest, conscientious, respectful, dependable, energetic, to provide understandable information, and confident, rather than a personal approach.

IX. IMPLICATIONS

The findings reveal that the ability of the doctors to understand and perceive emotions in self and in their patients and to manage these emotions to build a relationship is not one of the major determinants of evaluating patient satisfaction. However, training in EI can improve outcomes for both the medical and the para-medical staff. It may reduce turnout, burnout and stress and may increase communication between patients, teams and individuals resulting in increased patient satisfaction translating it into improved business outcomes for the hospital and doctors

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X. ANNEXURE

Table: 1. Respondents Characteristics Doctors Sample (N=13)

Respondents' Characteristics	Sub-Profile	Percentage (%)
Gender	Male Female	84.61 15.39
Age	25-30 years 30-35 years 35-40 years 40-45 years	7.69 Nil 30.76 61.53
Practice Experience	0-1 years 1-3 years 3-5 years 5 years and above	7.79 Nil Nil 92.30

Table: 2. Respondents Characteristics Patient Sample (N= 94)

Respondents' Characteristics	Sub-Profile	Percentage (%)
Gender	Male Female	48.93 51.07
Age	20-25 years 25--30 years 30-35 years 35& above years	7.69 Nil 30.76 61.53
Annual Income	1lac 2-3 lacs 3-4 lacs 4 lacs and above	54.25 27.65 6.38 6.38
Residential Status	Tehsil District Urban	15.99 19.14 44.68

Table: 4. Results for Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test

		EITotal	PSTotal
N		13	13
Normal Parameters[a,b]	Mean	83.54	683.77
	Std. Deviation	6.814	236.985
Most Extreme Differences	Absolute	.107	.275
	Positive	.107	.130
	Negative	-.103	-.275
Kolmogorov-Smirnov Z		.387	.990
Asymp. Sig. (2-tailed)		.998	.281

a. Test distribution is Normal.

b. Calculated from data.

Table No. 5: Results for Pearson Correlation Analysis

Correlations

		EI Total	PS Total
EI Total	Pearson Correlation	1	.363
	Sig. (1-tailed)		.112
	N	13	13
PS Total	Pearson Correlation	.363	1
	Sig. (1-tailed)	.112	
	N	13	13

Table No. 6: Results for Independent t- Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	T	Df
PST	Equal variances assumed	5.398	.045	-.845	9

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	T	Df
PST	Equal variances assumed	5.398	.045	-.845	9
	Equal variances not assumed			-.784	5.005

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
PST	Equal variances assumed	.420	-195.533	231.326
	Equal variances not assumed	.469	-195.533	249.405

Independent Samples Test

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
PST	Equal variances assumed	-718.830	327.763
	Equal variances not assumed	-836.462	445.396

Table No. 7: Results for Pearson Correlation Analysis Correlations

		High EI	High PS
High EI	Pearson Correlation	1	-.822[*]
	Sig. (1-tailed)		.044
	N	5	5
High PS	Pearson Correlation	-.822[*]	1
	Sig. (1-tailed)	.044	
	N	5	5

*. Correlation is significant at the 0.05 level (1-tailed).

Table No. 8: Results for Pearson Correlation Analysis Correlations

		High EI	Low PS
High EI	Pearson Correlation	1	.771
	Sig. (1-tailed)		.064
	N	5	5
Low PS	Pearson Correlation	.771	1
	Sig. (1-tailed)	.064	
	N	5	5

Table No. 9: Results for Pearson Correlation Analysis Correlations

		Low EI	High PS
Low EI	Pearson Correlation	1	-.902[*]
	Sig. (1-tailed)		.007
	N	6	6
High PS	Pearson Correlation	-.902[*]	1
	Sig. (1-tailed)	.007	
	N	6	6

*. Correlation is significant at the 0.05 level (1-tailed).

Table No. 10: Results for Pearson Correlation Analysis Correlations

		Low EI	Low PS
Low EI	Pearson Correlation	1	.490
	Sig. (1-tailed)		.162
	N	6	6
Low PS	Pearson Correlation	.490	1
	Sig. (1-tailed)	.162	
	N	6	6

Authors Profile

Dr. Mandip Gill Ph.D, MBA, M. Sc. has more than 14 years' experience in the human resources and marketing area. She did her Ph.D from Devi Ahilya University, Indore and is a registered Supervisor for the university. She is currently Associate Professor at Maharaja Ranjit Singh Group of Institutions, Head BBA Department, and the Prof. in charge Placements.
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Dr. M.S. Gill, MBBS, DMRE has been practicing as a Radiologist and Sonologist since the past 29 years. Dr. Gill is the CEO, Gill Sono and Lithotripsy Centre and Tanish Medical Care, Indore. During his career he has successfully treated a number of patients from all round the globe and has conducted a numerous health camps focusing on different areas and diseases for patients belonging to rural, semi-rural and urban areas. He has also actively participated in a number of National and International conferences in the field of medicine.

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