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Research Article
Emotional Support and its Medical and Healthcare Implications: A Mind and Body Approach

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Abstract

Background and Objective: There are associations between emotional support, morbidity and mortality. Emotions understanding and management of both Physicians and patients are overlooked in research. The researches of the challenge facing medical and healthcare sittings when treating patients and their safety as a human experience are still inconclusive. This study aims to examine the correlation between emotional support and medical and healthcare implications. **Materials and Methods:** This cross-sectional study surveyed 223 inpatients of several public and private hospitals. To examine the overall patient safety and emotional support, a standard 5Qs questionnaire of healthcare quality and safety including some emotional support dimensions was used. **Results:** The highest means given for emotional support dimension "Empathy" with means of 3.78 (±0.81). The total mean of emotional support was 3.48 (±0.69) and the total mean of overall patient safety was 3.58 (±0.68). Patients in this study felt that they received inadequate personalized emotional support. The lowest mean score reported by the patients was the dimension being present and available of the healthcare with means of 3.32 (±0.86) and the dimension humor with means of 3.33 (±0.85). Ambient Environmental (A) had the most significant influence on the overall patient safety ($\beta = 0.22$ and $p<0.0$) followed by Supportive gestures (S) ($\beta = 0.21$ and $p<0.0$). **Conclusion:** Increasing the attention paid to the emotional support dimensions of patient care will lead to better understanding the Mind/Body interrelation, improving the medical and healthcare implications and speeding up the recovery from the illness.

Key words: Emotional support, emotion intelligence neurobiology, psychology, social cognition, medicine, psychiatry

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Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Freud argued that the behavior is prompted by conscious and unconscious mental processes and emotions are generally assumed in psychoanalytic theory to be an affect[1]. Previous researchers found that lack of social and emotional support can cause overall health problems and illnesses such as heart disease, stress and depression as well as increased duration of hospitalization[2-3]. Neuroscientists argued that the amygdala in the limbic system in the brain is the source of our earliest emotions of anxiety, aggression, fear conditioning and social cognition and the cingulate gyrus in the limbic system regulates heart rate and blood pressure and the cognitive and emotional processing[4]. Empathy, for instance, is a complex emotion. The real empathy is not just about knowing that other people feel the same as one do; it's about knowing that although they do not feel the same way, they care anyway. The empathy of physicians and nurses can increase patients' immune systems and responses[5].

Since health issues, healthcare and healthcare systems have become complicated and the medical errors are one of the main leading reasons for death and injury[6-7]. Emotions related to medical errors and patient safety include hurt feelings, frustration, sadness, depression, guilt and unhappiness[8-10].

There are some evidence and links between social and emotional support and the morbidity, mortality and some diseases such as cardiovascular, cancer, diabetes, hypertension, arthritis, emphysema in elderly people[11-13]. The influence of emotional states in medical and psychiatric illness has expanded rapidly in the past half-century, aided by significant advances in the understanding of the neurobiological mechanisms of emotion. Neurological emotion knowledge should be improved by both patients and psychiatrists[14].

The application of Normative Decision Theory (NDT) to the challenge of understanding emotions and facilitating and measuring patient satisfaction is considered as an important personalized human experience appraised subjectively by an individual, regarding the extent to which care received has met certain expectations[15]. Hospitals, medical centers and clinics should use personalization to identify each patient's unique emotions, wants and needs. Physicians, healthcare staff, patient families and friends involved in patient treatment situations with approaching caring, love for the patients and emphasizes positive patient outcomes such as pain relief, life-saving and dealing with anger or disappointment with life after medical interventions are essential components of the emotional intelligence and emotional support. Emotional Intelligence (EI) is one of the major drivers of patient safety [14.] The importance of understanding the spirit of emotional intelligence by healthcare organizations is recognized in several studies[2,16-20].

Five qualities (5Qs) model was developed by Zineldin[21]. It is based on the Normative Decision Theory (NDT) and empirically tested and verified by many empirical studies implemented in different countries such as Sweden Turkey, Egypt, China, Kazakhstan etc. The model includes many emotional support dimensions[22,23]. These 5Qs are:

Q1 : Object or outcomes
Q2 : Process
Q3 : Infrastructure
Q4 : Interaction and communication
Q5 : Atmosphere

Overall patient safety (OPS) and wellbeing is a function of Q1, Q2, Q3, Q4 and Q5. A full description of the modified 5Qs model is to be found in Zineldin and Vasicheva[24].

Adamson *et al.*[20] argued that the emotional support within the context of a healthcare organization is its ability as a caregiver to provide verbal or behavioral communications in a manner that facilitates the psycho-social adaptation of an individual to her/his illness and the surrounding environment. The authors identified the following eight emotional support dimensions:

1 Personalization (P)
2 Supportive gestures (S)
3 Informative communication (I)
4 Being present and available (B)
5 Hope and Inspiration (H)
6 Humour (Hu)
7 Ambient Environmental (A)
8 Empathy (E)

However, the 5Q items cover clinical items such as the professional medical treatment and its outcome (Q1), how the process of treatment conducted (Q2), the main infrastructure of the hospital (main competencies and resources) (Q3), patient- healthcare organization interaction and communication (Q4) and healthcare organizations' atmosphere (Q5).

Each of the proposed Qs has also dimensions of emotional support such as a sense of well being at the wards, feeling of trust, empathy and friendly atmosphere. Improving sense of security from physical harm in hospitals, the responsiveness of patient needs, doctors' skills and the

explanation about patient treatment are some most importantly emotional support dimensions impacting patients' perception of quality and safety for the Turkish and Kazakhstan patients[22]. Other studies provide evidence that there is a positive relationship between measured Emotional Intelligence (EI) and organizational outcomes, including improved patient and staff satisfaction[12,24-27].

The Healthcare Organizations (HO) should better understand the neurobiology of emotion perception and management as well as its implications for psychiatry. The HOs should implement the essential components of internal and external emotional support and its medical and overall health implications. Thus, there is a need for new studies to explain why the neurobiology of emotion and health relationships exists[11,20]. This article presents the current knowledge in this field, drawing upon psychiatric and psychological approaches and evidence from clinical settings.

MATERIALS AND METHODS

Methodology: A web survey questionnaire was designed to collect the data from inpatients of different size private and public hospitals. The data collection process took place between January and April 2017. The hospital inpatients were encouraged to log in with the specific password to conduct an online reply or to return the answered survey to the researcher's e-mail. A total of 223 questionnaires were returned. Respondents were asked to choose the relevant answer by agreeing or disagreeing using a Likert scale from 1 = Strongly disagree to 5 = Strongly agree.

Data analysis: A total of 60% of the patients are female and 40 percent are male. About 55 percent of the patients are younger than 25 years old and 44% are middle-aged between 26-45 years old and, 06% are between 46-64 and, 04 are over 65 years old. The analysis shows that 69% of them are single, 29% are married and 1% are divorced and widow. Finally, 76% are holding a university degree or still university students, 22% secondary school education and 2% have another kind of educations.

RESULTS

Reliability and validity: The survey instrument was tested for internal consistency with a particular scale and reliability by using Cronbach's coefficient alpha estimate. The values for all items range from 0.79 to 0.82, exceeding the minimum alpha of 0.70 which is considered to be very acceptable.

Pearson correlations were calculated to identify the correlations between each of the dependent and independent variables. Table 1 shows that all bivariate correlations are positive and statistically significant.

As shown in Table 2, Pearson's Product-Moment Correlation Coefficient (r) was used to measure the strength and direction of the relationship between the variables. The results regarding the Overall Patient Safety (OPS) and the emotional support dimensions show that the strongest correlation was related to (E) Empathy (r = 0.889) followed by Hope (H) and inspiration (r = 0.841) and the informative (I) communication between the patient and the healthcare staff (r = 0.801).

Table 1: Correlation between scale variables

	Correlations												
Parameters	1	2	3	4	5	6	7	8	9	10	11	12	13
P	1												
S	0.590**	1											
I	0.730**	0.632**	1										
B	0.421**	0.506**	0.524**	1									
H	0.626**	0.766**	0.664**	0.460**	1								
Hu	0.557**	0.579**	0.580**	0.409**	0.652**	1							
A	0.650**	0.629**	0.707**	0.485**	0.779**	0.596**	1						
E	0.719**	0.500**	0.683**	0.451**	0.589**	0.536**	0.611**	1					
Q1	0.774**	0.686**	0.817**	0.507**	0.714**	0.731**	0.760**	0.748**	1				
Q2	0.525**	0.611**	0.706**	0.744**	0.652**	0.557**	0.648**	0.595**	0.671**	1			
Q3	0.646**	0.865**	0.684**	0.508**	0.782**	0.630**	0.684**	0.561**	0.749**	0.754**	1		
Q4	0.517**	0.679**	0.625**	0.466**	0.743**	0.671**	0.698**	0.551**	0.693**	0.743**	0.820**	1	
Q5	0.605**	0.743**	0.712**	0.527**	0.876**	0.727**	0.877**	0.620**	0.780**	0.727**	0.806**	0.802**	1
OPS	0.698**	0.795**	0.801**	0.611**	0.841**	0.749**	0.825**	0.889**	0.699**	0.860**	0.912**	0.897**	0.920**

**: Correlation is significant at the 0.01 level (2-tailed), P: Personalization, S: Supportive gestures, I: Informative communication, B: Being present and available, H: Hope and Inspiration, Hu: Humour, A: Ambient environmental, E: Empathy, Q1: Object or outcomes, Q2: Process, Q3: Infrastructure, Q4: Interaction and communication, Q5: Atmosphere, OPS: Overall patient safety

Table 2: Regression model for OPS and ES

Independent variables	β**	p-value
S	0.21	0.00
I	0.11	0.00
B	0.18	0.00
H	0.17	0.00
Hu	0.20	0.00
A	0.22	0.00
E	0.11	0.00

Dependent variable OPS, S: Supportive gestures, I: Informative communication, B: Being present and available, H: Hope and Inspiration, Hu: Humour, A: Ambient environmental, E: Empathy, **: β is the denotes beta coefficient which is the degree of change in the outcome variable for every 1-unit of change in the predictor variable

Regarding the correlation between the 5Qs constructs and the emotional support dimensions, the study shows that strongest correlation is between the quality of (A) the ambient or friendly Environmental and Q5 which is the atmosphere (r = 0.877) followed by (S) supportive gestures and Q3 which is the infrastructure of the hospital (r = 0.865) and Q1 which is the outcome of the treatment and (1) the Informative communication (r = 0.817). The process quality Q) was strongly correlated with emotional support (B), Being present and available (r = 0.744). A relatively weak correlation was between Q4 which is the quality of patient –healthcare staff interaction and the emotional support dimension (H) (4 = 0.743) followed by the correction between I and SAT (0,583).

Regression testing: A multiple regression analysis (Table 2) was carried out and the results demonstrated that the r-value is between -1.0 and 1.0 hence there is a positive correlation between the Overall Patient Safety (OPS) and the 7 of 8 emotional support dimensions (ES) ($p<0.01$). The model only involves statistically significant variables. It was a surprise to find that P is not statistically significant in the model with OPS as the dependent variable.

As follows from Table 2, the regression model shows that Ambient Environmental (A) generates the most significant outcome concerning the safety ($\beta = 0.22$ and $p<0.0$) followed by Supportive gestures (S) ($\beta = 0.21$ and $p<0.0$) and hope and inspiration (Hu) ($\beta = 0.20$ and $p<0.0$). B and H had moderate contribution and I and E had weak contributions and significance.

DISCUSSION

In the present study, 7 of the 8 emotional support dimensions, i.e., Personalization (P), Supportive gestures (S), Informative communication (I), Being present and available (B), Hope and Inspiration (H), Humour (Hu), Ambient Environmental (A), Empathy (E) showed significances with patient safety. The personalization dimension was not statistically significant in the regression model with overall patient safety (OPS) as the dependent variable.

Patients in this study felt that they received inadequate personalized emotional support whish is reflecting the process of Social Cognition (SC). The SC is reporting the ability of the hospital to treat the patients as each patient as a unique individual and the time spent by staff to understand patients' specific needs was not enough. This study showed that the lowest mean score reported by the patients was the dimension being present and available of the healthcare staff when needed with means of 3.32 (±0.86) and the dimension humor with means of 3.33 (±0.85). SC includes some brain regions that mediate face perception and emotional processing. The functioning of these regions is to support the complex behaviors necessary for social interactions[4,28]. Some studies reported low perceived emotional support predicted higher mortality for elderly women[11,29].

The highest means are given for emotional support dimension "Empathy" with means of 3.78 (±0.81). The total mean of emotional support was 3.48 (±0.69) and the total mean of overall patient safety was 3.58 (±0.68). Some previous studies suggested that emotional support may reduce mortality[12,30]. Ambient Environmental (A) had the most significant influence on the overall patient safety ($\beta = 0.22$ and $p<0.0$) followed by Supportive gestures (S) ($\beta = 0.21$ and $p<0.0$). This is in support of a study conducted by Adamson *et al.*[20].

As research has documented that there is inter-correlation between negative emotions which can alter white blood cell function and the immune system[31], this current study argues that physicians and nurses should inspire patients and give them hope (H); they have to communicate with patients factual expectations by a positive way, use symbols to focus efforts (S), express important purposes of the treatments in simple ways. They should also be reasonable optimistic and encourage patients to understand and positively accept their conditions (E) and deal.

High quality and quantity of social support and networks can decrease the risk of mortality in comparison to those who have low quantity or quality of social support and relationships[32]. This study emphasised also the role of the amygdala for the identification of emotional support dimensions which is in agreement with studies carried out by Phillips[33]. This finding requires further study which is beyond the scope of our current study.

CONCLUSION

This study suggests that healthcare organizations should enforce, re-engineer and redesign their strategies to develop technologies and methods to respond to the emotional needs of patients. An effective and sound emotional support mechanism is essential for healthcare organizations to improve patient safety and satisfaction scores, hence improve the overall quality of life. It also shaded light of the correlation between neurosciences and neurobiological basis of emotion perception and management and an acknowledgment that lack of emotional support for patients may be negatively associated with specific mental disorders and overall patient safety (OPS).

SIGNIFICANCE STATEMENT

This study discovered an association between emotional support, psychosocial well-being and overall patient safety. Our study ´s findings are an essential basis from which to begin understanding and exploring the neurobiology of emotion perception, behavior and management. The present study sheds also light on the possibility of using the five qualities approach (5Qs) as a diagnostic and measurement tool of the most relevant clinical, healthcare quality, emotional and behavioral elements for healthcare settings. This will help the researchers to uncover the critical areas of the complex correlation between physical, emotional and mental aspects of patient safety and well-being that many researchers were not able to explore. Thus, a modified or a new theory on mind/body connection may be arrived at.

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