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Dentists' Socio-Emotional, Informational Behaviors and Theirpatient's Satisfaction: A Case Study from Iran

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Abstract: The aim of this study is to investigate the relationship between dentist's socio-emotional and informational behaviors with patient satisfaction. Participants of present study were one hundred seventy nine residentof Isfahan city in Iran. The conceptualize model of the research run as a structural model to test the hypotheses regarding to relationship betweendentist's socio-emotionaland informational behavior with patient satisfaction. Theresults of goodness of fit indexes showed that the model of research has good fitness. Casual path analyses revealed that dentist's socio-emotional and informational behavior have positive effect on patient's satisfaction.

Key words: Patient · Satisfaction · Dentist · Behavior · Affective Aspects

INTRODUCTION

Socio interaction theory has been used by some researcher to describe patient-physician encounter. This theory stated that patientsaremostly recognized and reacted to socio-emotional behavior of their physician. The theory assumes almost all patients when visiting their physician, not only seeking for medical treatment but also they have a desire to be relieved from anxiety which the socio-emotional or affective behavior of physician support this part of patient's needs. In other word, physician by listening to their patients' concern and giving them some psychological assuranceand providing them with some information, would cause somerelieve from anxiety. The more anxious the patient is, the more concern he/she will be about the physician's socio-emotional behavior. One reason for patients' concern about the socio-emotional behavior of their physician is that, they hardly could evaluate the physicians'task behavior. Empirical studies have shown that patients often judge the quality of their physicians' interpersonal effectiveness as a major indicator of general competence [1]. Indeed, it is the affective behavior of physician that is often cited as the most important factor in patient's satisfaction with the medical visit. Moreover, task behavior is other important aspect ofphysician's interactional behavior. Task behavior is related to physician's information giving, question asking and listening skills. Reciprocity theory revealed that people generally feel obligated to return to others those goods and services they receive from others [2]. In the medical consultation, physician task behaviors (e.g. information giving) should be reciprocated by patient task behaviors (e.g. compliance and satisfaction). Therefore, the present study tries to investigate the relation of dentists' socio-emotional behavior and informational behavior with their patient's satisfaction in Iranian private dentistry sector. This sector is undergoing significant changes such as decreasing number of patients due to the effectiveness of preventive dental care, increasing number of dentists, the economic pressure that forces some patients to defer dental care and the extension of dentistry branches in Iranian public hospitals, led to higher competition among practitioners for attracting and keeping patients. Sopatients' satisfaction will be critical issue in this arena for attracting and maintaining more customers. According to what mentioned above, dentists' behavioral dimensions is crucial in patient satisfaction. So, the purpose of present study is to determinedimensions of dentists'relational behaviors and explain their relationships with patient satisfaction.

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Hypotheses Development

Socio-Emotional and Task Behavior: Patients recognize and respond to at least two dimensions of physicians' communication: affective-relational and task-instrumental. Affective -relational or socio- emotional behavior has been defined as verbal attentiveness and include behaviors such as showing agreement, paraphrasing and reflecting patients' messages, legitimizing his or her behavior or feelings and showing partnership. Showing concern include behaviors such as showing worry, giving reassurance and also, social behavior: personal remarks, jokes, showing approval. Generally, socio-emotional or affective behavior accomplish interpersonal goals [3].

Task dimensionis consisted of behaviors, which accomplish technical medical goals such as prescribing medication, information giving [4]. Roter stated four clusters for task behavior: (1) Information: all information statements related to medical condition, therapeutic regimen, lifestyle, feelings and other. (2) Questions: all open-ended and closed-ended questions as well as asking for understanding, clarification, or opinion. (3) Counseling all persuasive statements related to medical condition, therapeutic regimen, lifestyle and feeling. (4) Directions: all statements that guide the patient through the consultation, for example,"Sit down, I'll have a look first", [5] and others. So, physician - patient interactions have two main components: socio-emotional and informational.

Two major theories are related to explain physician-patient interaction and communication are social interaction and reciprocity theories. Both categorize physician and patient behavior in terms of "socio-emotional" or "affective" behaviors and "task" or "instrumental" behaviors [6]. Social interaction theory predicts that patients mostly recognize and react to socio-emotional behavior of their physicians. Ben-Sira has addressed social interaction theory to describe the physician-patient encounter [7]. This theory proposes that patients seeking medical assistance have a general goal of anxiety relieving, which the physician addresses through socio-emotional behaviors such as expressions of concern, reassurance, showing approval, showing attention [8]. In support of social interaction theory, there is evidence showing that most patients recognize and respond to socio-emotional behavior of their physicians [9]. Several studies have noted a positive association between physician expression of socio-emotional behavior and patient satisfaction. Patients who are less satisfied with physicians' socio-emotional behavior are more likely to change their physicians [10]. Based on literature review, socio-emotional or affective behaviors of dentist such as empathy, expression of concern, making pleasantries, joking positive nonverbal communications cause to patient feel positive sense and relieve patient 's anxiety so, we proposed that:

H1: Dentist's Socio-Emotional Behaviors Affect Patient Satisfaction: Reciprocity theory predicts patients recognize and react to task behaviors of their physicians. Reciprocity theory note that people generally feel obligated to compensate the favor of others. In the medical consultation, physician task behaviors (e.g. information giving, listening) should be reciprocated by patient task behaviors (e.g. compliance and satisfaction)[2]. Meta-analysis has shown that Physician task behaviors (information giving and question asking, listening skills) are associated with patient compliance, recall of medical information and satisfaction [6]. Hall found that greater task behaviors increased both compliance and satisfaction [6]. Young, in a similar design, showed that patient self-disclosure of symptoms is associated with high physician listening skills [11]. The results of these studies suggest that patients are capable of recognizing and responding to task behaviors of physicians and that their responses tend to reciprocate such behaviors. Furthermore, physicians who listen to patients problems and describe caring schedule for them, cause toreducepatient's anxiety. Based on literature review, in this paper, patient task behavior has been operationalized as informational behavior, which is composed of listening, question asking and information giving. So, dentist informational behaviors (such as question asking, information giving and listening skills) should be reciprocated by patient task behaviors (such as satisfaction) as a result we proposed that:

H2: Dentists Informational Behavior Affect on Patient Satisfaction

Proposed Model: Based on literature review the proposed model of research is illustrated in Figure 1.

Research Methodology: This is a descriptive survey research, which was conducted among resident of Isfahan city in Iran. The research data was collected by convenient sampling method. The sample size estimated to be 179 respondents. The age of 49.1% of sample was below 25,27.4% between 25 to 35year, 12% between 35 to 45 years of age, 8% between 45 to 55 year and 3.4 % were up to 55 years of age. Also, 42.9 % of research sample were male and 57.1% were female respondent.

Table 1: Exploratory factor analysis results

	(EFA) loadings		
Construct	F1	F2	(α)
Factor 1: Socio-emotional behavior			0.83
Percentage of variances explained: (0.418)			
Kiaser-Meyer Olkin Measure of Sampling adequacy: (0.83)			
1. The doctor was not friendly to me	0.754		
2. I felt that the doctor did not take my problem seriously	0.768		
3. The doctor behave to me respectfully	0.736		
4. I felt comfortable to talk to the doctor			
5. After talking to the doctor, I felt much better about my problem	0.756		
6. The doctor behaves politely.	0.537		
	0.584		0.718
Factor 2:informational behavior			
percentage of variances explained(0.582)			
Kiaser-Meyer Olkin Measure of Sampling adequacy:(0.77)			
1.The doctor answers my question		0.514	
2. The doctor explains my problem		0.862	0.73
3. The doctor explains my caring schedule.		0.769	
4. The doctor gave me a chance to say what was really on my mind.		0.557	
Satisfaction	-		
1. I will recommend the doctor to others	-		
2. If I need dental care in future, I will refer to the same doctor again			

EFA with principal component and varimax rotation method

Table 2: Fit indices of Affective behavior model

Index	Cmin	df	Cmin/df	p	GFI	RMR	RMSERA	CFI
Socio-emotional behavior model	13.67	7	1.95	0.58	0.974	0.038	0.73	0.925

Table 3: Fit indices of Informational behavior model

Index	Cmin	df	Cmin/df	p	GFI	RMR	RMSERA	CFI
Informational behavior model	3.34	2	1.67	2	0.991	0.021	0.061	0.99

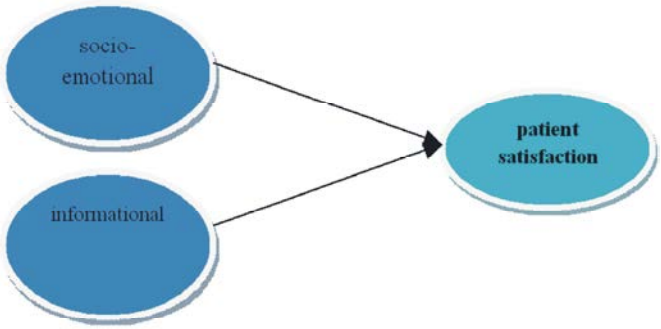

Fig. 1: Proposed model of the research

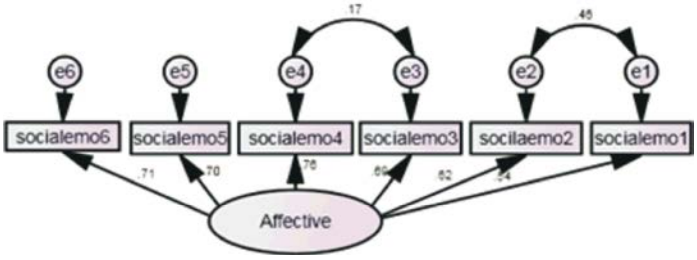

Fig. 2: Measurement model of Socio-emotional behavior

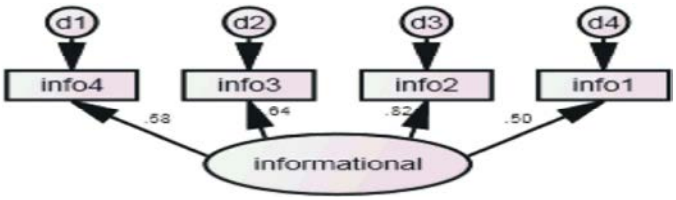

Fig. 3: Measurement model of Informational behavior

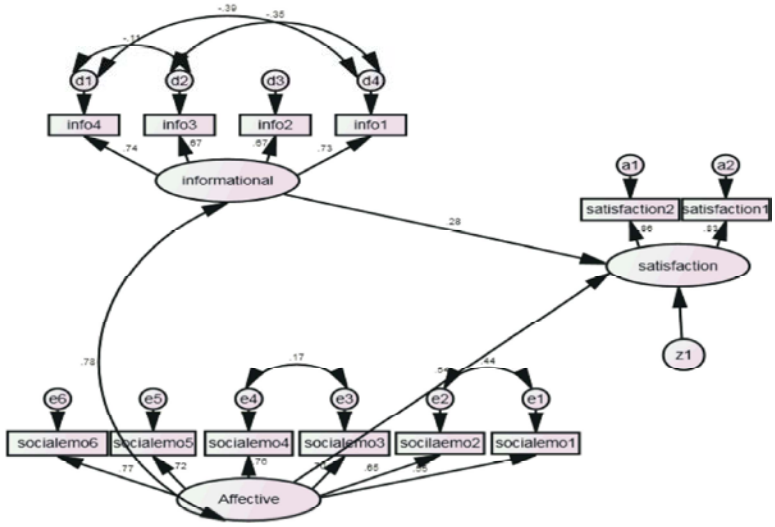

Fig. 4: Modified Structural model of the research

Table 4: Hypotheses testing and Casual path result

Causal path	Estimate	S.E	C.ROrt-value	P(value)	Path Weights	Result
Informational behavior → satisfaction	0.831	0.231	3.594	0.048	0.28	Accepted
Affective behavior → Satisfaction	0.838	0.241	3.479	0.00	0.43	Accepted

Scale and Measurement: The study used a multi-item scales to measure the constructs of the model. All items in the questionnaire were measured on a five-point Likert type scale anchored from " strongly disagree " (1) to "strongly agree" (5). To measure socio-emotional behavior, a six items scales were used which Robinson and Heritage[10] have developed. Also, in order to measure informational behavior four items were designed and two items were used to measure patient satisfaction.

Exploratory Factor Analysis: As mentioned above, this paper used multi-item scales to measure the constructs. Therefore, exploratory factor analysis (EFA) was performed on ten items of questionnaire (six item for socio-emotional behavior and four items for informational behavior) to confirm its scale dimensionality and validity. The result of principal component analysis showed that two Eigenvalues is over than one (λ_1= 4.42, λ_2= 1.7) so, two factors was extracted.Itemswith factor scores of less than 0.3 were eliminated and the items retained for each construct were tested for Kaiser-Meyer-Olkin measure of sample adequacy, percentage of variances explained and Cronbach's α. The result of the exploratory factor analysis showed in Table 1. All of socio- emotional behavior and informational behavior's item scores are higher than 0.3, so no items was deleted. The Kiaser - Meyer Olkin measure of sampling adequacy of all scales exceeded (0.5), Table 1. It is should be noted that, because the scale of patient satisfaction had onlytwo items, factor analysis was not possible but its Cronbach's α estimated to be equal to 0.73.

Validating the Measurement Models

Confirmatory Factor Analysis: Before running the proposed structural equation model of research, each of measurement models tested by confirmatory factor analysis separately. The result of exploratory factor analysis used to perform confirmatory factor analysis. Each of measurement models assessed with Cmin/df, goodness of fit index (GFI), root mean square residual

(RMR), root mean square error of approximation (RMSERA) and comparative fit index (CFI). All fit indices fall within acceptable ranges and two measurement models have goodness of fit. (Figures 2,3 and Table 2,3) Amos graphics.18 used to estimate all of measurement model.

Data Analysis and Hypotheses Testing: This study adopted structural equation model (SEM) for analyzing the data. SEM includes two stages: measurement model analysis and structural model analysis. After the measurement models was analyzed separately, the conceptualized model of research run as a structural modelto test the hypotheses regarding to relationship between affective behavior, informational behavior and satisfaction. The method of maximum likelihood estimation in Amos Graphics. 18 software used to analyzed data and hypotheses testing.To assess the proposed model's fit, we used the overall model Cmin or chi-square, the Tucker - Lewis index [12], the comparative fit index and the root mean square error of approximation (RMSEA) [13]. Root mean square residual (RMR), goodness of fit index (GFI) [14].

The results of testing structural model fitness indicated that: Cmin (df=46) = 79.47, Cmin/df=1.728, TLI = 0.94, CFI= 0.95, RMSEA= 0.067, RMR=0.055, GFI=0.926 and P(value)=0.02. All of the goodness of fit indexes were within acceptable range and indicate that the model of the research has a good fitness. In order to test the hypotheses and casual path, the maximum likelihood method have been used (Table 4).

RESULTS AND DISCUSSION

The aim of this research was to investigate the relationship between dentist 's informational and socio-emotionalbehavior with patients satisfaction.

Based on Table 4, the result of hypothesestesting showed that p-value for informational behavioris equal to 0.048 and is less than 0,05 and the critical ratio (C.R= 3,95) is over than 2, so there is a positive significant relationship between informational behavior and patient satisfaction. This result is consistent with the study of Bensing *et al*. which showed that informational behavior, consisted of giving information, counseling, questioning has positive effect on caring quality and patient satisfaction [3]. In addition, our finding is congruence with the study of Stiles *et al*. [15] which addressed that cognitive satisfaction is associated with transmission of information from physician to patient in "feedback" exchanges, when physicians gave patients information about illness and treatment.

According to reciprocity theory, patients recognize and react to task behaviors of their physicians. Therefore, dentist's informational behavior is reciprocated by patient satisfaction. That is why dentist's informational behavior affected patient satisfaction. In addition, informational aspect of physician- patient interaction causessome relieve for patients from their anxiety and their satisfaction. The second hypotheses stated that socio-emotional behavior or affective behavior has positive effect on patient satisfaction.

The result of study showed that p-value (0.00) is less than 0.05 and the critical ratio (C.R= 3,475) is over than 2, so there is a positive significant relationship between affective behavior and patient satisfaction. This result is congruence with the study of Roberts *et al*. which found that When the physician displayed high socio-emotional behaviors, participants were more satisfied and more trusting than when he displayed low socio-emotional behaviors [9]. In addition, the positive relationship between dentist'ssocio- emotional behavior and satisfaction is consistent with the findings of Robinson *et al*. which revealed positive socio-emotional behavior influence on patient satisfaction [10]. According to socio interaction theory, all patients when visiting their physician, not only seeking for medical treatment but also they have a desire to be relieved from anxiety, which the socio-emotional or affective behavior of physician support this part of patient’s needs. So, dentist's socio-emotional behaviors can relieve patient's anxiety and cause feel of trust and satisfaction.

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