Effect of Personnel Care Quality of Private Healthcare Providers on Arab Patients' Satisfaction and Word-of-Mouth Communication:An Empirical Research in India

Raed Mohammed Ali Al-Daoar, Shanmugam Munusamy

ABSTRACT--- Personnel quality in service industry is a significant factor as it interacts directly with customers. Thus, the understanding of personnel quality is an important aspect for strategies' development and implementation to enhance the service delivery process. In the healthcare and medical tourism industries, personnel quality such as quality of doctors, nurses, administrative staff and interpreters play a major role in delivering good service to patients. Generally, there are studies relating to quality of service based on selected dimensions and its effects on patients' satisfaction and word-of-mouth. However, studies focusing on personnel quality and its impact on the satisfaction and word-of-mouth of patients are still scarce. Hence, the present research aims to measure perspectives of Arab patients concerning the personnel quality of health care providers, satisfaction and word-of-mouth of patients in Indian private hospitals. To achieve this aim, a required data was collected from 335 Arab patients though valid and reliable structural questionnaire. Appropriate statistical methods including Structural Equation Modeling (SEM) were applied in the present research to analyze the collected data and to examine the proposed model and hypotheses. Based on the analysis, it was found that the dimensions of doctors' quality and nurses' quality were significant, whereas the dimensions of administrative staffs' quality and interpreters' quality were not significant to predict the satisfaction and word-of-mouth of Arab patient. Thus, the results of this research can assist private healthcare providers to take appropriate policy decisions.

Keywords: Personnel quality, word-of-mouth, Perspective, Patient Satisfaction, private hospitals.

I. INTRODUCTION

Personnel quality of service providers is reflected by their knowledge and skills in dealing with customers during the service delivery process. Thus, the personnel providing services are expected to be good listeners, receptive, trustworthy, realistic, responsive, honest and knowledgeable. In healthcare sectors, personnel quality represents as an understanding and meeting the needs of patients concerning types of healthcare and other services delivered by the management staff, doctors, nurses, and interpreters in hospitals. It is expected to greatly contribute to the success and sustained growth of the health care business (Kitapci et al., 2014; Padma et al., 2009, 2010; Swain and Kar, 2017 and Duggirala et al., 2008).

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Indian healthcare sector is a fast growing industry with a high level of demand for services from native as well as foreign patients. According to reports (Coopers, 2007; and Burns, 2014) "Health care is one of the Indian largest sectors in terms of revenue and employment. It is growing at a brisk pace in terms of hospitals, modern technology of medical devices and equipment, clinical trials, health insurance, outsourcing, telemedicine and medical tourism. The competitive advantage of Indian health care and Indian medical tourism lies in that it has an educated and well-trained medical professionals as well as the low cost of medical".

Indian healthcare institutions have high-standard facilities that attract more and more medical tourists seeking a high-quality healthcare service at a reasonable cost (Meesala and Paul, 2018). According to Press Information Bureau PIB Delhi, (2018), "The estimated foreign tourists who arrived in India for medical purpose during the years of 2016 and 2017 were 4,27,014; and 4,95,056 and the number has increased by 68,042 in 2017".The specific aspects of personnel quality which significantly influence patients' satisfaction and word-of-mouth have to be studied.

Arab patients constitute one group of customers of Indian healthcare and "medical tourism" markets. They are expected to satisfy their medical needs with good quality of service from Indian healthcare institutions (Ahmad and Zulkarnain Sikandar, 2014). Controlling and developing the qualities of personnel is extremely important to ensure the efficiency and effectiveness of service delivery, particularly in the healthcare sector. Thus, providers of healthcare sector need to understand the aspects of personnel qualities as an important issue for the improvement and achievement of strategies and activities of service delivery to enhance the quality of deliver process.

II. LITERATURE REVIEW

The present section reviews the studies of personnel quality dimensions in the healthcare industry and its effects on satisfaction and word-of-mouth of patients.

2.1. Personnel-quality dimensions

Health care providers are concerned with the find out the most significant dimensions of personnel quality which ensure the success of their business and contribute to

promoting the competitive advantage in future (Meesala and Paul, 2018).

Studies done by several researchers to examine the quality of healthcare personnel have identified several factors such as responsiveness, empathy, assurance, credibility, professionalism, trustworthiness, skills, attitudes, behavior, communication proficiency, courtesy, respect and caring dimensions as factors to measure the personnel quality. (Andaleeb, 1998; Parasuraman et al., 1985; Sower et al. 2001; Gronroos, 1990; and Hasin et al. 2001).

To determine and evaluate patient satisfaction we need to study the functional and technical aspects of personnel quality in hospitals (Kane et al., 1997).In the Indian context, several researchers such as (Padma et al., 2010 and Swain and Kar, 2017; and Duggirala et al. 2008) used personnel quality aspects as an influential factor on patient satisfaction when they measured the healthcare service quality. In such a way, four significant dimensions of personnel quality namely; doctors' quality, nurses' quality, administrative staff quality and interpreters' quality represent the human aspects of delivering service quality which contributes to the success and sustainability of the business. The next section discusses these factors.

2.1.1. Quality of Doctors' care

This dimension measures the experiences of patients regarding to quality of doctor in terms of skills, knowledge, abilities and work experience that enable doctors to deal with patients' inquiries and their health conditions during treatment. The quality of doctors is expected to be reflected through the technical competence and effectiveness during the interaction with patients.

The effective interaction between patients and doctors about disease and treatment is considered as an important aspect in healthcare area and requires that doctors listen carefully to patients and explain to them about the required procedures of diagnosis and treatment, hence enabling the patients to understand and agree with the treatment. Besides, patients' satisfaction is significantly affected by this interaction (O'Connor et al., 1992). Some studies (Suki, 2011; Razzaghi and Afshar, 2016 and Uddin et al., 2017) have measured the relationship between patients and doctors indicating that patients-doctors relationship effectively influences patient satisfaction and attitude towards the medical care system.

Attention to emotional features during doctor-patients interaction play a critical aspect in promoting patient satisfaction (De Waard et al. , 2018; Jalilet al., 2017 and Duggirala et al., 2008). Characteristics and communication skills of doctors highly correlate with the satisfaction of patients. (Biglu et al., 2017 and Chen et al., 2017)

In last few decades, the interaction between doctors and patients has made changes in the Indian healthcare industry. Traditionally, doctors treated patients considering the sociological and psychological aspects (Paul and Bhatia, 2016).

2.1.2. Quality of Nurses' care

This dimension evaluates patient perception towards the quality of services deliver by nurses such as pain management, patient care, response to patients' complaints and assisting surgeries. Duggirala et al., (2008) noted that the nursing service signifies an important dimension in the process of delivering quality services at hospitals. (Karaca and Durna, 2019) found that patient-nurses communication is an important aspect in the deliver quality service which result on patients' satisfaction. The association between the nursing service and patients' outcomes of has been investigated by several researchers, revealing that nurses contribute significantly to the patient-care quality and satisfaction (Needleman and Buerhaus, 2003; Fátima Levandovski et al., 2015; Githemo grace, 2018 and Kartika et al., 2018).

Some studies (Kutney-Lee et al., 2009;Ndambuki, 2013) applied regression model to study the influence of quality of nurse care on the satisfaction of patients and reported that the nursing care quality has significant contribute to satisfaction of patients. Chunlaka, (2010) states that international/foreign patients are very satisfy with the service of nurses at private hospitals.

A qualitative research was conducted to understand the effect of nurses and their work environment on patients' outcome (eg. satisfaction and experience) towards the quality of healthcare service. Nurses believe that the availability of good work environment and job security helps in improving patients experience with the nursing service and leads to satisfaction (Kieft et al., 2014). In educational hospitals, some studies (Freitaset al., 2014; Farahani et al., 2015; Konduru et al., 2015; and Kol et al., 2018) reported that when nurses perform well in nursing care service, patients' satisfaction level will be increased. In the same way, Kol et al., (2018) found that patients demanded more individual attention from nurses concerning instructions, interaction, hospitalization and repose. By contrast, Khan et al., (2007) highlighted that patient's expectations toward nursing service have not been met satisfactorily.

2.1.3. Quality of administration staff

This dimension examines patients' perception concerning the quality of services provided by administrative staff, such as receptionists, clerks, international section staff, billing staff and other support staff in terms of competency, skill, care, courtesy and responsiveness.

This study draws on many recent researches to understand the assessment of patients on the relations between patients and administrative staff (Druss et al., 1999; Duggirala et al., 2008; Mazurenko et al., 2016; and Padma et al., 2010) such studies have highlighted the significance of patient-staff interaction in defining the overall patients' satisfaction.

Staff-patients interaction, skills, behavior, and teamwork highly contribute to patient satisfaction toward services of hospitals (Mazurenko et al., 2019 and Huerta et al., 2016). Oppel et al., (2017) have suggested that managers of hospital should consider the importance of human resource management decisions on patients' satisfaction toward healthcare services.

2.1.4. Quality of interpreters

The medical interpreters should be educated in the aspects of socio-cultural and professional standards such as medical and technical terms to ensure perfect care and provide a safe treatment for patients (Hull, 2016). In general, patients measure interpreters' quality according to the ability and efficiency of interpreters to provide verbatim explanation, cultural explanation, and emotional explanation during the medical encounters (Lor et al., 2016).

For patients who are not speak the regional language or English language, the importance of interpreters' quality touches all aspects of hospital services including nursing care, patient–doctor interaction (diagnosis and treatment plan), patient–technician interaction concerning medical test, and patient–staff interaction regarding admission, stay and discharge process (van Rosse et al., 2016). Several studies have confirmed that patients' satisfaction is greatly influenced by interpreters' quality (Baker et al., 1998; Green et al., 2005; and Carrasquillo et al., 1999;). Hanssen and Alpers, (2010) state that language is an important issue in healthcare providers-patients interaction and can create problems at any stage of medical treatment. Hence, interpreters must be qualified officially and morally to do the interpretation tasks.

2.2. Word-of-mouth, satisfaction and personnel-quality

Providing recommendations and advice from customers to other customers about the service or product that they have received from institutions are called word-of-mouth (WOM). It is very powerful tool that contribute to influencing current and potential customers concerning choice of health care providers and their brand image. Therefore, the healthcare service providers must use this tool to enhance their competitive advantage and obtain more customers (Kotler and Keller, 2007 and Khalid et al., 2013). As personnel represent the main group in the process of service delivery, it is expected that they will significantly influence the quality of hospital service, patients' satisfaction and word-of-mouth.

It is a willingness of customers to share their experience about a goods or/and service with other people like friends and family (Bowman and Narayandas, 2001). It is a method of deliver advice and recommendations by the customer to other customers concerning the information of a service or/and goods (Kotler and Keller, 2007).

Yeoh et al., (2013) found that the word-of-mouth as an influential and effective marketing technique in Malaysian medical tourism. Thus, providers of healthcare services must consider this method as a technique to effectively promote their reputation and visibility in the market.

Parasuraman and Berry (1991) found that word-of-mouth contribute as a crucial aspect for promoting success of providers of service. Taghizadeh et al., 2013; Chaniotakis and Lymperopoulos, 2009; Sanjaya and Yasa 2018; and Kitapci et al., 2014 have fed the present research, and substantiated that the service quality and satisfaction of customers play an important role in word-of-mouth of customers. In addition, Kitapci et al., (2014) and Chaniotakis and Lymperopoulos, (2009) revealed that aspects related to personnel-quality such as empathy and assurance significantly influence the satisfaction and word-

of-mouth of patients. They also found that patents' word-of-mouth is highly influenced by patients' satisfaction. Jouyani et al., (2013) stated that a satisfied patient will be saying positively about the service they have received.

2.3. Patient satisfaction as mediator variable

Several studies in the healthcare field, Jandavath et al., 2016; Padma et al., 2010; Cham et al., 2015; and Amin and Zahora Nasharuddin, 2013 have confirmed that there is a mediates effect of patient satisfaction in the relations between behavioral intention and quality of service. Another study identified that the satisfaction of patients act as a mediator factor between repatronage intention and quality of service (Yeo et al., 2013). (Ahmed et al., 2017 and Fatima et al., 2018) have found that the satisfaction of patients is significantly contributed to improve the relationship among loyalty and quality of service in the healthcare sector.

More specifically, several researches have highlighted the importance of mediating effects of satisfaction of patients in the relations between quality of healthcare service and word-of-mouth of patients (Afridi et al., 2014;Kitapci et al., 2014; and Aljumaa, 2014 and Ullah et al., 2018).Although the association among service quality, word-of-mouth and satisfaction of patients had extensively studied in earlier researches, there are few studies concerning the impact of personnel quality on satisfaction and word-of-mouth of patients, particularly in medical sector. Following objectives are proposed to fill this gap.

2.4. Objectives of Research

- To measure the influence of personnel quality (PQ) of private hospitals on satisfaction (PS) and word-of-mouth (WOM) of Arab patients in the Indian context.
- To investigate the mediating influence of (PS) in the relation between (PQ) and (WOM).

2.5. Proposed conceptual framework

The proposed conceptual framework of the present study was designed based on the review of earlier studies in personnel quality, quality service, satisfaction, and word-of-mouth of patients. After designing the research framework, a structured questionnaire is designed and administered in private healthcare in India to test the proposed research framework. A conceptual model is shows in Fig.1 and proposed for examining the hypothesized relationships among the study' variables.
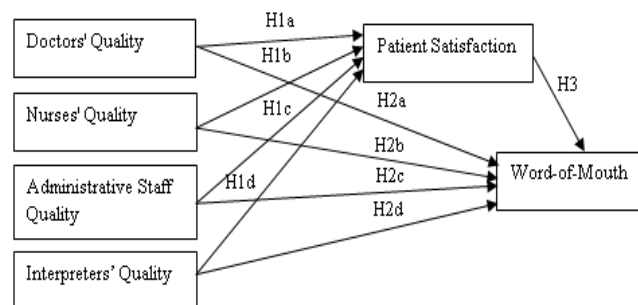

Fig 1- Conceptual Framework and Study's Hypotheses

2.6. Research hypotheses

H1a: Doctors' quality significantly contributes to patients' satisfaction.

H1b: Nurses' quality significantly contributes to patients' satisfaction.

H1c: Administration staff quality significantly contributes to patients' satisfaction.

H1d: Interpreters' quality significantly contributes to patients' satisfaction.

H2a: Doctors' quality significantly contributes to patients' word-of-mouth.

H2b: Nurses' quality significantly contributes to patients' word-of-mouth.

H2c: Administration staff quality has significantly contributes to patients' word-of-mouth.

H2d: Interpreters' quality significantly contributes to patients' word-of-mouth.

H.3: Patient satisfaction (PS) mediates the relationship among personnel quality dimensions (PQD) and word-of-mouth WOM.

III. RESEARCH METHODOLOGY

The sample of the current study is drawn from Arab patients in Indian private hospitals in two cities (Bangalore and Pune). The data have been randomly collected from 335 respondents through a structured questionnaire that was designed and translated into Arabic language (as the majority of respondents are speakers of Arabic language only). Translation validity has been conducted by experts. All items of the questionnaire were evaluated by via a five-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was validated by experts before distribution to respondents.

3.1. Data Collection procedures and Statistical analysis tools

The procedures of data gathering and analytical techniques are discussing in the current section. The questionnaire was distributed to 400 Arab patients during the second half of 2018, and the rate of collected questionnaires was 83.8% (335 respondents). SPSS and AMOS version (20.0) was used as software tools to carry out the statistical analysis. Statistical techniques of frequency and percentage were carries out to describe the demographic variables of the respondents. The measurement model was examined to confirm the reliability and validity of the scale before applying SEM analysis. The Cronbach's Alpha technique was applied to examine the reliability research questionnaire and to verify the internal consistency of the questionnaire. Confirmatory factor analysis (CFA) was used to evaluate the validity of the questionnaire. Average variance extracted (AVE) and construct reliability (CR) metrics were also carried out for checking the reliability and validity of the questionnaire. Moreover, a path analysis of SEM was applied to examine the proposed framework and hypothesized relationships between the research variables by using personnel-quality dimensions as independent variables, patient satisfaction as mediating variable and the dependent variable is word-of-mouth as.

IV. RESULTS AND DISCUSSION

This section deals with the results of the analyzed data including description of the respondents' demographic validity and reliability, and discusses the proposed model and hypothesized relationships.

4.1 Respondents' demographics

Patients' demographic characteristics are displayed in the following table.

Table 1 Patients' profile

Factors	Category	Frequency	Percentage
Gender	Male	260	77.6
	Female	75	22.4
Age	15-30	157	46.9
	31-45	130	38.8
	Above 45	48	14.3
Education level	Illiterate	4	2.7
	High school	125	83.3
	Degree/ Graduate	21	14
Number of Visits	Once	269	80.3
	More than Once	66	19.7

The above table represents that about (77.6%) of patients are males and (22.4%) are females. The majority of patients is belong to the age group of 15-30 years (46.9%) followed by age group of 31-45 years (38.8 %). The lowest numbers of the patient is from age group of above 45 years (14.3%). Categorizing respondents by their education level, it is revealed that around (83.3%) respondents have studied educated up to high school, (14%) respondents are graduates and (2.7%) of patients are illiterate. With respect to the number of visits, it is shown that about (80.3%) respondents have visited hospitals only once, while (19.7%) of patients have visited hospitals more than one time.

4.2 Test of reliability and validity

The findings of Cronbach's Alpha and CFA test of the current research scale show in table 2.

CFA test was carried out to evaluate the validity of the multiple items used in the current research (Byrne, 2013). It indicates that all factor loadings (FL) of items are above 0.5 the standard value suggested by (Kline, 2015), which are means that all items are highly correlated with their variables. Therefore, all 30 items were considered for (SEM) analysis.

Table 2 Model and measurement— reliability and convergent validity
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Dimensions		1	2	3	4	5	6	FL	AVE	CR	CA
Doctors' Quality	DQ1	0.367	0.039	0.661	0.058	0.096	0.078	0.603			
	DQ2	-0.085	0.089	0.729	0.022	0.188	0.185	0.622			
	DQ3	-0.028	0.119	0.914	-0.019	0.142	0.077	0.999			
	DQ4	-0.091	0.139	0.740	0.008	0.136	0.246	0.649			
	DQ5	-0.096	0.158	0.787	-0.003	0.180	0.041	0.675			
	DQ6	-0.04	0.137	0.907	-0.036	0.125	0.079	0.987	0.599	0.895	0.904
Nurses' Quality	NQ1	0.949	-0.067	-0.039	-0.003	0.072	0.038	0.995			
	NQ2	0.826	0.003	0.048	-0.041	0.049	0.064	0.745			
	NQ3	0.947	-0.12	-0.051	-0.043	0.088	0.042	0.92			
	NQ4	0.785	0.002	0.033	-0.034	0.145	0.136	0.684			
	NQ5	0.948	-0.071	-0.038	0.006	0.076	0.04	0.996		0.946	
	NQ6	0.848	-0.112	-0.079	-0.055	0.135	0.159	0.798	0.748		0.951
Administrative Staff Quality	ASQ1	-0.004	0.700	0.035	-0.017	0.017	0.097	0.608			
	ASQ2	-0.075	0.808	0.078	0.134	0.018	0.049	0.789			
	ASQ3	-0.066	0.831	0.158	0.115	0.117	-0.016	0.78			
	ASQ4	-0.043	0.872	0.096	0.025	-0.004	-0.03	0.868			
	ASQ5	-0.072	0.809	0.200	0.127	0.077	0.004	0.768			
	ASQ6	-0.064	0.87	0.078	0.082	0.005	0.037	0.886	0.622	0.907	0.911
Interpreters' Quality	IQ1	0.047	0.140	0.002	0.757	-0.108	-0.003	0.702			
	IQ2	-0.061	0.128	0.011	0.746	0.007	0.015	0.685			
	IQ3	-0.092	-0.021	0.008	0.831	0.065	-0.002	0.774			
	IQ4	-0.011	0.067	0.019	0.808	-0.048	0.073	0.766			
	IQ5	-0.013	0.062	-0.025	0.779	0.058	-0.028	0.713	0.531	0.849	0.848
Patient Satisfaction	PS1	0.149	0.125	0.217	-0.002	0.804	0.157	0.829			
	PS2	0.111	0.085	0.167	-0.07	0.868	0.212	0.927			
	PS3	0.149	0.095	0.252	-0.023	0.547	0.317	0.646			
	PS4	0.142	-0.054	0.205	0.05	0.731	0.037	0.605	0.583	0.844	0.822
Word of Mouth	WOF1	0.197	-0.004	0.177	0.011	0.367	0.679	0.751			
	WOF2	0.107	0.091	0.215	-0.004	0.194	0.802	0.783			
	WOF3	0.146	0.031	0.182	0.057	0.098	0.807	0.711	0.561	0.793	0.79

Note: $\chi2/df$ = 1.749; GFI = 0.901; AGFI = 0.863; NFI = 0.927; IFI = 0.967; CFI = 0.967; and RMSEA = 0.047. FL=Factor Loading, AVE=Average variance extracted, CR=composite reliability, CA= Cronbach

The CFA results are shown in table 2, with a excellent fit as per the appropriate statistics $\chi2/df$ = 1.749; Goodness of Fit Index (GFI) = 0.901; Adjusted Goodness of Fit Index (AGFI) =0.863; Normed Fit Index (NFI) = 0.927; Incremental Fit Index (IFI)= 0.967; Comparative Fit Index (CFI) = 0.967; and Root Mean Square Error of Approximation (RMSEA)= 0.047. The findings of CFA analysis show that all items are significant at 0.001level and correlated to their proposed variables. Therefore the convergent validity criterion has been proved in this study.

Table 2 shows that all variables have exceeded the suggested Cronbach's alpha (CA) value 0.70 (Cronbach, 1951), indicating that all variables have excellent internal consistency. Thus, it confirms that the proposed scale is reliable. It also shows that the construct reliability (CR) is above the standard value (Bagozzi and Yi, 1988) 0.60 in all variables. The calculated values of AVE are greater than the standard value (Fornell and Larcker, 1981) 0.50 for all variables. Thus, the conditions of reliability and convergent validity have been fulfilled in this study.

4.3 Discriminate Validity

In the following section the scale's discriminate validity of the current study is discussed.

	Table 3		Discriminate Validity			
Factors	Doctors' Quality	Nurses' Quality	Administrative Staff Quality	Interpreters' Quality	Patient Satisfaction	Word-of-Mouth
Doctors' Quality	**0.775**					
Nurses' Quality	-0.065	**0.865**				
Administrative Staff Quality	0.239	-0.142	**0.789**			
Interpreters' Quality	-0.005	-0.142	0.216	**0.729**		
Patient Satisfaction	0.413	0.237	0.148	-0.018	**0.764**	
Word-of-Mouth	0.360	0.257	0.073	0.042	0.681	**0.749**

Note: Numbers in bold refer to square root of (AVE) and the values under the diagonal refer to the correlation among variables.

Table 3 indicates the correlation matrix to prove the discriminate validity of the proposed model. It shows that all interrelationships have an association below standard value 0.70 (Anderson and Gerbing, 1988). Likewise, it shows that all values are below the values of square roots of (AVE) for the conforming variables (Fornell and Larcker, 1981).

4.4 Structural equation modeling (SEM)

After validating the proposed framework, (SEM) was carried out to analyze the collected data. AMOS 20.0 has been applied to conduct the analysis and test the hypotheses of the proposed framework.
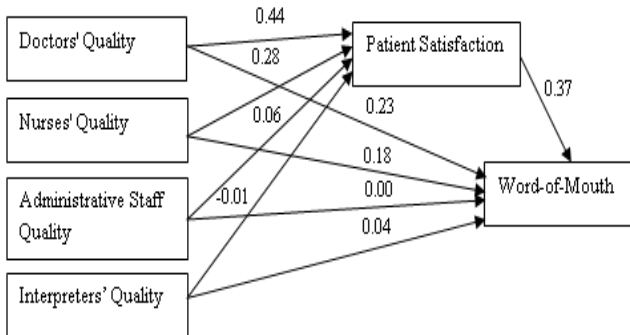

Fig 2- SEM Model based on Standardized Coefficient of the Impact of Personnel Quality on Word-of-Mouth

Figure 2 is a graphical representation (along with regression weights) of the mediate of the satisfaction of patients' in the relation among dimensions of personnel quality and patients' word-of-mouth communication. The SEM diagram is derived from the direct and indirect relationship among dimensions of personnel quality, patients' satisfaction and patients' word-of-mouth communication. The figure 2 also shows the association value of dimensions and their corresponding regression weights.

Table 4 Indicates the unstandardized coefficient (**β**) values of quality of doctors (β= 0. 224, p <.001) and quality of nurses (β= 0.177, p <0.001) signifying that there is a partial influence on patient satisfaction. **β** values of quality of administrative staffs (β= 0.028, p >0.005) and quality of interpreters (**β**= -0.008, p >0.005) indicates that there is no significant influence on patient satisfaction.

Unstandardized coefficient (**β**) values of doctor quality on word-of-mouth (β= 0.103, p <0.001) and quality nurses on word-of-mouth (β= 0.002, p <0.001) signifying that there is a partial influence of doctors' quality and quality of nurses on patients' word-of-mouth. Unstandardized coefficient (**β**) values of administrative staffs' quality (β= 0.026, p >0.005)and interpreters' quality(β= -0.106, p >0.005) indicate that there is no significant influence on word-of-mouth. Unstandardized coefficient (**β**) values of satisfaction of patients (β= 0.343, p <0.001) shows the partial impact of patient satisfaction on word-of-mouth.

Table 4 Structural Model and Hypothesis Test

No.	Hypothesis			β	S.E of B	Standardized Path Coefficient (Beta)	T value	P value	Result
H1a	Quality of Doctors	→	Satisfaction	0.224	0.025	0.435	9.034	<0.001**	Confirmed
H1b	Quality of Nurses	→	Satisfaction	0.177	0.03	0.277	5.982	<0.001**	Confirmed
H1c	Quality of Staff	→	Satisfaction	0.028	0.023	0.060	1.216	0.224	Not Confirmed
H1d	Quality of Interpreters	→	Satisfaction	-0.008	0.031	-0.013	-0.271	0.786	Not Confirmed
H2a	Quality of Doctors	→	Word-of-Mouth	0.103	0.027	0.229	3.785	<0.001**	Confirmed
H2b	Quality of Nurses	→	Word-of-Mouth	0.002	0.02	0.177	0.08	<0.001**	Confirmed
H2c	Quality of Staff	→	Word-of-Mouth	0.026	0.027	0.004	0.976	0.936	Not Confirmed
H2d	Quality of Interpreters	→	Word-of-Mouth	0.106	0.024	0.044	4.432	0.329	Not Confirmed
H3	Patient Satisfaction	→	Word-of-Mouth	0.334	0.047	0.370	7.034	<0.001**	Confirmed

Note: ** denotes significant at 1% level.

According to SEM results, doctors' quality and nurses' quality significantly influence both satisfaction and word-of-mouth of patients; hence, supporting hypotheses H1a, H1b, H2a and H2b. Since staff' quality and interpreters' quality have not significantly influence both satisfaction and word-of-mouth of patients, hypotheses H1c, H1d, H2c, and H2dare not approved. Patient satisfaction significantly contributes to improve the relations among dimensions of

personnel quality and patients' word-of-mouth communication. Therefore, hypothesis H3 is confirmed.

The mediator influence of patient satisfaction on the relations among dimensions of personnel quality and word-of-mouth of Arab patients were examined in this study by using the analysis of direct and indirect effects between the variables of this research (Bollen and Stine, 1990). The following table shows the values of direct, indirect and total direct effects. The path coefficient estimates are showed in table 4.

Table. 5 Mediating effect of patient satisfaction

Word-of-Mouth	Standardized Total Effect	Standardized Indirect Effect	Standardized Direct Effect
Doctors' quality	0.229**	0.161**	0.39**
Nurses' quality	0.177**	0.103**	0.28**
Administrative staff's quality	0.004	0.022	0.03
Interpreters' quality	0.044	-0.005	0.04
Patient Satisfaction	0.370**	0.000	0.37**

** denotes significant at 1% level.

From tables 4 and 5 it found that the administrative staff quality is not significantly contributes to patients' positive word-of-mouth communication (WOMC) as p value is (0.94). Since p value of Std.DE (0.004) is greater than (0.05) there is no significant effect between these two variables. Also, it found that p value of Std.IE (0.02) and Std.TE (0.03) is above (0.05) signifying that there is no significant indirect and total effects between these variables based on

the bootstrapping p values. Similarly, there is no significant relationship among the quality of interpreters and patients' WOMC as p value is (0.33). Since p value of Std.DE (0.044) is greater than (0.05), there is no significant effect among

these two variables. Likewise, p value of Std.IE (-0.005) and Std.IE (0.04) is greater than (0.05), which indicates that there is no indirect and total effects between these variables.

These results show that the satisfaction of patient has no indirect and mediating effects on the relationships between quality of administrative staff and patients' WOMC, and between quality of interpreters and patients' WOMC.

Table 5 shows the mediator influence of patients' satisfaction on relations among quality of doctors and word-of-mouth communication (WOMC) (0.161, $p \leq 0.01$) and the mediation effects of the satisfaction of patient on relations between quality of nurses and patients' WOMC (0.103, $p \leq 0.01$). This finding signifies that the satisfaction of patients is a mediator and has indirect effects on the relations between the quality of doctors and patients' WOMC, and the relations between the quality of nurses and patients' WOMC. For testing the fit of the model, the following hypothesis is framed. **H4.** There is a good fitness of the hypothesized model.

Table. 6 Summary of Model fitness

Indices	Suggested value	Source	Value in this study
Chi-square value	-	-	7.149
DF	-	-	4
P value	≥ 0.05	(Hair et al., 1998)	0.128
Chi-square value/DF	≤ 5.00	(Wheaton et al 1977)	1.787
GFI	≥ 0.90	(Joreskog and Sorbom 1988) and (Hu and Bentler, 1999)	0.993
AGFI	≥ 0.90	(Joreskog and Sorbom 1988) and (Hair et al. 2006)	0.963
NFI	≥ 0.90	(Hu and Bentler, 1999)	0.976
CFI	≥ 0.90	(Hooper et al., 2008)	0.989
IFI	≥ 0.90	(Hair et al. 2006)	0.989
RMSEA	≤ 0.08	(Hu and Bentler, 1999) and (Hair et al. 2006)	0.049

Table 6 indicates that p value in this research is above 0.05 (0.128) and shows that the fitness of the hypothesized model is excellent. Chi-square /DF value = 1.787 which is less than the standard value 5. The values of GFI = 0.993 and AGFI = 0.963 are greater than 0.90 which signifies that the model is perfectly fit. The derived Values of NFI = 0.976 and CFI = 0.989 signify that the model is perfectly fit. It is also found that the calculated value of RMSEA = 0.049 is less than the standard value 0.08 signifying that the model is perfectly fit. According to the results discussed in the summary of model fitness it is found that the hypothesis H4 is accepted.

V. DISCUSSION

Personnel quality is one of the most significant dimensions in the delivery of quality service. Personnel have a major role in the service delivery. Healthcare providers and owners of healthcare institutions need to understand the importance of personnel quality to ensure the success and sustainability of their businesses. The quality of personnel leads to improvement of the total quality of service. The current study has contributed in developing and testing a conceptual framework to get a clear image of the important of personnel quality in the satisfaction of patient and word of mouth communication in Indian private healthcare sector from the perspective of Arab patients. In this research, personnel quality is represented by doctors' quality, nurses' quality, interpreters' quality and administrative staff quality.

The present research's have proved the previous findings that patient satisfaction is positively affected through quality of doctors and nurses (Kitapci et al., 2014; Padma et al.,

2009, 2010; and Duggirala et al., 2008). The study also found that interpreter quality and staff' quality do not significantly affect satisfaction of patients and word-of-mouth communication.

The results show that the relationships between quality of doctors and word-of-mouth of Arab patients are mediated by patient satisfaction. Similarly, the relationships between quality of nurses and word-of-mouth of Arab patients is mediated by patient satisfaction, which indicates that doctors' quality and nurses' quality have a major role in realizing a positive word-of-mouth of Arab patients. This finding is supported via earlier researches (Chaniotakis and Lymperopoulos, 2009; Kitapci et al., 2014; and Aljumaa, 2014) which confirm that satisfaction has a mediating effect on the relationship among dimensions of service quality (such as personnel quality) and word-of-mouth in medical sector.

VI. CONCLUSION

The study suggests that improving personnel-quality in terms of administrative staff and interpreters can lead to increasing the level of Arab patient satisfaction, which will result on patients' positive word-of-mouth. Thus, hospital managers and owners should pay more attention to these factors. The model has covered specific dimensions that have a significant role in delivery of quality services. Future research can use this model to conduct studies on public healthcare sector and in the other countries.

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