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Original Article

Factors Affecting Medical Service Quality

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Abstract

Background: A better understanding of factors influencing quality of medical service can pinpoint better strategies for quality assurance in medical services. This study aimed to identify factors affecting the quality of medical services provided by Iranian physicians.

Methods: Exploratory in-depth individual interviews were conducted with sixty-four physicians working in various medical institutions in Iran.

Results: Individual, organizational and environmental factors enhance or inhibit the quality of medical services. Quality of medical services depends on the personal factors of the physician and patient, and factors pertaining to the healthcare setting and the broader environment.

Conclusion: Differences in internal and external factors such as availability of resources, patient cooperation and collaboration among providers affect the quality of medical services and patient outcomes. Supportive leadership, proper planning, education and training and effective management of resources and processes improve the quality of medical services. This article contributes to healthcare theory and practice by developing a conceptual framework for understanding factors that influence medical services quality.

Keywords: Quality, Patient, Physician, Hospital

Introduction

Healthcare service quality is associated with patient satisfaction (1), loyalty (2) and healthcare organizations' productivity and profitability (3). As a result, healthcare organizations throughout the world consider it as a strategic differentiator for sustaining competitive advantage. Therefore, it is very important to define measure and improve quality of healthcare services.

Quality healthcare is a subjective, complex and multi-dimensional concept. Mosadeghrad (2013) defined quality healthcare as "consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patient's needs and satisfies providers". He believes that quality healthcare is "providing the right healthcare services in a right way in the right place at the right time by the right provider to the right individual for the right price to get the right results" (4). He identified 182 attributes of quality healthcare asking 700 healthcare stakeholders including policy makers, managers, providers and patients using pluralistic evaluation and grouped them into five categories: environment, empathy, efficiency, effectiveness and efficacy. Quality healthcare includes characteristics such as availability, accessibility, affordability, acceptability, appropriateness, competency, timeliness, privacy, confidentiality, attentiveness, caring, responsiveness, accountability, accuracy, reliability, comprehensive-ness, continuity, equity, amenities and facilities. Ensuring safety and security, reducing

mortality and morbidity, improving quality of life and patient involvement have also been seen as quality attributes (5).

Donabedian defined medical services quality as 'the application of medical science and technology in a manner that maximizes its benefit to health without correspondingly increasing the risk' (6). Øvretveit defines quality care as the 'Provision of care that exceeds patient expectations and achieves the highest possible clinical outcomes with the resources available' (7). For Lohr, quality is "the degree to which healthcare services for individuals and population increases the likelihood of desired healthcare outcomes and is consistent with the current professional knowledge" (8).

However, distinct healthcare industry characteristics such as complexity, intangibility, heterogeneity and simultaneity make it difficult to measure and improve quality in this sector (9). Healthcare systems are among the most complex systems serving humans. Delivery of quality healthcare services requires coordination among a number of different organizations and providers. It also needs coordination of highly complex diagnostic, therapeutic and logistic processes and practices. The very complexity of the healthcare system and its bureaucratic and highly departmentalized structure pose a significant obstacle to quality improvement in healthcare. Furthermore, healthcare problems are complex and require a high degree of customized solutions (10). Every situation and every patient is different. A simple task requires the communication and co-operation of various departments and employees.

It is difficult to establish a link between the inputs and the quality of clinical outcomes in the health sector owing to the intangibility of healthcare services. Many variables such as patients' socio-demographic factors (e.g., age and gender) and severity of illness affect the outcomes in healthcare. The outcomes are also dependent on the compliance and co-operation of patients themselves. Different professionals (e.g., physicians, nurses, etc.) deliver the service to patients with varying needs. Healthcare professionals provide services differently because factors vary, such as experience, individual abilities and personalities. They have their own definition of quality and follow specific ways to achieve it (9).

While a wealth of literature exists on quality assessment in health sector, few researches have been conducted to identify factors that enhance or inhibit quality of healthcare services (11-14). There is no prior empirical study, to the best of my knowledge that explored factors affecting quality of services provided by medical doctors. This study, therefore, aims to fill this research gap by empirically exploring physicians' perspectives on factors affecting the quality of medical services in Iranian hospitals. Therefore, the main purpose of this study was to identify factors that either enhancing or inhibiting the quality of medical services in the Iranian context.

The results of this research will allow a better understanding of the facilitators and barriers of quality medical services. The results will also enhance our understanding of the determinants of the factors influence quality of medicals services. It is anticipated that a better understanding of these factors and their relationships can pinpoint better strategies for quality assurance in medical services, particularly in Iran but probably in other societies as well.

Methods

A qualitative design was used for such an exploratory research. The study was carried out at eight hospitals in Isfahan, Iran- four Ministry of Health (MOH) hospitals, two Social Security Organisation affiliated (SSO) and two private hospitals - to represent the three dominant hospital care systems in Iran. In-depth interviews were used for gathering sixty- four doctors' perspectives (eight interviews in each hospital). In a post-hoc analysis, it was found that few new themes were emerging after about 60 interviews, making it unnecessary to continue the interviewing after the 64 initially planned interviews. Random and purposeful sampling was used for the selection of hospitals and interviewees respectively. Semi-structured interviews focused mainly on the quality of medical services provided by physicians in the hospitals,

and the factors which were assisting or impeding its achievement.

The interviews were recorded digitally with the participants' permission to facilitate analysis. Notes were taken for those participants who were reluctant about voice recording. The digital files were transcribed by the author himself. Content analysis was used to detect and code factors affecting quality of healthcare services, organise them into logical and meaningful categories, make connections between and among categories, explain the link between categories and develop a theory from the relationships found among the categories (15). NVivo software (version 7) was used for qualitative data analysis and retrieval.

The researcher has not allowed personal values to influence the conduct of the research and findings derived from it. Member checks (respondent validation) were done in face-to-face discussions with a subgroup of participants in order to verify and validate the findings (16). The researcher also utilised peer debriefing (17) with five quality management experts. Peer reviewers debriefed with the researcher by presenting a summary of the gathered data, categories and themes that emerged and the researcher's interpretations of the data. The peer debriefers provided the researcher an opportunity to clarify his interpretations about the nature of quality healthcare and to examine his biases.

All participants were well informed about the purpose of the study and their voluntary participation and their rights to self-determination were guaranteed. Other ethical issues in this study involved the assurance of confidentiality and anonymity of the participants and their responses.

Results

The views of physicians on factors affecting quality of medical services were grouped into three main categories and nine themes (Table 1). Factors related to both the provider (physician) and the receiver of medical services (patient) and the environment in which medical services are provided, affect the quality of provided medical services.

The healthcare organization environment can be classified into internal and external environments. Internal environment refers to the working environment in which a healthcare service is provided (healthcare organization) and the resources and facilities required for providing services. External environment refers to the environment surrounding healthcare organizations that affects their performance and quality of services.

Table 1: Factors influencing the quality of medical services

Category	Themes
Patient related factors	Patient socio-demographic variables Patient cooperation Patient illness
Physician related factors	Physician socio-demographic variables Physician competency Physician motivation and satisfaction
Environmental factors	Healthcare system Resources and facilities Collaboration and partnership development

1. Patient socio- demographic variables

Patient socio-demographic factors influence the interaction between a physician and the patient and consequently the medical service quality. A physician stated: *"I worked in a health centre in a village. Patients did not understand me. They talked in a different language. They did not even obey my* [medical] *orders. For instance, I asked a patient with pharyngitis not to eat sausage and pickled cucumber. He agreed not to do so. Later, I saw him with a tin can of gherkin and some*

sausages. He did not understand me." (P2) Another physician said: "*I asked the wife of an old patient who was from the Turkish area of Iran if he was snoring. She confirmed that he was snoring too much. Consequently, I ordered some medical tests. Once I saw the results, I realised that the patient did not have any problem. Once I talked to his wife, she said that she thought I asked her if he eats too much.*" (P6) Another participant said: *"Socio- cultural issues make it difficult to have a desired outcome. I had a pregnant patient, a mother of eight children. She was sick and pregnancy was dangerous for her. She had the chance to abort the child legally but her husband wanted the child."* (P38)

A physician has to be aware of and sensitive to patient's culture. Knowledge of patient socio-demographic variables helps a physician to communicate better with the patient and attain the patient trust. "*I personally check patient place of birth first to know where s/he from is. It helps me to know patient cultural background and use words in my conversation that s/he understands them. Thus, the patient trusts me and gives me the right information." (*P36) Therefore, medical doctors adjust their communication method and content based on the patient demographic variables: "…*the way I explain things to an educated patient is totally different from an illiterate patient.*" (P1)

Some patients ask their doctors to prescribe medicines. They believe that they will not be healed unless they take medicines. Patient persistence to get a specific medicine influences physicians to do so in order to satisfy the patient: "*For a simple cold for which the patient needs supportive care, s/he insists to get penicillin. If I do not prescribe it, s/he will go to see another physician."* (P20) "*A patient might be satisfied by getting more medications and antibiotics. The doctor in private sector may meet patients' inquiries. In a public hospital, the doctor acts according to standards mainly."* (P8) Some doctors believe that it is even useless to explain the treatment process to a patient demanding medicine: "*Explaining the disease and its treatment process to a patient demanding a medicine for about half an hour will not satisfy him/her more than if you just prescribe antibiotics, which takes about 2 minutes of your time."* (P20)

Lack of a robust referral system and a low medical tariff are the main reasons for a doctor's tendency to meet patient (irrational) requests. Patients have easy access to affordable medical services: "*Medical services are easily available. You can see a medical specialist easily whenever you want."* (P23) "*It costs a patient about 7000 RLS* [less than US$1] *to see me* [a medical specialist]*."* (P3) Therefore, patients can easily switch from one provider to another one.

Patient possession of information about their diseases and the process of treatment help them understand the physicians better and know what to expect from them. A participant commented, *"I might unconsciously explain more to an educated patient, because I assume that s/he would understand better."* (P37) Patients' knowledge of their rights also influences their expectations of quality medical services: "*If people know about their rights* [in hospitals], *they would expect more from their caregivers and consequently the quality* [of medical services] *increases.*" (P33) Participants believe that patients who come to the private hospitals would expect more as they are paying more for the services.

The patient's attitude and behaviour also affects the attitudes of caregivers. If patients behave themselves, caregivers unintentionally provide better services: "*If the patient is grumpy, the physician has no motivation for further examination. I had a very polite and eloquent patient today. One is interested in asking more questions."* (P20). Some participants asserted that patient recognition affects the quality of provided services. *"If I see that a patient acknowledges my efforts, I will do my best. Otherwise, I just do my job. The patient behaviour unintentionally affects my work."* (P7)

2. Patient cooperation

Patient involvement and cooperation is needed and affects the quality of medical services. *"If doctors do their job well, but the patient does not follow medical orders, the objectives would not be achieved."* (P50) Clinical outcomes depend on the ability of patients to provide information and cooperate with clinicians. A physician said: "*I explained to a patient that this medicine might cause bleeding. So, if he had any history of heart problems or internal bleeding, he should let me know. He* [The patient] *said 'I do not have any problem.' Later, when his wife brought his medical records, I found out that he had a heart attack last year. I stopped*

the medicine immediately. I could not even sleep all night and was under stress [to make sure he was OK]." (P52) Some participants complained about the lack of patient cooperation in the treatment process: *"I have to prescribe fast-effect medicines. The patient does not take a long-term effect medicine completely. Whenever s/he feels better, she stops taking the medicine."* (P30)

3. Patient illness (severity of illness)

The type of patient illness influences doctors' job stress, which in turn affects overall quality of medical services: "*When I see that a beautiful young girl got a cancer and is going to die, I get upset."* (P57) *"Mortality rate is high here. Since yesterday five patients died. This causes anxiety and stress among staff"* (P59).

4. Physician socio- demographic variables

A physician's character and personality affect the quality of medical services. *"The physician's personality, appearance and relations with a patient affect the* [medical] *service quality."* (P52) Medical doctors develop good rapport with their patients using some personality characteristics such as respect, helpfulness, reliability, intelligence, and confidence: "*Physician personality is important. Some physicians built a good relationship with patients. It helps patient to trust the doctor and cooperate in the treatment process."* (P46)

However, there should be a link between physicians' attitude and communication with patients and their received income. In a public hospital that the demand for medical services is very high, physicians are not motivated to improve their communication skills: "*some doctors particularly in public hospitals realized that their communication skills are not linked to their income level. Thus, they may not change their attitude and behavior.*" (P7)

Providers' personal and family problems also influence their behaviour and the quality of services provided: "*Being happy with the personal life affects the work of a physician."* (P37) "*I have a child to take care of. Therefore, I have less time for study."* (P7)

5. Physician competence (Knowledge and skills)

The quality of medical services mainly depends on practitioners' knowledge and technical skills: "the most important factors influence the quality of my work are my knowledge, expertise, commitment and examining the patient properly." (P1) Physicians should improve their competencies (i.e. attitudes, knowledge and skills) to deliver high quality medical services. *"I have to be updated. My knowledge benefits patients. For example, Nifedipine is used to reduce blood pressure. According to the latest evidence, it causes CVA. Hence, resources like Internet, journals and books should be available for me."* (P2)

Medical universities have a critical role in providing education and professional development opportunities for the healthcare workforce. Unfortunately, some physicians expressed their dissatisfaction with some aspects of medical education in some universities. "*There are some shortcomings in the medical education."* (P6) "*The graduates are not practically competent."*(P3) "*In the university we learn more theory. We have no practical experience."*(P22)

Physicians demanded more relevant and practical education and training. They provided some suggestions: "*We are taught about some rare or uncommon diseases that we will forget later. For the common diseases there is just theoretical education."*(P37) *"The way to communicate with patients is not taught."* (P3) *"There is no* [educational] *course on communication and personal skills for physicians in the universities."* (P4) *"There is no formal education in medicine prescribing. I have to learn it by myself."* (P7) Therefore, hospitals provide additional education and training to meet further physicians' educational needs.

However, the effectiveness of the education provided is questionable owing to physicians' work overload*: "The hospital provides some educational programmes. However we are so tired that we end up sleeping in the class."* (P15) and *"Working too much reduces the motivation for study. I have to work 216 hours a month."* (P46)

6. Physician motivation and satisfaction

Physicians' job satisfaction is very important in delivering high quality medical services to patients. Medical doctors identified nine organisational factors that they believed influence their motivation and consequently their job satisfaction. These were pay, working environment, managerial leadership, organisational policies, co-workers, recog-

nition, job security, job identity, and chances for promotion.

Participants mostly expressed their satisfaction with the job they were doing as a medical doctor: *"I like my job. I feel satisfied when I see that I saved people life. I have a good feeling when I see my diagnosis and treatment were right and effective"* (P2) However, they were dissatisfied with the payment particularly in public hospitals. "*I have to work in other hospitals as well to be able to afford living expenses. Too much work decreases my motivation*." (P2)

Furthermore, the pay gaps among professionals in a healthcare setting are very wide. *"My* [General Practitioner] *per-case is one-twentieth of a medical specialist."* (P1) *"The tariff of a dentist is 70,000 RLS, but for a GP, it is about 20,000 RLS."* (P46). It was very important for doctors to see that their contribution is recognised and valued by managers, even if only symbolically. "*There is no recognition for a person who performs the job well."* (P46) They also expect to be treated fairly: "*I would like to be treated fairly. If I see that I have to take care of 12 patients and my colleague has to deal with just four patients, I feel unsatisfied*." (P2)

The opportunity for professional development does not always seem to be encouraged by managers. Some participants complained about the criteria for promotion*: "The quality of my medical service is not important for my career promotion. The criterion is how many books and articles I have written."* (P24): *"For promotion from GP to medical consultant, I have to pass an exam which is theory-based. My work experience does not count."* (P52)

7. *Healthcare system*

Patients are free to choose the healthcare settings or providers. Therefore, there is a tendency, in patient choice from a GP to a medical consultant: *"Lack of a referral system resulted in a shift of patient choice from general practice to sub-speciality practice. Most patients prefer to be seen by a medical specialist. Nowadays, a GP has fewer patients than a medical consultant."* (P3)

Low medical tariff makes it easier for patients to see a medical specialist: *"The disparity between the service fee of a GP and a* [medical] *consultant is not too much. Therefore, patients prefer to be seen by a medical specialist."* (P19)

Medical insurance companies make it even more affordable for patients to see a medical specialist. *"95 percent of my patients are insured and 90 percent of them at least visited one of my colleagues before coming to see me in the week."* (P24) *"Insurance companies pay the medical expenses even if a patient visits three different physicians in just one day. That's why some patients visit a physician in the morning, then see another one in the afternoon and sometimes even the third one at night."* (P18) "*The patient thinks, 'it costs me 7000 RLS* [less than US$1]*, let's see what another physician says'. If s/he has to pay 40,000 RLS, s/he would say 'let's get a result from this doctor's prescription, if I did not get better, I would see another one'."* (P60)

Furthermore, the fee for service of a doctor visit is the same for simple or more complicated cases. It leads to competition between the GP and the specialist, with the latter being perceived as holding the upper hand. Hence, there is no motivation for medical consultants to convince patients to be seen by a GP first, *"I* [medical specialist] *can see either a patient with a simple bellyache or a complicated case with several liver diseases. The fee for both services is the same. It would be better for me to see the former as it takes less time and I can see more patients* [and have more income]*."* (P3) This can also cause a competition between a GP and a medical consultant: "*A GP might not refer a patient to a medical consultant because s/he is afraid of losing the patient"*. (P3) As a result, medical consultants are overwhelmed by patients.

Moreover, lack of patient trust in medical doctors and lack of familiarity with medical practices increases uncertainty and leads to repeated medical visits. *"A physician should convince the patient that they do care about the patient and there is no need to be worried about their illness. The situation is under control even if it takes a week to get better. If the physician does not decrease a patient fear and just relies on examination and prescription, the patient will go to see another doctor."* (P42)

As a result, the demand for specialised healthcare is increasing which is beyond the resources of healthcare organisations or even payers. Medical doctors who took part in the study complained that they were overworked and that there were staff shortages. "*The public* [healthcare] *system suffers from staff shortage. I worked in a public hospital with av-*

erage daily 200 patients in the outpatient department who had to be visited by 1 PM. I had to spend less time on each patient to be able to see all of them." (P10) "*The increasing number of patients demanding medical services does not allow us to work on quality* [of medical services]. *We are not dependent on patients. They are dependent to us*" (P37)

Providers have to limit their flexibility and adaptability to the patients' individual needs due to staff shortages and time constraints: *"I was working somewhere and had to see 60 patients from morning to noon. Thus, I had to spend 2 minutes on each patient instead of 20 minutes."* (P59) *"For complicated cases I need at least 40-45 minutes to get a medical history and examine the patient thoroughly. During this time, my secretary calls me several times saying that, we have a lot of patients waiting, and to please hurry up."* (P24) The increased demand for medical services may force physicians to transfer patients to paramedical departments instead of having them properly examined to achieve an accurate diagnosis. "*The time for visiting a patient is limited. Therefore, I cannot examine a patient properly and ask questions as these take time. I have to prescribe radiography. Then, by reading the report in a minute, I prescribe the medicine."* (P45)

Some physicians believed that the tariff of healthcare services do not match with the costs of providing the services. One interviewee asserted: "*An ICU bed costs the hospital 1.6 million RLS per night to provide services to a patient, while the tariff is 500,000 RLS. It means that if we keep the bed empty and do not admit a patient, the loss would be a third. The tariff should be realistic*." (P24) On the other hand, the high cost of running a medical clinic forces physicians to see more patients. *"A physician has to pay for the rent, bills, tax and secretary wages. The income from the first 18 patients goes to the expenses* [break-even- point]. *Therefore, s/he has to see more patients."* (P24) "*When medical tariff is low, a physician has to compensate it with quantity* [seeing more patients]*."* (P18)

Participants hoped that making the medical tariff realistic decreases the demand for the services: "*If patients have to pay the real cost of medical services, their unnecessary visits would be decreased. At least they would not visit a medical consultant for simple cases as they have to pay much more."* (P7) Lack of competition especially in public sector was also considered as a reason for ignoring quality in healthcare systems. "*Quality is not a priority. There is lack of competition among healthcare providers. Government funds healthcare services. Thus, we may not think about quality of our services*." (P18) Some even suggested that the direct monetary link between the doctor and the patient has to be removed.

8. Resources and facilities

Availability of resources affects the quality of medical services. The demand for medical services is beyond the capacity of healthcare organisations: "*Healthcare resources are limited but people expectations are very high*." (P3) Participants provided concrete examples of low quality medical services because of resource shortage: "*There is just one* [medical] *manometer in the ward. It affects the quality of the overall work."* (P25) "*There is limited access to some medicines* (P33)

Insufficient infrastructures, resources, and equipment inhibit delivery of quality medical services. For instance, a good patient information system is necessary for effective patient diagnosis and treatment: *"We need an information system. We need to have a record of patient history. It is very useful, especially for patients with blood pressure or diabetes. Thus, we will be able to see the effect of the treatment on patient by reviewing his or her record."* (P35)

9. Collaboration and partnership development

For practitioners having good support services is important: *"I need to be assured that the clinical laboratory works well* [the test results are reliable]*, and that the nurse administers medicines on time or does not administer a wrong medicine."* (P14) "*I asked the CSSD [Central Supply Sterilization Department] to give me a sterile dressing set. She said that she does not have it. They should be more responsible. They should have reserves for the sets there*." (P7)

Medical doctors expect their colleagues or co-workers to be more responsible and be empowered enough to perform the job well. "*A nurse spends more time with patients than a doctor. S/he should tell the doctor the patient problem to help him/her with a proper decision."* (P38) *I expect a nurse to perform the job well. Instead of just picking up the phone and telling me*

that the patient has pain, s/he [the nurse] *should evaluate the patient first, takes the patient's ECG and vital signs and tells the doctor patient condition with more details."* (P59)

Physicians highlighted the importance of cooperation and teamwork among healthcare providers as an important component of high quality healthcare services. A participant said: "*Some physicians do not give a copy of patient medical records to the patient. If s/he* [The patient] *has to see another physician in an emergency situation, the doctor does not know anything about the patient medical history."* (P10)

Practitioners' ability to effectively communicate and collaborate with other health professionals or institutions was also considered essential to the delivery of high quality medical services. "*The hospital does not have a CT-Scan. The patient relative has to get an appointment from another hospital and then take the patient there for the CT-Scan. S/he has to go there once more to get the result. All these can be sorted out easily through collaboration between two hospitals. A nurse can call the other hospital to get an appointment for the patient, then send the patient for a CT-Scan and later receive the results."* (P4)

Discussion

A number of theoretical relationships can be inductively inferred from the findings of this study. These relationships are depicted in Fig. 1. Quality of medical services is a production of cooperation between the patient and the physician in a supportive environment. Medical service quality is related to personal factors of the physician and patient and factors pertaining to the healthcare organisation and the broader environment (e.g., national healthcare system).

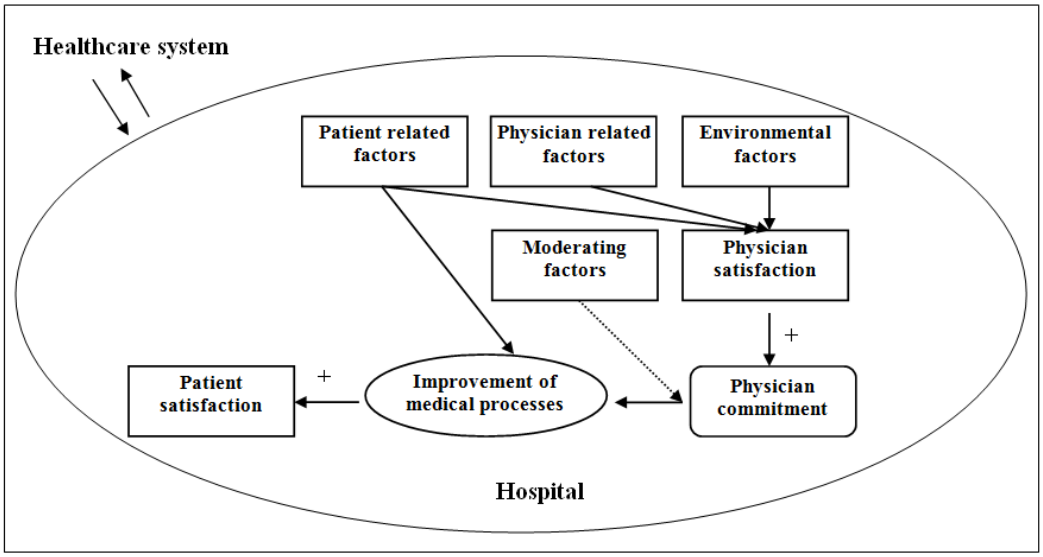

Fig. 1: A model of factors affecting the quality of medical services

This model illustrates a variety of individual, organisational and environmental factors that influence a physician satisfaction and commitment which, in turn, affect quality of medical services. Individual factors include physician's age, personality, education, capabilities and experience. Organisational factors include working conditions, resources and relationships with co-workers. Environmental factors consist of economic and social influences. Furthermore, the physicians' subjective attributes, including the priority they give to medical care, would have a moderating influence on the delivery of care.

A number of studies have found clear relationships between employee satisfaction, quality of care and patient satisfaction. Satisfied and com-

mitted employees deliver better care, which results in better outcomes and higher patient satisfaction (18-19). Good human resource management drives employee satisfaction and loyalty (20). This study showed that physicians burdened with heavy workloads, and poor compensation packages. All of these factors have impeded the delivery of quality medical services particularly in the public health sector. These findings are consistent with previous studies in Iran (21-22).

Patient related factors such as socio-demographic variables (e.g., age, race, education, social class and health status), attitudes, and behaviours (e.g., moods, actions and cooperation) may act as facilitators or blockers to quality of received medical services. These findings support previous research (23).

Furthermore, the quality and continuity of relationships between a patient and a physician influence the quality of delivered medical services. The quality of the interaction between a physician and a patient depends on the physician's personal attributes of empathy, compassion and honesty and technical expertise to attain the patient's trust. Patients' satisfaction with their physicians is associated with their compliance and adherence to the treatment prescribed by physicians (24)

The hospital environment has been demonstrated to both promote and hinder quality of medical services. Hospital factors such as availability of supplies and equipment and allocation of time affect the quality of healthcare services. The majority of physicians involved in this study stressed that quality of medical services is severely limited by lack of resources. Economic restrictions had contributed to staff shortage, fragmented care and hence a lack of time available for individual patient cares. Purchased materials are often a major source of quality problems (25). Healthcare organizations must have sufficient resources to invest in quality of medical services.

As the demand for healthcare services in Iran is increasing, most public hospitals find themselves overwhelmed with large volumes of patients. With such robust market, many providers cannot justify the cost of trying to improve the system. In such a context, patient concerns could not be taken into account. Important changes are required in a number of aspects of healthcare system in Iran if healthcare organisations are to provide high quality services. Managers and policy makers must invest in the following five capitals in order to improve the quality of medical services (Fig. 2).

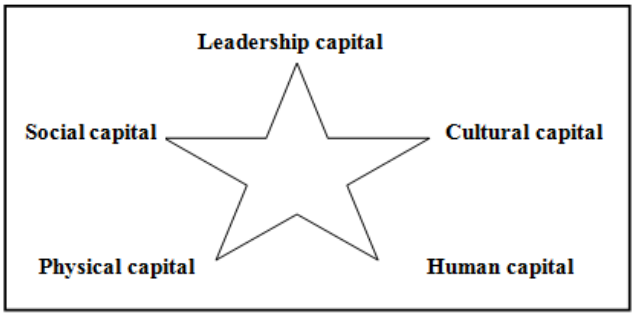

Fig. 2: Quality Star Capital

Physical capital

Physical capital refers to any non-human asset used in the production of products and services. Quality is not free. High quality resources are needed to provide high quality services. Healthcare organisations should provide their staff with the resources they need to deliver high quality services. In 2012, Iran spent 5.6% % of its GDP (Gross Domestic Product) or US$ 118 per capita on health (26). A much higher percentage of the national GDP should be allocated to the healthcare system to improve the quality of healthcare services.

Human capital

Human capital refers to the skills, experience and knowledge gained by an employee to perform the job well. The quantity and quality of healthcare providers affect the quality of services. High-quality providers are critical to producing high-quality outcomes. Healthcare managers should have distinctive approaches for the attraction and the retention of qualified physicians that are able to deliver the highest-quality care.

Social capital

Social capital refers to one's responsibility and accountability to society and human beings. Delivery of high-quality healthcare services is a corporate

social responsibility of an organisation. Physicians must be accountable to patients for the quality of medical care delivered. Accountability, coupled with transparency of information help improve social capital. Regulatory bodies should support professional accountability in healthcare through maintaining a register of physicians, setting standards for their continuous training, requiring continuing professional development and providing guidance on standards and ethics.

Cultural capital

Improving quality of medical services requires a significant change in mindsets, attitudes and beliefs of physicians with regard to quality. Teamwork and collaboration should be fostered. Good communication, cooperation and collabo-ration among healthcare providers support providing effective and efficient medical services, and promote shared responsibility for patient care.

Leadership capital

Leadership capital is the leader's ability to direct an organisation forward in a positive direction. It is important that managers develop their leadership skills and demonstrate their commitment to quality by establishing a shared vision and setting a clear direction for the organisation. Managers should transform their organisational value system and ultimately the organisational culture, policies and structure to meet the needs of their employees and customers.

Limitations and implications for further research

Respondents were medical doctors in Iran and the results of the study cannot be generalised to other countries or healthcare systems. Hence, future studies may want to explore and identify factors that affect quality of medical services in other countries.

Conclusion

The study has direct implications for healthcare providers. They are encouraged to regularly monitor healthcare quality and accordingly initiate continuous quality improvement programmes to maintain high levels of patient satisfaction. The findings have important implications for policy makers. Their support, in terms of providing necessary resources and establishing supportive rules and regulations is critical.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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