

## Evaluating visit quality in plan of health sector evolution in Iran: A local survey from Tabriz

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### ABSTRACT

**Background and aims:** Quality of visit services is a decisive aspect of patient-physician communication that its inadequacy can negatively influence the diagnosis efficiency. The aim of this study was to survey visit quality at provincial level during plan of health sector evolution in Tabriz.

**Methods:** A sample of 540 patients who referred to the outpatient clinics (Sheikh Al Raeis of Tabriz Province) in North West of Iran was randomly selected. Data were collected by a researcher-made checklist and summarized using descriptive statistical methods.

**Results:** The average visit time was found to be 8.52 minutes, which is significantly lower than the minimum average of 15 minutes approved by the Iranian Ministry of Health and Medical Education (MOHME). The average of waiting time was found to be 101.57 minutes for patients. The results showed that the structural quality was found to be 51.36%, process quality was found to be 62.69% and outcome quality was found to be 50.82%.

**Conclusion:** Visit length was shorter than other developed and developing countries. If the consultation process in health care delivery to patients is incorrect or incomplete, the following process will be without quality and security. This study showed that visit time is short and waiting time is very long.

**Keywords:** Visit quality, Health sector evolution, Physician- patient relationship, Outpatients.

Original article

### INTRODUCTION

Quality of health care is a main domain of services delivery in health services organizations and it is one of the original rights of patients. Regarding this, each patient has the right to benefit from the best facilities, the best treatment and the best physician.<sup>1-3</sup>

Also, Consultation time is an important resource in health primary care (PHC), and it is important to understand whether a longer visit results in better consequences in morbidity and mortality, and patients' and doctors' satisfaction.<sup>4</sup> Both physician-patient relationship is important determinants of

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quality in the outpatient health care setting. Good interaction is essential to a safe and top-quality consultation.<sup>1-4</sup>

On the other hand, quality assurance of health care in high rate is a permanent challenge confronted by every health care sector. The patient-physician relationship and availability of health care high quality are important components in the outpatient care context.<sup>5-8</sup>

Availability is the ease with which a patient may receive care. The patient-physician relationship is more difficult to describe. According to Donabedian, the physician-patient relationship while listing the characteristics of a good physician-patient relationship pulls consideration to their double role: Is not only a source of patient satisfaction, it also serves to reassure and persuade the patient.<sup>9</sup> The positive dimensions of doctor-patient relationships are: facilitation of the patient's expression of feelings and expectations affiliated to his/her health care, conveyance of clear information to the patient, formation of mutually beneficial agreed upon goals, progression of an intense role for the patient in achieving a positive outcome, and provision of unanimity and persuasion.<sup>10</sup>

Multiple studies aimed at assessing the quality of health care have been undertaken, generally by rating the level of patient satisfaction.<sup>7,11,12</sup> Good relationships are essential to a safe and high-quality consultation.<sup>13</sup> Encompassing the issues of needs evaluation, quality and satisfaction decline within the role of health care professionals. The evidence shows that the physician-patient relationship is nearly related to patient satisfaction during process treatment.<sup>14</sup>

Health sector evolution emphasizes substantially to improve the health status of populations by promoting and enhancing accessibility, quality, and efficiency of the delivery of health care services.<sup>15</sup> Health sector evolution of Iran began in 2014. One

of the seven domains of this program was to improve the quality of visit services.<sup>16</sup> In this study, program assessment was done by Donabedian framework and using the factors affecting that have been suggested health sector evolution of Iran.

The Donabedian' model purveys an evaluation framework that helps systematic enquiry into health services. The Donabedian' model of structure, process and outcome is a construct where through each component is influenced by the previous, making the factors dependent.<sup>17</sup> Thus, the aim of this study was to survey visit quality at provincial level (Sheikh Al Raeis of Tabriz Province), and provides data on factors affecting it.

## METHODS

A cross-sectional study was conducted in Tabriz city, during autumn (14 August to 26 September) 2015. The study population included all patients referred to the outpatient of Sheikh Al Raeis of Tabriz Province. Using the results of a pilot study, the minimum sample size was estimated 540 participants were estimated using the following formula. ( $d=20$  second,  $\sigma=237$  second and  $Z=1.96$ ). Sampling method was systematic random that were classified alphabetically.

$$n \geq \frac{\left(Z_{1-\frac{\alpha}{2}}\right)^2 \sigma^2}{d^2}$$

A researcher developed checklist was used to collect data. This checklist included three parts: The first part related to Structural quality of visit (9 question), second part contains process quality of visit (18 question) and the third part was outcome of visit (1 question). Also, checklist included characteristics of patients and physicians such as: Demographic variables of patients

and physicians, visit length and waiting time. All variables studied were based on previous studies and expert views.

Checklist validity was measured by indicators of Content Validity Ratio (CVR) and Content Validity Index (CVI). CVI was found to be 73% and CVR was found to be 81%. Data collection was conducted by researcher. Children under 12 years old who attended with a parent were included in our study and the parent was requested to complete the questionnaire.

Descriptive statistics were used to present quantitative and qualitative variables

respectively. Data entry and analysis was done using SPSS.

## RESULTS

A total of 540 patients were surveyed: 231 (42.8%) males and 309 (57.2%) females. Patients were aged between 0 and 78 years. The majority of patients were female, lived in Tabriz, 63.90% were married, and 98.10% have insurance. The findings of other demographic Characteristics of patients are shown in Table 1.

**Table 1:** Demographic characteristics of patients (n=540) and physicians (n=46)

| Variables related to patients   |                      | Frequency | %     |
|---------------------------------|----------------------|-----------|-------|
| Age                             | Under 1              | 20        | 3.70  |
|                                 | 1-15                 | 146       | 27.03 |
|                                 | 16-36                | 103       | 19.07 |
|                                 | 37-57                | 166       | 30.74 |
|                                 | 57-78                | 105       | 19.44 |
| Sex                             | Male                 | 231       | 42.80 |
|                                 | Female               | 309       | 57.20 |
| Habitant                        | Tabriz               | 359       | 66.50 |
|                                 | Other cities         | 30        | 5.60  |
|                                 | Village              | 151       | 28.00 |
| Married status                  | Bachelor             | 195       | 36.10 |
|                                 | Married              | 345       | 63.90 |
| Insurance Status                | Yes                  | 530       | 98.10 |
|                                 | No insurance         | 10        | 1.90  |
| Educational Status              | Under diploma        | 383       | 70.93 |
|                                 | Diploma              | 88        | 16.29 |
|                                 | Bachelor             | 65        | 12.03 |
|                                 | Higher than bachelor | 4         | 0.75  |
| Variables related to physicians |                      | Frequency | %     |
| Age                             | 30-40 years          | 15        | 32.60 |
|                                 | 41-50 years          | 27        | 58.69 |
|                                 | 51-60 years          | 4         | 8.69  |
| Sex                             | Male                 | 36        | 78.30 |
|                                 | Female               | 10        | 21.70 |
| Married status                  | Bachelor             | 3         | 6.50  |
|                                 | Married              | 43        | 93.50 |
| Experience of physicians        | Less than 5 years    | 18        | 39.13 |
|                                 | 5-10 years           | 14        | 30.43 |
|                                 | More than 10 years   | 10        | 21.73 |

The results showed that the average of visit time was 8.52 (3.14) minutes and waiting time was 101.57 (50.68). There was significant difference between the mean of visit times and standard of visit time (20 minutes) among specialties. Visit

time of nutrition specialists was significantly longer than others among specialties. On the other hand, waiting time of patients was significantly longer than others for general surgery 138.50 (45.68) (Table 2).

**Table 2:** Waiting time and visit time of patients according to specialties (n= 540)

| Variables                 | Waiting time (minutes) |                    | Visit time (minutes) |                    |
|---------------------------|------------------------|--------------------|----------------------|--------------------|
|                           | Mean                   | Standard deviation | Mean                 | Standard deviation |
| Cardiology                | 100.00                 | 45.64              | 8.08                 | 1.52               |
| General Surgery           | 138.50                 | 45.68              | 7.00                 | 1.33               |
| Infectious disease        | 104.05                 | 50.96              | 9.36                 | 2.66               |
| Nutrition                 | 70.50                  | 41.06              | 14.79                | 2.80               |
| Ophthalmologist           | 65.80                  | 28.61              | 5.63                 | 0.78               |
| ENT                       | 106.00                 | 40.08              | 6.05                 | 1.21               |
| Orthopedics               | 105.75                 | 52.47              | 5.48                 | 1.46               |
| Obstetrics and Gynecology | 69.00                  | 28.49              | 11.52                | 3.20               |
| Physical Medicine         | 77.50                  | 34.20              | 8.45                 | 1.22               |
| Psychiatry                | 71.75                  | 34.38              | 10.84                | 1.68               |
| Pediatrics                | 119.00                 | 53.12              | 7.46                 | 1.87               |
| Internal disease          | 98.50                  | 44.13              | 8.53                 | 1.83               |
| Neurological disease      | 122.25                 | 53.39              | 8.15                 | 2.53               |
| Urology                   | 96.25                  | 50.67              | 7.62                 | 1.66               |
| Total                     | 101.57                 | 50.68              | 8.52                 | 3.14               |

About quality components, the results showed that the structural quality was found to be 50.82%, process quality was found to

be 62.69% and outcome quality (patient satisfaction) was found to be 51.36%. Other results are shown in Table 3.

**Table 3:** Quality of physician visits outpatient clinics of Sheikh Al Raeis in Tabriz Province

| Type of quality           | Structural quality | Process quality | Outcome quality    |
|---------------------------|--------------------|-----------------|--------------------|
| Specialties               | (%)                | (%)             | (satisfaction) (%) |
| Cardiology                | 43.75              | 69.44           | 80.00              |
| General Surgery           | 37.50              | 55.83           | 60.00              |
| Infectious disease        | 62.50              | 53.88           | 59.00              |
| Nutrition                 | 50.00              | 81.94           | 68.00              |
| Ophthalmologist           | 62.50              | 50.55           | 57.89              |
| ENT                       | 62.50              | 57.22           | 59.00              |
| Orthopedics               | 56.25              | 56.66           | 59.00              |
| Obstetrics and Gynecology | 50.00              | 61.11           | 64.00              |
| Physical Medicine         | 50.00              | 81.66           | 75.00              |
| Psychiatry                | 43.75              | 79.16           | 69.00              |
| Pediatrics                | 62.50              | 58.61           | 59.00              |
| Internal disease          | 50.00              | 73.61           | 64.00              |
| Neurological disease      | 50.00              | 78.61           | 76.00              |
| Urology                   | 50.00              | 68.33           | 50.00              |
| Total                     | 51.36              | 62.69           | 62.89              |

Results showed that structural quality was longer than others for general surgery (43.75%). Process quality was longer than others specialties for nutrition (81.94%). The rate of satisfaction (outcome quality) was longer than others Specialties for Cardiology (80%).

## DISCUSSION

The health evolution plan of Iran is designed to grant the public fair access to health care, increase equity, cover health expenditure and promote the quality of health services that people receive.<sup>16</sup> On the other hand, an important part of patient satisfaction derives from a dynamic interactional process with medical personnel. Doctor-patient relationship is acknowledged as a key determinant of a successful medical consultation.<sup>17,18</sup>

Assessment of quality components showed that the structural quality was found to be 50.82%, process quality was found to be 62.69% and outcome quality (patients' satisfaction) was found to be 50.82%. According to the health evolution plan is expected to be much higher than evaluated rate.

Kuusela et al showed that GPs with a capitation-based contract assessed the quality of their work higher and consultation quality was good for professional skill, communication, consultation conditions, duration of the consultation and number of examinations and treatments.<sup>20</sup> The results of the factor analysis in Golan's study identified interpersonal processes (5 items), the technical processes (12 items) and the outcomes (5 items). The results of his study showed that quality average in interpersonal processes, the technical processes and

outcomes were 4.62, 4.44 and 4.18, respectively. This global perception derives from patients' perception of the physician's professional and interpersonal relationships as well as from the outcomes of health care.<sup>21</sup>

In Table 4, factors of visit services quality based on Donabedian model are shown. These factors surveyed for specialists in the plan of health sector evolution.

**Table 4:** Factors of visit services quality in plan of health sector evolution

|                           |    | <b>Factors of quality</b>                                  | <b>Score(%)</b> |
|---------------------------|----|--|-----------------|
| <b>Process quality</b>    | 1  | Physician behavior   | 45.00           |
|                           | 2  | Privacy  | 36.36           |
|                           | 3  | Feeling patient  | 55.00           |
|                           | 4  | Ensure the confidentiality                                 | 75.00           |
|                           | 5  | Expression of story diseases                               | 33.33           |
|                           | 6  | Full attention of doctor                                   | 45.00           |
|                           | 7  | Respect for the beliefs, values and cultural beliefs       | 77.96           |
|                           | 8  | Medical history  | 61.66           |
|                           | 9  | No visit patients at the same time                         | 35.00           |
|                           | 10 | Advice on how to treat                                     | 38.33           |
|                           | 11 | The question of age, history of complications of pregnancy | 58.33           |
|                           | 12 | Careful examination  | 55.00           |
|                           | 13 | Easily pay to visit cost                                   | 58.33           |
|                           | 14 | Do not pay informal fees                                   | 84.25           |
|                           | 15 | Visit by the doctor  | 86.67           |
|                           | 16 | An understandable description of the treatment process     | 71.28           |
|                           | 17 | Feel recovery  | 60.00           |
|                           | 18 | Explains how to use the methods of treatment               | 68.33           |
| <b>Structural quality</b> | 1  | Operating protocol for outpatient visits                   | 00.00           |
|                           | 2  | Process guidelines for the acceptance times                | 00.00           |
|                           | 3  | Visual aids for taking patients                            | 100.00          |
|                           | 4  | Filing for patients  | 100.00          |
|                           | 5  | Participate in training courses in consulting              | 60.87           |
|                           | 6  | Academic and non-academic staff employed full-time         | 47.73           |
|                           | 7  | The maximum number of patient visits per hour (8 per hour) | 100.00          |
|                           | 8  | Principles of patient safety                               | 00.00           |
|                           | 9  | Amenities  | 100.00          |
| <b>Outcome quality</b>    | 1  | Satisfaction rate of patients from serveries delivery      | 62.89           |

The results of survey process quality showed that factor's score of physician behaviour, privacy, expression of story diseases, and full attention of doctor no visit patients at the same time and advice on how to treat were less than 50%. Also, results of structural quality of visit showed that participation in training courses for consulting was 60.87% and only, 47.73% of specialists was full-time in teaching hospital. In finally, Satisfaction rate of patients from serveries delivery (outcome quality) was 62.89%. Other results are shown in Table 4.

On the other hand, one of the important factors affecting visit quality is visit time and waiting time. The results showed that the average visit time was 8.52 (3.14) minutes and waiting time was 101.57 (50.68) minutes.

Mohebbifar et al showed, before the implementation of health evolution plan, waiting time and visit time was 161 and 5 minutes, respectively, for each patient in Qazvin city.<sup>18</sup>

In Hasanpoor's study, the average visit time was found to be 4.67 minutes in year 2013 and Faraji Khiavi showed that mean visit examination was 4.88 minutes in Ahvaz in year 2015, which is significantly lower than the minimum average of 15 minutes approved by MOHME.<sup>19,22</sup> The result of Mohebbifar's study, Faraji Khiavi and this study showed that before the implementation of health evolution plan, visit time and waiting time was shorter than after the implementation.

Prolonging the visit time is good news, but visit quality was low after the implementing plan of improvement visit quality of physician.

## CONCLUSION

Plan of health sector evolution increased the duration of the visit, but visit quality isn't reached to standard (identified in plan of health sector evolution). Using virtual visit reduce the waiting time and increase the visit quality. Also, can be used from process model, queuing theory, FIFO model and virtual for increasing visit quality.<sup>18,23</sup> The most important factors influencing on the visit quality are as follows:<sup>18,19,24,25</sup>

Specialists' monopoly power in decision-making and service delivery; Lack of human resources in health organizations; Lack of transparency in tariffs and lack of coherent insurance system; Simultaneous involvement of specialists in the public and private sectors; Lack of supervision by the health system managers; Lack of patients' sufficient awareness of their rights; Lack of clinical guidelines and regulations; Increasing patient demand by plan of health sector evolution.

## CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

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