

The Auditing of General Practitioner Offices in Tabriz City to Assess Their Compliance with National Licensure Standards

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Abstract

Background: The licensure is an evaluation mechanism, which allows health centers or individuals to assess health services delivery based on minimum requirements.

Objectives: The present study aimed to audit the general practitioner (GP) offices in Tabriz city to assess their compliance with national licensure standards in 2015.

Methods: This was across-sectional study, which audited 228 general practitioner offices randomly. The data from offices was collected based on researcher-made checklist, the validity of which was approved. Firstly, descriptively analysis of data was done and then, the relationship between clinics characteristics and compliance with standards was assessed using Analysis of Variance (ANOVA) and Tukey's test. To perform the analysis, the SPSS19 software was used, and $P < 0.05$ was considered significant.

Results: Based on the study results, the mean standards compliance in GP offices was 78.9%, with highest compliance dedicated to medical documents and informatics dimension with 99.1% compliance level and lowest compliance related to hygiene dimension with 56.2% compliance level. In the analysis of the statistical relationship between the offices characteristics and licensure standards, there was significant relationships, between daily admittance of patients in offices and standards compliance in human resources dimension; GPs' job experience and standards compliance in medical and non-medical devices dimension; and urban district of office and standards compliance in physical environment dimension and medical and non-medical devices dimension. In addition, there was a significant difference between total score of standards compliance and offices of urban districts ($P < 0.05$).

Conclusions: Generally, the status of Tabriz general health clinics was relatively acceptable. Thus, evaluation authorities should pay attention especially to the hygiene dimension.

Keywords: Licensure, Audit, General Practitioner Offices

1. Background

Currently, the health is considered as a citizens' right in all societies, and the governments are obliged to cover and improve population health. Here, improvement of health systems is one of the main principles for society growth and the proper management of health care services has a great importance at various levels (1-3). Evaluation and control are the essential duties of the health system, which affect their performance and leads to quality and productivity improvement. Therefore, the success of each organization is not fulfilled without an efficient and effective evaluation and control system (4-6).

Generally, evaluation of health system performance has two main goals, 1) creating a good basis for performance of individuals and organizations, and 2) empow-

erment of managers and policy makers for appropriate and evidence-based decision-making (7-9). Evaluation of health system performance has great benefits and provides an opportunity to improve performance. Thus, different health systems take various approaches to evaluate health system performance; and licensure, certification and accreditation are the main approaches with different goals to achieve quality requirements and performance information (10, 11).

Licensure is a process by which a government institution gives license to an individual or an organization of health services to work in a specialized field (10). The purpose of licensure is assuring people and health authorities that an organization or a person, which deliver health services, have compliance with the minimum standards to protect public health and safety of patients, and can start

up service delivery in the determined job (12, 13).

Moreover, auditing is a process to improve quality and other basic performance indicators (14). In this process, the status of delivered care is compared with existing standards and in case of incompliance between existing conditions and standards, the main problems are identified and prioritized and some interventions are put in place to improve the undesirable conditions (15-17).

According to previous studies, evaluation system of health services in Iran has major shortcomings such as lack of standards validity and their subjectivity, lack of an appropriate evaluation process and data collection mechanisms, and lack of adequately trained of surveyors. Another point is that in case of health care centers or individuals obtaining license to deliver health care services from a governmental authority, these centers are not evaluated over time in terms of continuous adaptation with licensure standards (18-21).

One of the main fields, which are encountered with these problems, is outpatient care and especially general practitioner (GP) offices. This field is a critical part of the health system and most of the patients receive their required services from these centers (22, 23).

2. Objectives

The investigation of databases in Iran and valid international databases regarding quality of licensure process and its continuance compliance with standards after grant licensure showed that there is no specific assessment in this regard. Currently, the treatment affairs of Medical Sciences University of Iran are responsible for giving licensure but based on our knowledge, they do not have any valid standards and checklist for assessing the competency of GP offices for giving licensure, the licensure process is not clear and the obtaining licensure is done subjectively. In addition, after obtaining licensure, the continuous compliance of GP offices with licensure standards is not assessed. Consequently the status of GP offices is very vague and one of the research priorities in health-related organizations is conducting specific studies in this regard. Therefore, this study aimed to audit the general practitioner offices of Tabriz city to assess their compliance with national licensure standards in 2015.

3. Methods

3.1. Population and Sample Size

The study population was Tabriz general practitioner offices, with 228 general practitioner offices (determined

by the Morgan table for sample size determination considering a total of 583 GP offices in Tabriz city) audited randomly using researcher-made checklist. The inclusion criteria of offices were their activity as GP offices, their non-specialization (generality), location in Tabriz city and willingness of health clinic authorities to participate in the study. Exclusion criteria were lack of consent to collaboration with the research team from GPs, as managers of offices.

3.2. Study Tool

Based on the initial investigations by the research team, there was no special checklist to assess licensure of GP offices in Iran and licensure process is done subjectively with a non-systematic manner. Therefore, the first step in this study was developing a specific scientific tool for successful auditing of the mentioned process. The researchers assessed the existing licensure standards in various resources and did interviews with experts for determining the most-related standards for developing a primary checklist. Then, the checklist was evaluated based on experts' opinion according to quality assessment indices including necessity, significance, transparency, simplicity and measurability.

According to the statistical principles, at first Content Validity Ratio (CVR) was assessed by necessity index and in case of its support, Content Validity Index (CVI) was assessed by the score of four other indexes, and based on the responses of 10 experts, acceptance score was 70% (24, 25). In case of not achieving an acceptance score for each question in the checklist, the question was not used in the final checklist. In this study, scores of 87% and 90% were obtained for CVR and CVI, respectively and all questions were accepted. The final licensure tool for auditing was a 59-question checklist with six dimensions of physical environment (18 questions), medical and non-medical devices (12 questions), human resources (4 questions), medical documents and information (5 questions), compliance with the law and regulations notified (9 questions) and hygiene (11 questions). In addition, some questions regarding the characteristics of health clinics including geographical region (urban district), history of activity in health clinic, daily patients' admittance in health clinic, type of ownership, and the number of approved services were included in checklist.

3.3. Statistical Tests

The GP offices were audited using a developed checklist and the compliance with standards was assessed and reported as mean and standard deviation values. Then, the statistical relationship between standards compliance

scores and characteristics of offices was assessed. The Analysis of Variance (ANOVA) was used for assessing the statistical relationship between qualitative and quantitative variables because the qualitative variable had more than two subgroups. Then, the Tukey's test was applied for assessing the relationship within groups. To perform the analyzes, the SPSS 19 software was used and in all items, $P < 0.05$ was significant.

3.4. Ethical Consideration

Ethical principles considered in this study included the complete freedom of all participants to accept or reject cooperation in the study, obtaining informed consent from participants, respecting the privacy of participants and ensuring the participants that the use of their data and information was exclusively in line with the study goals. In addition, the ethics committee of Tabriz University of Medical Sciences approved this study.

4. Results

The assessment of GP offices characteristics showed that established offices during the 90s were the most common and most GP offices admitted less than 15 patients per day. Also, the number of GPs with longer than 20 years job experience was more than other groups and most offices were located in urban districts of 1, 4 and 8 (Table 1).

The findings of this study showed that the overall mean compliance of licensure standards by offices was 78.9% and the highest compliance of standards was regarding medical documents and informatics dimension with a score of 99.1% and the lowest compliance of standards was regarding hygiene with a score of 56.2% (Table 2).

The analysis of statistical relationship between characteristics of GP office and compliance of licensure standards in different dimensions (Table 3) showed that there was no significant relationship between the year of office establishment and standards compliance in different dimensions of licensure standards ($P > 0.05$). However, there were significant relationships between the number of daily admittance of patients and compliance standards in human resources dimension ($P = 0.011$); job experience of GPs and compliance standards in medical and non-medical devices dimension ($P = 0.048$); and urban district of office and compliance of standards in physical environment ($P < 0.001$), and medical and non-medical devices ($P < 0.001$).

The Tukey's tests showed that the compliance of standards in human resources dimension in offices with 11 to 15 daily patients' admittance was better than the offices with more than 20 patients' admittance ($P = 0.017$). Also, the

GPs with experience of less than ten years had better medical and non-medical devices compared to GPs with 11 to 15 years of job experience ($P = 0.042$). The standards compliance in physical environment dimension in urban district 1 was better than district 6; urban district 2 better than most urban districts (9, 8, 7, 6, 5, 3, 10); and urban district 4 better than urban district 6. In addition, urban district 1 had better medical and non-medical devices than district 6; urban district 2 than most of urban districts (9, 8, 7, 6, 5, 3, 10); and district 4 than district 6 ($P < 0.05$).

5. Discussion

This study showed that the status of GP offices in relation to compliance of licensure standards was relatively acceptable. Generally, the status of standards compliance was relatively acceptable because the total score of standards compliance was 78%. If we categorize the total standards compliance scores, based on cut-off points, as very low (0% - 20% compliance with standards), low (20-40% compliance with standards), medium (40% - 60% compliance with standards), high (60-80% compliance with standards) and very high (80% - 100% compliance with standards), the status of standards compliance in this study was in range of "high" but because we had not observed standards compliance in 22%, we cannot say that it was fully compliant (fully acceptable), so the statement of 'relatively acceptable' is appropriate for this status.

This compliance with standards is beyond the expectation of related authorities of Tabriz University of Medical Sciences before the study. By considering that licensure standards deal with the minimum standards to deliver health services, they have no significant expectations from health centers, thus, great efforts from relevant authorities to fulfill standards in these centers is necessary.

Generally, the compliance of standards in GP offices of Tabriz city was 78.9%. In a similar study done by Ebraim Nejad *et al.*, (2015) that assessed the compliance of general health clinics in Tabriz city with special licensure standards, the general compliance of standards was reported as 70.5% (26). In a similar study by Kamkari *et al.*, that assessed the compliance of licensure standards in Tabriz general dentistry offices, the total compliance with standards was reported as 78.5% (27). The low compliance of standards in general health clinics compared to the offices of general practitioners and general dentistry is related to the more competitive nature of the activity of these offices compared to health clinics, as well as higher attainability and simplicity of their standards.

The study results showed that the highest compliance of standards was related to medical documents and informatics dimension with compliance level of 99.1% and low-

Table 1. The Characteristics of Assessed Offices

Variables	Categories	Frequency	Percentages
Establishment year of health clinic	1950 - 1980	14	6.1
	1981 - 1990	44	19.3
	1991 - 2000	80	35.1
	2000 >	42	18.4
Number of daily admitted patients	1 - 10	14	19.3
	11 - 15	96	42.1
	16 - 20	66	28.9
	20 >	22	9.6
Job experience of GP	1 - 10	34	14.9
	11 - 15	61	26.2
	16 - 20	62	27.2
	20 >	71	31.1
Urban district (geographical region)	1	24	10.5
	2	15	6.6
	3	17	7.5
	4	48	21.1
	5	22	9.6
	6	25	11.0
	7	18	7.9
	8	42	18.4
	9	8	3.5
	10	9	3.9

Table 2. The Status of Standards Compliance in all Dimensions

Dimension	Mean	Standard Deviation
Physical environment	0.82	0.04
Medical and non-medical devices	0.77	0.54
Human resources	0.96	0.10
Medical documents and informatics	0.99	0.06
Compliance of law and notified regulations	0.93	0.05
Hygiene	0.56	0.04
Total (all dimensions and standards)	0.78	0.08

Table 3. The Relationship Between Clinic Characteristics and Standards Compliance in Various Dimensions (P value)

Dimensions	Clinics Characteristics			
	Establishing year	Daily Admittance	GPs Job Experience	Urban District
Physical environment	0.292	0.418	0.510	< 0.001 ^a
Medical and non-medical devices	0.596	0.853	0.048 ^a	< 0.001 ^a
Human resources	0.161	0.011 ^a	0.590	0.109
Medical documents and informatics	0.380	0.243	0.436	0.931
Compliance of law and regulations	0.716	0.562	0.852	0.321
Hygiene	0.287	0.523	0.649	0.111

^aSignificant relationship.

est compliance was dedicated to hygiene with 56.2% compliance level. This was due to more consideration of GPs for completion and keeping medical records, which is an important requirement for institutions such as medical institutions, Medical Sciences University or insurance organizations, and neglect of essential principles such as hygiene,

which is more important for the society.

The observed shortcomings in physical environment dimension were related to procurement of required rooms such as suitable waiting, nursing and documents archive rooms and having elevator and ramp for people with disabilities. In medical and nonmedical devices dimen-

sions, the deficiencies were related to procurements of wheelchair and portable bed for patients without mobility ability, calibrated medical devices, and procurement of basic amenities such as drinking water, enough chairs and televisions. The hygiene dimension had more defects including cleanness of offices, procurement of suitable safety boxes, having an appropriated process for destruction of used syringes, and having an appropriate process to separate these syringes from other waste. Other dimensions had appropriate status regarding compliance with licensure standards.

In the study of Ebrahim Nejad *et al.*, the highest compliance was related to medical and non-medical devices dimension with a score of 78.2% and lowest standard compliance was related to hygiene dimension with 58.4% (26). In a study by Kamkari *et al.*, the highest compliance of standards was dedicated to medical documents and informatics with 92% compliance of standards and lowest compliance of standards was dedicated to non-medical devices with a score of 66% (27). In most studies, there was no significant similarity in their findings with the findings of the present study because the compliance of each type of health center with standards directly depends on the importance of specific dimensions (standards) from their managers' perspectives.

The analyzes regarding statistical relationship between GPs offices characteristics and compliance of licensure standards in different dimensions, showed that there were significant relationships between number of daily patients admittance and standards compliance in human resources dimensions; GPs job experience and standards compliance in medical and non-medical devices dimension; and urban district of offices and standards compliance in physical environment and medical and non-medical devices dimensions. The assessed relationship between the number of daily patients' admittance and standards compliance in human resources showed that the status of offices with an average of 11 to 15 patients per day was better than the offices with more than 20 patients because their staffs could better fulfill standard requirements, and due to low work-load, dedicated more attention and time for high quality performance.

The assessed relationship between job experience of GPs and standards compliance in medical and non-medical devices dimension showed that the GPs in the first 10 years of their job had better medical and non-medical devices compared to GPs with 11 to 15 years of job experience. Because when their office is first established, their devices are purchased newly and have good performance but over time, they are ignored as they become old, and as these devices are not requested by director institutions, good alternatives are not considered.

According to the findings, there was a significant relationship between urban district and physical environment and medical and non-medical devices. The urban districts which had new design and engineering were more suitable regarding physical environment and medical and non-medical devices because their environment was established newly and people with high income, literacy and expectations referred to them and all these items led to the development of competition between GP offices and other centers and thus improvement of their compliance with standards.

The study of Ebrahim Nejad *et al.* showed that clinics with more than 15 services than clinics with lower than 5 services had better compliance with total of standards ($P < 0.05$) (26). In a study done by Kamkari *et al.*, there was a significant relationship between job experience of dentists and performance of offices in compliance with "law and notified regulations" and "hygiene and infection control" dimensions. The compliance of standards in dentists with 16 to 20 years of job experience was higher compared to dentists with 11 to 15 years of job experience regarding compliance of law and regulations; and compliance of standards in hygiene and inflection control in dentists with 1 to 10 years of job experience were higher compared to dentists with 11 to 15 years of job experience (27).

One of the limitations of the study was the lack of similar studies regarding licensure and audit of GP offices for comparison and better discussion. The string of this study was that despite the fact that evaluation (and licensure) is a research priority in all health systems yet there is no published study regarding auditing of general practitioner offices based on licensure standards, thus this study had remarkable novelty.

The researchers suggest that the treatments affair of medical sciences universities should use this study's questionnaire to give licensure, train skilled surveyors for appropriate performance of licensure process, clarify and improve the licensure process, reassess compliance periodically for offices that had previously received licensure, establish data bases for licensure statistics and its related information, and perform suitable interventions to improve the status of GP offices regarding compliance with standards, specially in poor items mentioned above.

5.1. Conclusion

The study results showed that the status of general health clinics in Tabriz city was relatively acceptable but improving the condition is required in one-fourth of standards, especially in the hygiene dimension. Thus, licensure and regulation authorities should consider this field. The researchers propose designing and performing an intervention to improve the status of standards with shortcom-

ings based on this study, performing this study in definite time frames in the future, and implementing similar studies in East Azerbaijan and all around the country.

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Footnotes

Authors' Contribution: Jafar Sadegh Tabrizi: designed the study and performed the data analysis; Farid Gharibi: wrote the proposal, performed the data analysis, wrote the article, and is the corresponding author; Faezeh Ahmadi: performed the literature review and data collection, and wrote the proposal.

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