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Original Article

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Factors Affecting Fair Access to Outpatient Services in Iranian Healthcare System Using Dematel Approach

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Abstract

Background: Outpatient services constitute a major part of healthcare services. Fair access to these services plays an important role in promoting the community health status. Therefore, the purpose of the current study was investigating the factors affecting fair and equitable access to outpatient services in the Iranian healthcare system.

Methods: This applied study was descriptive using a mixed method (qualitative-quantitative) approach. Semi-structured interviews and a pairwise comparison matrix were used to collect data. The validity and reliability of the interviews were obtained through Lincoln and Guba methods and the validity and reliability of the pairwise comparison matrix were determined based on the inconsistency rate which was less than 0.1. In the first phase, research population included policy makers and health professionals, and in the second phase, hospital managers and faculty members, who were selected by purposive sampling method. The data collected in the first phase were prioritized using MaXQDA software and coding method and in the second phase, using Excel software and Dematel approach.

Results: Based on the findings of the study, the following indicators had the highest to lowest significance in the fair access to outpatient services in the Iranian healthcare system, respectively. They were physical (effective), financial (effective), manpower (influential), demographic (influential), facilities and equipment (influential), political (influential) factors.

Conclusion: Policymakers, managers, and planners need to pay special attention to the development of physical infrastructure and the allocation of adequate funding to the outpatient services in the public sector.

Keywords: Public sector, Iran, Public health, Delivery of health care, Outpatient services, Fairness, Access

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Introduction

Health is a universal human right and a basic human need. Improving the health of communities is the main goal in healthcare systems, which is created by improving the response to the needs of communities and financial justice (1).

The basis of most democratic and modern countries is the fair access to health services and all citizens should have fair access to these services regardless of their age, gender, socio-economic status, and ethnicity (2). Access to healthcare services is an issue that has attracted a lot of attention today (3). Fair access to health services is one of the most important goals of health policy makers in many developed countries. Fairness is one of the most important indicators of service quality that is not easily accessible (4). Fair access to health services is a complex and ambiguous issue (5), and has become an important but unattainable goal (6). Also, access to a safe and effective health care system is one of the main determinants of a high-quality health system (1,7).

Access to healthcare services has been introduced as one of the basic rights of citizenship in many countries and thus, affects health outcomes and life expectancy. Ease of access to health services in the healthcare system is an important factor in providing high quality services (8). Factors affecting fair and effective access to health services are multidimensional and are both influenced by legal and policy-making factors as well as material factors (9). Fair access to health services has two main components of affordability and availability of services, which are the two sides of the same coin (10).One of the most fundamental questions for all health policymakers is how to best allocate public health resources to outpatient and inpatient services (11). There is obvious unfairness in accessing high quality outpatient services (12).

The outpatient department of the hospital is one of the first environments that patients enter upon arrival at the hospital and is the most important place in which patients' admission to the inpatient wards is determined. On the other hand, the outpatient department of hospitals is developing rapidly, so the volume of services provided in this department is equal or higher than inpatient departments' services (13). New challenges and changes in the healthcare system led to new changes in the provision of outpatient services. Delay in the access to health services is an important issue (14).

Three main goals of the health system are to ensure, maintain, and promote the health of the community, meet people expectations and financially support them against health costs. Efficiency, quality, safety, resilience, and justice are also intermediate goals of the health system, prerequisites for achieving the main goals. However, fair distribution of health resources and fair access to these resources are the most important goals of the health care system (15).

In other words, better provision of the health system services, availability of these services at different times, different places, and different conditions are the necessities of providing health services for individuals in society. In view of the fundamental changes in the world, including the diversity and growth rate of diseases, increasing people's awareness of safety/related issues, increasing costs in home and teleservices, advances in fields of medicine, bioterrorism, use of wireless and cyberspace, population growth and aging, increasing patient burden, reduced number of health care providers, and equitable access to health services are complex and sometimes unattainable goals (16,17).

Outpatient services are the gateway to services in the health system. Therefore, quality, safety, efficiency, effectiveness, temporal, spatial, and situational availability are very important in terms of physical, equipment, human, information, and specialized resources. All these factors may affect the patient's attitudes about health care system and will create a financial and work burden for the other wards of hospital. Receiving timely, appropriate, sufficient, effective, and suitable services in the outpatient department may prevent the burden of disease and increase the load of work in outpatient services in hospitals.

Numerous studies have examined the indicators of equitable access to services, especially outpatient services, which are reviewed below. Malmir *et al* (18), examined the indicators and barriers to equitable access to outpatient services in health care system in Iran. The results of the study showed that the indicators of equitable access to health services include financial indicators, physical indicators, and demographic indicators. Hosseini *et al* (19),

conducted a review about Equitable Outpatient Services. The results of their study show that justice and fair access to health services is a major challenge not only in Iran but also all over the world. The best solution for assessing justice in a health system is need-based assessment.

Emanuel *et al* (20), conducted a study entitled "Fair allocation of scarce medical resources in the time of COVID -19". The results of this study show the importance of prioritizing services in the field of outpatient services to patients. Rahman and Rizavi (21), conducted a study entitled "Survey of patients' satisfaction with the healthcare services in the outpatient department of military hospitals". In this study, the factors affecting the satisfaction of outpatients included the services of the paraclinical departments, cleanliness of the environment of the service centers, the treatment provided and its quality, the information provided to patients, and patient information transfer. The purpose of the present study was to determine the causal relationships and the severity of factors affecting equitable access to outpatient services in the Iranian health system.

Materials and Methods

This applied research was descriptive, and in terms of data type, it was a mixed study (qualitative-quantitative). It was conducted in two stages. For qualitative research, grounded theory was used and the strategy for analyzing the data was content analysis. The factors affecting equitable access to outpatient services in the Iranian health systems were identified. At this stage, research population included policy makers, managers, and planners of the Iranian health system. In the first stage, purposive sampling was used and the inclusion criteria were having at least a general practitioner degree, at least 5 years of practical experience at high levels and mainly in policy making, decision making, management positions and willingness to participate in interviews. The sampling process continued until reaching information saturation and when no new information was achieved (theoretical saturation) and finally the interview was performed with 33 participants. Data collection tool at this stage was a semi-structured interview form. This form consisted of 4 main questions that were acquired by reviewing the literature and based on the main research questions. In these questions, the interviewees' opinions on fair access to outpatient services, barriers, strategies, and effective deterrents and promoters in the Iranian healthcare system were queried, and a supplementary question was used about interviewees' opinions on the fair access to outpatient services, which had been ignored in interview form. Prior to submitting the interview form, the participants were provided with instructions for interview questions. Lincoln and Guba method was used to determine the validity and reliability of the interview. Upon completion, the interviews were conducted and a copy was sent to the interviewee for final approval. Finally, the interviews were transcribed and one copy was sent to the interviewees for approval. To extract the concepts at this stage, open and selective coding was used and the barriers to fair access to outpatient services in the Iranian health system were identified.

In the second phase of the research (quantitative section), the factors extracted from the interview were prioritized using the Dematel approach and the effective and influential factors were determined. The data collection tool at this phase was a pairwise comparison matrix indicating the relevant, effective, and influential factors in pairs based on the 5-scale Likert spectrum consisting of zero (ineffective), one (very low effect), two (low effect), three (high effect), and four (very high effect). The questionnaire prepared in this section consisted of six items and considering that the inconsistency rate of the respondents' answers was below 0.1 and that all the factors extracted from the interview phase were examined in this stage, the questionnaire had the required validity and reliability. The research population at this stage was 32 physicians, hospital managers, faculty members and university instructors, policy makers and executives and planners in the healthcare system of the country.

It is noteworthy that the questionnaires developed at this phase were provided to participants through e-mail, postal correspondence, available and widely used social networks and were completed with a follow-up and reminder by the researcher in a period of three weeks. The data collected in the first phase were analyzed with MAXQDA software using open and selective coding method and the data collected in the second phase was analyzed using Excel Software

by the Dematel approach (systematic relationship analysis) to determine affect intensity.

The Dematel Method was used in 1971 to examine complex issues by using expert judgment. One of the advantages of this method compared to other methods is that it examines the relationship between criteria in a network and also identifies the two-way relationship and the cause and effect between criteria (22).

Results

In the first part of the research, the results of the interview showed that the indicators of the fair access to outpatient services include the 6 main indices of manpower, policymaking, facilities, equipment, finance, and physical and demographic indicators. Of course, each of the main axes were composed of sub-categories, which are provided in table 1.

Barriers to fair access to healthcare services also included political, resource, manpower, infrastructure, and financial barriers. Each of these main factors is composed of sub-factors, which are described in table 2.

In the second section, the pairwise comparison matrix analysis was performed with Excel software using Dematel approach, the results of which were as follows. For this purpose, a direct matrix, a normalized direct relations matrix, and a general relations matrix were formed. Finally, the set of elements of the columns and rows of the T matrix for the main factors and its sub-factors were calculated and named as vectors D (effective) and R (influential). Finally, the degree of interaction of factors (D+R), and the relationship between factors or the net effectiveness or influential (D-R) degrees were determined. Factors with a positive D-R are effective (cause) and factors with a negative D-R are influential (effect) (Tables 3 and 4).

As shown by the results of the study, in this model, physical and financial indicators are the cause (effective) and policymaking, manpower, facilities and equipment, and demographic indicators are the effect (influential).

Table 1. Indicators of the fair access to outpatient services

Dimension	Components
Indicators related to manpower For outpatient services	General practitioner to population ratio
	Nurse to population ratio
	Radiologist to population ratio
	Ratio of family therapist to population
	Ratio of specialist and subspecialist to population
	Ratio of physiotherapist to population
	Pharmacist to population ratio
	Ratio of paramedical forces to population
Policymaking indicators	Family therapist and referral system
	Special clinics project
	Plan of physicians retention in deprived areas
	Need to develop indicators
	Insurance and insurance coverage
Indicators related to facilities and equipment for accessing outpatient services	Ratio of laboratory equipment to population
	Ratio of physiotherapy equipment to population
	Ratio of radiology equipment to population ratio
	Ratio of diagnostic equipment to population

Cont Table 1

Dimension	Components
Financial indicators of accessing outpatient services	Insurance and insurance coverage
	Service fees paid by patients
	Income and employment of people in the community
Physical indicators of accessing outpatient services	Pharmacy to population ratio
	Ratio of clinics and outpatient centers to the population
	Ratio of laboratories and diagnostic centers to population
	Population distance from service centers
Demographic indicators	Cultural indicators such as literacy, health literacy, people's attitude and trust in health services provided
	Social indicators such as marital status, education status
	Age structure of the population
	Sexual structure of the population

Table 2. Indicators of barriers to access to outpatient services

Dimension	Components
Policymaking barriers	Lack of roadmap for outpatient services
	Double tariffs (one government tariff and one private tariff)
	Superiority of private sector and surpassing the government sector in providing outpatient services
	Issuing office licenses for physicians with a K coefficient who are committed to services
	Instability of plans due to the instability of managers and policy makers
	The need to implement screening programs in the country
	Ineffectiveness of the family therapist plan in some cases
	Lack of leveling of services
	Overload of services in the public sector due to inexpensiveness (induced demand from the consumer)
	Low fees of specialists in the public sector and even private sector to provide 24-hour services
	Lack of development of special clinics and impossibility of providing 24-hour services in these clinics
	High government ownership, especially in deprived areas
	Weak referral system
	Failure to provide a sustainable solution to meet the needs

Cont Table 2

Resource barriers	Imbalance in service delivery (induced demand in some places and lack of basic services in some others)
	Improper distribution of equipment
	High focus on some outpatient services
	Lack of access to medicine
	Lack of access to services on the outskirts of cities and remote areas
	Imbalance between the public and private sectors in the provision of services and the greater share of the private sector in the provision of outpatient services
	Lack of equipment in the outpatient clinics
	Lack of equipment in the EMS department
	Lack of attention to the needs of less privileged areas
	Lack of distribution of services based on needs
	Lack of access to specialized and sub-specialized services
	No need assessment in the country
	Uneven distribution of resources and facilities for providing outpatient services in the country
Manpower barriers	Extremely crowded public outpatient centers and long waiting queues
	Lack of attention to education and lack of funding for education to encourage people to see family therapists
	Low attractiveness of comprehensive health service centers for general practitioners and specialists
Infrastructural barriers	Lack of IT infrastructure
	Lack of development of appropriate indicators for outpatient services
	Lack of proper standards of patient visits in special clinics
	No link between the family files and lack of integrated patient information system throughout the country
	Lack of records for outpatients in government departments providing services
	Lack of proper technological, manpower, equipment infrastructures
	Failure to determine the status of outpatients in a short time and referral to diagnostic and inpatient wards
Financial barriers	Ignoring the priorities in allocating funds for outpatient services
	Lack of insurance coverage
	Lack of a stable budget for financing outpatient services
	Lack of attention to inflation in payment to outpatient service providers
	Expensive specialized services
	Low fees and salaries of doctors

Table 3. Direct relationship between factors affecting fair access to outpatient services in the health system

M	A Manpower indicators	B Policymaking indicators	C Equipment and facilities indicators	D Financial indicators	E Physical indicators	F Demographic indicators
A Manpower indicators	0	0.08031838	0.0605403	0.075	0.077	0.066
B Policymaking indicators	0.08176556	0	0.0781476	0.058	0.079	0.063
C Equipment and facilities indicators	0.06198746	0.06632899	0	0.068	0.075	0.063
D Financial indicators	0.07814761	0.07452967	0.0817656	0	0.059	0.063
E Physical indicators	0.07308249	0.81186686	0.0677762	0.056	0	0.064
F Demographic indicators	0.06343464	0.06126387	0.0598167	0.061	0.063	0

Table 4. Effective and influential factors of fair access to outpatient services in the Iranian health system

Indicators	Symbol	D	R	D+R	D-R
A	Manpower indicators	0.681156532	0.675208	1.356365	0.00595-
B	Policymaking indicators	1.81706967	0.679651	2.49672042	1.13741892-
C	Equipment and facilities indicators	0.660903	0.636981	1.297884	0.02392-
D	Financial indicators	0.592091	0.654132	1.246223	0.06204
E	Physical indicators	0.66929	1.791506	2.460796	1.122216
F	Demographic indicators	0.599254	0.582287	1.18154	0.01697-

Table 5. Priorities of factors based on the degree of interaction and effectiveness

Row	Weighted priorities based on interactions	(R+J)	Row	Priorities based on net intensity of effectiveness/influence	(R-J)
1	Policymaking indicators	2.49672042	1	Physical indicators	1.122216
2	Physical indicators	2.460796	2	Financial indicators	0.00595-
3	Manpower indicators	1.356365	3	Manpower indicators	0.01697-
4	Equipment and facilities indicators	1.297884	4	Demographic indicators	0.01697-
5	Financial indicators	1.246223	5	Equipment and facilities indicators	0.02392-
6	Demographic indicators	1.18154	6	Policymaking indicators	1.13741892-

Discussion

As shown by the results of the study, physical indicators have the highest priority in the fair access to outpatient services in the Iranian healthcare system. One of the most important parts of the Iranian healthcare system transformation plan in 2014 was the development of infrastructure to admit a wider range of outpatients, and to achieve this, the construction and development of special clinics was one of the most important practical measures. In other words, the construction of special clinics to increase the range of outpatient services was performed by the public sector, but according to the Health Transformation Plan, the integration of outpatient services and creating a high variety of services including visits, tests, paraclinical services, and rehabilitation were among the most important programs. Therefore, according to the results of the present study, the development of these clinics and paying attention to the provision of services around the clock as well as providing incentive mechanisms for full-time activity of general practitioners and specialists in these clinics play a key role in creating and increasing physical access to outpatient services. Equipping these clinics, providing appropriate services, cleaning the physical environment, having comfortable facilities, and taking care of patients in clinics and hospitals are among the necessities of increasing access to outpatient services in the Iranian health system. According to researchers, this field of study has a high importance and priority.

Keshtkaran *et al* (23), stated that welfare facilities and physical space are an effective factor in the quality of outpatient services. Karimi *et al* (24), mentioned that the most important patients' dissatisfaction with outpatient services is the lack of welfare facilities and physical environment of clinics, such as lack of telephone, bed, proper ventilation, and nurse alarms. Karimi *et al* (25), considered welfare services, including quiet environment, adequate lighting, quality of hospital food, visiting hours, heating and cooling systems and ways to transfer to different departments as effective factors in the quality of outpatient services.

In the study by Pouragha and Zarei (26), physical environment was one of the most important factors affecting the quality of outpatient services.

Considering these results, it is necessary for managers and policy makers in the healthcare field to allocate appropriate budgets to expand adequate physical equipment, increase government centers providing outpatient services, especially in deprived, remote and affected areas, allocation of more budgets for development of physical environments and equipping these spaces to take appropriate measures to increase equitable access to outpatient services.

The second important factor affecting the quality of outpatient services included financial indicators. Due to the fact that most services are provided in the outpatient sector by the private sector, so deprived and vulnerable people in society do not have the financial affordability to pay for services and therefore, public access is low. So, paying more attention to insurance coverage and allocating more of GDP to developing outpatient public centers is among the key ways to increase access to these services.

In other words, the healthcare system will be fair, if health care is provided as needed and financed according to the ability to pay. There is lack of fair access for people due to the weakness of the referral system and family system and there is no equal access to services, especially for deprived and remote areas. The uncontrolled expansion of private service centers has caused a significant difference in these services in towns.

It is noteworthy that COVID-19 also played a significant role in increasing unequitable access to outpatient services. There is an urgent need to receive services by patients with coronavirus, to provide emergency services to a large number of patients in the shortest possible time, to reduce the number of medical staff due to COVID-19-indduced death, and to reduce equipment and facilities in government centers.

Hajimahmoodi (27), believed that a fair health system is a system in which people with equal needs receive equal health care services and people participate in financing in health care according to their ability to pay. In all countries spending on health care is a safe social/ economic investment (28).

In this regard, strengthening the programs of the Ministry of Health, including the family physician plan and referral system, is an effective factor in preventing the excessive and unprincipled consumption of services and moving toward equal financial distribution of services.

Mehrolhassani *et al* (29), believe that a strategy should be adopted to provide the necessary resources to spend on the health sector using mechanisms based on prepayments by the people (not direct payment) such as the percentage of taxes, duties, and premiums. Necessary and stable resources should be provided before the onset of the disease in time of health.

On the other hand, the such resources should be financed by government Revenues from oil sales should be reduced and thereby, and attempts should be done to improve insurance system and support packages for disadvantaged groups and areas must be provided; moreover, issues related to land management and also fair distribution of the resources commensurate with the deprivation of the region and its infrastructure are critical concepts.

Jafari *et al* (30), also compared the satisfaction of clients with outpatient services in the private and public sectors and it was found that clients' satisfaction with outpatient services in the private sector has been much higher in all factors, including staff attitude, cleanliness of the environment, and quality of services.

Ameryoun *et al* (31), also mentioned the physical environment and the facilities and equipment as an important and effective factor in the satisfaction of outpatient services.

Hadayati *et al* (32), also mentioned compulsory health insurance as a suitable financial mechanism to increase access to services in Indonesia. Iranian health insurance, which was considered in the Health Transformation Plan, was created to increase financial access to health services, including outpatient services. Abdi *et al* (33), took health insurance as an effective factor in using outpatient services.

Conclusion

The results of this study show that physical factors (highest priority and effective), financial factors (second priority and effective), and anthropogenic and demographic factors, facilities and equipment, and policymaking, are the next priorities and influential factors, respectively. Therefore, based on the results of this study, policy makers and senior managers in the healthcare system should increase access to physical infrastructures and facilities to increase availability of the outpatient services. They should also consider sustainable financing of outpatient services in the public sector to help increase access to the outpatient services in the deprived and semi-deprived sections of the country. Development of special clinics, proper implementation of family therapist plan, development of insurance and increase of public insurance coverage, increase of government

outpatient services, development of outpatient treatment roadmap, increase of material and non-material incentive mechanisms for employment of general practitioners and specialists in specialized hospitals and clinics, increase of the share of GDP in the outpatient services, assistance and development of charities in the outpatient services, and increasing the working hours of the special clinics to 24/7 are among the proposed solutions to increase fair access to outpatient services in the healthcare system of Iran. Researchers would like to thank and appreciate all the managers and policy makers in the healthcare area and the staff and executive committees of the Ministry of Health and Medical Education, who helped researchers in this study. It is noteworthy that this article is an excerpt from a doctoral dissertation in the field of health services management conducted at the Islamic Azad University, North Tehran Branch, Tehran, Iran.

Conflict of Interest

All authors declare that there is no conflict of interest.

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References

1. Yardim MS, Uner S. Equity in access to care in the era of health system reforms in Turkey. Health Policy 2018 Jun;122(6):645-51.

2. Glorioso V, Subramanian SV. Equity in Access to health care services in Italy. Health Serv Res 2014;49(3):950-70.

3. Dei V, Sebastian MS. Is health care equal for all? Assessing the horizontal and vertical equity in healthcare utilization among older Ghanaians. Int J Equity Health 2018;17(1):1-12.

4. Gustafsdottir SS, Fenger K, Halddorsdottir S, Bjarnason T. Social Justice, access and quality of healthcare in an age of austerity: users' perspective from rural Iceland. Int J Circumpolar Health 2017;76(1):1347476.

5. Daniels N. Equity of access to health Care: some conceptual and ethical issues. The Milbank Mem Fund Q Health Soc 1982;60(1):51-81.

6. Chin MH, King PT, Jones RG, Jones B, Ameratunga Sh, Muramatsu N, et al. Lessons for achieving health equity comparing Aotearoa

7. Maher A, Bahadori M, Ravangard R. The integration of health insurance funds as a reform approach in Iran. Shiraz E-Med J 2017;18(2):e45600.

8. Guimaraes Th, Lucas K, Timms P. Understanding how low-income communities gain access to healthcare services: A Qualitative study in Sao Paulo, Brazil. J Transport and Health 2019;15(1):1-17.

9. Hydayat B, Thabrany H, Dong H, Sauerborn R. The effects of mandatory health insurance on equity in access to outpatient care in Indonesia. Health Policy Plan 2004;19(5):320-35.

10. Zhu D, Guo N, Wang J, Nicholas S, Chen L. Socioeconomics inequalities of outpatient and inpatient services utilization in china: personal and regional perspective. Int J Equity Health 2017 Dec 4;16(1):210.

11. Elek P, Molnar T, Varadi B. The closer the better: does better access to outpatient care prevent hospitalization? Eur J Health Econ 2019;20(6):801-17.

12. Fradgley EA, Paul CL, Bryant J. A systematic review of barriers to optimal outpatient specialist services for individuals with prevalence chronic diseases: what are the unique and common barriers experienced by patients in high income countries? Int J Equity Health 2015;14(1):52-6.

13. Zarei E. Service Quality of hospital outpatient departments: patients' perspective. Int J Health Care Qual Assur 15;28(8):778-90.

14. Mohebifar R, Hasanpoor E, Mohseni M, Sokhavanvar M, Khosravizadeh O, Mousavi Isfahani H. Outpatient Waiting time in health services and teaching hospitals: A case study in Iran. GlobJ Health Sci 2014;6(1):171-80.

15. Mosadegh rad A, Janbabaei Gh, Kalantari B, Darrudi A, Dehnavi H. Equity in distribution of hospital beds in Iran. Sci J Kurdistan Univ Med Sci 2020;103:12-36.

16. Figueara CA, Harrison R, Chauhan A, Meyer L. Priorities and challenges for health leadership and workforce management globally: a rapid review. BMC Health Serv Res 2009;19(1):239.

17. Alvarado Carla J, Cao Caroline. Panel: the role of human factors in healthcare-2020. Proceeding of the Human Factors and Ergonomics Society 48th, 1764-1767.

18. Malmir R, Jafari M, Maher A, Hosseini M, Alimohammadzadeh Kh. Indicators and Barriers of fair access to outpatient services in Iran Health System: A Qualitative study. Pakistan J Medical and Health Sciences 2020;14(3):1694-700.

19. Hosseini SM, Maher R, Maher A, Raeyat Mohtasham A. A review on studies conducted on justice-based outpatient services (outpatients times of visit). Int J Engineering Technology 2018;7(3.19):189-93.

20. Emanuel EJ, Persad G, Upshur R, Thome B, Parker M, Glickman A, et al. Fair Allocation of scarce medical resources in the time of Covid 19. N Engl J Med 2020 May 21;382(21):2049-55.

21. Rahman MU, Rizvi F. Patient satisfaction with health care delivery in the outpatient department of military hospital, Rawalpindi. Ann Pak Inst Med Sci 2008;4(2):97-100.

22. Aghaebrahim SB, Makobi A. Assessing the challenges of Iranian companies in oil and gas projects. Sharif J 2008;45(1):43-7.

23. Keshtkaran A, Heydari A, Keshtkaran V, Taft V, Almasi Hashyani A. [The level of patient satisfaction in outpatient services in clinic of teaching hospital of Shiraz]. Quarterly J University Jihad Health Sciences Research Institute 2011;11(4):459-65. Persian.

24. Karimi A. Outpatient satisfaction from medical services at teaching hospital of Zahedan. Zahedan J Res Med Sci 2012;13(Suppl 1):52.

25. Karimi S, Masoodian Y, Yaghobi M, Hosseini M, Sadeghifar J. [Patient satisfaction with provided services and facilities in educational hospitals of Isfahan, Iran from admission to discharge]. Journal of Health Information Management 2012;9(6):780-4. Persian.

26. Pouragha B, Zarei E. The effect of outpatient service quality on patient satisfaction in teaching hospitals in Iran. Mater Sociomed 2016;28(1):21-5.

27. Hajimahmoodi H. et al. Iranian Health Insurance Scheme: Universal Coverage in Urban Area for Hospitalization. Tehran: Care Service Insurance Organization Press; 2006.p.32.Persian.

28. Dean M. Health spending is an Economic and social investment. Lancet 2000;355(9209):1081.

29. Mehrolhassani MH, Najafi B, Yazdi Feyzabadi V, Haghdost AA, Abolhallaje M, Ansari M, et al. [Total health expenditure and proportion of out-of -pocket payments in Iranian province; 2008 -2014]. Iranian J Epidemiology 2017;12(5):1-12. Persian.

30. Jafari P, Hatamizadeh N, Vamoghi R, Kazemnejad A. [Comparing customer satisfaction of public and private outpatient rehabilitation centers in Kordestan province]. Rehabilitation 2007;3(35):69-72. Persian.

31. Ameryoun A, Pourtaghi Gh, Yahaghi E, Heidari S, Bahadori M, Ebrahimnia M, et al. Outpatient and inpatient satisfaction in Iranian military hospitals. Iran Red Crescent Med J 2013;15(9):843-7.

32. Hidayat B, Hasbullah T, Hengjin D, Rainer S. The effect of mandatory health insurance on equity in access to outpatient care in Indonesia. Health Policy Plan 2004;19(5):322-35.

33. Abdi Z, Harirchi I, Goharimehr M, Ahmadnejad E, Alvandi R, Abdalmaleki E. Investigating the effect of having health insurance on the utilization of outpatient services provided by physician based on the Data of the Utilization of health services survey Iran J Health Insur 2018;1(3):67-71.