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Original Article

A comparative study of primary health care management in selected countries and designing a model for Iran

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Abstract

BACKGROUND: In this research Primary Health Care systems were reviewed and the nurses' roles were determined and then a model was designed for health networks in Iran.

METHODS: This was a triangulation research done in comparative method. In first step, PHC systems reviewed in different countries such as UK, Australia, Canada, Sweden and Turkey selected in purposive sampling. In second step, the process of management of PHC services in selected countries were determined from accessibility, providers and referral system, and then compared to PHC system in Iran. Afterward a primary model was designed. In third step, the model was validated using experts judgment (n = 30) and the results analyzed by descriptive statistics and final model was designed.

RESULTS: In all of the studied countries, PHC services were delivered by health team including family physicians, nurses, midwives, and health technicians in systematic network including local health centers, family physicians offices and nursing clinics. Family physicians and nurses had a basic role in delivery of services. Also other health practitioners such as psychiatrists were practiced with health team. PHC services in most cases on the bases of people's need and health information were transmitted between the providers by health files. The effective referral system exists between health services.

CONCLUSION: The model of PHC delivery was on the bases of health team with systematic network of the local health centers and provides accessibility, quality and comprehensively of services. We suggest to employee educated nurses in health centers to provide more health services.

KEY WORDS: Primary health care, Management, Health care service providing system, Iran.

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Primary health care management is an approach or philosophy in health care services, necessary for improving social health, prevention and rehabilitation. The world movement for primary health care was so effective in reforming health services and changing the global attitude from treatment toward prevention. Primary health care linked health services to some main factors which were mainly out of the health department.[1]

In past two decades, most health care systems in the developed and developing countries were established on the basis of primary health care principles. In Iran, after the Islamic revolution, health care system was designed based on the experiences of before revolution era and the new emerging issues in the field and there are many important achievements in this regards.[1]

Nowadays, some main issues such as globalization, urbanization and shift in the pattern of diseases alongside poverty and natural disasters have made the primary health care complicated and reforming health systems based on the idea of primary health care is inevitable.[2]

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Iran health system, like other health systems, is working in an environment with fast socio-economic and technological changes.[3] Increase of urbanization, change in population and the significant growth of young, middle age and to some extent elderly population, change in life-style and pattern of diseases and changing the main cause of mortality to cardiovascular diseases, accidents and cancers are some of the realities requiring changes in health care system.[2] In general, networks' system has not been successful in primary health care, since it is basically designed to overcome infective diseases and does not have any policy for social interventions, therefore, it has failed in referring to second and third levels.[4] This situation makes clear the necessity of studies on appropriate model for health care management especially in primary level and using the research results for improving the quality, access and efficiency of health care services to increase the satisfaction and be responsive to the real needs of the society.

Methods

This is a triangulation study with comparative methodology. In the first phase, the system of primary health care services in various countries was educed using valid databases such as Proquest® and Elsevier®. Then, based on some specified criteria, the primary health care system of Sweden, Australia, Canada and Turkey were selected using purposive sampling method. In the second phase, the management factors in primary health care services of these countries were determined in various dimensions of accessibility (accessibility based on time and place as well as population health information accessibility), service providers and the referring mechanism from primary to higher levels. Then it was compared with the primary health care services in Iran and the primary model was developed in this way. In the third phase, the suggested model was standardized through an expert-check phase: a researcher-made questionnaire was complete by 30 experts. The data were analyzed using descriptive statistics and the final model was designed. This questionnaire was designed based on research aims and questions and the factors and characteristics of the primary health care system of the suggested model using Likert scale. Answers were graded from 1 to 5; from completely disagree to completely agree. Validity of the questionnaire was confirmed by the judgment of experts, professionals and experienced personnel in the field of health care management and the questionnaire was finalized based on their ideas and suggestions. Since in qualitative research including comparative studies, the criteria for reliability of questionnaire is the right and exact data type and resources,[5] in this research we tried to precisely study the primary health care services of the selected countries and used the valid and original data.

For the sample, we selected four countries of Sweden, Australia, England and Canada from the developed countries and among Asian Muslim developing countries, we selected Turkey which social and health condition is very close to Iran. Also, Turkey performed some systematic reforms in primary health care services in recent years and the documented data in the field was available at the time of study. The criteria for selecting the above developed countries included having internationally high rank for socio-economic and health development based on valid international organizations such as WHO, a history of successful reforms and having a specific model for primary health care services and accessible up-to-dated and documented data at the time of study. The experts sampling was purposive method and a sample of 30 experts including professors of health sciences and managers and administers of health care departments who had up-to-date knowledge and experience in the field were selected.

Data of Iranian health care system were gathered by referring to the existing documents in related organizations archives and references, valid publications including books and journal articles as well as interview with authorities, managers and professionals of these organizations. Data of the selected countries were gathered from reports by WHO, World Bank and other international organizations as well as sci-

entific journals and databases such as Rosenet, Medline, Elsevier and Proquest published from November 2007 to June 2008. To design the model, the ideas of experts, professors and professionals were used.

Data analysis was qualitative and the interpretation and criticism was performed in three steps. The first step included data analysis in comparative tables and determining similarities and differences, concluding and developing the primary model. The second step included making the questionnaire for standardization of the developed model. Final step included gathering and categorizing the experts' ideas on the final model and analyzing them by descriptive statistics (Delphi Technic). The dimensions with a mean score of 75.3 (agreement of more than 75%) were accepted and included in the final model.

Results

In all the studied countries, family physicians are the core of primary health care services. They act with the team of family health which includes a doctor, a nurse, a midwife, a health technician, a psychologist, a social worker, a physiotherapist, a medical massager and a diet expert. In most studied countries, nurses and midwives were the main service providers next to the family physicians, and especially the role of nurses became more significant in some countries such as Canada and Australia in recent years.

The primary health services in all studied countries are just offered to residents and in most selected countries 100% of residents were receiving these services. In Iran, health services have been well developed in rural areas, but the coverage of primary health services are not good in urban areas, especially in the margin areas of big cities the problem is severe. In most studied countries, primary health services are provided in private clinics of family physicians or in local health centers and parts of the expenses of medicines and dental services were paid under franchise. However, the amount of franchise is different among countries. In all the studied countries, low income people pay no franchise and their medical expenses are paid from the state general incomes. In 80% of the studied countries, there was full time access to the most primary health care services and people were free to choose a doctor in their local residential area. In most studied countries, health information was easily accessible for service providers through electronic files. In all studied countries except Turkey, people had access to the necessary health information via mailing, phone and the Internet. The results of this study show that elderly, chronic and long-term and disabled patients have access to long-term care at home and these services are included in primary health care services by nurses in the health centers and social nursing clinics.

The referral system in the selected countries in this study is open. The patients have almost complete freedom to choose their doctors and they have the right to choose the specialist when they refer to the clinic. Also, referring was both vertical (for the three levels of services) and horizontal to receive the services from providers with various professional skills. In Iran also, both vertical and horizontal referring are predicted, but the mechanism of execution does not exist to assure the system working. In most studied countries, patients had to pay penalties if not following the regulations of referral system. Because of health profile electronic system, the medical history of patients were easily transferred between various levels of service providers in the system including the primary health care provider (family physicians) who was responsible for following patients' health condition and make sure of the medication results. In Turkey and Iran, the health profiles were just available in hard copies in the health houses and centers in rural areas.

The suggested model is designed based on the results of comparative studies on selected countries that had a successful experience in providing primary health care services and also based on the characteristics of management system of health care services in Iran. The model was standardized by consulting experts and professionals in the field. The results of survey showed that experts were agreed with all com-

ponents except three in the field of accessibility to data. According to these results, experts did not agree with including physiotherapist, dentist and pharmacologist in all health centers providing primary health care. Also, they agreed with all components of the suggested model regarding financial and health information accessibility, but disagreed with joining the full time health information center with emergency center (115). All components of referring mechanism except one were acceptable by experts, and they disagreed with the family physicians choosing specialist at the time of referring. Therefore, this component was omitted from the model and the final version was approved by experts.

Discussion

The results of this study showed that accessibility to services is the backbone of primary health care management and the effective factors of the accessibility includes providers, covering basis and limitations, financial accessibility (affordable expenses), place and time of providing health service, rules and regulations of choosing family physicians and accessibility to health information (both for the receivers and providers).

In all the countries studied here, a general doctor who is called family physicians is the main health service provider. This finding is similar to findings of a study by Ibn Ahmadi (2001) about a health care referring system with family physicians in the center, a study by Karimi (2005) on accessibility to primary health services in rural areas through family physicians and nurses living in the area, and the study of Rasulinejad (1996) on the presence of doctors in the first referring place for health care.[6-8] In most countries studied here health team included psychologists, social workers and dietitians and it was the same in studies by Millar and Beardall (2001) on providing primary health care by traditional medicine such as medical massage and psychiatry alongside with health team.[9]

In all countries studied here, being a resident was the basis of providing services and in most countries 100% of population was covered. The primary health care services were provided in private clinics of family physicians or in local health center. These centers were easily accessible because of the good geographical distribution. This result is similar to Karimi (2005) emphasizing on providing health care services for rural population in health houses and rural health care centers by finding the right place where those services are most needed.[7] Also, it is in agree with the study of Alishaei (2005) on enabling health houses and centers to provide the appropriate and qualified services,[10] the study of Rasulinejad (1996) who mentions that health centers are the core of health care service system,[8] and the study of Bell (2006) which emphasizes on developing and distribution of public health care services in order to increase the accessibility.[11]

In Iran, a network of health houses, bases and centers in urban and rural areas are active as the primary health care service providers. But in urban areas these centers are not well organized to provide the appropriate coverage and accessibility. This result is similar to Jamshid Beigi (2002) and Naghavi and Jamshidi (2005) who emphasize on lack of successfulness of health care service centers in urban centers.[2,12]

All countries studied here were providing most primary health care services such as vaccination, maternity health care, family health care and general health care for free. Since these services are of high effectiveness value and aimed at low-income population, it is necessary to be provided free of charge and accessible to everyone. Almost in all countries studied here, patients were paying a franchise for medicine and dental services in different amount and the low-income families were exempt from paying.

These results are in agreement with the results of studies by Millar and Beardall (2001) on providing better financial accessibility for primary health care,[9] Gallagher (2006) on providing health care services for at risk and poor groups in the society by various free services in public and private sections[13] and the results of Karimi (2005) on easy and free of charge acces-

sibility to public primary health care services in rural areas.[7] Considering the increasing expenses of medications, it seems necessary to ask for franchise in this field to control the self-medications. However, this franchise should not treat the accessibility of low-income population when they are in need. Therefore, almost in all countries in this study, the low-income group was exempt from paying medicine franchise. In some countries such as Sweden, there were specific amounts of payment for other economy classes of the society. This method assures a fair logical accessibility to health care services for all the society.

In 80% of the countries studied here, accessibility to most health care services was full time. This is more important in primary health care services and emergency services. The results of this study disagreed with the results of a report by WHO in 2004, which emphasizes on the obstacles such as lack of affordability and lack of geographical and time accessibility to primary health care services especially in the developing countries.[14] One of the factors in health care services is accessibility, which should be provided on the right time based on needs and requests. It is obvious that primary health care services should be provided in the appropriate time, since they are basic needs. In Iran, a main part of primary health services are not provided on time.

The results of this study showed that in most countries studied here, people were relatively free to choose their family physicians. This result is in agreement with that of Karimi (2005),[7] Ibn Ahmadi (2001)[6] and Polluste (2000) which emphasize on free selection of primary health care providers and good relation between doctors and patients.[15] Also, it agrees with the result of Healy et al (2006) on selecting family physicians and specialist by patients at the time of referring to the health centers.[16] In most countries studied here, patients were free to choose a doctor in their local area, but this limitation should not cause lack of accessibility to services due to lack of satisfaction. Therefore, most countries would allow changing family physicians in 3 to 6 month.

In most countries studied here, the health information was easily accessible and transferable for providers due to the electronic file system and this helped more effective health care services. In these countries, people would receive necessary information via post, phone or the Internet. This result disagree with Al-Qatari (1999) who emphasized on Saudi Arabians' unsatisfactory of emergency services in PHC centers due to lack of information and the working hours of PHC centers in Abha city. It seems that in most developing countries such as Saudi Arabia and Iran, people are not satisfied with health care services due to health system structure and other factors such as providers' characteristics, the method of resources distribution and payments, referring system mechanism and health information management. This result is in agreement with that of Ibn Ahmadi (2001) and Karimi (2005).[6,7] One of the effective factors in accessibility to health care services is knowledge of centers, what they provide and how to refer there and in general an efficient information system which can increase the level of accessibility to these services and increase people's satisfaction.

The result of this study shows that the existence of an appropriate referring system can assure a total, accessible and constant health service.

In most countries studied here, the patients' referring system was both vertical and horizontal. Also, the patients' health information were transferred to other levels at the time of referring and after receiving health care, the new information would return to the primary health care provider along with follow up necessities. This system leads to harmony and necessary preparation for continuous care in referring level. This result is in agreement with Karimi (2005) and Rasulinejad (1996) who emphasize on predicting necessary preparation and two-way information transfer among three levels of health care services as a basic factor of efficiency and effectiveness of referral system.

According to the suggested model, we recommend that a complete health team including family physicians, nurses, midwives and health

experts in all primary health care centers be provided for each area based on the needs and in appropriate places while other health personnel such as psychologists and dietitians join the team when necessary to provide primary health care. Developing health care files and assuring the two-way transferable data at the time of referring is necessary. Patients and health providers should be related through post, phone and the Internet to increase the satisfaction and continuity of health services. Also, it is suggested that graduated nurses who have a high level of career abilities provide the main part of primary health care services within the health care team. Moreover, establishing nursing clinics can assure the possibility of using nurses for health care services.

The Authors declare that have no conflict of interest in this study and they have surveyed under the research ethics.

References

1. Shadpoor K, Pilehroodi S. Health for all and primary health care in 20th & 21st century. 3rd ed. Tehran: Tandis Publication; 2003. (Persian).
2. Jamshid Beigi E. First report of governmental comities on structure of health network. Tehran: Ministry of Health and Medical Education; 2002. p. 10-16. (Persian).
3. Jabari H. Mechanism of decentralization of health system in Asian developing countries, Europe and Latin America and designing a model for Iran. [PhD thesis]. Tehran: Islamic Azad University Science and Research Branch; 2006. p. 3. (Persian).
4. Zare H. A comparative study for determining health care packages in selective countries and designing a model for Iran. [PhD thesis]. Tehran: Islamic Azad University Science and Research Branch; 2005. p. 11-130. (Persian).
5. Salsali M. Qualitative research methods. Tehran: Boshra Publication; 2004. (Persian).
6. Ibn Ahmadi A. A comparative study on common methods of referral system for health care services in some countries and designing a model for Iran. [PhD thesis]. Tehran: Islamic Azad University Science and Research Branch; 2001. (Persian).
7. Karimi S. A comparative study on rural accessibility to health care services in selected countries and designing a model for Iran. [PhD thesis]. Tehran: Islamic Azad University Science and Research Branch; 2005. (Persian).
8. Rasulinejad S. A Survey on referral system in health care system and providing some solutions for Isfahan health care network. [MS thesis]. Tehran: Islamic Azad University Science and Research Branch; 1996. (Persian).
9. Millar J, Beardall S. Will primary health care reform improve health? Health Care Quarterly 2001; 5(1): 41-4.
10. Alishaei A. Assessment of human power and facilities of Darreh Shahr health care network. [MS thesis]. Tehran: Islamic Azad University Science and Research Branch; 2005. (Persian).
11. Bell R, Ithindi T, Low A. Improving equity in the provision of primary health care: lessons from decentralized planning and management in Namibia. Bulletin of WHO 2002; 80: 675-81.
12. Naghavi M, Jamshidi H. A national study on burden of disease in IRI in 2004. Tehran: Ministry of Health and Medical Education; 2005. p. 13-45.
13. Gallagher K. The ACT primary health care strategy 2006-2009. Canberra: Australian Capital Territory; 2006. p. 12-5. Available from URL: http://www.health.act.gov.au/c/health?a=dlpol&policy=1159322632
14. World Health Organization. International plan of action on ageing: report on implementation. 58th World Health Assembly Provisional Agenda Item 4.15. Available from URL: http://apps.who.int/gb/ebwha/pdf_files/EB115/B115_29-en.pdf
15. Polluste K, Kalda R, Lember M. Primary health care system in transition: the patient's experience. International Journal for Quality in Health Care 2000; 12(6): 503-9.
16. Healy J, Sharman E, Lokuge B. Health system review: Australia. Health Systems in Transition 2006; 8(5): 1-158.
17. Al-Qatari G, Haran D. Determinants of users' satisfaction with primary health care settings and services in Saudi Arabia. International Journal for Quality in Health Care 1999; 11(6): 523-31.