

Original Article

Iranian Primary Healthcare providers` Perspectives on Providing Pre-hospital Emergency Services in Primary Levels of Healthcare System: A Qualitative Study

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Abstract

Background and purpose: Due to the important role of emergencies and accidents as mainspring of mortality and morbidity, providing emergency services must be taken into account at all levels of health system. The aim of this study was to investigate the perspectives of healthcare providers on providing pre-hospital emergency services and its challenges in primary healthcare levels in Golestan Province, northern Iran.

Materials and Methods: The researchers conducted 31 interviews totally (n=21 community health workers and n=10 family physicians) using semi-structured and in-depth interviews in Golestan Province, north of Iran in the year 2014. All interviews were digitally recorded and transcribed. The collected data was then analyzed through qualitative content analysis.

Results: In total, three categories were identified related to emergency services in the primary healthcare system, including 1) Different status of providing primary preventive and emergency care in primary healthcare levels, 2) Need to develop the emergency services in health houses, and 3) Challenges of providing appropriate emergency services in the primary levels of healthcare system, such as lack of physical and human resources, weakness in monitoring and education system, inadequate skills, motivation in health team, heavy workload, and insufficient cooperation with other related organizations.

Conclusion: The primary levels of healthcare system were not properly serviced in emergencies. They were also faced with numerous challenges that necessitate health policy makers to plan for promoting and providing required services at this level of healthcare system.

Key words: Emergency Medical Services; Family Physicians; Community Health Workers; Qualitative Research

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1. Introduction

In recent years, according to injury-prevention strategies of World Health Organization, Iranian Ministry of Health and Medical Education (MOHME) has begun to integrate preventive and care services into emergencies (1), and primary healthcare facilities have important role in these efforts. In Iran, health houses and centers are known as the primary levels of Iranian health system. According to the defined package, community health workers ("Behvarzes in Farsi") in rural health houses and family physicians in health centers have duties toward people with urgency who are attending these locations (2). Behvarzes are selected from among natives and work in the rural health house full-time (3). Family physician is a person with a doctorate degree in medicine and a valid license for medical practice and is responsible for medical services and responsibilities at a health center (2).

Few studies have been conducted on the evaluation of emergency services in primary healthcare centers. According to a study conducted in Southwest Saudi Arabia in 2007, aiming at evaluating the provision of emergency services in 30 Abha Primary Healthcare Centers, the lack of some essential equipment and drugs was observed. The greatest need of physicians for continuing education was cardiovascular emergency management, and 40.4% of the physicians did not deal with most of the cases as an actual emergency (4). A study conducted in Isparta, Turkey aimed at assessing the availability of emergency equipment and the awareness of personnel working in primary healthcare centers. The results of their study indicated that primary healthcare centers were not ready to provide advanced life support services.

Knowledge scores were found to be low and staff needed to be trained in basic life support (5). To the best of knowledge of researchers, there were limited studies in Iran about the current status and challenges of Iranian primary healthcare facilities in providing emergency care services (6, 7). Primary healthcare providers, such as Behvarzes and family physicians are adequately aware of current status and challenges; therefore, qualitative method was selected as an approach. From this standpoint, the participants' views can be observed, and the hidden factors of phenomenon can be investigated. This study was aimed to explore the current status and challenges of pre-hospital emergency services in the health house and centers in Golestan Province, northern Iran.

2. Materials and Methods

This qualitative study was conducted in the year 2014 using qualitative content analysis approach, and the data were collected from the interviewees directly and without any previous hypothesis. The study was conducted in health houses and centers of the Golestan Province, located in north of Iran.

The sample of the study were Behvarzes who worked at health houses as well as family physicians who worked at health centers. Purposive sampling method as a type of non-probability sampling was used. Inclusion criteria were specialized knowledge of interview participants, their experience, and their familiarity with health programs, interest to participate in research by considering the maximum diversity of criteria, such as age, gender, work experience, and place of work.

In qualitative studies, sampling continues until researcher achieves theoretical saturation. Data saturation occurred after 21

and 10 in-depth interviews with Behvarzes and family physicians, respectively. Data was collected using two semi-structured interviewing guides comprising five questions that were validated by three specialists in the field of qualitative studies and medical emergency.

In this study for collecting the required data, semi-structured, in-depth, and face to face interviews were used. Permission to interview was obtained after the phone call and explaining the objectives of the study to interviewees. Preferably, the participants were interviewed at workplace to achieve the data using observation technique, and in a quiet place to prevent likely disorders. The person interviewing family physicians was one of the experts of health system who was aware of primary healthcare network and family physician program. Also, the interviewers with Behvarzes were two education experts of Behvarz program who were aware of primary healthcare network and Behvarz program. The interviewers were adequately educated in terms of questions and knew how to conduct an interview without any bias.

Each of the interviews was recorded with personal consent. Behvarzes and family physicians were accordingly interviewed for 15-20 and 15-40 minutes, respectively. Sample questions included: What type of services (such as prevention and care) you provide in regard to emergency medical in health centers? What do you think is needed as other preventive and care services provided in regard to emergency medical in health centers? What services? Why? What problems and barriers have you been faced in providing preventive and care services in emergency care? How?

Data were analyzed using qualitative content analysis approach according to Graneheim and Lundman

recommendations (8). Because the transcribed texts were in Farsi language, special software could not be used for qualitative analysis, and for raising creativity in the classification of data, the collected data was analyzed manually. All recorded interviews were then transcribed and returned to participants for confirming (9).

Data analysis was performed concurrently with data gathering. For analyzing the data, after transcribing the recorded interviews, all transcribed texts and the notes taken during interviews were studied carefully several times for familiarization. After becoming familiar with the data, analysis was conducted using an inductive approach. The process of organizing qualitative data included open coding, categorization, and abstract construction (8, 10). Finally, three categories and 10 sub-categories were extracted.

In order to ensure the rigor and trustworthiness of the data, four criteria, according to Guba and Lincoln (9), were used: credibility, dependability, confirmability, and transferability.

The study protocol was approved by the Ethic Committee of Golestan University of Medical sciences (NO: 901118288/2).

3. Results

In total, 21 Behvarzes and 10 family physicians participated in this study. Table 1 shows the general characteristics of participants. By analyzing the data, three categories and 10 sub-categories were identified. Main categories and sub-categories are explained as follows.

Table 1. general characteristics of participants

	gender		age					work experience				Education level		
	man	woman	25-30	30-35	35-40	40-45	45-50	3-6	6-11	11-16	16-21	Middle school	high school	academic
Behvarzes	11	10	3	10	3	4	1	0	12	6	3	1	20	0
Family physicians	5	5	1	4	3	1	1	2	8	0	0	0	0	5
Total	16	15	4	14	6	5	2	2	20	6	3	1	20	5

3.1. Different status of providing primary preventive and emergency care in primary healthcare levels

3.1.1 Active role of health house and centres in providing the primary preventive care:

Behvarzes and Family physicians were asked to explain the concepts and type of services they provided in the field of prevention of injuries and emergencies. Majority of interviewees presented that primary prevention service of accidents and emergencies in health houses and centers were mostly in the form of education to the people. Behvarzes believed that most tasks provided in the form of service package were in the areas of disease prevention and emergency, and special cases related to the prevention of accidents usually included "houses safety form", and education to mothers, as well as training in schools. Most of the physicians thought that great actions were conducted in health houses and centers, one of which was "Behvar Program" aiming at reducing diseases in target groups, such as pregnant women, children, and elderly.

3.1.2. Passive role of health houses and centres in providing first aids:

The interviewees in the present study were asked to report on the duties that they performed during an accident or emergency situation. The vast majority of them presented that despite the people referring to health house and their demands, their

services were commonly provided in the cases, such as washing the wound, simple bandaging in burns and cuts, and referring the patient to higher level centers. "What we do in the situation of accident are washing and dressing at the primary level, and then, we refer patients to higher level centers" (Behvarz, male).

The participant family physicians also believed that the current health centers were not active in providing care services for injured people, and poor services were usually accessible in emergencies. Physicians argued that although a doctor had a duty on emergency situations, such as stitch, bandage, intubation, opening the airway, artificial respiration, and serum therapy, they even referred patients to higher levels in simple cases, such as poisoning and stitching. "For instance, poisoning prevalently occurs, now. Many doctors (not all of them) may not do a simple wash and refer their patient, quickly; while, it is not complicated" (Family Physician, male).

3.2. Need to develop emergency services in health houses

3.2.1. Popular demand in rural areas

Behvarzes declared that there was a need to develop health services at health house due to popular demand. They stated that people referred to health house for reasons entitled usually as economic problems, distance from city, and also confidence in health

workers in emergency cases. "People have criticized us several times; they tell us you are health worker, why don't you do anything for us, and we just say that we are not allowed. Many villagers want injections and even stitches to be done by health workers; however, as we are not allowed, we cannot do it" (Behvarz, male).

3.2.2. Behvarzes demand

Majority of Behvarzes believed that they would be able to provide more services in the emergency situations if their current barriers overcame; then, both people and health workers would be more satisfied, which, in turn, would cause higher motivation and job satisfaction in Behvarzes. On the other hand, sometimes, the first aids for helping the injured person in emergency situation would save them.

3.3. Challenges of providing appropriate emergency services in the primary levels of healthcare system

Despite the people demand and the potential of providing more services in the emergency cases in the primary levels of the healthcare system particularly health houses, interviewees believed that there were challenges in providing emergency services.

3.3.1. Lack of facilities and equipment

In the case of equipment, the participants revealed that health houses and centers were not well-equipped that resulted in poor services in emergency cases. Behvarzes indicated the items as follows: lack of sterile equipment and devices, lack of dressing, medication, and splinting tools, emergency drugs, lack of rabies vaccine, poorly-equipped pulmotor, and finally lack of space in health houses. "Since there are limited facilities in the health house, we can only meet the simple cases; however, if the devices are not available, we cannot also

meet the aforementioned needs" (Behvarz, female).

The family physicians also indicated lack of electroshock device, rehabilitation beds, and space in the health center. Delays in the supply of facilities and equipping the devices were also mentioned as the other problems by the participants in the field of equipment.

3.3.2. Inadequate education and poor skills

From participants' point of view, poor skills of health personnel due to inadequate education, inapplicability of training, forgetting the contents due to the absence of routine emergency services, and lack of routine retraining programs were the causes of primary health level inactivity in providing emergency services. "We don't have enough skill because our training course was conducted several years ago. Retraining sessions were organized for us, but we are not involved in practical work" (Behvarz, female).

Most Behvarzes described themselves as persons that were not skilled in the field of splinting, working with pulmotor, CPR action, treatment of fractures and spine injuries, as well as burns, drowning, sutures, and injections that are necessarily required by scientific and practical educations. They also offered that education must be continued in terms of first aids and be organized in wider ranges and in more scientific and practical forms. Family physicians indicated the necessity of education about ECG description, CPR action, and proper usage of ECT to physicians. Physicians thought the practical training classes (even in hospitals), scheduled regular training courses based on the needs of physicians and health teams using qualified teaching staff updated and widened education for physicians as the

solutions to increase the clinical skills of doctors and Behvarzes in dealing with people suffering from disaster or emergency.

3.3.3. Heavy workload and multiple tasks as well as manpower shortage

According to Behvarzes and family physician opinion, heavy workload and manpower shortage (Lack of nurse or skilled staff in providing emergency services) were two other challenges.

The physicians who participated in the study indicated that they had heavy workload that prevented them from addressing problems like accidents and emergencies. They also reported that majority of useless works should be removed until doctors can meet patients' needs. The Physicians also believed in increasing the efficacy of health team. "We can enable them to be more careful in accidents and emergency cases through increasing their supervision and management role instead of interfering in healthcare. Doctor should not directly participate in the all health fields; however, she/he must play more supervision and management role, until health team can reach their own higher effectiveness, and also physicians can further consider treatment tasks" (Family Physician, male).

3.3.4. Little attention to emergency services in monitoring system

Interviewees revealed that because of lack of attention to emergency services in monitoring and supervision system, the staff of primary healthcare system try to focus their activities on services that are more valuable in the supervision system; therefore, low amount of attention is paid to emergency services. "In monitoring, the

first aids are usually less considered" (Behvarz, female).

One family physician said, "In monitoring, provision of emergency services should be respected and also privileges should be considered for doctors. We all have job conscience, but when a doctor feels that health services are 10 times more valuable than treatment services, medical treatment will gradually be worthless". According to family physicians, inappropriate criteria and valuation in the monitoring system results in tension among physicians, while there is extreme attention paid to statistics.

3.3.5. Lack of personnel motivation

As indicated by majority of interviewees, lack of motivation of the staff in providing emergency services was considered as one of the barriers for providing emergency services in the primary healthcare system that can be likely mentioned as follows: how a system behaves with a doctor, non-responsibility of physicians to deal with emergencies, no prosecution from patients and systems in the case of failure in emergency situations, flinch of responsibility, lack of supports, such as insurance, to deal with emergencies, and poor monitoring to supply emergency services.

"Regardless of job conscience, the staff should know their duties; whereas, many of them are unaware of them. If someone does not do his/her duties, law does not penalize him/her" (Family Physician, male).

3.3.6. Need to cooperation and participation with other organizations

From the standpoint of participants, many factors were involved in accidents and emergencies, and cooperation of other organizations was seen as a vital factor.

"I do believe that external cooperation is very important, and our weakness is in the external cooperation" (Family Physician, female).

Besides, some of the interviewees reported that there was no possibility of further activities and education in the field of prevention of accidents and emergencies for Behvarzes and family physicians, and it was also necessary to involve other organizations. "Heavy workload necessitates us to benefit from inter-sectoral collaboration to advance and improve works" (Behvarz, male).

4. Discussion

The present study added to the available literature by exploring in more depth the current status and challenges of primary levels of healthcare in providing pre-hospital emergency services in northern Iran. The results showed that the primary levels of healthcare system in Golestan Province were not very active in the field of emergency service, and they were just limited to simple treatment in the accidents and medical emergencies and referred patients to higher levels. However, most previous studies had indicated that a significant percentage of patients in emergency department of hospitals could be treated by a family physician or medical advice (11).

According to the participants' opinions, health house and centers should be equipped by equipment and experienced manpower as physician assistants to provide emergency services based on the regional context, such as distance to the higher level, economic status, and common injuries in the region.

The present survey also found numerous barriers to provide services in the accidents and emergencies in the primary levels of

healthcare system. Poor skill and inadequate education of health team in the field of emergency services was one of these challenges. This finding was in accordance with a study conducted in Iran (6). A study carried out in the West of Iran showed that we can benefit from existing structures to improve care of trauma injuries through education of health team and people (7).

High workload was another challenge that was confirmed by other studies (12, 3). It seemed that the integration of new programs in the primary healthcare system in the country and appearance of forms and paperwork resulted in rework, and increased the workload of health team. Reporting processes of health programs needed to be revised due to the high number of duplicate paperwork, as well (3).

Weak monitoring and evaluation in the field of emergency services was another problem that reduced the motivation and attention to emergency services by the service providers. According to a study conducted in Iran, whenever monitoring and evaluation tools of Behvarz work did not exist, the ability of Behvarz was lower than one of them is first aid (13). Also, whenever Behvarzes had more pressing commitment for practical services, they had higher skills.

Satisfaction and motivation of primary healthcare providers to provide emergency services was another notable problem. Family physicians believed that factors resulted in reluctance among physicians and health staffs in providing emergency services were mostly as follows: lack of transparency in health personnel jobs, and lack of prosecution and supportive actions, such as insurance, for health personnel in dealing with accidents and emergencies. Health system can motivate personnel to

support emergency services not only by providing facilities, equipment and education, but also by making sensitivity in personnel by effective monitoring and supervision.

Behvarzes in our study delineated that people's view were positive toward them, and this view can be potentially used to promote preventive and care services in the accidents and emergencies in the health house. Providing emergency services is a way to challenge their job, more efficiency, and job satisfaction, as well.

Finally, most of interviewees cited the importance of various organizations role in the prevention of accidents and emergencies.

Given the present findings, health house, and especially health center were behind the expected level and were faced with numerous challenges in providing services during accidents and medical emergencies that required authorities to be planning to improve services, the education of Behvarzes and family physicians, as well as to promote the services in the accidents and emergency cases.

According to the findings of the study, the development of preventive and care services in emergencies at the primary levels of the healthcare system, improving the equipment of health houses and centers, applying qualified nurses in emergency services in health centers, revising the training programs for Behvarzes, as well as family physicians and health team, modifying the monitoring and evaluation system, and cooperation and participation of other organizations are recommended for the promotion of pre-hospital Emergency Services in primary levels of healthcare system of Golestan Province.

Limitation

This study was one of the first studies in Iran that took into consideration the challenges of providing pre-hospital emergency services in primary levels of Iranian health system qualitatively. However, the current study had a number of limitations. Given that this research was a qualitative study, despite the efforts to enhance the validity and credibility of the findings as mentioned above, subjectivity was difficult to avoid. Also, the challenges and opportunities to provide pre-hospital emergency services in primary levels are needed to be studied from viewpoints of managers and health policy makers in local and national level.

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Author's contribution

Authors contributed to the publication of this article were as follows: study concept and design (ME, MJK and ABG); supervision of research process (ME and ABG); data collection (ABG, SHMV, FH); analysis and interpretation of the data (ME, GHM); drafting of manuscript (ME, KM, AH); revision of the manuscript (all authors).

Conflicts of Interest

The authors declare no conflict of interests.

References

1. Hatamabadi HR, Vafae R, Haddadi M, Abdalvand A, Soori H. Necessity of an integrated road traffic injuries surveillance system: a community-based study. *Traffic injury prevention*. 2011;12(4):358-62. DOI: 10.1080/15389588.2011.566656. [PMID:21823944].
2. Instruction of family physician and Rural insurance program [Internet]. Health Deputy of Minister of Health. 2013.
3. Javanparast S, Baum F, Labonte R, Sanders D. Community health workers' perspectives on their contribution to rural health and well-being in Iran. *American journal of public health*. 2011;101(12):2287-92. DOI: 10.2105/AJPH.2011.300355.
4. Mahfouz AA, Abdelmoneim I, Khan MY, Daffalla AA, Diab MM, El-Gamal MN, Al-Sharif A. Primary health care emergency services in Abha district of southwestern Saudi Arabia. *Eastern Mediterranean Health Journal*; 2007; 13 (1): 103-112. [PMID:17546912].
5. Yorganci M, Yaman H. Preparedness of primary healthcare centers for critical emergency situations in southwest Turkey. *Prehospital and Disaster Medicine*, 2008; 23(4):342-345. DOI: 10.1017/S1049023X00005987. [PMID:18935949].
6. Javanparast S, Baum F, Labonte R, Sanders D, Rajabi Z, Heidari G. The experience of community health workers training in Iran: a qualitative study. *BMC Health Services Research*. 2012; 12 (1):291. DOI: 10.1186/1472-6963-12-291. PMID: 22938138.
7. Nafissi N, Saghafinia M, Balochi K. Improving trauma care in rural Iran by training existing treatment chains. *Rural Remote Health*. 2008; 8(4):881. [PMID:19099340].
8. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today*. 2004; 24(2):105-12. DOI: 10.1016/j.nedt.2003.10.001. [PMID: 14769454].
9. Guba EG, Lincoln YS. Competing paradigms in qualitative research. *Handbook of qualitative research*. 1994;2(163-194):105.
10. Elo S, Kyngas H. The qualitative content analysis process. *Journal of advanced nursing*. 2008;62(1):107-15. DOI: 10.1111/j.1365-2648.2007.04569.x.
11. Carret ML, Fassa AC, Domingues MR. Inappropriate use of emergency services: a systematic review of prevalence and associated factors. *Cadernos de Saúde Pública*. 2009;25(1):7-28. PMID: 19180283
12. Arab M, Shafiee M, Iree M, Safari H, Habibi F, Akbari Sari A, Khabiri R. Surveying the Attitude of Family Physicians Working in Health Centers of Tehran University of Medical Sciences towards their Profession Using a Qualitative Approach. *Journal of Hospital*. 2013; 12(3):19-28
13. Sadeghikho Sh, Yazdani Sh, Rahbar M, Ahmadi M. Behvarzes Viewpoints on their Abilities in Delivering Health Services. *Hakim Health System Research* 2014; 17(2):102- 107.