

# Medical assistants' attitude toward one-month education mission in deprived regions in Eastern of Iran

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## Abstract

**Background:** Recent investigations emphasize the beneficial learning chances for practitioners and the promising for make better healthcare support to deprived peoples who have no access to healthcare system appropriately. In Iran, all residents in the last year of their education should go to underserved areas for a month to give service the populations in those areas in healthcare centers. In this study we evaluated the attitude of residents participated in this one-month program for first time in Eastern Iran, Khorasan Razavi.

**Materials and method:** This was a descriptive-analytical research study. We included all residents in their last year of education period occupied in Imam Reza and Qaem Hospitals and passed the one-month program of service to underserved regions population (two general educational centers) in Mashhad, 2015. The tool of research was a researcher-made questionnaire that its reliability and validity was confirmed in a pilot study. All data was entered in SPSS software version 21.

**Results:** 49 last year residents were included in the study. The mean of their age was 34.17±4.75 years' old. 31 of them was male (63.3%) and 18 were female (36.7%). 98% of them was residence in Mashhad (Capital of Khorasan Razavi Province). 28 participants answered the interest of work in the program: 14 subjects (50%): bad, 10 subjects (35.71%): good and 4 subjects (14.29%): moderate. In order to duration of program, most of residents expressed that it was enough (35, 74.47%), 8 of them (17.02%) indicated that it was not enough and others said that they did not have any comment (4, 8.51%).

**Conclusion:** The system of medical training in mission is the unique in the world. In other studies, or programs, we can see that some voluntaries who participate in medical healthcare missions, however here, in Iran, this is a part of medical education. This can help physicians to be familiar with common problems in their specialties in last year of their education.

**Abbreviations:** MOHME: Ministry of health and medical education; MUMS: Mashhad university of medical sciences; SPSS: Software package social sciences; ANOVA: Analysis of variance.

## Background

Healthcare support to different areas in most countries is not equal, yet. This can because of low financial or human sources. In order to cover this deficit in various health care systems, compensatory and motivate services have been used to distribute the practitioners better [1]. Employment and maintenance of primary healthcare physicians in deprived areas is necessary for health necessities and satisfaction of people in these regions [2]. Encouragement of practitioners to work in such regions is a main worry for policy-maker managers and many plans have been run for this purpose [3]. Education has a key role and critical impact on improvement of skills of trainees and preparation them for adopting with community [4]. Cultural, economic and social or even industrial development is dependent on education in high levels [5]. Dispatching physicians and medical students to medical missions in deprived regions, can provide take service to the population of these regions and help in educational improvement of physicians' skills in problem solving and better making decision in intercommunication of physician-patient relationship [3].

There are many organizations which are participated commonly in established mission trips or permit to students and assistants to attend their innovations in health care for this aim [6,7]. Improvement in knowledge and interest have led to increase education for both the electives and missions to achieve the six core competencies of the Accreditation Council for Graduate Medical Education and the Residency Review Committee [8,9]. There are various advantages for trainee and people of these regions by performing such programs [6-9]. However, these studies and programs are related to international mission trips. In Iran, despite of quick and wonderful development steps in health care system, there are several underserved areas. Physician/patient proportion in Iran was 8/10,000 in 2008 that is very lower than international standards [10]. Recent investigations emphasize the beneficial learning chances for practitioners and the promising for

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**Key words:** community-based education, healthcare mission trip, assistants, deprived regions

**Received:** June 21, 2020; **Accepted:** July 14, 2020; **Published:** July 17, 2020

make better healthcare support to deprived peoples who have no access to healthcare system appropriately. The effects of healthcare missions is considerably determined by disability-adjusted life-years for managed patients, number of subjects underwent surgery, fixed and relative costs of services provided, and quality consequences [11]. The Ministry of Health and Medical Education (MOHME) of Iran with healthcare official policies liked to affect young practitioners' altruistic incitation to accelerate the assistance of people in these deprived areas. According to health system policy of MOHME in Iran, all residents in the last year of their education should go to underserved areas for a month to give service the populations in those areas in healthcare centers. In this study we evaluated the attitude of residents participated in this one-month program for first time in Eastern Iran, Khorasan Razavi.

## Material and methods

### Participants

This was a descriptive-analytical research study. We included all residents in their last year of education period occupied in Imam Reza and Qaem Hospitals and passed the one-month program of service to underserved regions population (two general educational centers) in Mashhad, 2015. The inclusion criteria were: last year residency education, participated in one-month program of underserved regions, student at Mashhad University of Medical Sciences (MUMS). Residents that their filed of specialty was not included for this program was excluded from the study.

### Study tool

The tool of research was a researcher-made questionnaire that its reliability and validity was confirmed in a pilot study. It was validated with test, retest method in 8 randomized residents and evaluated again one week later. It was assessed by experts for content. Its Cronbach's alpha was 0.85. The questionnaire has three parts including: demographic data, quality of host centers and educational issues.

### Statistics

All data was entered in SPSS software version 21. We used median, mean and standard deviation for quantitative descriptive variables. Chi

square test was used for qualitative variables. We used Tukey Test and One-way ANOVA test for comparison of characteristics between two groups. P-Valuse lesser than 0.05 was considered as significant.

### Ethics

This study was approved by ethical committee of Mashhad University of Medical Sciences and participants were enrolled in the study after giving informed consent.

## Results

### Demographic data

49 last year residents were enrolled in the study. The mean of their age was 34.17±4.75 years old (Minimum: 28 years, Maximum: 48 years). 31 of them was male (63.3%) and 18 were female (36.7%). 98% of them was residence in Mashhad (Capital of Khorasan Razavi Province). The most age group was in 30-35 years (51.02%). Other demographic data is listed in Table 1.

### Scientific characteristics of residents

Answers of participants toward their scientific characteristics are listed in Table 2.

### Attitude of residents toward the program

28 participants answered the interest of work in the program: 14 subjects (50%): bad, 10 subjects (35.71%): good and 4 subjects (14.29%): moderate. In order to duration of program, most of residents expressed that it was enough (35, 74.47%), 8 of them (17.02%) indicated that it was not enough and others said that they did not have any comment (4, 8.51%).

### Attitude to quality of underserved host center

The responds of residents toward quality of centers they were residence and worked was asked them and listed in Table 3. Intercommunication aspects and welfare and patient/physician contact were asked. All of residents were not satisfied from the income in this one-month period and mentioned that it was low for this such period.

**Table 1.** Demographic characteristics of residents in one-month program for underserved areas

Characteristics			P-Value
Age group (years) (N, %)	<30	5, 10.20	0.024
	30-35	25, 51.02	
	>35	19, 38.77	
Age (years) (Mean ± S.D)		34.17±4.75	0.005
Marital Status (N, %)	Married (42, 85.71)		<0.001
	Single (7, 14.29)		
Num. of Children (N, %)	None (18, 43.9)		<0.001
	One (16, 39.02)		
	Two (7, 17.07)		

**Table 2.** Scientific characteristics of residents in one-month program in underserved areas

Variables	Num. of respondents	Mean	S.D	Min	Max
Last Annually University Qualification Score	32	104.5	16.5	78	260
Duration of residency in the underserved area (day)	48	15	18.25	4	30
Work time in a day (hour)	47	12	16	1	24
Num. of On-call shift	46	11	8	0	30
Num. of Patient in a day	44	20	51.25	5	120
Num. of specialist residence in the area	42	1.5	2.25	0	12
Num. of shift/period of residency ratio	46	1	0.52	0	1

**Table 3.** Attitude of residents toward quality of centers

Questions	Num. of respondents	Answers (N, %)				
		Excellent	Good	Moderate	Not good	Bad
Contact of personnel	49	16, 32.7	16, 32.7	8, 16.3	5, 10.2	4, 8.2
Cooperation of personnel	49	9, 18.4%	23, 46.9	10, 20.4	7, 14.3	0
Equipment	49	4, 8.2	9, 18.4	19, 38.8	12, 24.5	5, 10.2
Acceptance of patients as a specialist	48	14, 29.2	18, 37.5	16.8	5, 10.4	3, 6.3
Welfare and habitation	45	10, 22.2	8, 17.8	12, 26.7	7, 15.6	8, 17.8

**Table 4.** Education feedback of residents after one-month program in underserved area

Question	Num. of respondents	Answers (N, %)		
		Yes, it was effective	No, it was not effective	Partly, it was effective
Separating from educational environment and independency had effect on my theoretical and practical education	36	25, 69.4	10, 27.8	1, 2.8
Working in the program made me able to better management of patients	45	31, 68.9	9, 20	5, 11.1
Working in the program improved my decision-making for choosing best treatment in emergency status	45	31, 68.9	8, 16.3	6, 12.2
Passing this program made me aware of my work pitfalls	45	33, 73.3	9, 20	3, 6.7
I was familiar with professional purposes and future encountered working issues	43	31, 72.1	4, 9.3	8, 18.6

**Educational feedback**

We demonstrated educational feedback of residents participated in the program in Table 4.

**Discussion**

Medical healthcare missions have many benefits for both residents and underserved areas. These advantages are evaluated previously in international missions specially in surgery field [12-16]. However, in Iran we have this mission as a part of educational curriculum of residency training and missions are national. Some of these advantages are: improvement of cultural competency and sensitivity, increasing interest of physicians to do practice in public health in their own community, progression of residents' skills and clinical management and practice [2,7-9,13,14,16]. During this one-month period residents can be familiar with the intensity of disease, elevated and various opportunities for collaborative research projects, and improved infrastructure for next collaboration in the national communities that are visited by them. It has been reported that these mission trips reawaken the humanity in residents, remembering them their choose for being physician [16]. This notice is specially valuable for residents training in today's era of defensive medicine, during which time most of the residents' mentors have been subjected to the personal and professional stress of a lawsuit [17]. In this study we evaluated for the first time in Iran a feedback of one-month program visiting of residents in underserved regions, the attitudes of them in its efficacy and different aspects of this program.

The key results of our study were: Most of participants were not interest in working in this program. Majority of them mentioned that the duration of this period is enough. Some of negative points of the program was low income and not interesting of the work in this period, according to attitudes of residents. Positive points of program were good cooperation between personnel and residents, increasing educational aspects in approach and management of residents and interpersonally communication for them. Niyogi *et al.* evaluated in-service training of physician assistants in acute care in Ghana. This study is a little similar to our work. Their work was in the field of emergency medicine on 22 physician assistances. Their showed improvement in all groups in knowledge. They introduced the greatest successes of the program in providing the participants with greater confidence in basic life-saving skills and increasing their knowledge of

and advocacy for emergency medicine. However, their works were not in formal way and did not in the curriculum [18]. Ustey and Graham did a research to determine the nature of learning among physical therapist students during an interdisciplinary medical mission trip. For this purpose, they evaluated 12 physicians and evaluated them by qualitative study. They reported their results with development of four themes: adaptation to the environment, collaboration with peers and team members, development of a cultural sensitivity and development of a holistic approach to patient care. They showed that through social cognitive learning, physicians developed higher level thinking and problem-solving skills in addition to cultural sensitivity and collegiality with other health care providers. They mentioned that these types of experiences are an important part of professional development and should enhance the student's abilities to function in today's changing health care environment [19]. In order to evaluate the power of the program, objective consequences should be regulated before course development. These might be effective consequences like mortality, rate of readmission and comorbidity; process consequences like recording vital signs, time from admission to treat, list of equipment in emergency center; or training consequences like evaluation the knowledge and skills [18]. Also it should be performed in a large scale study in different universities with different fields of working for more information about the overall aspects of this educational and practical course.

**Conclusion**

The system of medical training in mission is the unique in the world. In other studies, or programs, we can see that some voluntaries who participate in medical healthcare missions, however here, in Iran, this is a part of medical education. This can help physicians to be familiar with common problems in their specialties in last year of their education. This unique program should be evaluated more and more and inform as a new practical approach in medical education of residency period in increasing ability and skills of future specialist in the community. Community based clinical experience are viable options to supplement the decrease in traditional clinical education experiences. In this course of education and practice, many challenges can be occurred that help assistants to increase their experience and level of confidence in working in first line management and independently visiting patients. Some of these challenges are related to infrastructural issues such as interpersonal relationship and management of remedial centers by assistants.

There were some limitations. This was the first study in which we evaluated the program in Iran and the number of assistants during the period of our study were low because we just evaluated one university. The other limitation was the lack of interest of assistants for participating in the study and make a good feedback because of their crowded centers and works. It is recommended that this program introduce as a new tool for upgrading medical education with real simulation of patient physician relationship in the last year of education of assistants in other countries specially in developing countries with some far areas that have low access to healthcare system for both better healthcare services and readiness of physicians for going to hospitals or rural-urban centers to give service and practice.

### Competing interests

There were no competing interests.

### Acknowledgements

Authors thank all residents who participated in this study and education part of MUMS for supporting us in data collection.

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