

# Relationship between Participation of Health Volunteers and Maternal Indicators of Pakdasht Health Network during 2010-2011

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## Abstract

**Introduction:** Providing and promoting the health is one of the most fundamental human social evolution dimensions, that perhaps more than other aspects of development needs public cooperation. Health volunteers are pioneers who have volunteered to step in providing and improving community health. The present study determines the role of health volunteers in maternal indicators of Pakdasht health network.

**Methods and Materials:** This research is an applied, cross-sectional and correlation study. Statistics associated with the participation of health volunteers and maternal indicators of Pakdasht health network were collected during 2010 and 2011. The data collection form was used to collect data and finally data was analyzed by kolmogrov smirnov, pearson and spearman coefficient test.

**Results:** There is no significant relationship between the number of health volunteers, the proportion of families covered by health volunteers, the proportion of population covered by health volunteers, absorption and loss of health volunteers, the number of meetings held for health volunteers, the number of health volunteers participating in the meetings, the number of training sessions held for people by health volunteers, the number of people trained by health volunteers, the number of follow ups done by health volunteers, the number of extra-curricular classes held for health volunteers, the number of health volunteers participating in extra-curricular classes and maternal indicators.

**Conclusion:** There is no significant relationship between participation of health volunteers and maternal indicators of Pakdasht health network, therefore knowing about program weaknesses and reforms and interventions can be a step toward improving health indicators and public health.

**Keywords:** Participation, Health Network, Health Volunteers, Health Indicators.

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## Introduction

Sustainable social development needs cooperation of individuals. Providing and promoting the health is one of the most fundamental human social evolution dimensions, that perhaps more than other aspects of development needs public cooperation because awareness, responsibility and action of people is necessary to provide health (1).

Although the Ministry of Health and Medical Education and other sectors of development are responsible for providing public health, but doing it without the involvement of people is inevitable. With the participation and involvement of people, needs, planning and program implementation can be recognized and its continuity with the emphasis on the forces can be guaranteed (2).

Looking at the past, present and future, we can find that participation is the basic principle of success in health programs and Health systems and health-related organizations should develop a comprehensive plan on the basis of public participation and get help from health volunteers. Nowadays, one of the important indicators to evaluate trend of development process is community participation and governments are trying to make the public more familiar with their programs and they should get help from people in their implementation (3).

In the study by UNICEF in South Asia participants in various models of health volunteering were found in many countries actively involved in community projects, with models based on local conditions. For example, in Bangladesh health volunteers support limitation of primary health care services. Volunteers in Bhutan communicate between health centers and community in order to develop Health concepts. In Nepal in 1970, the program was designed and developed in the last three decades. In Pakistan 70,000 female labor forces support

family planning and primary health care services for women and children and in Srilanka this program started in 1915 (4).

In Iran, health volunteers program was formed at the end of the 60's and after achieving great results at the beginning of the 70's the program was done in the whole country and more than 120000 health volunteers cooperated with the health system (3).

Health volunteers across the area which were invited to contribute consisted of women being at least literate and having good social acceptability, sufficient interest and motivation for social activities. Each volunteer covers average 50 families who live in the neighborhood where she lives and through effective communication with them will move towards their duties. The main duties are training health issues, educating people, making the connection between Health Centers and people and transmitting health problems to health units in order to solve these problems (6-7).

Need to start early and planning to continue this program was activated and this increased the coverage of health services in large cities and certain border areas and promoted the health information especially women by community participation and the promotion in health indices (8).

Healthcare network survey taken in Pakdasht has raised the question whether the currently active participation of health volunteers in the health care system will help achieve these goals, and is there any association between health indices and health volunteers cooperation.

Khanal and colleagues (9) research was conducted in Nepal in which the volunteers care for the diagnosis and treatment of infections in newborns and infants received home help. and results showed that after implementation, infant mortality was reduced.

Miri and colleagues (10) in their study concluded that the rural health volunteers plan subsidiary, increased knowledge and attitude of rural women.

Focusing on women's health is valuable. Women are the vulnerable groups in society and Mortality rate among pregnant women in developing countries is one in 1000 live births, Therefore, in 1990 all of countries pledged to decrease mother's death, 50 percent over a decade.

According to the Millennium Development Goals in 2000 all of countries committed to reduce maternal mortality rate, 75% compared to 1990 by 2015(11-12).

This study investigated the relationship between participation of health volunteers and maternal indicators including continuity of prenatal care, safe delivery and continuity of post-partum care in Pakdasht health network. And we expect that results of this study provide strategies for health policy makers and executives to promote health of the community.

### **Methods and materials**

This applied study which is a cross-sectional and correlation study, investigated the relationship between participation of health volunteers and maternal indicators in Pakdasht in 2012.

Data collection instrument was A form which contained questions for gathering information about health volunteers, including The number of volunteers, the proportion of families covered by volunteers, the proportion of population covered by volunteers, absorption and loss of volunteers, the number of meetings held for volunteers, the number of volunteers participating in the meetings, the number of training sessions held for the people by volunteers, the number of people trained by volunteers, the number of follow ups done by volunteers, the number of extra-curricular classes held for volunteers, the number of

volunteers participating in extra-curricular classes.

Another form contained questions to collect maternal indicators: continuity of prenatal care (pregnant women who have been cared in prenatal at least 6 times), safe delivery (mothers who have given birth in the hospital) and continuity of post-partum care (mothers who have been cared after delivery at least 2 times) in Pakdasht health network. And the average of these three indicators were considered as maternal indicators.

These data were extracted from Pakdasht health network statistics and monitored by staff regularly, therefore are reliable.

The data was stored in a database and statistical analysis software SPSS version 18 was used. Then data was described by descriptive analysis and finally data was analyzed by kolmogrov smirnov, pearson and spearman coefficient test. Also.  $\alpha$  was considered 0.05. The hypotheses of the study were answered through data forms and the entered data.

### **Results**

In table 1 there are the mean, standard deviation, minimum and maximum of health volunteers and maternal indicators.

According to Table 2, the number of health volunteers participating in the meetings, the number of health volunteers participating in extra-curricular classes and maternal indicators are normal because the amount of p-value is more than 0.05 and the other variables are not normal.

significant relationship was found between the number of health volunteers ( $p = 0.23$ ), the proportion of population covered by health volunteers ( $p = 0.57$ ), the proportion of families covered by health volunteers ( $p = 0.43$ ), absorption of health volunteers ( $p = 0.1$ ) loss of health volunteers ( $p = 0.06$ ), the number of meetings held for health volunteers ( $p = 0.07$ ), the number of health volunteers participating in meetings ( $p = 0.06$ ), the number of training sessions held

for the people by health volunteers ( $p = 0.61$ ), the number of people trained by health volunteers ( $p = 0.23$ ), the number of follow ups done by health volunteers ( $p = 0.23$ ), the number of extra-curricular classes for health volunteers ( $p = 0.49$ ), the

number of health volunteers participating in extra-curricular classes ( $p = 0.05$ ), participation of health volunteers ( $p = 0.23$ ) and maternal indicators in Pakdasht health network . (Table 3)

**Table 1: Information of health volunteers and maternal indicators in the years 2010 and 2011 in Pakdasht health network**

|    | variable  | minimum | maximum | standard deviation | mean    |
|----|---|---------|---------|--------------------|---------|
| 1  | number of health volunteers   | 510     | 550     | 16.29              | 534.37  |
| 2  | proportion of population covered by health volunteers                 | 38.95   | 40.38   | .45                | 39.77   |
| 3  | proportion of families covered by health volunteers                   | 38.15   | 40.59   | .8                 | 38.98   |
| 4  | absorption of health volunteers                                       | 0       | 16      | 5.86               | 5.12    |
| 5  | loss of health volunteers   | 0       | 38      | 13.19              | 5.75    |
| 6  | number of meetings held for health volunteers                         | 172     | 205     | 12.37              | 188.5   |
| 7  | number of health volunteers participating in the meetings             | 270     | 354     | 28.38              | 309     |
| 8  | number of training sessions held for the people by health volunteers  | 78      | 145     | 22.1               | 113.87  |
| 9  | number of people trained by health volunteers                         | 1543    | 6112    | 1531.06            | 2680.50 |
| 10 | number of follow ups done by health volunteers                        | 12      | 254     | 78.66              | 83.37   |
| 11 | number of extra-curricular classes held for health volunteers         | 112     | 158     | 16.21              | 132.5   |
| 12 | number of health volunteers participating in extra-curricular classes | 235     | 355     | 42.35              | 281.25  |
| 13 | maternal indicator  | 89.92   | 93.87   | 1.64               | 91.51   |

**Table 2: Results of the test assumptions of normality Kolmogrov – Smirnov**

|    | variable  | p-value | result     |
|----|---|---------|------------|
| 1  | number of health volunteers   | <0.001  | Non-normal |
| 2  | proportion of population covered by health volunteers                 | <0.001  | Non-normal |
| 3  | proportion of families covered by health volunteers                   | <0.001  | Non-normal |
| 4  | absorption of health volunteers                                       | <0.001  | Non-normal |
| 5  | loss of health volunteers   | <0.001  | Non-normal |
| 6  | number of meetings held for health volunteers                         | <0.001  | Non-normal |
| 7  | number of health volunteers participating in the meetings             | 0.43    | normal     |
| 8  | number of people trained by health volunteers                         | <0.001  | Non-normal |
| 9  | number of training sessions held for the people by health volunteers  | <0.001  | Non-normal |
| 10 | number of follow ups done by volunteers                               | <0.001  | Non-normal |
| 11 | number of extra-curricular classes held for health volunteers         | <0.001  | Non-normal |
| 12 | number of health volunteers participating in extra-curricular classes | 0.7     | normal     |
| 13 | maternal indicator  | 0.18    | normal     |

**Table 3: Relationship between the components of health volunteers and maternal indicators during 2010 and 2011 in Pakdasht health network**

|   | 2010          |                |               |                | 2011          |                |               |                | p-value | Correlation coefficient |
|---|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------|-------------------------|
|   | First quarter | second quarter | third quarter | fourth quarter | First quarter | second quarter | third quarter | fourth quarter |         |                         |
| maternal indicator  | 90.13         | 93.87          | 92.96         | 89.92          | 90.42         | 93.26          | 91.60         | 89.94          |         |                         |
| number of health volunteers   | 545           | 539            | 546           | 550            | 548           | 510            | 513           | 524            | 0.23    | -0.47                   |
| proportion of population covered by health volunteers                 | 40.38         | 39.59          | 39.71         | 38.95          | 40.35         | 39.62          | 39.79         | 39.79          | 0.57    | -0.22                   |
| proportion of families covered by health volunteers                   | 40.59         | 39.30          | 39.44         | 38.15          | 38.29         | 38.30          | 38.92         | 38.92          | 0.43    | 0.32                    |
| absorption of health volunteers                                       | 16            | 0              | 7             | 4              | 0             | 0              | 3             | 11             | 0.1     | -0.61                   |
| loss of health volunteers   | 0             | 6              | 0             | 0              | 2             | 38             | 0             | 0              | 0.06    | 0.68                    |
| number of meetings held for health volunteers                         | 197           | 201            | 189           | 181            | 172           | 205            | 190           | 173            | 0.07    | 0.66                    |
| number of health volunteers participating in the meetings             | 306           | 270            | 320           | 340            | 305           | 280            | 297           | 354            | 0.06    | -0.73                   |
| number of training sessions held for people by health volunteers      | 99            | 103            | 145           | 121            | 134           | 78             | 102           | 129            | 0.61    | -0.21                   |
| number of people trained by health volunteers                         | 2046          | 1870           | 6112          | 3603           | 2447          | 1543           | 1603          | 2218           | 0.23    | -0.47                   |
| number of follow ups done by health volunteers                        | 12            | 254            | 114           | 113            | 26            | 55             | 62            | 31             | 0.23    | 0.47                    |
| number of extra-curricular classes held for health volunteers         | 140           | 158            | 145           | 134            | 114           | 112            | 138           | 119            | 0.49    | 0.28                    |
| number of health volunteers participating in extra-curricular classes | 312           | 248            | 271           | 309            | 355           | 235            | 236           | 284            | 0.05    | -0.71                   |
| Participation of health volunteers                                    | 3753.9        | 3721.8         | 7928.1        | 5432.1         | 4179.6        | 3095.9         | 3222.7        | 3921.7         | 0.23    | -0.47                   |

### Discussion

There is no significant relationship between the number of health volunteers, the proportion of families covered by health volunteers, the proportion of population

covered by health volunteers, absorption and loss of health volunteers, the number of meetings held for health volunteers, the number of volunteers participating in the

meetings, the number of training sessions held for people by health volunteers, the number of people trained by health volunteers, the number of follow ups done by health volunteers, the number of extra-curricular classes held for health volunteers, the number of health volunteers participating in extra-curricular classes and maternal indicators.

The results of Niazi and Delaimi research (13) in Iraq as "the impact of the community participation on treatment of tuberculosis patients" showed that speed of treatment by health volunteers was more than by health care staff.

Also Hadi (14) in his study in Bangladesh showed that the use of health volunteers with low education can be effective in the diagnosis of pneumonia in the community.

Perhaps cultural differences have an impact on the study results in some areas, because of the culture, they don't allow health volunteers to communicate with families and educate people. And Pakdasht is one of the traditional areas of Tehran. In research by Salehi and colleagues (6) the results indicated that mental health training classes for health volunteers has increased knowledge and attitude of the urban population in the province.

Also Markani (15) showed that education of breast cancer prevention through health volunteers; improve knowledge, attitude and practice of women.

Bayati and colleagues (16) also concluded in their findings that attendance of health volunteers in training classes, first aid awareness and outreach has impacted the performance and information. In a study conducted by Mohammadi and colleagues (17) in the West of Tehran, the results showed that health education to patients with hypertension by health volunteers about diet and medication is effective. The results of these studies are not consistent with the present study.

The lack of consistent results can be interpreted that in Pakdasht given training to the volunteers in the field of maternal education, is not helpful, Therefore, health volunteers cannot teach people effectively.

To Provide useful training to health volunteers, experienced instructors are very important. In Pakdasht most coaches are inexperienced.

Mashimo and colleagues study (18) on people's attitude about Aids showed no significant difference in the attitude of intervention and control group.

Based on findings of a study conducted by Moosavi and Ostvar (19) in yasuj on families with and without health volunteers, there was no significant difference found between child spacing and using contraceptive methods.

Study of Mohammadzade and Jahandideh (20) in lenjan showed that after 18 months, the health volunteers program was not successful in advancing health goals. The results of these studies are consistent with our study.

### Conclusions

According to findings, there is no significant relationship between participation of health volunteers and maternal indicators in Pakdasht and health volunteers are not able to play a role in increasing maternal indicators. Also, after years this program will away from it's objectives.

Therefore good planning and necessary interventions to promote health indicators are required.

Organizing scientific and recreational camps for health volunteers, Selecting health coaches from experienced staff, Training sessions for health educators, providing new educational books based on the new standards of the Ministry of Health for health volunteers, monitoring training sessions for Health volunteers, dedicating to health volunteers less population and families for follow-ups (up to 100 families)

are necessary for implementation of this program. Also study of the relationship between participation of health volunteers and health indicators in other cities is useful.

### References

- 1-Fatehi M. [How to train health volunteers]. Tehran: Ministry of Health and Medical Education and the United Nations Children's Fund (UNICEF); 2002. [In Persian]
- 2-Shahid Beheshti University of Medical Science and Health Services. [Executable instructions of health volunteers program]. Tehran: Health Department, Shahid Beheshti University of Medical Science and Health Services (department of networks); 2002. [In Persian]
- 3-Ramazankhany A. [Public participation and millennium development goals]. *J Health Volunteer* 2007; 10(32):2-3. [In Persian]
- 4-Tohidi M. [Network of community health volunteers and health promotion (health volunteers in the neighborhoods)]. *J Health Volunteer* 2009; 12(34):12-7. [In Persian]
- 5-Tohidi M. [Community participation in health promotion]. *J Health Volunteer* 2007; 1(1):4-5. [In Persian]
- 6-Salehi M, Kelishadi M, Zandieh M, Keshavarz J, Bagheri Yazdi A. [The effect of female health volunteers education on knowledge and attitude of urban population about mental health in Isfahan]. *Iran J Med Educ* 2005; 5(2):111-9. [In Persian]
- 7-Baba Mohammadi H, Askari Majd Abadi H, Kahoei M. [Effect of education based on health promotion model on health volunteer's empowerment of health service in preventing of osteoporosis]. *Daneshvar Medicine* 2005; 13(59):11-8. [In Persian]
- 8-Jamshidi HR, Timen S. [Improvement of knowledge and life skills by expert volunteers, Report No. 3]. Proceedings of the 50Th Session of Heads of Medical Universities; 2004 Oct 9; Tehran, Iran. [In Persian]
- 9-Khanal S, Sharma J, GC VS, Dawson P, Houston R, khadka N, et al. Community health workers can identify and manage possible infections in neonates and young infants: Mini-a model from Nepal. *J Health Popul Nutr* 2011; 29(3):255-64.
- 10-Miri MR, Ramazani AA, Hanafi H. [The influence of performing health communication planning suburban villages on the health knowledge and attitude of rural women]. *J Birjand Univ Med Sci* 2005; 12(1):31-6. [In Persian]
- 11-Malek Afzali H. Health volunteers. *J Health Volunteer* 2008; 11(33):4-7. [In Persian]
- 12-Emami Afshar N, Jalilvand P, Delavar B, Radpooyan L, Azemikhah A, Motlagh ME, et al. [National mothers mortality surveillance system]. Tehran: Tandis Pub; 2006. [In Persian]
- 13-Niazi AD, Al-Delaimi AM. Impact of community participation on treatment outcomes and compliance DOTS patients in Iraq. *East Mediterr Health J* 2003; 9(4):709-17.
- 14-Hadi A. Diagnosis of pneumonia by community health volunteers: experience of BRAC, Bangladesh. *Trop Doct* 2001; 31(2):75-7.
- 15-Markani F. Effect of health education on knowledge, attitude and practice about breast cancer screening in women covered by health volunteers in northern Tehran Health Center in 2004 [dissertation]. Tehran: Tarbiat Modares Univ; 2004. [In Persian]
- 16-Bayati A, Mohammad Beigi A, Eshrati B, Jafari M. [Effect of first aid educational program in health volunteers, Rescue method during disasters in Arak]. *Arak Med Univ J* 2008; 12(2):1-7. [In Persian]
- 17-Mohammadi R, Nooritajer M, Haghani H. [The effect of health intermediators participation in diet and drug

- consumption among patients with hypertensive disorders]. *Iran J Nursing* 2006; 19(45):27-35. [In Persian]
- 18-Mashimo A, Miura H, Sakano S, Hamada A, Thepthien B, Umenai T. The role of AIDS volunteers in developing community - based care for people with AIDS in Thailand. *Asia Pacif J Public Health* 2001; 13(1):3-8.
- 19-Moosavi AM, Ostvar R. [A study on activities of female health communicators on improvement of health services in population served by health clinics in Yasuj city]. *J Armaghane Danesh* 2003; 31(8):51-8. [In Persian]
- 20-MohammadZadeh Z, Jahandideh Y. [Assessment of health volunteers practices through determine knowledge and performance community of their location in Lenjan city]. *J Research Med Sci* 1997; 3(2): 153-6. [In Persian]