FACTORS AFFECTING WILLINGNESS OF DOCTORS TO WORK IN RURAL AREAS OF PAKISTAN

Abida Sultana1, Sayema Awais2, Aashi Mughal3, Bushra Anwar4

1Professor and Head of Department, Department of Community Medicine, Foundation Medical College, Rawalpindi.
2Postgraduate Trainee, Health Services Academy, Islamabad.
3Assistant Professor, Department of Community Medicine, Rawalpindi Medical College, Rawalpindi.
4Postgraduate Trainee, Health Services Academy, Islamabad.
Correspondence: SayemaAwais, E-mail: drsayema@yahoo.com

Abstract

Background: The objective of this study was to assess the willingness of medical doctors to work in rural areas. The study also aimed to elucidate the factors influencing the decision of doctors to work in rural versus urban location of clinical practice.

Methods: It is a cross-sectional study that was conducted from 8th January 2016 to 18th January, 2016 including randomly selected House officers (Hos), Postgraduate Trainees (PGTs) and Medical Officers (MOs) working in various departments of Holy Family Hospital, Rawalpindi using a self-administered semi-structured questionnaire. The questions related to demographic details, future plans and willingness of doctors. Factors facilitating or preventing them from accepting a rural position were also enquired about.

Results: Thirty (30%) of the respondents were found willing to work in rural areas while 45% were neutral and 25% had a negative attitude towards practice in rural areas. Factors significantly related to rural choice of practice included rural place of birth (p value=.001), previous experience of having lived in rural settings (p value=.001), payment of fees by parents rather than by family or loans (p value=.001) and with the doctors’ expectations of whether they are likely to work in rural/urban/foreign locations (p value=.001).

Conclusion: The study shows that most of the doctors who have a rural birthplace/ experience of living are more willing to work in rural areas. Therefore, if the government wants to fill the vacant posts in rural locales, scholarship schemes for students from rural areas should be increased.

Keywords: Health care worker, incentives, rural areas, retention.

Introduction
Countries all over the world are facing a growing shortage of health workforce. According to the World Health Report, 2006 there are as many as 57 countries facing critical shortage of health professionals including doctors, nurses and midwives. This shortage is combined with urban concentration and rural deficiency of both human and material resources (1). The imbalance is caused by migration of workforce not only internationally from poorer to richer countries but also internally from rural to urban areas leading to a greater financial burden on the health systems of developing countries (1, 2).

Despite the fact that half of the world population resides in rural areas, yet only a quarter of the world's physicians serve in these areas (3). Even in Canada, rural areas comprise 99.8% of the country, are inhabited by 24% of the population but served by only 9% of the registered physicians (4). In Vietnam, where four health service providers are available for 1000 population in urban areas, the country wide distribution is just over one health service provider per 1000 inhabitants (1).

The Economic Survey of Pakistan 2015 documents the fact that only one doctor is serving 1073 persons and health infrastructure is clustered mostly in urban areas (5). In Punjab Health Sector Strategy, it was recognized that one of the major challenges in achieving health equity in the province is the unequal distribution of the health workforce. Staff shortages are particularly stark outside large cities especially in rural areas (6).

Worldwide studies indicate that many factors dictate the choice of area for a job including financial, social and environmental issues. In Germany, the three most important factors influencing the decision to work in a rural practice were family friendly surroundings, the rural village itself and cooperative colleagues (7). In our neighboring country India, the preference for working in an urban setting was attributed to better prospects for career development and opportunity for higher education in cities (8). In Pakistan, a study in district
Abbottabad in 2004 found that doctors complained about poor service structure and facilities in rural areas and found life difficult due to disruptions in professional, social and family pursuits (9).

World Health Organization (WHO) has outlined recommendations to improve retention of health workers in rural areas (10). Several countries have introduced incentives to retain doctors in rural settings. In India, doctors are being offered financial incentives, accommodation, life insurance, and extra marks during PG admission for retention of doctors in under-served localities (11). Similarly, in Bangladesh, a provision for rotation in rural areas is in place along with a financial incentive of an additional 33% of the basic salary (12). Indonesia offers special placement schemes for doctors and dentists which increase their opportunities to be employed as civil servants in lieu of service in hard-to-reach areas from 6 months to 3 years (13). In Pakistan, the Government of Punjab recognizes that the shortage of health workers in rural areas, particularly of WMOs, is due to the difficulty in retaining doctors in rural and remote areas. In order to retain doctors in rural areas, they are offered financial incentives and recently extra marks to be awarded to postgraduate trainees with work experience in primary healthcare settings for securing paid seats in teaching hospitals (7).

According to the WHO recommendations, the strategies to retain workers in rural areas includes addressing factors affecting choices of health workers to accept, stay in or depart from rural underserved and remote areas (10). Shortage of health professionals in rural areas cannot be overcome unless the reservations and expectations of health workforce are addressed. We know little about the preferences of doctors and factors affecting their decision to work in rural settings since few studies have been conducted on this topic in Pakistan. This study aims to understand the approach of young doctors in the city of Rawalpindi towards serving in rural areas.

**Methodology**

This was a cross-sectional study conducted at the Holy Family Hospital, Rawalpindi. Data were collected from doctors working as House Officers, Medical Officers and Postgraduate Trainees working in the various departments of Holy Family Hospital, Rawalpindi. The objective of the study was to assess the willingness of doctors to work in rural/remote areas and to elucidate the factors that influence the decision to accept a position in rural areas.

A questionnaire was developed that included questions regarding 1) demographic characteristics, 2) degree of willingness 3) concerns about getting a job 4) facilitating / inhibiting factors that influence the choice of rural versus urban areas. At the end, an open-ended question was included regarding the opinion of the respondent about what single action the government should take to improve retention of doctors in rural posts. Sample size was calculated using Raosoft Sample size the sample size calculated was 120 with significance level 95% and margin of error 5%.

Attitude towards working in rural areas was defined by the response of the participant. If a respondent declared that he/she was willing or very willing to work in a rural area, he/she was said to have a positive attitude regarding employment in rural areas. If the respondent said that he/she was willing to work in a rural facility if he/she could not find a job in the city, then he/she has a neutral attitude towards working in a rural area. If the respondent says he/she will not go to a rural area for practice even if he/she could not find a job in the city, he/she has a negative attitude.

**Results**

A total of 120 questionnaires were returned. 52.5% were male doctors while 47.5% were lady doctors. The demographic characteristics are given in table 1.

**Table 1: Demographic characteristics of the participants**

| Demographic Characteristics of Participants | Number (n) | Percentage (%) |
|--------------------------------------------|------------|----------------|
| Designation | House Officers | 61 | 50.8% |
| Medical Officers | 29 | 24.2% |
| Postgraduate Trainees | 30 | 25% |
| Age of respondents | 21-25 years | 59 | 49.2% |
| 26-30 years | 57 | 47.5% |
| 31-35 years | 4 | 3.3% |
| Place of Birth | City | 100 | 83.3% |
| Village | 20 | 16.7% |
| Monthly Household Income | <Rs. 50,000 | 27 | 22.5% |
| Rs. 50,000-100,000 | 62 | 51.7% |
| >Rs. 100,000 | 31 | 25.8% |
| Source of Financing | Parents | 89 | 107 |
| Family | 52 | 11 |
| Loans | 9 | 7.7% |
| Experience of Rural living | Yes | 38 | 31.7% |
| No | 82 | 68.3% |

Very few (10.8%) of the doctors in the sample expected to go abroad in search of a job. Majority of respondents had some knowledge of the rural health system (40%), whereas 25% reported sufficient knowledge and 35% confessed little knowledge.

Regarding perceived difficulty in finding a job, majority (52.5%) of the participants reported that it would be difficult to find a job in future, 29.2% said that it would be very difficult and 18.3% thought that it would be easy.
The most important factor discouraging doctors from moving to rural areas turned out to be lack of personal career development in rural settings followed by low salary, poor benefits and poor living conditions (Figures 1 & 2). The most important factor in determining the willingness of a lady doctor in the opinion of majority of respondents was willingness of the spouse (38%).

Overall, 30% (n=36) respondents showed a positive attitude regarding practice in a remote area. 45% (n=54) were neutral and 24% (n=30) displayed a negative attitude.

Incentives for Doctors in Rural practice

Inhibiting Factors for Doctors in Rural Practice

![Figure 1. Facilitating & Inhibiting Doctors to work in Rural Areas](image1)

![Figure 2. Inhibiting factors for Doctors in Rural Practice](image2)

Doctors with past experience of living in rural areas or having a rural place of birth have some previous connection with the rural way of living and therefore are likely to risk moving into rural areas for better career options. Similarly, those whose fees have been paid by parents have a support system that can protect them financially in case their rural venture fails. Doctors who are expecting to find a job abroad would also be less inclined to take up rural practice.

However, factors like gender, age, socioeconomic status, knowledge about rural health system were not significantly related to willingness to work in rural areas.

Table 2. Factors having significant relationship with willingness to work in rural areas.

| Factor                          | Yes (%) | No (%) | *X²* Value* | P Value |
|--------------------------------|---------|--------|-------------|---------|
| Experience of residence in Rural Area | 30 (100%) | 6 (25%) | 30.341* | .001 |
| Total                          | 36 (100%) | 24 (66.7%) | 10 (27.8%) | 2 (5.5%) | 25.51* | .001 |
| Fee paid by parents           | 18 (66.7%) | 9 (33.3%) | 19 (52.8%) | 16 (44.4%) | 10 (28.6%) | 17 (49.3%) | 20.51* | .001 |
| Fee paid by Family            | 6 (22.2%) | 24 (88.8%) | 16 (44.4%) | 16 (44.4%) | 10 (28.6%) | 17 (49.3%) | 20.51* | .001 |
| Fee paid by Loans             | 0 (0%)   | 30 (100%) | 0 (0%)     | 30 (100%) | 0 (0%)     | 30 (100%) | 20 (58.8%) | 20 (58.8%) |
| Total                          | 36 (100%) | 24 (66.7%) | 10 (27.8%) | 2 (5.5%) | 25.51* | .001 |

*Value of X² was replaced by Fischer's exact test because of the count in some cells being less than 5.

Table 3: Factors having significant relationship with willingness to work in rural areas.

| Factor                          | Yes (%) | No (%) | *X²* Value* | P Value |
|--------------------------------|---------|--------|-------------|---------|
| Age                            | 0 (0%)   | 36 (100%) | 0 (0%)     | 36 (100%) |
| Total                          | 0 (0%)   | 36 (100%) | 0 (0%)     | 36 (100%) |

Applying cross tabs, the factors found significant were place of birth (p value=.001), payment of fees by parents (p value=.001), experience of living in rural areas for more than 6 months (p=.001), expected place of employment (p value=.001) (Table 2 & 3).

Doctors with past experience of living in rural areas or having a rural place of birth have some previous
In a study in Nepal, fresh medical graduates stressed the importance of career development opportunities as well as incentives and improved salaries for those working in rural areas (22).

For female doctors willing to work in a rural environment, willingness of spouse (31%) was the most important issue. This is consistent with other researches that show that female health professionals are more likely to work where their husbands are deployed.23

In this study the significant factor affecting the willingness of doctors to work in rural areas was the respondents’ connection with rural areas as the place of birth (p value=0.001) or as a previous residence (p value=0.001). This bonding is the motivating factor that pulls and retains most doctors in rural locations. It has also been documented previously in a number of researches8, 11, 12, 14

Although it is a unique study in that it has analyzed the hopes and fears of young doctors working in a government hospital about rural employment, its limitation is that the sample was picked from a single health facility. In future, multi-center studies that cover the entire province should be planned.

Conclusion

The study shows that most of the doctors who have a rural birthplace/ experience of living are more willing to work in rural areas. Among the factors that influence the choice of a rural career, lack of personal career advancement in rural settings is the most discouraging factor for young doctors.

References

1. WHO. The world health report 2006: working together for health. Geneva: World Health Organization. 2006
2. Kirigia JM, Gbary AR, Muthuri LK, Nyoni J, Seddoh A. The cost of health professionals’ brain drain in Kenya. BMC Health Serv Res 2006;6:89.
3. WHO. Increasing access to health workers in remote and rural areas through improved retention. Geneva: Background paper for the first expert meeting to develop evidence-based recommendations to increase access to health workers in remote and rural areas through improved retention; 2009.
4. Dumont J-C et al. International mobility of Health Professionals and Health workforce management in Canada, Myths and Realities. OECD Health working Papers 40, OECD &WHO. 2008.
5. Government of Pakistan, Finance Division. Pakistan Economic Survey 2014-15. Islamabad: Printing Corporation of Pakistan; 2015.
6. Government of Punjab: Health sector of Punjab. Draft Strategy, 2012. Available at www.phsrp.punjab.gov.pk/download.asp.
7. Steinhäuser J, Annan N, Roos M, Szecsenyi J,
Joos S. Approaches to reduce shortage of general practitioners in rural areas—results of an online survey of trainee doctors. Dtsch Med Wochenschr 2011; 136(34-35):1715-9.

8. Nallala S, Swain S, Das S, Kasam SK, Pati S. Why medical students do not like to join rural health service? An exploratory study in India. J Family Community Med. 2015; 22(2):111-7.

9. Farooq U, Ghaffar A, Narru IA, Khan D, Irshad R. Doctors perception about staying in or leaving rural health facilities in district Abbottabad. J Ayub Med Coll Abbottabad 2004; 16(2): 64-9.

10. WHO. Global policy recommendations: Increasing access to health workers in remote and rural areas through improved retention, 2010. Available from: http://www.searo.who.int/nepal/mediacentre/2010_increasing_access_to_health_workers_in_remote_and_rural_areas.pdf

11. Lisam S, Nandi S, Kanungo K, Verma P, Mishra JP, Mairembam DS. Strategies for attraction and retention of health workers in remote and difficult-to-access areas of Chhattisgarh, India: Do they work? Indian J Public Health 2015; 59(3):189-95.

12. Rawal LB, Joarder T, Islam SM, Uddin A, Ahmed SM. Developing effective policy strategies to retain health workers in rural Bangladesh: a policy analysis. Hum Resource Health. 2015; 20;13:36

13. Efendi F. Health worker recruitment and deployment in remote areas of Indonesia. Rural Remote Health. 2012;12:2008. Epub 2012 Jun 5.

14. Syahmar I, Putera I, Istatik Y, Furgon MA, Findyartini A. Indonesian medical students' preferences associated with the intention toward rural practice. Rural Remote Health. 2015 Oct-Dec;15(4):3526. Epub 2015 Dec 2.

15. Gaikwad S, Sudeepa D, Madhukumar S. A study on career preferences and attitude towards the rural health services among the graduating interns of a medical college in Bangalore rural. Int J Biol Med Res. 2012; 3(2): 1577-1580

16. SilvestriDM, Blevins M, Afzal AR, Andrews B, Derbew M, Kaur S et al. Medical and nursing students' intentions to work abroad or in rural areas: a cross-sectional survey in Asia and Africa. Bulletin of the World Health Organization 2014; 92:750-759.

17. Sermeels P, Montalvo JG, Pettersson G, Lievens T, Butera JD & Kidanu A. Who wants to work in a rural health post? The role of intrinsic motivation, rural background and faith-based institutions in Ethiopia and Rwanda. Bulletin of the World Health Organization 2010;88:342-349

18. Thammatacharree N, Suphanachaimat R, Wisaijohn T, Limwattananon S, Putthasri W. Attitudes toward working in rural areas of Thai medical, dental and pharmacy new graduates in 2012: a cross-sectional survey. Human Resources for Health 2013, 11:53

19. Saini NK, Sharma R, Roy R, Verma R. What impedes working in rural areas? A study of aspiring doctors in the National Capital Region, India. Rural Remote Health 2012;12:1967. Epub 2012 Mar 15.

20. Azer SA, Simmons D, Elliott SL. Rural training and the state of rural health services: effect of rural background on the perception and attitude of first-year medical students at the university of Melbourne. Aust J Rural Health. 2001 Aug; 9(4):178-85.

21. Mollahaliloğlu S, Uğurluoğlu Ö, İlpyk O, Kosdak M, Taşkaya S. Factors affecting the work of physicians in rural areas of Turkey. Rural Remote Health 2015;15(3):3048. Epub 2015 Jul 29.

22. Thapa KR, Shrestha BK, Bhattarai MD. Study of working experience in remote rural areas after medical graduation. Kathmandu Univ Med J (KUMJ). 2014 Apr-Jun;12(46):121-5.

23. Kletke PR, Marder WD, Silberger AB: The growing proportion of female Physicians: Implications for US physician supply. Am J Public Health 1990; 80:300-304.