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Public Health Posting As a Motivating Factor for Medical Students to Work in Rural Areas upon Graduation

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Abstract
Background: There is a serious concern on the shortage of healthcare workforce in rural Malaysia. *Aim:* To describe the effect of a public health programme on the student's motivation to work in rural areas. *Methods:* Students were asked to rate on how they perceived their motivation to work in rural areas after the public health posting. *Results:* The level of motivation for the majority of the students ranged from good (38.5%) followed by very good (27.5%), fair (24.8%), excellent (6.4%) to poor (2.8%). Overall, majority of the students had a positive perception on the three domains studied i.e. knowledge of public health and their skills in dealing with patients, their ability to work with colleagues and their perception about rural communities *Conclusion:* Exposing the medical students to rural communities by way of field work has helped to motivate them to work in rural areas.
Keywords: Medical students, doctors, rural, motivation, Malaysia

1. Introduction

Due to an increase in health care demand and inadequate workforce supply there is a shortage of healthcare personnel in rural areas of Malaysia. The doctor to population ratio in Malaysia for the year 2009 was 1:927 (MOHM, 2009) whereas European countries like Belgium and Ireland have a doctor to population ratio of 1:238 and 1:322 respectively. Even neighbouring Singapore has doctor to population ratio of 1:667 (WHO, 2010). This shortage of doctors is especially felt in the rural areas. Because most doctors choose to work in urban areas there is a shortage of doctors providing health care services in rural areas. Urban areas like Kuala Lumpur have doctor-to-population ratio of 1:425, whereas rural areas in Sabah and Sarawak (east Malaysia) which are difficult to access have doctor population ratio of 1:2022 and 1:1688 respectively (MOHM, 2009). The problem with disparity of the doctor population ratio in urban and rural areas is not peculiar to Malaysia. In India and Thailand, there is a similar shortage of doctors in rural medical practice. One study showed that over 80% of the qualified private doctors are concentrated in the urban cities of India (WHO, 2007). In Thailand, 16.5% of the doctors serve in the rural community healthcare system serving 65.7% of the country's population (Pagaiya *et al*., 2008). The factors that attract and motivate doctors to work in urban areas are better living standards, opportunity for specialized training, better salary and higher social recognition. And the factors that draw doctors away from the rural areas are lower living standards, slow career path, poor facilities, lower salary and less opportunity for training (Wibulpolprasert & Pengpaiboon, 2003).

Among the strategies implemented by the Malaysian government to address this problem is requiring doctors to serve with the Ministry of Health for three years before being able to gain full medical registration. The doctors are posted to rural health settings during this compulsory service period to ensure adequate manpower in the rural areas. Unfortunately many doctors return to the urban hospitals upon completion of the mandatory service, either for the post-graduate studies or for private practice. The objective of this paper is to describe and share the experience of a private medical college in north Malaysia on the effect of its public health programme on its student's motivation to work in rural areas.

2. Methods

Setting: This private medical college located in north Malaysia is in a partnership with two of the oldest and most respected medical schools in Ireland. The students in this institution undertake their Pre-Clinical studies in Ireland. Upon successful completion of their Pre-Clinical studies, they return to pursue their Clinical training in Malaysia. Upon graduation, the students are conferred with the MB BCh BAO degrees of the National University of Ireland (NUI). ***Description of programme:*** The Public Health Medicine (PHM) programme in this institution is conducted in the second half of the fourth Year and continues to the first half of the fifth Year undergraduate medical programme.

Among others, the objective of this posting is for the students to observe and to understand the organization roles, functions and the delivery of health services and its impact on the health status of the community. One of the learning outcomes of the posting is for the students to possess the correct attitude; demonstrate empathy and to be able to communicate effectively with patients, family and the community and other health professionals. A group of approximately 30 students are posted to the department for a period of eight weeks per rotation. During the PHM posting, the group of students are further divided into smaller subgroups for group discussions, seminar presentations, tutorials and field work. The purpose of this is to promote group dynamics. During the 8 weeks posting, students initially spend one week at the College where the 'core' knowledge in PHM is delivered to them through a series of lectures, tutorials, small group discussion, workshops and seminars. One week community health survey preparation in the campus is followed with one week of community health survey which is conducted in a chosen rural community. During this one week period students reside in the villages. Besides collecting data they are encouraged to discuss with the villagers concerning their access to health care and interact with them in order to understand the social, economic, cultural and behavioural influences on health. There is also a two weeks posting to selected district health offices (DHO) located in rural parts of the state. During this period the students have opportunities to visit various health organizations / agencies both in the public and private sector. A health promotion campaign is also conducted in the village where the survey is conducted. ***Data Collection:*** On the last day of the PHM rotation, students were asked to rate on how they perceived their motivation to work in rural areas after the eight week public health posting. The rating scale ranged from 'poor', 'fair', 'good', 'very good' and 'excellent'. The students' were asked about their perception on three domains; their knowledge and skills dealing with patients, their ability to work with colleagues and their perception about rural communities. In the first domain concerning their public health knowledge and their ability to deal with patients after the posting, they were asked questions pertaining to their knowledge of public health medicine, health infrastructure, their willingness to accept responsibility and their ability to solve problems. In this domain they were also asked about their communication skills, relationship, ability to provide comfort and empathy towards patients. In the second domain they were required to rate their perception on their ability to work with colleagues. Here they were asked on their ability to communicate, get information and interpret it, ability to work and cooperate with colleagues of different hierarchy in medical practice. In the third domain they were asked to rate their perception concerning the rural communities and their environment. They were asked on how the rural communities lived, their economy, environment, health status, health services and finally the students were asked concerning their ability to work in rural areas. ***Ethics:*** The students were free to answer all or part of the questions or not to participate in the survey. Students responded via 'Moodle' which is a virtual interactive learning tool. The anonymity of the students is assured. ***Analysis:*** Data was analysed descriptively using SPSS version 15.0. Student's motivation to work in rural areas was cross tabulated with gender, race, source of funding and parents occupation. Students' perception on knowledge and skills dealing with patients, ability to work with colleagues and student's perception about rural communities were depicted graphically.

3. Results

There were 111 students, out of which 109 responded. Most were female (56.9%), Malay (57.8%) and financially sponsored students (70.5%). Majority of the student's parents were professionals (82.4%) followed by white collar workers (14.8%). As shown in table 1 the level of motivation for majority of the students to work in rural areas after the posting ranged from good (38.5%) followed by very good (27.5%), fair (24.8%), excellent (6.4%) to poor (2.8%). Irrespective of gender, race, source of funding and parent's occupation, majority of the students were motivated to work in rural areas after the public health posting. Figure 1 depicts graphically the students' perception concerning their public health knowledge and their ability to deal with patients after the public health posting. Most students rated their skills to render comfort to patients, solve problems, their knowledge of health infrastructure and knowledge of public health as 'good'. Majority rated 'very good' to empathy, relationship and communication with patients and their willingness to accept responsibility.

Figure 2 depicts the student's perception of their ability to work with colleagues after the PHM posting. Most students rated their ability to organise, source and interpret information as 'good'. Majority rated 'very good' their ability to work with others, cooperate with paramedical staff and their initiative to work and communicate with colleagues.

Figure 3 shows the students perception after the posting concerning the rural folks; on the way they live, their economy, environmental and housing condition as well as the students' perception of the health infrastructure and

health status of the rural folks. Majority rated their ability to work in rural areas, their perception of health services and infrastructure, health status of rural folks, their economy and how they live and the environmental condition as 'good'. Most rated 'very good' to the overall perception of the rural community.

4. Discussion

Medical curriculum should be community-oriented with more meaningful student visits to rural health facilities (Farooq *et al*., 2004). Currently in Malaysia, the medical faculties in the public universities implement community-based rural public health posting. But majority of the private medical schools in Malaysia are placed in urban cities and teaching is mostly conducted in tertiary hospitals, with little exposure to rural communities.

It was pleasantly noted that both female and male students were equally motivated to work in rural communities because generally most female doctors prefer not to work in rural areas. In India less than 15% of the doctors in the rural healthcare system are female (WHO, 2007). Female doctors choose not to work in the rural health community deliberately (De Varies & Marincowitz, 2004) because of family pressure and due to apprehensions concerning security to self and children (Rao et al., 2020). These misconceptions could be due to the lack of exposure to the culture and the way of life in rural areas. Most of these apprehensions can be overcome by experiencing the rural environment as is shown in the present study were more female students were motivated to work in rural areas after the PHM posting. A study conducted in South Africa (De Varies & Marincowitz, 2004) reported that rural female doctors actually felt it was safe and a good place to raise children in the beautiful rural environment compared to urban areas. They also reported that the rural community were friendlier.

Good communication skills between healthcare workers promote a positive working environment. Similarly good communication skills with patients and the ability to solve problems are positive attributes that will help medical students to choose rural work (De Varies & Marincowitz, 2004). Maintaining a good relationship with the rural community rewards the doctor with better social recognition and job satisfaction (Wibulpolprasert & Pengpaiboon, 2003; De Varies & Marincowitz, 2004). Good health infrastructure is also a motivating factor for medical students to choose to work in rural setting because one of the major concerns of medical students towards working in the rural areas is the perception that the healthcare infrastructure is poor (Rao *et al*., 2010). The present study has shown that the students had a positive perception towards their relationship with other healthcare staff and with patients and towards the health care facilities available in the rural community. These positive perceptions can serve as a retention initiative and motivation for doctors to work in the rural community settings.

5. Conclusion

Negative perception of rural communities among most medical students is an impediment to work in rural areas. Exposing medical students to rural communities by way of field work with a focus to change their negative perception will help overcome this impediment. Public health training for medical undergraduates will enable them to experience work in the rural setting and it will highlight the need of effective and sustainable healthcare for rural communities. In return, this experience may influence their choice to work in the rural setting upon graduation.

6. Limitation

There are certain limitations to this study. Because the posting period to the rural community for the medical students was short, students were yet to experience the 'true' rural health care work setting. A before and after posting comparison of the motivation to work in rural areas as well as their perception of rural communities would have yielded better results instead of only collecting the data at the end of the posting as in this study.

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Tables and Figures

Table 1. The Motivation to work in rural areas

	Poor **n=3** **f (%)**	**Fair** **n= 27** **f (%)**	**Good** **n= 42** **f (%)**	**Very good** **n= 30** **f (%)**	**Excellent** **n= 7** **f (%)**	**Total** **N=109**
Gender						
Male	1 (2.1)	12 (25.5)	17 (36.2)	13 (27.7)	4 (8.5)	47 (100)
Female	2 (3.2)	15 (24.2)	25 (40.3)	17 (27.4)	3 (4.8)	62 (100)
Race						
Malay	0 (0)	14 (22.2)	26 (41.3)	17 (27)	6 (9.5)	63 (100)
Chinese	2 (5.7)	9 (25.7)	13 (37.1)	10 (28.6)	1 (2.9)	35 (100)
Indian	1 (16.7)	2 (33.3)	1 (16.7)	2 (33.3)	0 (0)	6 (100)
Others	0 (0)	2 (40)	2 (40)	1 (20)	0 (0)	5 (100)
Funding						
JPA (government sponsor)	1 (2.2)	7 (15.6)	21 (46.7)	12 (26.7)	4 (8.9)	45 (100)
MARA (government sponsor for indigenous students)	0 (0)	10 (31.2)	8 (25)	12 (37.5)	2 (6.3)	32 (100)
Self-funded	2 (6.5)	10 (29)	13 (41.9)	6 (19.4)	1 (3.2)	32 (100)

Fathers Occupation						
Professionals	3 (3.4)	23 (25.8)	37(41.6)	21 (23.6)	5 (5.6)	89 (100)
White collar	0 (0)	3 (18.8)	4 (25)	8 (50)	1(6.3)	16 (100)
Blue collar	0 (0)	1 (25)	1 (25)	1 (25)	1 (25)	4 (100)
Mothers Occupation						
Professional	0 (0)	16 (29.1)	24 (43.6)	14 (25.5)	1 (1.8)	55 (100)
White collar	3 (6.3)	11 (22.9)	16 (33.3)	13 (27.1)	5 (10.4)	48(100)
Blue collar	0 (0)	0 (0)	2 (33.3)	3 (50)	1 (16.7)	6 (100)

Figure 1: students' perception in the improvement of their knowledge of public health and their skills in dealing with patients

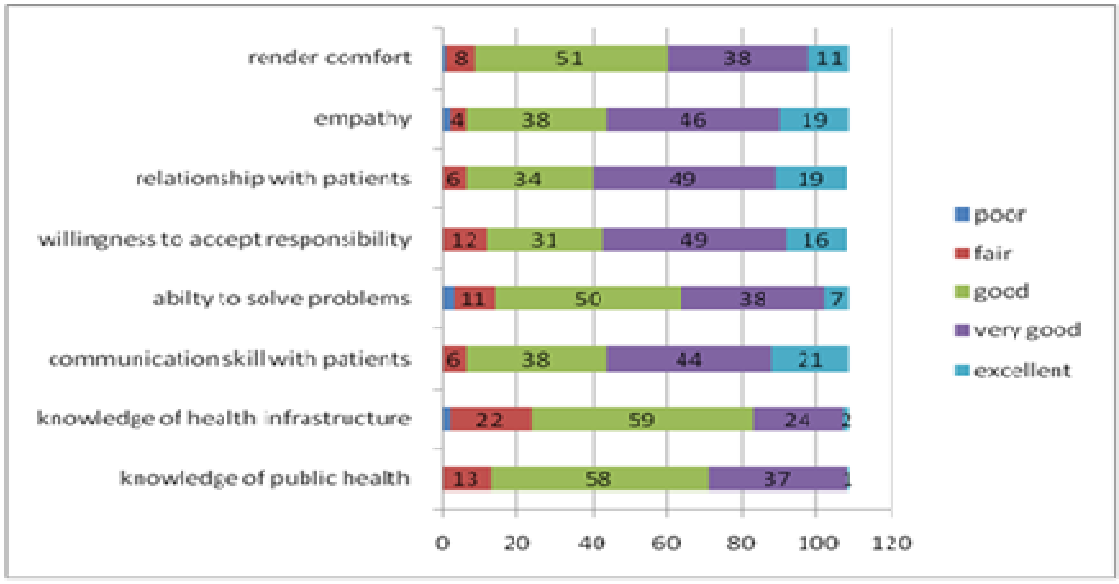

Figure 2: Students' perception on their ability to work with colleagues

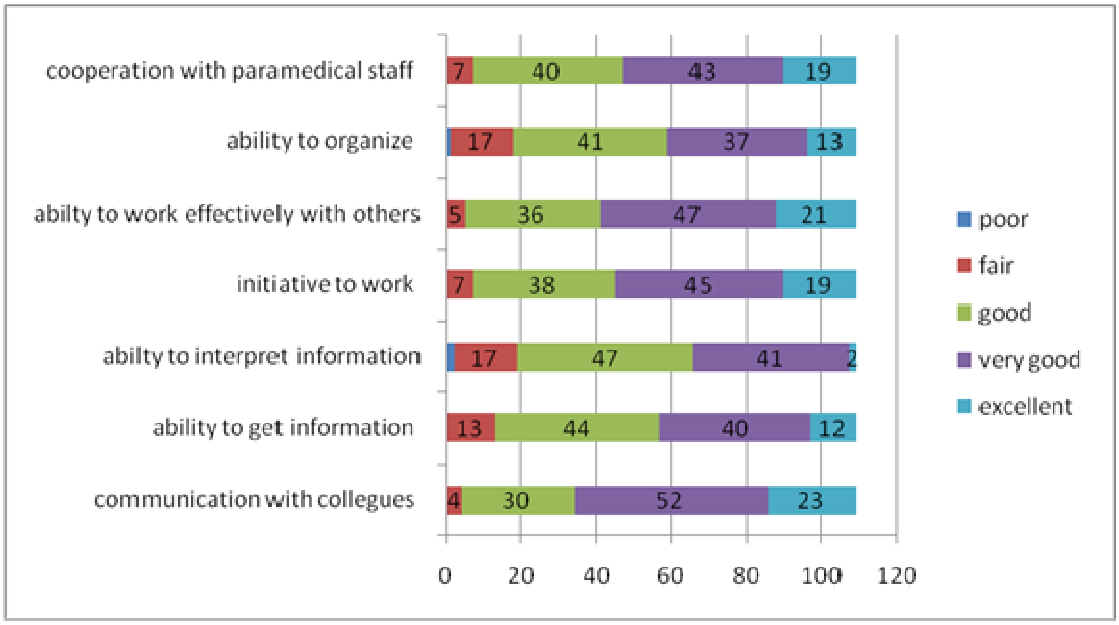

Figure 3: Students' perception concerning the rural posting