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Factors Impact on Turnover of Physicians in Rural Jordan

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Abstract

Aim: The high turnover of physicians in rural areas of Jordan has adversely affected the provision of primary health care services. This study was undertaken to understand the reasons for this high turnover and to inform health policy makers to formulate more effective strategies assist in retention of physicians in rural Jordan.

Materials and Methods: A cross-sectional design was chosen for the study. Data was gathered using self-administered questionnaire composed of a 98-Likert scale questions. A total of 307 completed questionnaires were elicited in this survey. Data were analysed using SPSS (version 19).

Results: Intention-to-leave was used as an indicator of turnover. The overall intention to leave rural practice among the employed rural physicians in Jordan was 29.3%. Factors found to be associated with intention to leave rural practice in the Jordanian rural context included physicians' age, appointment by Ministry of Health, daily travel time, working more than 40 hours in the week, satisfaction about referral policy, satisfaction about manager encouragement of professional development, satisfaction about educational and training opportunities, feeling of social isolation, and satisfaction about level of education of patients.

Conclusion: Physicians in rural Jordan are dissatisfied with a large number of personal, organizational, work related and socio-cultural factors. These factors could lead to turnover and, therefore, impeding the quality of health services offered to rural communities.

Keywords: Jordan, Physician, Rural, Turnover

Introduction

Human resources management is an important factor in the progress and improvement of any industry, and its role is vital to attain organizational goals [1]. However, lack of human resources is an immense challenge for organizations. This shortage may result due to several reasons such as poor distribution of employees, poor financial situation of organizations leading to poor staffing and importantly turnover which is a leading factor in the lack of human resources in the organizations. However, its impact is much more crucial in health services industry as health services directly handle human beings and affect their lives.

High rates of turnover of physicians in rural Jordan lead to loss and shortage of experienced and skilled health team members which threaten the quality of care patients receive [2]. It has been reported in the literature that about 34% of Jordanian physicians who are registered in the Jordanian Medical Association are working overseas [3].

Furthermore, high turnover of qualified staff can lead to lost productivity that is associated with orientation of the new replacing staff [4]. Turnover of physicians can lead to unmet expectations of the patients caused by the inexperienced new physicians which results in patient dissatisfaction with the offered care. In addition, health care organizations can experience financial and managerial problems from unpredictable turnover consequences [5].

Turnover is a global challenge for the health care systems [6,7]. The literature concerning rural workforce turnover is both old and diverse. Mention about rural employee turnover can be found in the literature as early as the 1930s [8]. Later, many studies concerning employee turnover were conducted [9,10], whilst rural worker turnover has been researched in many countries like the UK [11], the USA [12], Canada [13], Thailand [14], Japan [15], China [16], Zimbabwe [17] and Swaziland [18].

Aim

This study aimed at evaluating turnover intentions among physicians in rural Jordan.

Materials and Methods

A cross-section of currently posted Jordanian rural physicians was surveyed using a 98-item questionnaire whose design was informed by findings from the literature and culturally adapted to suite the Jordanian context. Questionnaire included Likert-scale items, multiple choice items, and questions required short yes/no answers. Questionnaires were offered in hand to rural physicians in their work places and collected 1 to 3 weeks later. To be eligible for participation, participants had to meet the following inclusion criteria: (1) be a Jordanian citizen (2) employed as a physician (3) working in governmental health sector (4) working in a rural area for a minimum of 6 months.

A total of 307 completed questionnaires were elicited in this survey. Data were analysed with SPSS version 19, using both descriptive and analytical statistical procedures including frequency distributions, Chi-Square Tests and logistic regression.

Permission to conduct the study was obtained from the Research Ethics Committee at Ministry of Health in Amman, Jordan.

Results

A total of 853 questionnaires were distributed to rural physicians in Jordan of which 416 (48.7%) were returned. Out of the returned questionnaires, 83 (27%) were incomplete and could not be included in the analysis as many questions had not been answered. In addition, 26 (0.08%) questionnaires were excluded because participants didn't meet one or more of the inclusion criteria for participation. The final number of questionnaires included in the analysis was 307 (n=307), with a response rate of 36% of the total given questionnaires.

The mean age was 36.2 years, with a range of 24 to 58 years. Physicians who were ≤ 30 years comprised the largest proportion among the study population (37.8%, n=116) compared to 28% (n=86) and 34.2% (n=105) for those aged 31-40 and those more than 40 years, respectively. Socio-demographic characteristics of the sample are shown in Table 1.

Work related characteristics of the participants are presented in Table 2.

Transportation characteristics can affect turnover intentions. Both daily travelling time and distance from work were found to be significantly associated with intention to leave. Interestingly,

Table 1 Socio-demographic characteristics of Jordanian rural physicians (n=307).

Characteristic	Number	Percentage
Gender		
Male	249	(81.1)
Female	58	(18.9)
Age/years		
≤30	116	(37.8)
31-40	86	(28.0)
> 40	105	(34.2)
Marital status		
Single	121	(39.4)
Married	186	(60.6)
Number of children of married participants		
≤3	113	(60.8)
>3	73	(39.2)
Place of growing up		
Rural	222	(72.3)
Urban	85	(27.7)
Work governorate		
Irbid (North)	53	(17.2)
Mafraq (North)	83	(27.0)
Karak (South)	66	(21.5)
Tafilah (South)	43	(14.0)
Ma'an (South)	52	(17.0)
Aqaba (South)	10	(3.3)

63% of physicians who needed a daily travelling time of more than 2 hours have an intention to leave compared to 20.1% for those needed less than an hour daily for the same purpose.

In the multivariate analysis, participants' age was significantly associated with intention to leave ($p< 0.001$). Compared to participants whose age was greater than 40 years, the odds ratio of intention to leave for those aged ≤30 years and those whose age ranged from 31-40 years were 7.6 (95% CI: 2.56, 22.72) and 13.0 (95% CI: 4.30, 39.39) respectively. This means that physicians whose age ranged between 30 to 41 years had 13 times more likelihood of intention to leave rural practice compared to those physicians older than 40 years, as shown in Table 3.

After adjusting for confounding variables, several personal, work-related, and organizational factors were reported to be associated with intention to leave rural practice in the Jordanian rural context. Table 4 shows the final model of the multivariate analysis for factors associated with intention of physicians to leave rural practice in Jordan.

One of the most significant results was that related to physicians' age. Physicians whose age ranged from 31 to 40 years were 25.5 times more likely to have intention to leave compared to those whose age was more than 40 years (95% CI: 5.09, 127.91). With respect to daily travel time needed by physicians, physicians who required more than two hours for daily travel time to their work places were 10 times more likely to have intention to leave compared to those physicians who required less than an hour

Table 2 Work related characteristics of Jordanian rural physicians (n=307).

Characteristic	Number	Percentage	Mean
Place of training			N/A*
Rural	158	(51.5)	
Urban	149	(48.5)	
Country of graduation			N/A
Jordan	98	(31.9)	
Other	209	(68.1)	
Appointment to worksites			N/A
By MOH	237	(77.2)	
Self-choice	70	(22.8)	
Total experience (years)			9.7
≤5	149	(48.5)	
>5	158	(51.5)	
Experience at current work place			3.3
≤ 1 year	173	(56.4)	
> 1 year	134	(43.6)	
Weekly working hours			41.8
≤40 hours	157	(51.1)	
>40 hors	150	(48.9)	
Daily patient number			43.6
≤30	153	(49.8)	
>30	154	(50.2)	

* Not Applicable. Mean was not applicable to those variables.

daily for the same purpose (95% CI: 3.13, 32.59).

The overall percentage of intention to leave rural practice among Jordanian physicians was 29.3% (n=90).

Discussion

The great majority (81.1%, n=249) of the participants were males. This result is not surprising given the dominant role of males over females in the Jordanian community where males are expected to be the principal bread-earner in the family.

Also, the difficulty of transportation to and from rural areas discourages women from working in these areas. In the researcher's experience, it is not culturally acceptable in most Jordanian families for female members to travel alone or to sleep outside their home for any reason even for work purposes. Such under-representation of females in the rural health sector has also been reported from other countries despite the social and cultural discrepancy between Jordanian community and these communities. In a Japanese study, male rural physicians accounted for 92% of the total 3072 respondents [19]. A similar trend was also observed in Australia where female medical graduates are under-represented in the rural medical workforce [20].

A number of demographic characteristics of participating physicians such as gender, age, marital status, number of children,

Table 3 The binary logistic regression analysis of intention to leave as per age, job appointment process, work hours, and daily travelling time of Jordanian rural physicians (n=307).

Variable	OR	95% Conf. Interval		p value
		Lower	Upper	
Age				
≤30 years	7.6	2.56		0.001
31-40 years	13.0	4.30	22.72	0.001
>40 years	1*		39.39	
Appointment process				
MOH	6.6	1.85		0.004
Self-choice	1*		23.68	
Daily travelling time				
<1 hour	1*			
1-2 hours	0.8	0.23	2.59	0.683
>2 hours	5.6	1.63	19.28	0.006
Number of weekly working hours				
≤40 hours	1*			
>40 hours	11.3	3.99	32.12	0.001

* Reference for other categories within each variable.

and rural background of physicians were found to be associated with intention to leave.

With respect to age, the largest proportion of study participants was ≤ 30 years (37.8%, n=116). This result was also reflected when marital status of participants was considered and revealed that 39.4% (n=121) of participants were singles. In the researcher's experience, most of the Jordanians are getting married only after the age of 30 due to poor economic situation in the country and high marriage costs, especially for those who continue their education such as the case of physicians.

Not surprisingly, female physicians had more than double the likelihood of leaving rural practice compared to males, a finding that can be related to socio-cultural restrictions on females working in remote rural areas that require them to stay outside their homes for extended periods. This view is supported by findings from a Malaysian study reporting that family responsibilities had more influence on female workers than on male workers especially in conservative Muslim communities [21].

With regards to participants' age and intention to leave, interestingly rural physicians were less likely to intend to leave as they crossed 40 years of age. After acquiring work related experience, physicians typically tend to start thinking about financially more remunerative job opportunities in the Jordanian private sector or overseas [3]. Furthermore, at this stage, professional development becomes a concern and can be accomplished by passing the residency programs and obtaining specialist qualifications. This trend may explain why 38.4% among those aged 31-40 years had intentions to leave rural practice.

Table 4 The final binary logistic regression analysis of factors associated with intention to leave of Jordanian rural physicians (n=307).

Variable	OR	95% Conf. Interval		p value
		Lower	Upper	
Age [a]				
≤ 30 years	6.1	1.49	25.28	0.012
31-40 years	25.5	5.09	127.91	0.001
Appointment to worksite by MoH [b]	6.1	1.77	21.36	0.004
Daily travel time [c]				
1-2 hours	3.9	1.31	11.65	0.014
> 2 hours	10.1	3.13	32.59	0.001
Weekly working hours > 40	5.3	1.88	14.88	0.002
Satisfaction about referral policy	0.5	0.32	0.86	0.011
Satisfaction about manager encouragement of professional development	1.8	1.09	2.85	0.021
Satisfaction about educational and training opportunities	2.1	0.98	4.63	0.053
Feeling of being isolated from relatives/colleagues/friends	0.2	0.11	0.37	0.001
Satisfaction about level of patients' education	1.9	1.12	3.31	0.017

a) > 40 years was considered a reference for other categories.
b) Self choice appointment was a reference.
c) < 1 hour was a reference for other categories.

For those who fail in achieving professional promotion through passing the residency programs, and for those who have worked overseas and achieved some financial targets it is then too late to start thinking again about residencies. This group of physicians have no options, but to practice in rural areas. This group of physicians is represented in this study by those physicians whose age was more than 40 years.

These results reflect those revealed by Matsumoto et.al. [19] who found that Japanese physicians aged > 50 years were more satisfied with most aspects related to their rural work and lifestyle than younger physicians. It is obvious that most physicians build their career pathway by the time they had turned 40, after which they attain stability in terms of monetary and professional accomplishments.

Number of children of married participants was found also to be inversely associated with intention to leave with the physicians having more children less likely to intend leaving their rural posting. However, in the multivariate analysis, the association between number of children and intention to leave was found to be statistically insignificant after controlling for confounders. Physicians who grown up in rural areas were significantly less likely to have an intention to leave their rural postings, compared to those with urban backgrounds.

Conclusion

Physicians in rural Jordan are dissatisfied with a large number of personal, organizational, work related and socio-cultural factors. These factors could impede the quality of health services offered to rural communities. Revising Salary scales, financial incentives and promotions is crucial in retention of rural physicians. Additionally, increasing selection of physicians with rural background or rural exposure in rural areas is an important factor. Maintain training and professional development of rural physicians in addition to considering residency programs in rural areas is vital for rural physicians' retention. Moreover, improving work conditions of rural physicians and orientation and socialisation of the newly appointed physicians are important factors also in the retention process.

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