❖ RESEARCH PAPER ❖

Turnover rate among registered nurses in Jordanian hospitals: An exploratory study

Yaseen A Hayajneh RN PhD

Chairman, Health Services Administration Department, College of Medicine, and Assistant Professor, College of Nursing, Jordan University of Science and Technology, Irbid, Jordan

Raeda F AbuAlRub RN PhD

Associate Professor, College of Nursing, Jordan University of Science and Technology, Irbid, Jordan

Aymen Z Athamneh RN MSN

Nurse Manager, CCU, King Abdullah University Hospital, Irbid, Jordan

Ibtihal K Almakhzoomy RN PhD

Assistant Professor, College of Nursing, Jordan University of Science and Technology, Irbid, Jordan

The aim of this study is to (i) determine the turnover rate among registered nurses in Jordanian hospitals; and (ii) compare the turnover rate between (a) male and female registered nurses; (b) northern, middle and southern regions; (c) public, private and university hospitals; (d) rural and urban hospitals; and (e) general and specialized hospitals. A descriptive, cross-sectional retrospective survey design was used. A structured interview method was utilized to collect data. A proportional random sample of 25% of the total number of Jordanian hospitals was taken. The results showed that the overall turnover rate was 36.6%. There were variations according to geographical region, health sector and place of residence. Turnover among registered nurses in Jordanian hospitals is considered a problem that requires effective strategies to deal with. Further research is required to identify the causes, and to explain the differences in the turnover rates according to the different study variables.

Key words: hospitals, Jordan, nurses, retrospective survey, turnover.

INTRODUCTION

Employee turnover continues to be an important challenge facing health-care systems. Turnover affects the nursing profession globally and its impact varies among nurses in different positions and different settings.[1] Turnover is defined as voluntarily terminating one's position in one setting and moving to another, changing employment status in the same setting, or completely leaving the profession to another.[2,3] Turnover leads to the loss of human capital as nurses leave, and the lost productivity associated with new nurses being oriented.[4]

High rates of turnover weaken the structure of nursing systems and impede the proper implementation of nursing processes and procedures, thus impact nursing systems'

Correspondence: *Raeda F. AbuAlRub, Associate Professor, College of Nursing, Jordan University of Science and Technology, PO Box 1894, Irbid, Jordan. Email: raeda71@yahoo.com*

ability to provide effective, efficient, safe and responsive care leading to negative care outcomes. Turnover directly impacts an institution's ability to provide effective, efficient and safe care; thus negatively affects the quality of services provided. High rates of nursing turnover are likely to lead to shortage of nursing staff and loss of human capital of experienced and skilful nurses, which jeopardize the quality of care patients receive.[5,6] Furthermore, high turnover rates might lead to higher rates of burnout and workplace injuries among nurses, and higher rates of patient morbidity and mortality.[5,7–9]

Employee turnover creates problems for any organization[10] because of its high and unpredictable replacement costs.[4,5,11] These costs include costs of advertising for replacement recruitment, vacant positions, decreased productivity, hiring procedures, termination costs, orientation and training of new employees.[12] The highest reported direct cost of turnover is due to temporary replacements; whereas the highest reported indirect cost is due to decreased initial productivity of the new hire.[4] The estimated cost of turnover can reach up to 150% of an employee's annual compensation.[12]

Nursing turnover in Jordan is rarely addressed in the scientific literature. The size of this phenomenon among registered nurses (RNs) in Jordan is still not measured. Researching the problem is necessary for policy and decision-makers to establish effective strategies to deal with and control the issue and reduce its impact.

The purpose of this study was to determine the size of turnover among RNs in Jordanian hospitals. Specifically, this study was designed and conducted to achieve the following objectives: (i) to determine the turnover rate among RNs in Jordanian hospitals; (ii) to compare Jordanian nursing turnover rate with the international nursing turnover rates; (iii) to compare the Jordanian nursing turnover rate between (a) male and female RNs, (b) northern, middle and southern regions, (c) public, private and university hospitals, (d) rural and urban hospitals, and (e) general and specialized hospitals; and (iv) to describe the seasonal variations in nursing turnover rates.

LITERATURE REVIEW

Many factors could lead to employee turnover. High staff turnover has been found to be related to (i) low payment;[2,13–16] (ii) lack of recognition and low professional status;[17–20] (iii) job dissatisfaction and inadequate opportunity for professional development;[2,17,21–23] (iv) excessive stress, low morale and promotion prospects,

the need for high standards of education, the difficulties posed by family responsibilities and lack of proper leadership;[2,10,17,24–27] (v) working long shifts, overtime, as well as weekends, nights and holidays, scheduling and staffing level;[16,17] and (vi) moral incongruency as nurses are expected to implement actions which they might perceive as morally wrong.[28]

Turnover can be either voluntary or involuntary (compulsory).[3] According to Morrell et al., the term 'turnover' is generally used to describe voluntary cessation of membership of an organization by an employee of that organization.[3] However, involuntary turnover occurs when employees are forced to leave the organization, which might occur for reasons, such as the real or perceived need to reduce costs, restructure an organization or downsize its structure; or for individual reasons related to an employee, such as poor performance.[3]

Turnover has been defined and estimated as a calculated percentage rate of employees who voluntarily leave an organization, or are dismissed, during a specific time period.[29] According to the Ministerial Taskforce (the Queensland health document), turnover rate is the annual percentage of separation rate of a selected group of employees obtained by dividing the number of net leavers over the original number of employees at the start of the year.[30]

For nurses, there has been high turnover over time. For example, the American Nurses Association reports a 40% turnover rate for nurses in 1962.[31] Price and Muellar noted that 20% of nurses left their employment, with 19% of those voluntarily quitting their jobs during a study of 14-month duration.[2]

Nurses have had higher turnover rates than other professions. An Australian study of the determinants of quits and separations among permanent and temporary workers showed that, among occupational groups, nurses and teachers on permanent contracts are the most likely to quit. According to the Ministerial Taskforce, the average turnover rate for Queensland health services for all categories of permanent staff from 1994–1998 was 20%, with the average annual turnover rate for nursing staff across all categories being 20.2%.[30]

In the UK, Gray and Phillips in their study of turnover among National Health Service staff indicated a turnover rate for all staff of 13.6%, whereas data for RNs and health visitors (combined) indicated a rate of 14.1%.[32] This rate rose to 15.4% for full-time staff. Ireland has also experienced a problem with turnover.[33] Results of a study at

Beaumont hospital in Dublin during the period 1990–1992 showed a turnover rate of 52% in 1990; 29% in 1991; and 22% in 1992.[34] McCarthy *et al.* indicated a significant problem with turnover rates in nursing and midwifery across services in the Irish health-care system.[34]

The American Health Care Association in the year 2002 investigated nursing position vacancy and turnover rates in hospitals or other facilities, at the national, regional and state levels. The study involved directors of nursing (DONs), RNs with administrative duties (administrative RNs), staff RNs, licensed practical nurses (LPNs), licensed vocational nurses, certified nurse assistants (CNAs) and non-certified aides. The results showed that the annual turnover rates were highest among CNAs (78.1%), followed by staff RNs (56.2%) and LPNs (53.6%). Whereas, the annual turnover rates for DONs and RNs with administrative duties were 46.6% and 42.8%, respectively.[35]

Finally, in Jordan, a study was conducted to identify factors influencing Jordanian nurses' job dissatisfaction and to estimate the magnitude of anticipated withdrawal from practice among a random sample of 250 RNs. Results showed that Jordanian nurses were generally dissatisfied with working conditions (transportation, childcare facilities), payment, nursing and hospital administrators' support, and professional growth and development. The withdrawal rate of RNs who were likely to leave nursing was 18.4%.[36] The movement was seen from Jordan to the Gulf area, in particular, among nurses and physicians, where wages and benefits were more attractive than in Jordan. According to the Directors of Nursing in the Ministry of Health (MOH) and Jordan University Hospital, 18–21% of their nursing workforce had left to the Gulf States.[37]

One way of determining the magnitude of the problem of turnover is to estimate the actual turnover rate.[38] Turnover rate is calculated in the present study using the turnover index by dividing the total number of leavers in a specified time period, usually 1 year, over the total number of employees during the same period, and then multiplying the result by 100%.[39]

METHODS
Design

A descriptive, exploratory, cross-sectional retrospective survey design was used. A structured interview method was utilized to investigate the turnover rate among RNs in Jordanian hospitals.

Population and sample

The population of this study consisted of all hospitals in Jordan, which include the public, private and university hospitals. Military hospitals were excluded from this study. The study used a cluster random sample to answer research objectives. A conclusive list of all hospitals in Jordan (99 hospitals; 33 public, 64 private and 2 university hospitals) was obtained from the MOH website.[40] Then three clusters were created; one for northern governorates (Irbid, Jarash, Ajloun and Mafraq), the second was for middle governorates (Amman, Zarqa, Madaba and Balqa), and the third cluster was for the southern governorates (Aqaba, Ma'an, Karak and Tafela). Table of random numbers was used to select hospitals from each cluster. A proportional random sample of 25% of the total number of hospitals in Jordan was taken (see Table 1); so that 24 hospitals were selected to be included in the study sample (5 from the northern region, 16 from middle region and 3 from the southern region).

Data collection was conducted in Jordan retrospectively during 1-year period (June 2007 to June 2006). Jordan is a middle-eastern country with a population of about 5.6 millions.[41] The health sector study found that Jordan had performed better than most countries in the region in terms of accessibility of health services and its outcomes.[42]

According to the Jordan Nurses and Midwives Council, there are around 11 000 RNs, and 2000 of them are outside the country.[43] Nurses in Jordan are classified into RNs with bachelor's degree or three years' diploma, LPNs with two years' diploma, and nursing assistants with secondary schools education or special training programmes. In this study, the target population was only RNs.

Registered nurses in Jordanian hospitals provide their services through a network of about 110 hospitals, distributed all over the country (Table 1). These hospitals are owned and run by (i) the public sector, which is represented by the MOH, the Royal Medical Services, and two university hospitals, Jordan University Hospital in Amman and King Abdullah University Hospital in Irbid; and (ii) the private sector.[42]

Data collection procedures and ethical considerations

At the beginning, the formal approval of the institutional review board at Jordan University of Science and Technology was obtained. Then permission from the MOH and hospital administrations to interview the responsible

Table 1 Jordanian hospitals according to the region (northern, middle and southern) and the health sector (MOH, RMS, Private and University)

N	Governorate	MOH hospitals	RMS hospitals	Private hospitals	University hospitals	Total
1	Irbid (northern)	8	1	6	1	16
2	Mafraq (northern)	3	0	1	0	4
3	Jarash (northern)	1	0	0	0	1
4	Ajloun (northern)	1	0	0	0	1
5	Zarqa (middle)	2	1	7	0	10
6	Balqa (middle)	4	0	1	0	5
7	Amman (middle)	7	6	42	1	56
8	Madaba (middle)	3	0	1	0	4
9	Karak (southern)	2	1	3	0	6
10	Tafela (southern)	0	1	0	0	1
11	Ma'an (southern)	2	0	0	0	2
12	Aqaba (southern)	0	1	3	0	4
Total		33	11	64	2	110

MOH, Ministry of Health; RMS, Royal Medical Services.

persons in their institutions was also obtained. Data were collected from the nursing executive officers, or human resources directors of each hospital through face-to-face or telephone interviews using structured data collection forms.

The participation of hospitals in this study was voluntary. The data were collected only for scientific and statistical purposes, and confidentiality was maintained. The raw data were destroyed after the analysis process. All cooperating hospitals remained anonymous in the study.

Instrument

Turnover rate was calculated by dividing the total number of leavers in a specified time period, which was one year, over the total number of employees during the same period, and then multiply the result by 100%.[39]

A data collection form was used to collect the required data from the participants in a uniform manner. This form consisted of two parts. The first part was designed to collect the required data to achieve the study objectives, and the second part collects the necessary numbers to calculate the needed data in the first part.

RESULTS

Nursing turnover rate was calculated using Armstrong index; by dividing the total number of leavers in a specified period of time, usually one year, over the total number of employees during the same period, and then multiplying the result by 100%.[39] Chi-squared (χ^2) test was used to test the difference between the nursing turnover rates among the different categories.

The results of this study were based on data obtained from 21 hospitals in Jordan. Data were collected from 21 of total 24 hospitals selected in the study sample, so the response rate was 87.5%. The sample size was designed to be 25% of the total number of hospitals in Jordan. These hospitals were five from the northern region (21 hospitals), 13 from the middle (68 hospitals) and three from the southern region (10 hospitals). Military hospitals were excluded from this study because there is no voluntary leaving, and their staff are circulating in hospitals in a regular manner. The sample was distributed according to health sector classification in Jordan into private hospitals, which included 10 hospitals, public hospitals, which included nine hospitals, and the university hospitals, which included two hospitals.

The sample was also classified according to its distribution in the living areas into rural hospitals and urban hospitals. The hospitals located in the major cities, Amman, Irbid and Zarqa, were considered as urban hospitals, whereas, the remaining hospitals were considered as rural hospitals. According to hospital specialty, the

Table 2 Turnover rates according to gender, geographical region, health sector, place of residence and hospital specialty

Variable	Total number of RNs in study sample	Total RNs who left their positions	Turnover rate	χ^2	P
Gender					
Female	1031	373	36.2%	0.19	0.667
Male	1095	406	37.0%		
Geographical region					
Northern	495	155	31.3%	25.91	< 0.0005
Middle	1489	593	39.8%		
Southern	142	31	21.8%		
Health sector					
Public	978	289	29.5%	154.25	< 0.0005
Private	330	220	66.7%		
University	818	270	33.0%		
Place of residence					
Urban	1495	597	39.9%	23.56	< 0.0005
Rural	631	182	28.8%		
Hospital specialty					
General	2012	736	36.6%	0.06	0.806
Specialized	114	43	37.8%		

RN, registered nurse.

sample was classified into specialized hospitals (four hospitals) and general hospitals (17 hospitals). A specialized hospital is the hospital that provides a single health service specialty, whereas, a general hospital provides more than one specialty.

The overall turnover rate

Data collected showed that the total number of RNs in all sample hospitals was 2126. Of them, 779 nurses left their positions at different times during study period, so that the overall turnover rate among the study sample was 36.6% (37.0% for male RNs and 36.2% for female RNs). There was no statistically significant difference between the two groups (men and women) using chi-squared test ($\chi^2 = 0.19$, d.f. = 1, $P = 0.6669$). The turnover rates according to the study variables are presented in Table 2.

Turnover rate according to geographical region

Hospitals in Jordan were distributed according to the geographical location into northern, middle and southern regions. There was statistically significant difference between the estimated turnover rates among these regions ($\chi^2 = 25.91$, d.f. = 2, $P < 0.0005$). The turnover rate was highest in the middle region and lowest in the southern region.

Turnover rate according to health sector

Hospitals in Jordan were classified according to health sector into three classes: public, private and university hospitals. Statistically, there was a significant difference between these values ($\chi^2 = 154.25$, d.f. = 2, $P < 0.0005$). It was highest among private hospitals and lowest among public hospitals.

Turnover rate according to place of residence

Study results revealed that urban hospitals have higher turnover rate (39.9%) than rural hospitals (28.8%). There was a statistically significant difference between the two turnover rates ($\chi^2 = 23.56$, d.f. = 1, $P < 0.0005$).

Turnover rate according to hospital specialty

Data analysis revealed that there was no statistically significance in turnover rate between general hospitals and specialized hospitals ($\chi^2 = 0.06$, d.f. = 1, $P < 0.8057$).

Seasonal variations in nursing turnover rates

The results showed that the overall turnover rate had a seasonal trend through the months of the study. About half (47%) of the turnovers took place in the period from May to August of the study period.

In summary, the results of the current study show that turnover rates among RNs in Jordanian hospitals were congruent with the international rates. The estimated turnover rate was not affected by the gender of RNs, or hospital specialty, but was significantly associated with the location of hospital according to the geographic region, health sector and place of residence.

DISCUSSION AND IMPLICATIONS

International rates of turnover among RNs vary from one year to another. The turnover rate among RNs in the USA was 40% in 1962 and 56.2% in 2002.[35] In the UK, turnover rate was 22%.[32] The turnover rate in Ireland was 52% in 1990, 29% in 1991 and 22% in 1992.[44] The average turnover rate for Queensland health services from 1994 to 1998 was 20%. The calculated overall turnover rate among RNs in Jordan was congruent with these values, and it was 36.6%. As this phenomenon was considered a problem in the USA, UK and other countries, it could be also considered a problem for Jordanian hospitals. Lack of previous studies addressing this phenomenon in Jordan necessitated the conduct of this study to explore the issue. This value represents the size of this phenomenon in Jordanian hospitals. In addition, its impact on the health-care system in Jordan should be investigated.

The estimated overall turnover rate was 36.6%, which is considered high. This can be attributed to a number of factors, such as high demand for nursing workforce by regional and international hospitals and health-care systems. The president of Jordanian Nurses Association reported that the number of Jordanian RNs working abroad exceeds 2000 RNs.[43] Another reason for this high turnover rate is the gap in salary and benefits between different hospitals. This gap motivates nurses to change employers as soon as new position becomes available in

hospitals providing higher salaries and benefits (university and MOH hospitals). Another factor attributing to the high turnover rate is the tendency of RNs to seek employment in hospitals close to their place of residence.

Results also showed that peripheral hospitals in northern and southern regions had low turnover rates among RNs. Key informants from these hospitals (chief nursing officer or hospital director) attributed this low turnover rate to the fact that most of their RNs are residents of the area and to the fact that their hospitals are the only ones in their region. On the other hand, hospitals in major cities (Amman, Irbid and Zarqa) had higher turnover rates, because nurses there had more choices and more opportunities to have better job inside the country or internationally.

Results showed that private hospitals had a higher turnover rate more than double than both public and university hospitals. University hospitals had a higher turnover rate than public hospitals. Factors that can lead to high turnover rate among private hospitals include low salaries and benefits, lack of job security and work overload. On the other hand, university and MOH hospitals provide better salaries and working conditions, which motivate RNs to seek employment at these hospitals. In addition, the location of MOH hospitals also motivates nurses to seek employment in close setting to area of residence. This extremely high turnover rate in private hospitals might have played a role in encouraging private hospitals to seek nurses from international markets like India and Philippines.

Results show that the turnover rate among RNs in urban hospitals is clearly higher than that in rural hospitals. Most of the hospitals located in urban areas are private hospitals. Many variables like opportunities, competition and easy communications in urban areas motivate employed nurses to look for better working conditions either nationally or internationally; whereas in rural areas, hospitals are mostly public (MOH) hospitals and located close to place of residence of employed nurses. Therefore, these factors encouraged nurses to stay.

Results show that RNs tend to leave their positions during summer months, from May to August. Nearly half (47%) of the RNs left their positions during this period. The peak of turnover was in June. Usually, international and regional recruitment of nurses occurs in summer months. University students graduate to the labour market during summer months. Transportation and communication are easier during the summer.

The results of this study have several implications: (i) managers, health planners, decision or policy-makers and academic institutions need to be aware of the existence of this problem. Awareness is the first step towards successful nursing retention strategies. (ii) The findings of this study provide the basis for developing future comprehensive prevention programmes to be directed towards reducing the staff turnover, and then to reduce its impacts on health systems. (iii) Results show no difference in the turnover rate between male and female RNs. Therefore, employers should direct their recruitment policies to recruit the competent regardless of gender. (iv) Results show that the turnover rate among RNs in private hospitals was high, which might explain the increased hiring of foreign RNs in private hospitals. (v) Results indicate that place of residence might play a significant role in retaining RNs and reducing turnover. Hospital and nursing managers are encouraged to recruit RNs living close to their hospitals. (vi) Results show that there is a seasonal trend in turnover behaviour among RNs in Jordan, where most turnovers take place during summer months. Hospital and nursing administrators should have contingency plans during summer months to recruit RNs in a timely fashion to ensure the provision of nursing care without serious negative impacts on the quality of services. (vii) RNs working in the MOH are less likely to leave their positions indicating a high retention. The factors leading to this tendency should be studied and identified to benefit other sectors. (viii) Finally, future research studies are needed to confirm the findings of this study and to provide a better understanding of the associated factors and predictors of this problem in Jordan. In addition, further research is needed to identify the causes of differences in the turnover rates among the different study variables like geographical area, health sector and place of residence.

LIMITATIONS OF THE STUDY

This study is only a preliminary step in studying and investigating the phenomenon of nursing turnover in Jordanian hospitals. The literature on turnover in Arab countries is limited. The results of the current study reflect the situation during the study period, so more studies are needed to confirm the evidence of this problem in Jordan.

CONCLUSION

This study provides descriptive information about the current turnover rate among RNs in Jordanian hospitals. The estimated overall turnover rate was 36.6%, which was congruent with international turnover rates. Turnover among RNs in Jordanian hospitals is considered a problem that requires effective strategies to deal with and control. Further research is required to identify the causes, and to explain the differences in the turnover rates among the different study variables. The nurse's gender and hospital specialty variables did not affect turnover rate among RNs in Jordanian hospitals. On the other hand, place of residence, geographical region and health sector significantly affected the turnover rate. Seasonal trends in turnover were observed because of many factors, and several implications were established.

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