






Job rotation approach in nursing profession

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Abstract

Background: The nursing profession still needs more attention from decision-makers to enhance satisfaction and commitment in the work environment.

Aims and objectives: This study aims to explore the perceived level of job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who previously had job rotation experience in Jordan. The study also investigates the correlation between studied variables and job rotation approach based on the type of hospitals. Furthermore, it also evaluates the contribution of job rotation, job commitment and many demographic factors in predicting job satisfaction among nurses who had job rotation experience in Jordan.

Design: The study adopted the cross-sectional survey design of the correlational type.

Methods: The study was performed on a stratified convenience sample of 786 nurses from five hospitals in Jordan. The scales used to explore the perceived level of

studied variables were obtained from previously published studies, translated to Arabic language and then checked for validity and reliability before being used.

Results: Results show that job rotation, job satisfaction, job commitment, job turnover and job conflict are all found to be at high levels. Job rotation approach among nurses seems necessary since job satisfaction and job commitment are positively correlated with job rotation. Also, job commitment, job rotation and gender are identified as significant predictors of job satisfaction among nurses in Jordan.

Conclusion: Nurses who experienced job rotation are found to have high levels of job satisfaction and job commitment. However, job turnover is also found to be at high level which should be emphasised. Nurse leaders are advised to apply the job rotation approach by moving nurses between different departments in a planned manner to increase the level of job satisfaction and job commitment.

Keywords: job rotation, job satisfaction, job commitment, job conflict, job turnover, nurses.

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Introduction

Nursing as a humanistic career is prone to more levels of stressors compared to other professions (1). One of the solutions to tackle the problem of burnout among nurses is job rotation approach that requires moving nurses from one department to another in a planned way leading to reduced job conflict, enhanced job satisfaction and enhanced organisational commitment (2, 3). Nurses are the biggest human resource in any hospital towards achieving success. Thus, researchers have studied many factors that help to improve the workplace and increase productivity among these factors is the job rotation

approach. Job rotation approach is a dynamic process which involves shifting nurses between two or more department within a hospital in a planned way to promote advantages to both nurses and hospitals (2). In previous studies, job rotation approach among nurses was undeniable to provide more skills and knowledge, promote job satisfaction, develop organisational commitment and reduce job conflict (2, 4).

Job satisfaction affects nurses' lives besides its effects on organisations' productivity. Job satisfaction is defined as a good feeling to retain a certain job as long as possible (5, 6). Hospitals are trying hard to secure job satisfaction for nurses to decrease the level of turnover, enhance organisational commitment and achieve the organisation's goals and values (7). Therefore, many previous studies have addressed the role of job satisfaction on many factors such as job commitment (8), self-efficacy (9) and job turnover (10).

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Job commitment is highly connected with job satisfaction among nurses (8, 11). Moreover, job commitment is positively correlated with friendship networks (12), and organisational trust (11), while it is negatively correlated with job burnout (3) and job turnover.

Job turnover can be defined as nurse's intent to leave their profession or to change their workplace in near future (10). However, it is widely documented that the turnover among nurses had risen in the last decades. In Canada, the estimated rate of turnover among nurses were 19.9% (13), and in The United States, it was 13.9% (14). Remarkably in Jordan, the turnover rate has been estimated to be as high as 36.6% (15) which might be related to lack of professional status or low self-evaluation among them (16).

Job rotation approach is seen as one of the solutions to tackle many problems among nurses. Several international studies have been reported on the job rotation approach among nurses across the world (3, 17, 18). In Jordan, the job rotation approach has recently been implemented to tackle many problems faced by nurses. To the best of our knowledge, this is the first study in Jordan that directly investigates the association of job rotation approach with factors such as job satisfaction, job commitment, job turnover, and job conflict which is the main aim of this study. The study also aims to examine the perceived level of job rotation approach, job satisfaction, job commitment, job turnover and job conflict among nurses who had job rotation experience (at least 3 months) in Jordan based on the type of hospitals. Finally, it also evaluates the contribution of job rotation, job commitment, gender, marital status, experience, work position and educational level in predicting job satisfaction among nurses who had job rotation experience in Jordan. In summary, this study aims to answer the following questions:

- 1 What is the perceived level of job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who had job rotation experience based on the type of hospital in Jordan?
- 2 What are the correlations between job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who had job rotation experience based on the type of hospital in Jordan?
- 3 What is the contribution of job rotation, job commitment, gender, marital status, experience, work position and educational level in predicting job satisfaction among nurses who had job rotation experience in Jordan?

Methodology

Study design

A cross-sectional survey design of the correlational type was used in this study to determine the perceived level

of job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who work in public, private and university hospital in Jordan.

Study population and sampling procedure

The study population consisted of all nurses in Jordan. Initially, the researchers divided the population into three categories: public, private and university hospitals. However, these sectors are located in Amman, the capital of Jordan. They are one university hospital, two private hospitals and two public hospitals. These hospitals were chosen because of their large number of nurses and because they are readily accessible to the researchers. Exclusion criteria included military hospitals, nurses with less than 1 year of experience, nurses who did not experience job rotation, hospitals with bed-capacity less than 50 beds and nurses with special conditions such as maternity leave, sick leave and annual leave.

A stratified sample process was used to select a sample size of approximately 20% from each hospital. Then, a total of 1030 nurses who had job rotation experience were selected according to the stratified convenience sampling method to represent the study sample (public 400, private 230, and university 400). Out of 1030 nurses, 820 participants completed the questionnaire with a response rate of 82%, 56% and 83% for public, private and university hospitals, respectively. Due to missing data, 34 participants were excluded and 786 participants (public 326, private 129, and university 331) had valuable questionnaires in this study.

Ethical guidelines set by the institutional review board were followed during the collection of data. Thereafter, the questionnaires were administered by the researchers between January and March 2020. An envelope containing a consent form, demographic factors questionnaire, and other scales questionnaires were constructed. Each participant was required to give an informed consent before completing the questionnaires. Participants were assured of their right to refuse to participate in this study and confirmed that their responses will be confidential and anonymous.

Study tools

The self-administered survey was measured on a 4-point Likert scale. For positive items, the scale was as follows: 4 'Strongly Agree', 3 'Agree', 2 'Disagree', 1 'Strongly Disagree'. Negative items were assessed in the reverse order. Permission was sought from the authors to use their published scales via e-mail. All scales were translated from English to Arabic language by bilingual experts in nursing, psychology, English and Arabic to make it appropriate for the participants in this study. For reference purposes, both the original

scale items and translated scale items were included in the survey.

Job rotation. Job rotation scale was used to measure the perceived level of job rotation among nurses in Jordan. The job rotation scale consisted of nine items that were adapted from Ho et al. (2). Official permission was sought from the authors to use the scale. To assess the validity and reliability, the scale was conducted on 40 nurses outside the study sample. The Cronbach's alpha of job rotation scale was 0.89 while correlation coefficients ranged between 0.61 and 0.91.

Job satisfaction. Job satisfaction scale has been used to measure the level of satisfaction among nurses' jobs in Jordan. The scale consisted of eight items, and it was compiled from 2 different research studies (19, 20). Permissions were also obtained from the authors to use their published scales. To assess the validity and reliability, a pilot study of 40 nurses outside the study sample was performed which showed a Cronbach's alpha of 0.87 indicating the appropriateness of the reliability. Correlation coefficients ranged between 0.69 and 0.89.

Job commitment. Job commitment scale was used to assess the nurses' level of commitment to their work in Jordan. It consisted of eight items adapted from Ho et al. (2). Official permission was sought from the authors to use the scale. A pilot study of 40 nurses outside the study sample was performed to assess the reliability coefficient (Cronbach's alpha) of the job commitment scale which was 0.87. Correlation coefficients ranged between 0.65 and 0.86.

Job turnover. Job turnover scale was used to assess the level of job turnover among nurses. It consisted of seven items, and it was compiled from 2 different researches studies (13, 15). A pilot study of 40 nurses outside the study sample was performed to assess the reliability coefficient (Cronbach's alpha) of the job turnover scale which was 0.87. Correlation coefficients ranged between 0.67 and 0.90. A higher mean score indicates a higher level of job turnover.

Job conflict. Job conflict scale was used to evaluate the level of job conflict among nurses. This scale consisted of seven items, and it was compiled from 2 different researches studies (2, 21). A pilot study of 40 nurses outside the study sample was performed to assess the reliability coefficient (Cronbach's alpha) of the job conflict scale which was 0.79. Correlation coefficients ranged between 0.54 and 0.84. A higher mean score indicates a higher level of job conflict.

To allocate the overall level, the following standards have been illustrated as low average score ranged between (1.00–2.50), high average score ranged between (2.51–4.00).

Data analysis

Data were analysed using Statistical Package for Social Science (SPSS. V22). Descriptive statistics were applied to demographic factors. Normality distribution and outliers were detected before analysing the results. The level of statistical significance was set at $p \leq 0.05$. Means, standard deviations and overall scores were used to answer question number 1. Pearson's correlation coefficient was used to answer question number 2. Multiple linear regression analysis (stepwise regression) was used to answer question number 3.

Results

Descriptive statistics of the sample's demographic factors are shown in Table 1. Most participants who had experienced job rotation in the public sector were married, had more than or equal to 11 years of work experience, had a bachelor's degree and worked in intensive care units. In the private sector, all demographic factors were relatively similar. In university hospital sector, most participants were female, married and had a bachelor's degrees (Table 1). These results are discussed in details according to the research questions as follows:

Question One: What is the perceived level of job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who had job rotation experience based on the type of hospital in Jordan?

To answer this question, means, standard deviations and the overall scores are calculated and presented in Table 2. These results show that the scores of job rotation

Table 1 Demographic factors of nurses' study sample (N = 786).

Factors	Type of hospital Descriptive	Public	Private	University
		(326) Frequency (n %)	(129) Frequency (n %)	(331) Frequency (n %)
Gender	Male	155 (47.5)	64 (49.6)	103 (31.1)
	Female	171 (52.5)	65 (50.4)	228 (68.9)
Marital status	Single	54 (16.6)	53 (41.1)	85 (25.7)
	Married	272 (83.4)	76 (58.6)	246 (74.3)
Experience	≤ 5 Year	35 (10.7)	43 (33.3)	51 (15.4)
	6-10 Year	87 (26.7)	43 (33.3)	139 (42)
	≥11 Year	204 (62.6)	43 (33.3)	141 (42.6)
Educational level	Diploma	58 (17.8)	17 (13.2)	56 (16.9)
	Bachelor	244 (74.8)	100 (77.5)	241 (72.8)
	Postgraduate	24 (7.4)	12 (9.3)	34 (10.3)
Work position	ICU	189 (58)	70 (54.3)	155 (46.8)
	Floor (medical & surgical)	110 (33.7)	44 (34.1)	159 (48)
	Managers	27 (8.3)	15 (11.6)	17 (5.2)

are 2.95, 2.89 and 2.67 for public, private and university sectors, respectively, indicating a high level of job rotation in all hospital sectors. Nurses working in public hospitals have the highest perceived level of job rotation. Table 2 also reveals that the scores for job satisfaction and job commitment among are the highest in nurses working in private hospitals. Regarding the level of job turnover and the level of job conflict, nurses working in the university sector have the highest level.

Question Two: What are the correlations between job rotation, job satisfaction, job commitment, job turnover and job conflict among nurses who had job rotation experience based on the type of hospital in Jordan?

To answer this question, Pearson's correlation coefficient (r) was used to analyse the variables as illustrated in Table 3. Pearson's correlation coefficients between all studied variables are as follows:

Public hospitals

The perceived level of job rotation among nurses working in public hospitals is positively correlated with job satisfaction ($r = 0.31$, $p < 0.001$), and job commitment ($r = 0.16$, $p < 0.001$). However, there is no statistically significant correlation between the perceived level of job rotation with either job turnover ($r = 0.00$, $p < 0.98$) or job conflict ($r = 0.04$, $p < 0.43$) among nurses in public hospitals. Moreover, job satisfaction is found to be positively correlated with job commitment ($r = 0.65$, $p < 0.001$) and negatively correlated with both job turnover ($r = -0.52$, $p < 0.001$) and job conflict ($r = -0.15$, $p < 0.001$). Job commitment is negatively correlated with job turnover ($r = -0.57$, $P < 0.001$), and job conflict ($r = -0.22$, $p < 0.001$). Finally, job turnover and job conflict are positively correlated with each other ($r = 0.27$, $p < 0.001$).

Private hospitals

Table 3 shows the correlation coefficients among nurses who are working in private hospitals and experienced job rotation. The perceived level of job rotation is positively correlated with job satisfaction ($r = 0.31$, $p < 0.001$) and

job commitment ($r = 0.22$, $p < 0.001$). However, there is no correlation between the perceived level of job rotation and either job turnover ($r = -0.04$, $p = 0.63$), or job conflict ($r = 0.06$, $p = 0.48$). Besides, job satisfaction is positively correlated with both job commitment ($r = 0.57$, $p < 0.001$) and job rotation ($r = 0.31$, $p < 0.001$). On the other hand, job commitment is negatively correlated with both job turnover ($r = -0.46$, $p < 0.001$) and job conflict ($r = -0.29$, $p < 0.001$). Finally, job turnover is negatively correlated with job satisfaction ($r = -0.44$, $p < 0.001$) and positively correlated with job conflict ($r = 0.36$, $p < 0.001$).

University hospitals

Table 3 shows that nurses working in university hospitals have a positive correlation between the perceived levels of job rotation and both job satisfaction ($r = 0.33$, $p < 0.001$) and job commitment ($r = 0.32$, $p < 0.001$). There is no significant correlation between the perceived levels of job rotation and job conflict ($r = 0.00$, $p = 0.96$). However, a negative correlation exists between the perceived level of job rotation and job turnover ($r = -0.10$, $p = 0.06$). Also, Table 3 shows a positive correlation between job satisfaction and job commitment ($r = 0.56$, $p < 0.001$). On the other hand, there is no significant correlation between job satisfaction and job conflict ($r = 0.05$, $p = 0.36$). Job commitment is negatively correlated with both job turnover and job conflict ($r = -0.13$, $p = 0.02$). Finally, job turnover is positively correlated with job conflict ($r = 0.22$, $p < 0.001$).

Question Three: What is the contribution of job rotation, job commitment, gender, marital status, experience, work position and educational level in predicting job satisfaction among nurses who had job rotation experience in Jordan?

To answer question three, multiple linear regression analysis (stepwise regression) was performed, and the results are displayed in Tables 4 and 5.

Table 4 shows the regression analysis (stepwise method) to determine the predictors of job satisfaction among nurses who had experienced job rotation. Result shows that the three factors which can significantly

Table 2 Mean, standard deviation and overall levels between all study variables

Type of hospital Variables	Public (N = 326)			Private (N = 129)			University (N = 331)		
	M	SD	Level	M	SD	Level	M	SD	Level
Job rotation	2.95	0.50	High	2.89	0.44	High	2.67	0.54	High
Job satisfaction	2.83	0.49	High	3.01	0.45	High	2.72	0.50	High
Job commitment	2.74	0.41	High	2.98	0.41	High	2.57	0.34	High
Job turnover	2.83	0.44	High	2.72	0.50	High	2.84	0.48	High
Job conflict	2.58	0.24	High	2.57	0.23	High	2.80	0.31	High

M, Mean; SD, Standard Deviation.

Table 3 Pearson's correlation coefficient between all study variables among nurses based on the type of hospital

Sector	Factor	1.JR		2.JS	3.JCM	4.JT	5.JC
Public	1.JR	<i>r</i>	-	0.31	0.16	0.00	0.04
		<i>p</i>	-	0.001**	0.001**	0.98	0.43
	2.JS	<i>r</i>	0.31	-	0.65	-0.52	-0.15
		<i>p</i>	0.001**	-	0.001**	0.01**	0.001**
	3.JCM	<i>r</i>	0.16	0.65	-	-0.57	-0.22
		<i>p</i>	0.001**	0.001**	-	0.001**	0.001**
	4.JT	<i>r</i>	0.00	-0.52	-0.57	-	0.27
		<i>p</i>	0.98	0.001**	0.001**	-	0.001**
	5.JC	<i>r</i>	0.04	-0.15	-0.22	0.27	-
		<i>p</i>	0.43	0.001**	0.001**	0.001**	-
Private	1.JR	<i>r</i>	-	0.31	0.22	-0.04	0.06
		<i>p</i>	-	0.001**	0.001**	0.63	0.48
	2.JS	<i>r</i>	0.31	-	0.57	-0.44	-0.21
		<i>p</i>	0.001**	-	0.001**	0.001**	0.001**
	3.JCM	<i>r</i>	0.22	0.57	-	-0.46	-0.29
		<i>p</i>	0.001**	0.001**	-	0.001**	0.001**
	4.JT	<i>r</i>	-0.04	-0.44	-0.46	-	0.36
		<i>p</i>	0.63	0.001**	0.001**	-	0.001**
	5.JC	<i>r</i>	0.06	-0.21	-0.29	0.36	-
		<i>p</i>	0.48	0.001**	0.001**	0.001**	-
University	1.JR	<i>r</i>	-	0.33	0.32	-0.10	0.00
		<i>p</i>	-	0.001**	0.001**	0.06	0.96
	2.JS	<i>r</i>	0.33	-	0.56	-0.24	0.05
		<i>p</i>	0.001**	-	0.001**	0.001**	0.36
	3.JCM	<i>r</i>	0.32	0.56	-	-0.13	-0.13
		<i>p</i>	0.001**	0.001**	-	0.02*	0.02*
	4.JT	<i>r</i>	-0.10	-0.24	-0.13	-	0.22
		<i>p</i>	0.06	0.001**	0.02*	-	0.001**
	5.JC	<i>r</i>	0.00	0.05	-0.13	0.22	-
		<i>p</i>	0.96	0.36	0.02*	0.001**	-

JR, Job Rotation; JS, Job Satisfaction; JCM, Job Commitment; JT, Job Turnover; JC, Job Conflict; *r*, Pearson correlation; *p*, Significant at level 0.001**, 0.05*.

predict job satisfaction are job commitment, job rotation and gender which were responsible for a combined total variation of 41.4%. Job commitment explains 37.9% of the variance in job satisfaction ($R^2 = 0.379$, $p < 0.001$). Moreover, job rotation accounts for 3.1% of the variance in job satisfaction ($R^2 = 0.031$, $p < 0.001$). Finally, gender is found to account for 0.4% of the variance as a predictor of job satisfaction ($R^2 = 0.004$, $p < 0.001$). However, Table 5 indicates that other factors are not considered to be significant predictors of job satisfaction among nurses in Jordan.

Discussion

Generally, the results reveal that nurses who had experienced job rotation in the studied sectors are more likely satisfied and committed to their jobs. This finding is consistent with previous studies (22, 23). Atefi, et al. (20) found that poor nursing leadership and work environment play an important role in decreasing the level of

satisfaction. In Jordan, nurses were reported to have a moderate level in job satisfaction and job commitment (24).

In this study, nurses in studied sectors seem to accept the approach of job rotation since job satisfaction and job commitment among them were positively correlated with it. Most nurses have indicated that the job rotation approach can enable them to acquire more skills and knowledge, motivate nurses, reduce boredom and improve productivity. This result is in parallel with some previous studies (2, 25, 26), but in contrast with a study by Dinis & Fronteira (18) which found that dissatisfied nurses with job rotation approach were professionally satisfied in Portugal.

Based on expectations, job turnover is still at a high level since a study conducted previously in Jordan by Hayajneh et al. (15). Nurses in Jordan as in other countries generally intent to leave their profession as well as their workplace, and this can be explained by low self-evaluation and poor professional status (5, 16), negative

Table 4 Multiple Linear Regression Analysis (stepwise method) For Job Satisfaction Predictors

Model	R	R ²	R change	Unstandardised Coefficients		t	Sig.
				B	Std. Error		
1 ^a	0.616	0.379	0.379	0.758	0.095	7.993	<0.001*
				0.757	0.035	21.892	<0.001*
2 ^b	0.640	0.410	0.031	0.436	0.106	4.121	<0.001*
				0.697	0.035	19.859	<0.001*
				0.173	0.027	6.331	<0.001*
3 ^c	0.644	0.414	0.004	0.315	0.116	2.706	<0.001*
				0.700	0.035	20.009	<0.001*
				0.173	0.027	6.374	<0.001*
				0.069	0.028	2.466	0.014*

^aPredictors: (Constant), Job commitment.

^bPredictors: (Constant), Job commitment, Job rotation.

^cPredictors: (Constant), Job commitment, Job rotation, Gender.

*Significant at p ≤ 0.01 level.

perceptions towards their work (27), lack of supervisor support (28) and high workload (29). On the other hand, no significant correlation between job rotation and job conflict is observed in this study. Another study found that job rotation helps to decrease the level of job conflict among nurses in Brazil (4).

Nurses in private sector exhibit the highest mean score in job satisfaction, job commitment, while they achieved the lowest mean score in job turnover and job conflict which indicate a good work environment and a good interaction with colleagues and supervisors. These results are in parallel with certain previous studies (30, 31), but disagrees with the findings of Yew et al. (19) and Top

et al. (11), who reported that nurses in public sector had higher satisfaction level than nurses in private sector.

Job conflict and job turnover are found to be at the highest level among nurses working in university sector compared to other sectors. Hence, nursing directors and managers in university sector should respond to such finding by offering positive reinforcement, that is by providing rewards and increasing income. It seems that nurses in university hospital sector suffer from time pressure, lack of personal accomplishment, severe physical and emotional exhaustion, and lack of promotion (1). This result is in parallel with certain previous studies (32, 33) but not with that of Semachew et al. (23) and Vermeir et al. (34).

Table 5 Excluded variables according to stepwise regression in job satisfaction.

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Gender	0.066b	2.349	0.019	0.084	0.998
	Marital status	0.003b	0.106	0.915	0.004	0.998
	Educational level	-0.053b	-1.870	0.062	-0.067	0.993
	Experience	0.026b	0.932	0.352	0.033	10.000
	Work position	-0.018b	-0.625	0.532	-0.022	0.999
	Job Rotation	0.181b	6.331	0.000	0.221	0.926
2	Gender	0.068c	2.466	0.014	0.088	0.998
	Marital status	-0.004c	-0.145	0.885	-0.005	0.997
	Educational level	-0.047c	-1.700	0.090	-0.061	0.992
	Experience	0.021c	0.768	0.443	0.027	0.999
	Work position	-0.018c	-0.649	0.517	-0.023	0.999
3	Marital status	0.007d	0.264	0.792	0.009	0.970
	Educational level	-0.042d	-1.519	0.129	-0.054	0.986
	Experience	0.030d	1.082	0.280	0.039	0.984
	Work position	-0.016d	-0.598	0.550	-0.021	0.998

b. Predictors in the model: (constant), Job commitment.

c. Predictors in the model: (constant), Job commitment, Job rotation.

d. Predictors in the model: (constant), Job commitment, Job rotation.

Job commitment, job rotation and gender are found to be important predictors of job satisfaction among nurses who had experienced job rotation. This result is in line with those of previous studies which found that job commitment is an important predictor of job satisfaction among nurses in Ethiopia (23) and China (35). It is noteworthy that other previous studies have shown other factors serve as predictors of job satisfaction among nurses, such as work climate, age, work position, experience, professional education, social support, control, role clarity and qualitative demands (12, 36, 37).

Limitations

One of the limitations in this study is the convenience sampling method, which may lead into biases and generalised conclusions. However, the sample size was increased in this study in order to overcome such limitation.

Conclusions and recommendations

This study shows that job rotation, job satisfaction and job commitment are all found to be at high levels among nurses who had experienced job rotation in Jordan. Job rotation is positively correlated with job satisfaction and job commitment. Job commitment, job rotation and gender are identified as significant predictors of job satisfaction among nurses who had experienced job rotation in Jordan. Nurses working in private hospitals have the highest perceived level of satisfaction in all studied variables. However, nurses working in university hospitals have the lowest mean score. Job turnover among nurses is generally at high level. Job turnover is a serious problem that nurses experience. Further studies are needed to investigate the factors associated with job turnover. Moreover, to develop psychological programs dealing with job conflict are needed. Finally, continuing to apply the job rotation approach is recommended to increase the level of job satisfaction and job commitment among nurses.

Relevance to clinical practice

This study provides important information about the job rotation approach with many important factors among nurses. Evidence-based protocols and policies regarding the job rotation are needed to enhance job satisfaction and job commitment. At the same time, this study also provides policymakers an exciting opportunity to

improve their workplace by adopting the job rotation approach.

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Conflict of interest

The authors have declared that no competing interests exist.

Author contributions

<i>Criteria</i>	<i>Author Initials</i>
Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data	OAA, SSA, EMS
Involved in drafting the manuscript or revising it critically for important intellectual content;	OAA, SSA, HAA, EMS, AAS, KNF
Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content;	OAA, SSA, HAA, EMS, AAS, KNF
Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.	OAA

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Authorship statement

The authors hereby confirm that they meet the criteria and they agree with the content of the manuscript. All authors approved the final version for submission.

Data availability statement

The data in this study are available on the following link: https://figshare.com/articles/dataset/Job_Rotation_Approach_in_Nursing_Profession/12815525

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