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The factors influencing the non-Saudi nurse turnover rate in King Fahad Armed Forces Hospital: an applied study

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Abstract

Background: The high turnover in Registered Nurses (RNs) is a critical indicator of the nurses' job market and an undesirable trend for healthcare employers. Nurse turnover is expensive and jeopardizes the quality of care and patient safety. This research aims to identify the most significant factors that have a strong influence on the nurse turnover rate in King Fahad Armed Forces Hospital.

Methods: A quantitative method was employed to gather the data regarding the factors influencing nurse turnover. A cross-sectional design was adopted for this research. The study population was 1,186 non-Saudi RNs, and the sample size is 297 RNs. The data from the questionnaires were analyzed using Minitab and Microsoft Excel software.

Results: Based on the test results, their workload is statistically significant with nurse's turnover. Factors linked to workload co-varies with nurse turnover; specifically, as the degree of dissatisfaction increases, the nurse turnover increases and, conversely, as the degree of satisfaction increases, the nurse turnover decreases. Similarly, as the degree of satisfaction in beneficiary factors increases, the nurse turnover decreases. The third test of the relationship between the nurse turnover and the organizational culture exhibits strength and direct association and concludes that, as the degree of satisfaction in the organizational culture increases, the nurse turnover decreases and vice versa.

Conclusion: In general, the organizational culture is the strongest contributing factor, while the workload factors are shown to be the least strong contributing factor to why nurses are leaving their jobs, leading to the rise in the turnover rate. The recommendation made by this study is that organizations must develop an effective strategic retention plan to support and encourage the nurses through increasing salaries and incentives, continuous job promotions, and suitable development practice as, if the organizations do not apply these kinds of strategies, high turnover will remain a problem and organizations will not be able to come up with appropriate solutions.

Keywords: Nurses; Turnover; Satisfaction; Organization; Non-Saudi.

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1. Introduction

Registered Nurses (RNs)turnover is an ongoing major quality problem and is a vital indicator of the nurse job market. Nurse turnover contributes to the organization's high occupation and training expenditure, leading to waste nursing educational resources Yang, Lv (1). There are frequently serious effects as a result of high nurse turnover rates on the nurses' perceptions of their psychological well-being, patient safety, and their organization's effectiveness [2]. Similarly, high employee turnover rates in the nursing field are likely to increase the loss of human capital, specifically of the skilled and experienced nurses, and, additionally, can lead to a shortage of nurses. Therefore, the healthcare services can be jeopardized, leading to increased numbers of workplace injuries and burnouts and high mortality and morbidity rates among the patients [3]. When employees are unhappy and dissatisfied with their work, this will lead them to leave the organization.

High turnover rates are often experienced in healthcare units and even in big hospitals. In many cases, with the entry of new nurses into the workforce, new and more incentives are needed to cater to the new nurses and ensure their quality service provision. Failure to provide some of these vital services generally leads to job dissatisfaction, which might increase the nurses' turnover in the hospitals [4]. Reputation, a sense of accomplishment, and individual achievement are some of the intrinsic causes while, on the other hand, resources, pay, working conditions, and the other benefits are the extrinsic causes. Both sets of causes involve factors that are derived from the work environment [5].

Globally, there is a correlation between patient care quality and nursing staffing levels. Similarly, patients receiving quality service is associated with the nurses' job satisfaction. When there is a continued deterioration in nurses' job satisfaction, then staff shortages worsen, and the staff turnover leads to problems such as the high cost of replacements [6]. Across the continent of Asia and in specific countries such as Indonesia, increased nurse turnover remains a problem. Problems such as poor communication between the management and the nurses and poor working environments have contributed to a lack of satisfaction, accelerating the nurses' desire to move from one hospital to another. Factors including co-worker support, work policies, requirements, working environments, pay, and professional status in the organization have been identified as significant factors influencing nurses' job satisfaction [5].

The stress in the nursing profession produces a drop in the nurses' levels of throughput and efficiency, the excellence of their performance, and their capacity to meet the healthcare service's job demands[7]. Therefore, identifying the nurses' stress levels will enable activities to be enabled that will reduce or modify the factors that cause stress and the proposal of strategies to control it, which will improve the quality of service and decrease turnover rates. Furthermore, nurses' complaints about stress

are related to a number of factors: fatigue, continuous anxiety, depression, feelings of dissatisfaction regarding the job, and the absence of quality in their job performance [8]. Compensation is very important for both parties, namely employees and the organization itself, as a medium to attract attention, maintain, and motivate employees to work harder. Since compensation is one reason people work, it can also serve as the main cause of employee satisfaction [9].

Similarly, compensation and remuneration are difficult and multidimensional factors of job satisfaction, and additional empirical evidence has proved that compensation has a substantial effect on job satisfaction [10]. However, to achieve distinct and structural success, a developing organizational culture is a basic administrative strategy to enhance the work atmosphere by underscoring fundamental principles [11]. Halter, Pelone (12) stated that several factors lead to nurses giving up their careers: ineffective supervisory relationships, poor opportunities for professional enhancement, and work situation characteristics.

In King Fahad Armed Forces Hospital (KFAFH) in Jeddah province, nurse turnover has been significantly experienced at times. Despite the hospital management's efforts to provide a good working environment, there could still be some obstacles that can be hypothesized to be causing the nurse turnover. Thus, the main research aim was to analyze the factors influencing the non-Saudi nurses in relation to the turnover rate in KFAFH. The study's objectives were to determine the relationship between workload and nurse turnover; to identify the effect of the beneficiary factors on nurse turnover; to determine the effect of organizational culture on nurse turnover.

The research hypothesizes were:

1. There is a statistically significant relationship between workload and nurse turnover.
2. There is a statistically significant relationship between beneficiary factors and nurse turnover.
3. There is a statistically significant relationship between organizational culture and nurse turnover.

2. Subjects and methods

2.1.Study design and setting

This research used a quantitative method to detect and define the factors influencing turnover rate among non-Saudi RNs in KFAFH. A cross-sectional design involves looking at data from a population at one specific point in time. The data were collected within one week from March 1 up to March 7, 2020. In this research, the population was the non-Saudi nurses working in different units, including the outpatient, the inpatient, and the emergency departments.

2.2.Study population and sampling

In this research, the target population was the non-Saudi nurses working in the different units, including the outpatient and inpatient units and the Emergency Department. Saudi nurses were excluded from the study. With the hospital having 1,186 non-Saudi RNs, by considering the response distribution among them as 50%, the margin of error as 5%, and the confidence level as 95%, 297 non-Saudi RNs were selected following a simple random sample, which is a type of probability sampling, using the Raosoft sample size calculator to define the actual size needed for this study [13].

2.3.Instrument and data collection methods

A structured survey questionnaire was used in the research. The questionnaire was adapted from previously published research used in similar research applied to nursing [14-16]. Before the completed questionnaire's distribution, the questions' validity and reliability were checked by asking 13 non-Saudi RN respondents to answer them to determine whether the questionnaire was understood or required modification. A quantitative method was used because it quantifies the problem identified and emphasizes objective measurement and statistical, mathematical, or numerical analysis through questionnaires[17].

A questionnaire is the primary data source in this research, and a questionnaire survey was created with closed-ended questions, according to the research aim and objectives. The questionnaire has two sections: section A contained the respondents' demographic profile, and section B contained the items related to the independent (i.e., job stress, workload, salary, and work environment) and dependent variables . The questions were shown on a five-point Likert scale to measure the factors influencing nurse turnover. The opinion poll, which comprised 26 questions, was distributed to the respondents through a Google Forms survey.

The data collection process commenced after getting approval from the KFAFH Research Center. The hospital management was contacted, and, finally, the Nursing Administration was consulted, the questionnaire was administered online with an explanation regarding the purpose of the research, and their consent was requested before administering the tools. The researcher's contact number and E-mail address are present online to clarify the questions, henceforth minimizing the irrelevancy of the responses, enhancing quality, and guiding on how to carry along with completing the questionnaire.

2.4.Statistical analysis

Upon collection, the data was sorted, entered, and processed using Minitab and Microsoft Excel software. A descriptive statistical analysis was initially conducted, including values for the mean and standard deviation. Furthermore, non-parametric inferential statistical tools were utilized to analyze variance and determine significant differences in the data sets. Specifically, the Kruskal-Wallis test was

used to conclude whether any of the changes between the medians are statistically significant in the perception of factors influencing non-Saudi RN turnover, the Mann Whitney test examines two independent groups that were selected from populations having the same distribution, this test allows two groups to be compared without making the assumption that values are normally distributed which the null hypothesis asserts that the medians of the two samples are statistically identical, and the Spearman's Correlation coefficient test measures the measure the strength and direction of association between two variables and the course of the relationship between two variables.

2.5.Validity and reliability

The structured survey questionnaire was valid because it was adopted from previously published research used in similar research applied to nurses, most of the questions being modified according to the variables. Before administering the questionnaires to the various non-Saudi RNs in the sample size, they were pre-tested on a selected sample identical in traits to the actual sample used in the study. Purposive sampling was used to identify a small sample of non-Saudi RNs used for piloting. The numbers used during the pre-test were 13 non-Saudi RNs, and the questionnaire was repeated after two weeks with the same RNs. The smaller population made pre-testing easy and ensured meaningful observations and a speedy conclusion of the exercise.

Table (1) Cronbach's alpha for first and second-round reliability

No.	Domains	No. of Questions	1st Round	2nd Round
1	Job Stress and Workload	7	0.919	0.919
2	Salary and Beneficiary Factors	7	0.958	0.946
3	Organizational Culture	6	0.904	0.870
4	Nurse Turnover	6	0.963	0.963
	Total	**26**	**0.980**	**0.965**

The questionnaire's consistency was determined using an alpha coefficient (i.e., Cronbach's alpha for reliability analysis), and it was tested in two rounds. As shown in Table 1, the Cronbach's alpha coefficients obtained for the first-round and second-round tests were 0.980 and 0.965, respectively. Moreover, the Cronbach's alpha of the four subscales ranged from 0.904 to 0.963 for the 1st round and 0.870 to 0.963 for the 2nd round. These values are above the acceptable thresholds (i.e., r = 0.700), indicating high internal reliability. All items were also analyzed utilizing the "scale if item deleted" and showed no significant increase in the Cronbach's alpha in both test rounds; therefore, no items were modified or eliminated.

2.6. Ethical consideration

Ethical consideration is an important aspect of research as it enhances researchers' moral obligations during the research undertaking. Researchers need to exercise care that the rights of individuals and institutions are safeguarded (Pilot and Hungler, 1999). In this research, informed consent was sought from and granted by the KFAFH Research Center with ethical reference number REC 332 dated February 12, 2020 and it was ensured that all respondents participated voluntarily.

2.7. Data security

The hospital and respondents were safeguarded, and all online survey data would be confidential. The researcher would keep the data stored in a secure folder with a strong private password for three years.

3. Results

3.1. Demographic characteristics of participants

Demographic characteristics of participants were presented in table 2. A total of 297 RNs participated in the study. Around two-fifths of the RNs were 31-40years old. Almost all the nurses have bachelor's degrees (96.3%), while 3.7% also have master's degrees. Most of the RNs have 6-10 years of working experience (42.76%).

Table (2) Demographic Characteristics of Participants

Variables	Frequency	Percent
Age Group		
21-30 years old	109	36.7
31-40 years old	118	39.73
41-50 years old	66	22.22
51-60 years old	4	1.35
Total	**297**	**100**
Educational Attainment		
Bachelor's degree	286	96.3
Master’s degree	11	3.7
Total	297	100
Years of Experience		
1-5 years	47	15.82
6-10 years	127	42.76
11-15 years	73	24.58
16-20 years	27	9.09
More than 21 years	23	7.75
Total	297	100

3.2.Overall nurses' satisfaction

The overall satisfaction score, as shown in table 3. Among the non-Saudi RNs, 65.6% were "moderately satisfied," while 9.72% were "very dissatisfied" with their job.

Table (3) Overall response

Description	Frequency	Percent
Very Satisfied	674	9.08
Moderately Satisfied	3138	42.26
Neither Satisfied nor Dissatisfied	1943	26.17
Moderately Dissatisfied	948	12.77
Very Dissatisfied	722	9.72
Overall Satisfaction Score	**7425**	**65.64**

3.3. Factors influencing non-Saudi nurse turnover

Table 4 consists of 26 indicators that influence non-Saudi nurse turnover in KFAFH, Jeddah, KSA. The respondents were expected to specify the degree of agreement and disagreement with the given factors concerning the nature of their jobs, working conditions, and workplaces. Of the 26 items, 22 have a qualitative description of “Neither Satisfied Nor Dissatisfied (NS/ND)”. The mean value ranges from 2.61 to 3.40 and the standard deviation from 0.95 to 1.48. Four items have a mean value ranging from 3.41 to 4.20, with the given qualitative description of "Moderately Satisfied (MS)" and respective standard deviations spread from 0.97 to 1.15. Overall, the degree of satisfaction or dissatisfaction has a mean value of 3.28 with a corresponding qualitative description of “Neither Satisfied Nor Dissatisfied (NS/DS)” to the factors influencing nurse turnover.

Table (4) Factors influencing nurse turnover

Indicators	Mean	SD	QD
Workload			
The amount of work duties assigned to nurses per shift period	3.24	1.12	NS/ND
Nurse-to-patient ratio	3.27	1.48	NS/ND
Have sufficient time to perform tasks that can have a direct effect on patient safety	3.19	1.13	NS/ND
Flexibility in scheduling your hours	3.32	1.15	NS/ND
Support and recognize one another	3.28	1.17	NS/ND
Your immediate supervisor's recognition and appreciation of a job well done	3.62	1.02	MS
You are more involved in your work (autonomy and decision-making)	3.66	1.01	MS
Beneficiary Factors			
Salary/compensation	3.18	1.18	NS/ND
Benefits package (service award, hospitalization)	3.23	1.11	NS/ND
Opportunities for career growth/development training	3.29	1.15	NS/ND
Professional recognition	3.27	1.05	NS/ND
Professional rewards	3.06	1.1	NS/ND
Improved financial incentive	2.96	1.19	NS/ND

Indicators	Mean	SD	QD
Job is secure	3.24	1.12	NS/ND
Organizational Culture			
Healthy working environment and atmosphere/workplace comfort	3.16	1.18	NS/ND
Harmonious atmosphere in the workplace	3.36	1.14	NS/ND
Availability of job support facilities	3.27	1.07	NS/ND
Mutual respect between employees or superiors with subordinates	3.46	1.15	MS
Amount of encouragement and positive feedback from the superiors	3.23	1.12	NS/ND
Developing activity and educational programs	3.48	0.97	MS
Nurse Turnover			
Lack of participation in the organization in decision making	3.28	0.96	NS/ND
Poor supervisor support	3.21	1.11	NS/ND
Lack of opportunities for social contact with colleagues	3.33	0.97	NS/ND
Clear ambiguity role	3.29	0.95	NS/ND
Poor retention strategies	3.22	0.98	NS/ND
Workplace bullying	3.06	1.1	NS/ND
Grand Total	**3.28**	**1.17**	**NS/ND**

SD – Standard Deviation; QD – Qualitative Description
Range Interval: 1.00 – 1.80: Very Dissatisfied (VD); 1.81 – 2.60: Moderately Dissatisfied (MD); 2.61 – 3.40: Neither Satisfied Nor Dissatisfied (NS/ND); 3.41 – 4.20: Moderately Satisfied (MS); 4.21 – 5.00: Very Satisfied (VS).

3.4. Kruskal-Wallis test

To evaluate whether any of the changes between the medians are statistically significant in the perception of factors influencing non-Saudi RNs' turnover, the research sought to use the Kruskal-Wallis test. The null hypothesis states that the population medians are all equal, with a significance level of 0.05, which indicates a 5% risk of concluding that a difference exists among relevant groups.

Table (5) Kruskal-Wallis test (when grouped according to age)

Indicators	H-Value	DF	P-value
Workload			
The amount of work duties assigned to nurses per shift period	5.16	3	0.160
Nurse-to-patient ratio	6.34	3	0.096
Have sufficient time to perform tasks that can have a direct effect on patient safety	1.29	3	0.73
Flexibility in scheduling your hours	5.16	3	0.16
Your immediate supervisor's recognition and appreciation of a job well done	1.36	3	0.714
Support and recognize one another	1.92	3	0.59
You are more involved in your work (autonomy and decision-making)	1.23	3	0.745

Indicators	H-Value	DF	P-value
Beneficiary factors			
Salary/compensation	2.11	3	0.55
Benefits package (service award, hospitalization)	2.68	3	0.444
Opportunities for career growth/development training	0.85	3	0.838
Professional recognition	1.18	3	0.758
Professional rewards	0.65	3	0.886
Improved financial incentive	1.17	3	0.76
Job is secure	1.68	3	0.642
Organizational Culture			
Healthy working environment and atmosphere/workplace comfort	2.37	3	0.498
Harmonious atmosphere in the workplace	3.98	3	0.264
Availability of job support facilities	0.67	3	0.88
Mutual respect between employees or superiors with subordinates	2.24	3	0.524
Amount of encouragement and positive feedback from the superiors	2.29	3	0.514
Developing activity and educational programs indicators	1.45	3	0.693
Nurse Turnover			
Lack of participation in the organization in decision making	2.52	3	0.472
Poor supervisor support	2.27	3	0.519
Lack of opportunities for social contact with colleagues	1.48	3	0.686
Clear ambiguity role	1.28	3	0.733
Poor retention strategies	0.62	3	0.892
Workplace bullying	1.66	3	0.647

Based on Table 5, the Kruskal-Wallis test (when grouped according to age), all the items have a P-value greater than 0.05, which indicates that there is no significant difference in the respondents' results among age groups regarding the factors influencing non-Saudi nurse turnover. This draws an assumption that the nurse's responses on the degree of satisfaction and dissatisfaction for the 26 indicators have equal medians among the four given age groups: 20-30 years of age, 31-40 years of age, 41-50 years of age and 51- 60 years of age.

Table (6) Kruskal-Wallis test (when grouped according to years of experience)

Indicators	H-Value	DF	P-value
Workload			
The amount of work duties assigned to nurses per shift period	3.32	4	0.506

Indicators	H-Value	DF	P-value
Nurse-to-patient ratio	3.37	4	0.498
Have sufficient time to perform tasks that can have a direct effect on patient safety	3.23	4	0.52
Flexibility in scheduling your hours	1.91	4	0.753
Your immediate supervisor's recognition and appreciation of a job well done	3.09	4	0.542
Support and recognize one another	2.64	4	0.62
You are more involved in your work (autonomy and decision-making)	3.32	4	0.506
Beneficiary Factors			
Salary/compensation	1.01	4	0.909
Benefits package (service award, hospitalization)	3.85	4	0.427
Opportunities for career growth/development training	1.56	4	0.816
Professional recognition	3.8	4	0.434
Professional rewards	2.58	4	0.63
Improved financial incentive	4.21	4	0.379
Job is secure	3.55	4	0.47
Organizational Culture			
Healthy working environment and atmosphere/workplace comfort	2.94	4	0.568
Harmonious atmosphere in the workplace	3.73	4	0.444
Availability of job support facilities	2.29	4	0.683
Mutual respect between employees or superiors with subordinates	2.84	4	0.584
Amount of encouragement and positive feedback from the superiors	4.96	4	0.292
Developing activity and educational program indicators	3.84	4	0.429
Nurse Turnover			
Lack of participation in the organization in decision making	5.67	4	0.226
Poor supervisor support	7.53	4	0.11
Lack of opportunities for social contact with colleagues	4.77	4	0.312
Clear ambiguity role	4.46	4	0.347
Poor retention strategies	2.34	4	0.673
Workplace bullying	2.96	4	0.564

It is evident from Table 6, the Kruskal-Wallis Test (when grouped according to years of experience), that none of the items indicate a significant difference in the respondents' results, with all P-values greater than 0.05. This result shows that the population median in the degree of satisfaction or dissatisfaction with the factors influencing nurse turnover is equal among the five groups according to

years of nursing experience. Hence, it is safe to assume that respondents with 1-5 years of nursing experience have no significant difference from the responses of those with 6-10 years of nursing experience, 11-15 years of nursing experience, 16-20 years of nursing experience and more than 21 years of nursing experience.

3.5. Mann Whitney test

Based on the respondents' results, there are two groups that might perceive a significant difference according to their educational attainment. The Mann-Whitney test was applied to determine whether the respondents who have a bachelor's degree and master's degree have identical median results.

Table (7) Mann -Whitney test (when grouped according to educational attainment)

Indicators	W-value	P-value
Workload		
The amount of work duties assigned to nurses per shift period	42658.5	0.869
Nurse-to-patient ratio	42849.5	0.377
Have sufficient time to perform tasks that can have a direct effect on patient safety	42723	0.682
Flexibility in scheduling your hours	42566	0.856
Your immediate supervisor's recognition and appreciation of a job well done	42268.5	0.195
Support and recognize one another	42480	0.606
You are more involved in your work (autonomy and decision-making)	42650.5	0.889
Beneficiary Factors		
Salary/compensation	42486.5	0.632
Benefits package (service award, hospitalization)	42334.5	0.295
Opportunities for career growth/development training	42670.5	0.834
Professional recognition	42658.5	0.869
Professional rewards	42581	0.903
Improved financial incentive	42568	0.868
Job is secure	42540.5	0.785
Organizational Culture		
Healthy working environment and atmosphere/workplace comfort	42635.5	0.938
Harmonious atmosphere in the workplace	42521	0.726
Availability of job support facilities	42399	0.416
Mutual respect between employees or superiors with subordinates	42625	0.968
Amount of encouragement and positive feedback from the superiors	42652.5	0.886

Indicators	W-value	P-value
Developing activity and educational program indicators	42661	0.858
Nurse Turnover		
Lack of participation in the organization in decision making	42730	0.66
Poor supervisor support	42584	0.912
Lack of opportunities for social contact with colleagues	42849.5	0.37
Clear ambiguity role	42522	0.726
Poor retention strategies	42781	0.526
Workplace bullying	42448	0.538

As shown in Table 7, the Mann-Whitney test (when grouped according to educational attainment) concluded that the two groups, according to educational attainment, are statistically identical. All 26 items have P-values greater than 0.05, which are not significant (NS) to reject the given hypothesis. Thus, the test concludes that the perceptions of nurses with bachelor's degrees are identical to those with master's degrees in relevance to the factors influencing non-Saudi RNs' turnover in KFAFH.

3.6. Spearman's Correlation coefficient

Spearman's correlation coefficient measures the strong point and course of the relationship between two variables. The respondents' results were analyzed using Spearman's correlation to identify the relationships between the group sets of questions or indicators and the nurse turnover.

Table (8) Spearman's correlation matrix

	Workload		Beneficiary Factors		Organizational Structure	
Nurse Turn-over	ρ	P-value	ρ	P-value	ρ	P-value
	0.673	0.000	0.737	0.000	0.75	0.000

Based on Table 8, job stress and workload are statistically significant with the nurse turnover, with a Spearman's ρ of 0.673 and a P-value of less than 0.01. This implies a strong relationship that the factors under job stress and workload co-varies with nurse turnover; specifically, as the degree of dissatisfaction increases, the nurse turnover also increases, or as the degree of satisfaction increases, the nurse turnover decreases. Likewise, the salary and beneficiary factors also showed statistical significance in their relationship to nurse turnover with a Spearman's ρ of 0.737 and a P-value less than 0.01, which strongly rejects the given null hypothesis. It indicates that as the degree of satisfaction in salary and beneficiary factors increases, the nurse turnover decreases and, as the degree of dissatisfaction increases, the nurse turnover increases. Finally, the third test of the relationship between nurse turnover and the organizational culture also exhibits strength and direct association. With a Spearman's ρ of 0.737 and a P-value less than

0.01, it concludes that as the degree of satisfaction in the organizational structure increases, the nurse turnover decreases or, as the degree of dissatisfaction in organizational structure increases, the nurse turnover increases. Based on Spearman's correlation result, all three-question group sets of workloads, beneficiary factors, and organizational structure showed a strong relationship and association with nurse turnover.

4. Discussion

The research was conducted to highlight the correlation between workload, beneficial factors, organizational culture, and the nurse turnover rates in KFAFH. Therefore, this research presented three hypotheses to explore the correlation among the variables as its focus was to find and determine the factors, and the most significant factors, that had a strong influence on nurse turnover rate in KFAFH. This research discovered statistically significant associations among independent variables (i.e. workload) and dependent variables. There was no significant difference in the degrees of satisfaction or dissatisfaction about the factors influencing nurse turnover among the five groups according to the years of nursing experience and educational attainment. The survey's overall satisfaction score regarding the factors influencing non-Saudi nurse turnover is 65.6% "moderately satisfied."

Nursing workload, nurse-to-patient ratios, and inadequate work allocation undeniably affect nurses' quality performance because the quality of care a nurse can provide to several tasks and accountabilities will be compromised. Mosadeghrad AM (2013) pointed out that nurses might not have adequate time to accomplish duties because of their heavy workloads, which would lead to poor performance and directly affect patient safety[18]. Batayneh et al. (2019) specified a persistent effect between job-related stress, job satisfaction, and nurse turnover rates [19]. Furthermore, the present research results have shown that job stress, such as nurse-to-patient ratios, flexibility in scheduling hours and support and recognition, and workload are statistically significant with nurse turnover. As a result, in this research, the factors relating to the workload have co-varied with nurse turnover, specifically supervisor recognition and appreciation, nurse-to-patient ratios, and support from one another, and, therefore, as the degree of dissatisfaction increases, the nurse turnover also increases or, as the degree of satisfaction increases, the nurse turnover decreases .

Some research findings have confirmed that job satisfaction can be affected by good compensation. Compensation factors, such as salary or wages, recognition, promotion, and good performance, significantly influence the level of employee happiness [20]. Furthermore, Parveen (2015) supported that salary is a highly challenging satisfaction variable, resulting in RNs leaving their healthcare organizations and, ultimately, forcing them to transfer to those healthcare organizations where financial

and non-financial returns are obtainable. Satisfaction with advanced views and the chance to finish the job is a justifiable choice [21]. The present research also shows that salary and beneficiary factors, such as benefits packages, improved financial incentives, and job security, are statistically significant in their relationship with nurse turnover. Hence, it indicates that as the degree of satisfaction with salary and beneficiary factors increases, the nurse turnover decreases.

Young-Ran and Jeong-Won (22) stressed that good conversation and teamwork amongst an organization's workers significantly decrease turnover intention. Furthermore, in another study, the authors stated that, in the nursing environment or profession, factors such as the organizations' justice and culture, including policies, procedures and leadership style, values, and behavior, help in determining the nurse retention and turnover in the long run [14]. Consequently, this research has concluded that organizational culture is a significant factor in decreasing RNs' intention to leave and, when there is mutual respect and support between RNs, this has a direct relationship with the organizations' efficiency. For that reason, the relationship between nurse turnover and the organizational culture also exhibits strength and direct association and this determines that as the degree of satisfaction in the organizational structure increases, the nurse turnover decreases or, as the degree of dissatisfaction increases, the nurse turnover increases .

In general, the organizational culture is the strongest contributing factor to why nurses leave their jobs, leading to the rise in turnover rate in KFAFH, while the workload factors have been shown to be the weakest contributing factor to nurse turnover rate in KFAFH. Nevertheless, the three group sets of questions relating to workload, beneficiary factors, and organizational culture have shown a strong relationship and association with the nurse turnover in KFAFH.

One of the limitations of this research is the nurses' time to respond according to how they feel as stress and job satisfaction might change over time, which could affect their responses. The second limitation is that the data collection is through an online survey wherein the views or opinions of the respondents were not taken because of the use of closed-ended questions. Furthermore, the feelings and reactions of the respondents were not observed as it is not facing to face interview.

5. Conclusion

Nurse turnover is an ongoing problem in the healthcare sector. If the issue is not addressed early and effectively, it will remain a major problem for organizations. If this problem is resolved promptly, it will bring great comfort to the nurses, and they will be able to provide quality services for the patients. In this research, it can be concluded that non-Saudi RNs have not achieved the acceptable job satisfaction levels that could encourage them to stay and, thus, control turnover rates in KFAFH. As a final point,

there is a strong statistically significant relationship between nurse turnover and organizational culture factors, such as job support facilities, harmonious atmospheres, and staff development and educational programs. Hence, this reveals the strongest contributing factor for why nurses are inclined to leave their jobs, leading to the rise in the turnover rate in KFAFH. This result concludes that as the degree of satisfaction in organizational culture increases, the nurse turnover decreases, or as the degree of dissatisfaction in organizational structure increases, the nurse turnover increases.

On the other hand, based on the results, the beneficiary factors, such as salary, the benefits package, improved financial incentives, and job security, also showed statistical significance in their relationship with nurse turnover and are the second strong contributing factor. This indicates that as the degree of satisfaction with salary and beneficiary factors increases, the nurse turnover decreases and, as the degree of dissatisfaction increases, the nurse turnover increases. The workload factors, specifically the supervisor's recognition and appreciation, nurse-to-patient ratios, and support amongst each other, were shown to be the least strong contributing factor, although they also imply a statistically significant association with nurse turnover. As a result, as the degree of dissatisfaction increases, nurse turnover also increases and, as the degree of satisfaction increases, nurse turnover decreases.

5.1.Recommendations

The findings recommend that the management at KFAFH should develop an effective method and strategies for non-Saudi RNs to feel valued and prioritize their well-being and satisfaction. Primarily related to the organizational culture factor, the management should create a positive working environment by nurturing a team approach among the workforce, should practice shared governance by giving the nurses the sense of ownership over their unit and, lastly, should create an engagement survey to collect nurses' feedback and to encourage them to share their personal career goals as, thereby, management would be able to understand the nurses' specific needs. Concerning the beneficiary factors, the organization should offer competitive salaries, and allowances should provide opportunities for training and professional development by not limiting the format to workshop and courses only and should focus on career advancement and how nurses can succeed in their new roles, as well as offering rewards for longevity and excellence. With regard to the workload factors, the organization should address workload issues. Specifically, the staffing needs should improve nurse-to-patient ratios, employ actions to reduce shifts and workweek length, and set strategies for an acceptable amount of overtime.

5.2. Implications

The importance of this research is that it can provide information and increase the KFAFH management's awareness of the factors influencing nurse turnover. The findings will be a good basis for

the KFAFH hospital leaders and the Human Resource Department to find effective solutions before the problem worsens.

6. Declarations

6.1.Conflict of interest statement

None.

6.2.Funding disclosure

None.

6.3. Acknowledgements

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7. References

[1] Yang H, Lv J, Zhou X, Liu H, Mi B. Validation of work pressure and associated factors influencing hospital nurse turnover: a cross-sectional investigation in Shaanxi Province, China. BMC health services research. 2017;17(1):1-11

[2] Dall'Ora C, Griffiths P, Ball J, Simon M, Aiken LH. Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-sectional study of 12 European countries. BMJ open. 2015;5(9):e008331

[3] Haddad LM, Annamaraju P, Toney-Butler TJ. Nursing shortage. StatPearls [Internet]. 2020

[4] Asegid A, Belachew T, Yimam E. Factors influencing job satisfaction and anticipated turnover among nurses in Sidama zone public health facilities, South Ethiopia. Nursing research and practice. 2014;2014

[5] Oktizulvia C, Dachriyanus D, Vionalisa V. Job Satisfaction Factors and Nurses' Intention to Quit in Type C Hospitals. Journal of Nursing and Care. 2017;6(3):1-8

[6] Hughes R. Patient safety and quality: An evidence-based handbook for nurses. 2008

[7] Ahanian E, Mirzaei A, Fard AS. The study of correlation between job stress and turnover intentions among the operating room nurses in selected hospitals of Tehran university of medical science. Acta Med. 2016;32:1045

[8] Hosseinabadi MB, Etemadinezhad S. Evaluating the relationship between job stress and job satisfaction among female hospital nurses in Babol: An application of structural equation modeling. Health promotion perspectives. 2018;8(2):102

[9] Mabaso CM, Dlamini BI. Impact of compensation and benefits on job satisfaction. Research Journal of Business Management. 2017;11(2):80-90

[10] Ismail A, Abd Razak MR. Managers' Roles in Performance-Based Reward Enhancing Employees' Feelings of Procedural Justice. 2017

[11] Ertosun OG, Adiguzel Z. Leadership, personal values and organizational culture. Strategic Design and Innovative Thinking in Business Operations: Springer; 2018. p. 51-74.

[12] Halter M, Pelone F, Boiko O, Beighton C, Harris R, Gale J, et al. Interventions to reduce adult nursing turnover: a systematic review of systematic reviews. The open nursing journal. 2017;11:108

[13] Raosoft I. Sample size calculator. Available from: ww raosoft com/samplesize. 2004

[14] Coomber B, Barriball KL. Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: a review of the research literature. International journal of nursing studies. 2007;44(2):297-314

[15] Ayamolowo SJ. Job satisfaction and work environment of primary health care nurses in Ekiti state, Nigeria: an exploratory study. International Journal of Caring Sciences. 2013;6(3):531

[16] Ostroff C, Kinicki AJ, Muhammad RS. Organizational culture and climate: John Wiley & Sons, Inc.; 2013.

[17] Goertzen MJ. Introduction to quantitative research and data. Library Technology Reports. 2017;53(4):12-8

[18] Mosadeghrad AM. Occupational stress and turnover intention: implications for nursing management. International journal of health policy and management. 2013;1(2):169

[19] Batayneh MH, Ali S, Nashwan AJ. The burnout among multinational nurses in Saudi Arabia. Open Journal of Nursing. 2019;9(7):603-19

[20] Yaseen A. Effect of compensation factors on employee satisfaction-a study of doctor's dissatisfaction in punjab. International Journal of Human Resource Studies. 2013;3(1):142

[21] Parveen M. Healthcare industry in Saudi Arabia: Demographic effect on job satisfaction and retention. International Journal of Business and Social Science. 2015;6(9):78-88

[22] Young-Ran Y, Jeong-Won H. Effect of Organizational Culture on Nurses' Turnover Intention: The Mediating Effect of Workplace Bullying and Work Burnout. 2015