

# Determinants of Job Retention among Nurses Working in a Tertiary Care Hospital: A Study from Al Dhannah City, Abu Dhabi

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## ABSTRACT

**Background:** For a healthcare provider to provide high-quality nursing care, nurses must be kept on staff. Internationally, it is acknowledged that nurse workforce retention is a crucial problem for meeting current and future healthcare needs.

**Objective:** To determine the job retention rate and associated factors among nurses working in a tertiary care hospital.

**Methods:** This prospective observational study was performed at Al Dhannah Hospital located in Al Dhanna City, Abu Dhabi, United Arab Emirates. Nurses were divided into two groups for conducting this survey. One group of those who were working at the end of year 2021 and the other group was the one who left the organization from January 2021 to December 2021. Emails were sent to all nurses meeting the inclusion criteria for their voluntary participation in the study.

**Results:** A total of 138 nurses were working at the institution at the start of January 2021 and all of them were invited for this survey. Out of 138, 63(45.6%) were those who left the organization from January 2021 till December 2021. The median age of respondents was 31.5 (IQR=27-38) years. The median overall experience of staff was 7 (IQR=5-8) years. The majority of nurses were females (n=72, 80%). In multivariable regression, total experience and teamwork across units were found to be determinants of nurse job retention.

**Conclusion:** This study analyzed that the nursing turnover rate was higher, particularly among the less experienced workforce. There must be the implementation of new administrative policies and interventions for continuous monitoring of teamwork across units.

**Keywords:** *Nursing staff, retention, intention to stay, turnover, patient safety culture.*

## INTRODUCTION

A vital part in assuring the provision of high-quality care played by nurses in healthcare facilities because they competently and compassionately address the varied and frequently complex needs of individuals [1]. Approximately 28 million nurses around the world at this time, of which 19.3 million are professional, 6 million are associate professional nurses, and the remaining are not otherwise classified, according to the report [2].

One of the most vital tools for health organizations and a key component of their success is nursing manpower. The globe is experiencing a nurse shortage. When the demand for nurses is anticipated to rise while the supply is anticipated to decline, the situation becomes crucial [3]. According to a needs-based assessment, there may be a 7.6 million person shortage in the nursing profession by 2030 [4].

Retention refers to a company's ability to retain its employees. Turnover, intention to remain, and intention to leave are three alternative definitions of retention. For the healthcare company to provide high-quality nursing care, nurses must be kept on staff [5]. Internationally, it is acknowledged that nurse workforce retention is a

crucial problem for meeting current and future healthcare needs [6]. The core principle of the nursing workplace is that nurses join an organization with expectations of specific things, such as positive working relationships and adequate resources, and it is assumed that if these expectations are not met, they will leave their current employment [7].

One of the most important quality indicators in a healthcare organisation is patient safety culture (PSC). PSC is a notion that is described as "the result of individual and group values, attitudes, perceptions, competencies, and behavioural patterns that determine the dedication to, and the manner and proficiency of, an organization's health and safety management [8]. Researchers evaluated nurse perception through a hospital survey on patient safety and culture (HSOPSC) and associated with nurse job retention [9, 10]. A negative correlation was reported between nurses' perception of safety and their intention to leave [9]. Another study also reported a negative correlation between HSPSC scores and job stress [10].

Retention of nursing staff improves access to high-quality care, while low retention has negative effects on the patients' health and society [11]. Given the significance of nursing retention to the provision of high-quality care, research on the subject has revealed several contributing variables. These factors are pay, the

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availability of better opportunities for professional growth, the alignment of values between the organization and the nurse, and flexibility in scheduling and shift patterns [12, 13]. Employee productivity and job satisfaction can be negatively impacted by work stress, which may result in a person's intention to quit the nursing field [14]. The intention of turnover is one of the major issues that many healthcare groups deal with, which brings negative impacts including low job efficiency and productivity, inadequate nurse staffing, work stress, and lower job dissatisfaction, as well as the intention to quit and switch to other healthcare organizations [15].

The Ministry of Health and Prevention (MOHaP), the Dubai Health Authority (DHA), and the Department of Health-Abu Dhabi (DOH) are the three health agencies that oversee the seven emirates that make up the United Arab Emirates (UAE). Recently, the MOHaP, DHA, and DOH released strategy plans intending to provide high-quality medical care. These strategic plans also address designated priorities for the health system [16]. To fulfill these goals, the nursing field is crucial. In the UAE, 33,429 nurses and midwives are working in a variety of positions in both the public and private industries. The community of nurses and midwives comes from a variety of cultural backgrounds, with the majority being from the Philippines, India, Pakistan, and Western and other Arab nations. The education and skill levels of these nurses and midwives differ when they arrive in the UAE [17]. Evidence indicates that factors like a high percentage of nurses with bachelor's degrees, a low patient-to-nurse ratio, and a better work environment are linked to lower mortality and failure-to-rescue rates [18]. Nursing turnover raises expenses because of the need to replace staff, hire and train temporary workers, and guarantee service quality. It also harms patients' needs for appropriate, high-quality care. Thus, in these circumstances, it becomes of utmost need importance for determining the factors associated with nurse job retention.

## METHODOLOGY

This prospective observational study was performed at Al Dhannah Hospital from January to March 2022. Al Dhannah Hospital is a 102 bedded tertiary care hospital located in Al Dhannah City, Abu Dhabi United Arab Emirates with overall staff strength of 507. The study was commenced after acquiring ethical approval from the Hospital ethics committee (IRB#EA/GLD/012/2021). Consent was taken from all the study participants through e-mail for their recruitment into the study. All male and female nurses who were working on hospital premises during 2021 were included in the study. Nurses who did not give consent to participate were excluded from this study. Nurses who were newly appointed and under training/internship during the study period were excluded from this study. A previous study reported that 50% of nurses left their [19]. Using a 95% confidence interval,

5% precision, and 138 as the hospital population of permanent nurses yielded a sample size of 102 nurses.

The strength of nurses working in hospitals at the start of 2021 was 150 including trainee and intern nurses. We enrolled all of the nurses working at the start of 2021 and then observe nurses who were working at the end of the year 2021 (retained group) and who left the organization from January 2021 to December 2021 (non-retained group).

The survey was sent *via* e-mails to all nurses meeting the inclusion criteria for their voluntary participation in the study. A cover letter was sent with the survey to inform them of the study's purpose and take their consent for participation. Nurses who did not respond within a week were sent two reminders and a text on their contact number. The study questionnaire included a demographic section investigating their age, gender, level of education, designation, working unit, and working hours. Nurse perception of patient safety culture was also obtained in this survey using a hospital survey on patient safety and culture (HSOPSC). HSOPSC was developed by Agency for Healthcare Research and Quality (AHRQ) which contains 42 items with 12 dimensions of patient safety culture and the response to most of the questions use the 5-point Likert response scale of agreement ("Strongly disagree" to "Strongly agree") or frequency ("Never" to "Always") [20].

Data were entered into SPSS version 24 for statistical analysis. Frequency and percentages were computed for categorical variables. Numerical variables were expressed as median with quartile range after assessing normality assumption with the Shapiro-Wilk test. The Chi-Square test was applied to compare categorical variables among two study groups. Wilcoxon rank sum test was applied to compare non-numerical variables. Binary logistic regression was applied to compute the Odds ratio were calculated to determine the association of study variables with job retention. Variables with a univariate odds ratio of p-value <0.25 were put up in a multivariable regression model. A p-value less than or equal to 0.05 was taken as statistically significant.

## RESULTS

Total 138 nurses were working at the institution at the start of January 2021 and all of them were invited for this survey. Out of 138, 63(45.6%) were those who left the organization from January 2021 till December 2021. Out of 75 of those nurses who were working, 50 responded to the survey whereas 40 of those responded who left the organization. Hence the overall response rate of this survey was 65.2%. The median age of respondents was 31.5 (IQR=27-38) years. The median overall experience of staff was 7 (IQR=5-8) years. Table 1 displays the socio-demographic profile of nurses who participated in the study.

**Table 1:** Descriptive statistics for socio-demographic profile survey respondents.

Socio-demographic features	Frequency (%)
<b>Age groups</b>	
21-34 years	61 (68)
35-44 years	19 (21)
45-54 years	8 (9)
Over 54 years	2 (2)
<b>Gender</b>	
Female	72 (80)
Male	18 (20)
<b>Level of education</b>	
Certificate	1 (1)
Diploma	21 (23)
Bachelor's degree	61 (68)
Master's degree	5 (6)
Doctorate	2 (2)
<b>Overall work experience</b>	
1-4 years	14 (15)
4.1-6 years	16 (18)
6.1-8 years	22 (24)
Over 8 years	38 (42)
<b>Working hours</b>	
Less than 20hrs/week	1 (1)
20-39 hours/week	2 (2)
40-59 hours/week	82 (91)
60-79 hours/week	5 (6)
<b>Staff position</b>	
Assistant Nurse	19 (21)
Charge Nurse	2 (2)
Director of Nursing	1 (1)
Head Nurse	1 (1)
Nurse Manager	1 (1)
Nursing Supervisor	2 (2)
Other	1 (1)
Patient Care Assistant	5 (6)
Registered Nurse	51 (57)
Team Leader	7 (8)
<b>Direct dealing or contact with patients</b>	
No	2 (2)
Yes	88 (98)
<b>Working unit</b>	
Emergency department	7 (8)
Endoscopy	1 (1)
Intensive care unit	10 (11)
Inpatient wards	25 (28)
Operating room	4 (4)
Other	6 (7)
Outpatient clinics	35 (39)
Radiology	1 (1)
Rehabilitation	1 (1)

Table 2 displays the comparison of socio-demographic features among nurses who retained and did not retain in the organization. Nurses of age 21-34 years were likely to leave the organization as compared to older age nurses of the age group 35-44 years ( $p=0.026$ ). Staff retention was lower among the highly experienced nursing workforce as compared to junior

**Table 2:** Comparison of socio-demographic features among nurses who retained and did not retain in the organization.

Study variables	Retained n (%)	Non-retained n (%)	p-value	Applied test
<b>Age group</b>				
21-34 years	28 (56)	33 (83)	*0.026	Fisher's exact
35-44 years	14 (28)	5 (13)		
45 years or above	8 (16)	2 (5)		
<b>Gender</b>				
Female	43 (86)	29 (73)	0.120	Fisher's exact
Male	7 (14)	11 (28)		
<b>Level of education</b>				
Certificate	1 (2)	0 (0)	0.600	Fisher's exact
Diploma	13 (26)	8 (20)		
Bachelor's degree	32 (64)	29 (73)		
Master's degree	2 (4)	3 (8)		
Doctorate	2 (4)	0 (0)		
<b>Overall work experience</b>				
1-4 years	4(28.6)	10(71.4)	**<0.001	Linear-by-linear association
4.1-6 years	6(37.5)	10(62.5)		
6.1-8 years	11(50)	11(50)		
Over 8 years	29(76.3)	9(23.7)		
<b>Working hours</b>				
Less than 20hrs/week	0 (0)	1 (3)	0.320	Fisher's exact
20-39 hours/week	0 (0)	2 (5)		
40-59 hours/week	47 (94)	35 (88)		
60-79 hours/week	3 (6)	2 (5)		
<b>Staff position</b>				
Assistant Nurse	11 (22)	8 (20)	0.056	Fisher's exact
Charge Nurse	2 (4)	0 (0)		
Director of Nursing	1 (2)	0 (0)		
Head Nurse	1 (2)	0 (0)		
Nurse Manager	1 (2)	0 (0)		
Nursing Supervisor	1 (2)	1 (3)		
Other	1 (2)	0 (0)		
Patient Care Assistant	3 (6)	2 (5)		
Registered Nurse	22 (44)	29 (73)		
Team Leader	7 (14)	0 (0)		
<b>Direct dealing or contact with patients</b>				
No	1 (2)	1 (3)	1.000	Fisher's exact
Yes	49 (98)	39 (98)		
<b>Working unit</b>				
Emergency Department	2 (4)	5 (13)	*0.038	Fisher's exact
Endoscopy	1 (2)	0 (0)		
ICU	3 (6)	7 (18)		
Inpatient Wards	11 (22)	14 (35)		
Operating Room	2 (4)	2 (5)		
Other	5 (10)	1 (3)		
Outpatient Clinic (All Specialties)	25 (50)	10 (25)		
Radiology	1 (2)	0 (0)		
Rehabilitation	0 (0)	1 (3)		
<b>Events reported in the past year</b>				
Events were reported	30 (60)	35 (88)	**0.004	Pearson's chi-squared
Events were not reported	20 (40)	5 (13)		

\*Significant at  $p<0.05$ , \*\*Significant at  $p<0.01$

**Table 3:** Comparison of nurse perception on different dimensions of patient safety and culture.

Scores	Retained	Non-Retained	p-value	Test applied
Teamwork within units <sup>a</sup>	4.00 (3.75-4.25)	4.25 (4.00-4.63)	0.028	Wilcoxon rank-sum
Supervisor/Manager expectations and actions promoting patient safety <sup>b</sup>	3.56 ± 0.58	3.78 ± 0.64	0.082	Two sample t-test
Organizational learning – continuous improvement <sup>a</sup>	4.00 (4.00-4.33)	4.33 (4.00-4.50)	0.350	Wilcoxon rank-sum
Management support for patient safety <sup>b</sup>	3.53 ± 0.43	3.70 ± 0.49	0.076	Two sample t-test
Overall Perceptions of patient safety <sup>b</sup>	3.47 ± 0.43	3.44 ± 0.41	0.730	Two sample t-test
Feedback and communication about error <sup>a</sup>	4.00 (3.67-4.00)	4.00 (4.00-4.17)	0.260	Wilcoxon rank-sum
Communication openness <sup>b</sup>	3.41 ± 0.43	3.44 ± 0.49	0.770	Two sample t-test
Frequency of events reported <sup>a</sup>	3.33 (3.00-4.00)	3.33 (3.00-3.67)	0.180	Wilcoxon rank-sum
Teamwork across units <sup>a</sup>	3.25 (3.00-3.50)	3.50 (3.13-3.63)	0.037	Wilcoxon rank-sum
Staffing <sup>b</sup>	3.58 ± 0.55	3.73 ± 0.59	0.200	Two sample t-test
Handoffs and transitions <sup>b</sup>	2.25 (2.00-2.50)	2.25 (2.00-3.00)	0.670	Wilcoxon rank-sum
No punitive response to errors <sup>b</sup>	2.87 ± 0.76	3.17 ± 0.72	0.060	Two sample t-test

**a:** non-normal variables are presented as median with interquartile range

**b:** normally distributed variables are presented as mean ± standard deviation

**Table 4:** Multivariable association of study variables with job retention.

Study variables	aOR	p-value	95% CI for aOR	
			Lower	Upper
<b>Age</b>				
21-34 years	0.64	0.738	0.048	8.541
35-44 years	0.71	0.800	0.051	9.868
45 years or above	Reference category			
<b>Gender</b>				
Male	4.73	0.080	0.831	26.935
Female	Reference category			
<b>Total experience</b>				
1-4 years	6.34	0.105	0.682	59.023
4.1-6 years	15.29	*0.021	1.496	156.324
6.1-8 years	7.74	*0.035	1.154	51.876
Over 8 years	Reference category			
<b>Events reported in the past year</b>				
Events reported	0.084	0.110	0.012	2.568
Events not reported	Reference category			
Teamwork within units	2.25	0.232	0.595	8.518
Supervisor/Manager expectations and actions promoting patient safety	1.18	0.820	0.280	4.987
Organizational learning – continuous improvement	2.50	0.375	0.331	18.821
Management support for patient safety	5.75	0.062	0.916	36.081
Overall Perceptions of patient safety	0.50	0.475	0.075	3.339
Feedback and communication about error	0.08	0.309	0.007	1.879
Communication openness	2.21	0.386	0.367	13.322
Frequency of events reported	0.64	0.501	0.173	2.358
Teamwork across units	9.24	*0.040	1.113	76.692
Staffing	1.17	0.835	0.277	4.897
Handoffs and transitions	0.59	0.345	0.194	1.775
Nonpunitive response to errors	1.30	0.594	0.498	3.379

**aOR:** Adjusted odds ratio, CI: Confidence interval, \*Significant at  $p < 0.05$

nurses ( $p < 0.001$ ). Turnover was significantly higher among those working in the in-patient department as compared to other units ( $p = 0.038$ ). Events reporting was also significantly different among the two groups with significantly higher event reporting among those who left ( $p = 0.004$ ). Gender ( $p = 0.120$ ), level of education ( $p = 0.600$ ), working hours ( $p = 0.320$ ), and staff position ( $p = 0.056$ ) were not significantly different among those who left and did not leave the organization.

Table 3 shows a comparison of nurse perception on different dimensions of patient safety and culture. The median scores for teamwork within units ( $p = 0.028$ ) and teamwork across units ( $p = 0.037$ ) were significantly different among the two groups of nurses.

In univariate regression analysis, level of education, working hours, staff position, and working unit were not found to be associated with job retention. Table 4 shows the multivariable association of study variables

with job retention. The total experience was significantly associated with job retention when the model was adjusted with other covariates. The risk of leaving the organization was significantly higher among those junior nurses as compared to those having experience of more than 8 years. Increasing scores on teamwork across units was associated with higher odds of leaving the job.

## DISCUSSION

Today, maintaining a skilled rural nursing workforce is a major concern for all nations worldwide. Poor working conditions are indicated by low nurse attrition. The largest generation of nurses is currently available, but if it is not effectively managed and is not fully engaged in its working settings, it will become transient. Focusing on nurse retention has several advantages, including the potential to lower running costs and raise the standard of nursing care. Because of this, a study was conducted to identify the variables linked to nursing workforce retention, particularly in a tertiary care hospital in the United Arab Emirates.

In the current study, we identified that out of 138 employed nurses in 2021 63(45.6%) yielding a nurse retention rate of 54.4%. A study was conducted in Saudi Arabia for determining nurses' intention to leave their current jobs. The six-item Turnover Intention Scale (TIS-6) was used in this research to assess nurses' intent to leave. The nurses demonstrated a moderate intention to leave the organization with a mean TIS-6 score was  $2.91 \pm 6$  [21]. The research was carried out in Ghana to assess the variables affecting the intention to leave. In this research, turnover intention was measured by asking nurses whether they planned to leave their jobs in the future and asking them to respond with "yes" or "no." 87.2% of nurses planned to quit their jobs [22]. A comparable study from Taiwan found that 87.8% of respondents were ready or extremely willing to continue working. In this study, the author developed his questionnaire keeping in mind Maslow's hierarchy of needs, and evaluated intention to stay both as binary and in terms of a score [23]. Different studies from different countries used different tools and methodologies due to which results are different among the studies. We assume that a high turnover in this study could be due to a variety of reasons. First, the location of the study center is 245 kilometers far away from the main city. Second, the hospital is just 102 beds, not a big institute. Third, this study also covers the era of the COVID-19 pandemic. The hospital operating in main cities has better opportunities in terms of the pay scale. The COVID-19 pandemic has also raised the need for nurses and their workload. Numerous studies conducted around the world have found that nurses experience psychological duress due to the disease's unknown nature and high mortality rate, which has resulted in a high turnover rate [24-26].

In this survey, nearly two-thirds of participants (68%) had an age range of 21-34 years. Usually, nurses

of this age group are at the initial to mid-level of their career path. Expectedly turnover could be higher in this age group because hunting better opportunities. However, in this study, we did not significant association between age with job retention. Contrary to our findings, previous literature reported that age up to thirty years was associated with increased turnover risk [23, 27]. We believe that because of the lower sample in the current study, a significant association was not seen.

Historically nursing field is recognized as a female profession [28, 29]. A similar pattern is recognized in our study as the majority of the nurses were comprised of females (80%). For both the employees and the general public, these professions have established suitable sex role norms and expectations [30]. According to earlier research, the pattern of nurse turnover differs by gender, with male nurses showing a greater intention to leave the profession than female nurses [19, 31]. However, the nurse retention rate did not differ based on gender. The use of different methods for evaluating retention, demographic differences, and difference in the healthcare setting and lower sample size in our study could be the most plausible factors of this conflicting finding in our study.

Nurses at the start of their career with experience of 1-4 years were at higher risk of leaving the organization in our analysis. The finding is in agreement with other similar studies as they reported staff with an overall experience of 1-5 years were more likely to have the intention to leave than those with higher work experience [23]. Nurses at the beginning of their career path are actually under training and exploring new challenges in their profession. The occurrence of new challenges daily and lack of training may negatively influence the intention to stay because of lack of experience and contribute to inadequate retention.

In this study, level of education, staff position, working hours, and working unit were not found to be associated with nurse retention. This finding was in agreement with another similar study [24]. Albougami, *et al.* reported that working unit was associated with intention to leave whereas education and working hours were not found to be associated with intention to leave [21] Chiao and his coworkers did not evaluate working hours and working unit as a factor of nurse job retention [23].

Patient safety culture in hospitals is closely linked to patient safety values and beliefs in healthcare systems [32]. Nurses' perception and understanding regarding hospital patient safety culture is of high importance when the nursing turnover rate is higher in maintaining a healthy safety climate. In the present study, only a single dimension of HSOPSC was found to be linked with job retention. A higher disagreement on teamwork across teams was found to be associated with a higher risk of leaving the current job. However, in another similar study, lower odds of intention to leave were associated

with various dimensions of PSC including supervisor/manager expectations and actions supporting safety, teamwork within hospital units, staffing, and hospital management support for patient safety [33]. We assume that findings could differ because of differences in organizational culture and population differences. Moreover, Al-Surimi *et al.* studied a larger sample size of 800 [33].

This study shares the experience of a single medium-sized institute in the UAE. Secondly, the study was conducted in the era of COVID-19. The results may be different in the post-COVID-19 era when the COVID-19 virus is no more transmitting in the environment. Moreover, Data on the professional characteristics of the nurses in the study such as marital status, family size, monthly income, ethnicity, nurse shift, and type of contract were not analyzed in this study. Because of these limitations, the study findings cannot be generalized to the entire nursing workforce of the UAE. To validate the findings and fill the gaps in the current study, a larger multi-center study should be conducted in the future.

### CONCLUSION

This study analyzed that the nursing turnover rate was higher, particularly among the less experienced workforce. There must be the implementation of new administrative policies and interventions for continuous monitoring of teamwork across units.

### ETHICS APPROVAL

Ethical approval was obtained from the Hospital Ethics Committee (IRB#EA/GLD/012/2021). All procedures performed in studies involving human participants were following the ethical standards of the institutional and/or national research committee and with the Helsinki Declaration.

### CONSENT FOR PUBLICATION

Online informed consent was taken from survey respondents.

### AVAILABILITY OF DATA

Upon a reasonable request, the associated author will provide the data.

### FUNDING

Declared none.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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### AUTHORS' CONTRIBUTION

DK conceptualized the study. PL designed the study protocol. DK and BJ were involved in data cleaning,

analysis, result writing, and interpretation. PL and BJ prepared the initial draft of the manuscript. DK provided constructive criticism and updated the original copy. The manuscript was reviewed and approved by all authors.

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