



# Individual Characteristics, Motivation its Related on Patient Safety Nurse Performance at Private Hospital in Indonesia

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## Abstract

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**BACKGROUND:** Occupational safety is the most common issue in health services. The purpose of this study was for individual characteristics, intrinsic, and extrinsic motivation on the performance of nurses in patient safety.

**METHODS:** This research is a correlation. The study was conducted in June–October 2021 at the Sembiring Hospital. The sample of this study consisted of 175 nurses with simple random sampling. The instruments used are the individual characteristics questionnaire, intrinsic motivation questionnaire and extrinsic motivation questionnaire, and performance questionnaire. The intrinsic motivation questionnaire has a Content Validity Index validity test value of 1 and a Cronbach's alpha reliability test value of 0.88, the extrinsic motivation questionnaire has a Content Validity Index validity test value of 0.97, and a Cronbach's alpha reliability test value of 0.81. The performance questionnaire has a validity test value content validity Index 1 and Cronbach's alpha reliability test value 0.90.

**RESULT:** The results showed that there was an effect ( $p < 0.05$ ) gender ( $p = 0.00$ ; RR = 4.76), age ( $p = 0.00$ ; RR = 0.52), work time ( $p = 0.00$ ; RR = 10.12), marriage status ( $p = 0.00$ ; RR = 4), responsibility ( $p = 0.00$ ; RR = 3.72), achievement ( $p = 0.00$ ; RR = 19.12), work result ( $p = 0.00$ ; RR = 23.54), self-actualization ( $p = 0.01$ ; RR = 10.07), work relationship ( $p = 0.00$ ; RR = 4.77), work procedure ( $p = 0.00$ ; RR = 17.31), and supervision ( $p = 0.00$ ; RR = 4.82) on the nurse's performance in patient safety. There was no effect ( $p > 0.05$ ) graduated ( $p = 0.91$ ; RR = 1.20), self-development ( $p = 0.15$ ; RR = 2.46), salary ( $p = 1.30$ ; RR = 2.46), work condition ( $p = 0.29$ ; RR = 1.90), and insurance ( $p = 1$ ; RR = 0.99) on the nurse's performance in patient safety.

**CONCLUSIONS:** The importance of strengthening self-character, namely, individual characteristics, intrinsic and extrinsic motivation to improve the performance of nurses to increase the provision of professional and optimal nursing care services.

## Introduction

Patient safety is currently one of the many universal issues in healthcare. The World Health Organization reports that millions of patients worldwide are threatened with injury and even death due to health practice errors [1]. In developed and high-income countries proves that one in 10 patients is injured as a result of a medical error while receiving treatment in a hospital. Medical errors are caused by various types and levels of adverse events with almost 50% preventable, while in low-income countries 134 million adverse events occur annually due to errors in hospitalization in low-income countries resulting in 2.6 million deaths each year with lost productivity of as much as 1.5 trillion dollars per year [2].

The high number of cases of medical errors cannot be separated from the performance of the professionals involved in health services. According to the results of the 2019 KNKPRS report, the number of patient safety incident reports of 11.23 percent occurred

in the nursing unit, 6.17% in the pharmacy unit, and 4.12 percent by doctors [3]. The main cause of medical errors is the low performance of nurses. The higher the performance of nurses, the number of medical errors such as adverse events can be reduced [4].

The low performance of nurses can be influenced by several factors, such as individual characteristics, intrinsic and extrinsic motivation. The characteristics of nurses can be seen from age, gender, education level, marital status, and years of service that can affect performance [5]. Nurses are the most numerous staff in a health service. The success or failure of the organization depends on the performance of nurses or vice versa [6]. Nurses interact with patients more often so the quality of nurses must be improved to reduce the occurrence of adverse events [7].

Motivation has a very strong bond in increasing the performance of nurses in a hospital. Research conducted by Agustin [8] states that there is a motivational bond with the performance of nurses in practicing patient safety. Research by Gunawan *et al.* [9] stated that the work motivation of nurses was

in a low category, which was 64.29%. The same study was conducted by Abu Yahya *et al.* [10] who showed that the work motivation of nurses was also low at around 60.1%.

Observation of individual characteristics, intrinsic and extrinsic motivation, as well as the performance of nurses in carrying out patient safety, is a concern for professionals because they are parameters of success in providing nursing care. The success of nursing care can not only improve patient recovery but also the quality of service and the image of the hospital.

## Methods

### Research design

The research design used is a descriptive correlation. This design aims to determine the relationship of individual characteristics, intrinsic and extrinsic motivation to the performance of nurses.

### Sample

The research sample consisted of 175 nurses with simple random sampling.

The sample size in this study amounted to 175 people. Sampling in this study was carried out in two stages, namely:

1. The first stage is using cluster sampling technique, namely, grouping the samples based on the total population, the number is 311 and the sample selection is based on the proportion, the number is 175 (Table 1)
2. The second stage is the selection of sample members by probability sampling; simple random sampling where the researcher made a lottery based on the serial number of the nurse in absenteeism
3. Subjects were sampled because they happened to be found at the same time and place in data collection.

## Instruments

This study uses several instruments, including individual characteristics questionnaire developed from the theory of individual characteristics Ilyas, 2015. The questionnaire consists of six open-ended questions, namely, age, gender, education level, marital status, and years of service. The performance questionnaire was developed based on the theoretical concept of

Gomes. The questionnaire consisted of 21 statements, consisting of 14 positive statement items (1, 2, 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, and 21) and seven negative statements (3, 5, 7, 11, 13, 17, and 19) which were developed based on theoretical concepts. The determination of score of this questionnaire was measured using the Guttman scale. The measurement scale used in the performance questionnaire consists of two answer choices using Yes and No with provisions for positive statements: (1) Yes and (0) No and for negative statements: (1) No and (0) Yes. The intrinsic motivation questionnaire has a content validity index validity test value of 1 and a Cronbach's alpha reliability test value of 0.88, the extrinsic motivation questionnaire has a content validity index validity test value of 0.97 and a Cronbach's alpha reliability test value of 0.81, The performance questionnaire has a validity test value content validity Index 1 and Cronbach's alpha reliability test value 0.90.

## Data collection

The study was conducted in June–October 2021 at the Sembiring Hospital. The researcher explains the objectives, benefits, and procedures for conducting the research. Researcher revoked lottery numbers. The number that appears is used as the respondent. If the respondent is willing to become a research respondent, the researcher asks to sign an informed consent letter. Before filling out the questionnaire, the researcher first explained how to fill out the questionnaire to the respondents and reminded respondents to fill out the questionnaire carefully and carefully and there were no unanswered statements, then respondents were allowed to ask questions if there were questions that they did not understand. After the respondent finished filling out the questionnaire, the questionnaire was collected again by the researcher and checked for completeness, if any were incomplete, they were completed right away. Furthermore, the data that have been collected are analyzed.

### Data analysis

Data analysis was carried out using SPSS. Bivariate data analysis using Chi-square statistical test ( $X^2$ ) and multivariate using logistic regression. The significance value was set at  $p < 0.05$ . Bivariate analysis was conducted to determine the relationship between individual characteristics, intrinsic and extrinsic motivation on performance. The multivariate quantified analysis was the most influential variable to nurse performance. The significance level to enter the logistic regression models was set at  $p < 0.25$ . The logistic regression models were performed two times.

The three most influential variables were obtained finally.

### Ethical considerations

This research has been approved by the Health Research Ethics Commission, University of North Sumatra No. 1453/V/SP/2021 and the researcher also asked for the consent of the respondents with informed consent.

## Results

Based on Table 2, the frequency distribution of individual characteristics is known from the 175 nurses who participated in this study majority-female nurses as much as 158 (95.80%). Majority aged 25–30 years were 91 nurses (55.20%). The majority of nurses graduated from diploma III as much as 98 people (59.40%). Respondents who had a service period of 5 years were 83 people (50.30%) and >5 years were 82 people (49.70%). Nurses have unmarried marital status as many as 121 people (73.70%).

Based on Table 3, data were analyzed by Chi-square. There was a significant relationship ( $p < 0.05$ ) amongst gender, age, working time, marriage status, responsibility, achievement, work result, self-actualization, work relationship, work procedure, and supervision with nurse performance in conducting patient safety. There was not a significant relationship ( $p > 0.05$ ) among graduates, self-development, salary, work condition, and insurance with nurse performance in conducting patient safety.

Based on Table 4, work time, result, and procedure were the most influencing variable on nurse performance by logistic regression. It showed that the significant variable ( $p < 0.05$ ) have a relationship with nurse performance in conducting patient safety, work time ( $p = 0.001$ ), work result ( $p = 0.001$ ), and work procedure ( $p = 0.001$ ). If the strength relationship according to the value of odds ratio (OR), so the most influential variable nurse performance in conducting patient safety was work time (OR = 1.73; 95%CI, 0.05 – 5.95), work result (OR = 12.17; 95%CI, 4.20 – 34.57), and work procedure (OR = 24.50; 95%CI, 7.34 – 81.74).

## Discussion

In this study, the number of female nurses was more than male. This is following data from the Ministry of Health of the Republic of Indonesia that the

**Table 1: Sample distributions**

Room	Nurse population	Sample size	Nurse sample
1 <sup>st</sup> Floor bougenville	31	31/311 × 175	18
2 <sup>nd</sup> Floor champaca	28	28/311 × 175	16
2 <sup>nd</sup> Floor dahlia	27	27/311 × 175	15
2 <sup>nd</sup> Floor ivy	31	31/311 × 175	18
2 <sup>nd</sup> Floor obgyn	25	25/311 × 175	14
2 <sup>nd</sup> Floor gardenia	22	21/311 × 175	12
3 <sup>rd</sup> Floor hybrid	25	25/311 × 175	14
3 <sup>rd</sup> Floor obgyn	19	20/311 × 175	10
3 <sup>rd</sup> Floor jasmine	25	25/311 × 175	14
3 <sup>rd</sup> Floor edelweiss	31	31/311 × 175	18
3 <sup>rd</sup> Floor flamboyant	22	22/311 × 175	12
3 <sup>rd</sup> Floor kenanga	25	25/311 × 175	14
Total	311		175

number of nurses is dominated by women as much as 84% [11]. There is an obstacle for gender differences in developing themselves to increase work productivity between men and women. Women are more skilled, more diligent, and more thorough than men [12]. The results of this study are in accordance by Liou *et al.*, that there was a difference between men and women in terms of providing innovation in nursing care [13].

**Table 2: Individual characteristics, motivation intrinsic and motivation extrinsic of nurses in the study (n = 175)**

Variable	Absolut frequency (n)	Relative frequency (%)
Individual characteristics		
Gender		
Male	28	16.00
Female	147	84.00
Age		
≤30 years	143	81.70
>30 years	32	18.30
Graduated		
Diploma III	29	16.60
Nurse profession	146	83.40
Working time		
≤5 years	20	11.40
>5 years	155	88.60
Marriage status		
Not married	19	10.90
Married	156	89.10
Motivation intrinsic		
Responsibility		
No responsibility	17	9.70
Responsibility	158	90.30
Achievement		
High	25	14.30
Low	150	85.70
Work result		
Good	37	21.10
Worst	138	78.90
Self-development		
Good	15	8.60
Worst	160	91.40
Self-actualization		
Good	6	3.40
Worst	169	96.60
Motivation extrinsic		
Salary		
Enough	15	8.60
Not enough	160	91.40
Working condition		
Comfortable	14	8.00
Uncomfortable	161	92.00
Working relationship		
Good	61	34.90
Worst	114	65.10
Work procedure		
Good	6	17.70
Worst	169	82.30
Supervision		
Good	25	14.30
Worst	150	85.70
Insurance		
Good	55	31.40
Worst	120	68.60

Not surprisingly, there is no relationship between graduation and nurse performance in conducting patient safety. The nursing professional and diploma III had the same opportunity to provide the performance. The

**Table 3: The influence of individual characteristics on nurse performance (n = 175)**

Variable	Nurse performance				Total	p-value	RR	95% CI		
	Good		No Good					Lower	Upper	
	n	%	n	%	n	%				
Gender										
Male	12	42.90	16	57.10	28	100	0.00	4.76	1.96	11.53
Female	20	13.60	127	86.40	147	100				
Age										
≤30 years	32	22.40	111	77.60	143	100	0.00	0.52	0.19	1.41
>30 years	2	6.25	30	93.75	32	100				
Graduated										
Diploma III	6	20.70	23	79.30	29	100	0.91	1.20	0.44	3.25
Nurse profession	26	17.80	120	82.20	146	100				
Working time										
≤5 years	12	60.00	8	40.00	20	100	0.00	10.12	3.68	27.80
>5 years	20	12.90	135	87.10	155	100				
Marriage status*										
Not married	8	42.10	11	57.90	19	100	0.00	4.00	1.45	10.97
Married	24	15.40	132	84.60	156	100				
Motivation intrinsic										
Responsibility*										
No responsibility	7	41.20	10	58.80	17	100	0.01	3.72	1.29	10.70
Responsibility	25	15.80	133	84.20	158	100				
Achievement*										
High	15	10.00	135	90.00	150	100	0.00	19.12	7.06	51.74
Low	17	68.00	8	32.99	25	100				
Work result										
Good	9	6.50	129	93.50	138	100	0.00	23.54	9.120	60.74
Worst	23	62.20	14	37.80	37	100				
Self-development										
Good	27	16.90	133	83.10	150	100	0.15	2.46	0.77	7.78
Worst	5	33.30	10	66.70	15	100				
Self-actualization										
Good	4	66.70	2	33.30	6	100	0.01	10.07	1.75	57.67
Worst	28	16.66	141	83.40	169	100				
Motivation extrinsic										
Salary										
Enough	5	33.30	10	66.70	15	100	1.30	2.46	1.77	7.78
Not enough	27	16.90	133	83.10	160	100				
Working condition										
Comfortable	28	17.40	133	82.60	161	100	0.29	1.90	0.55	6.49
Uncomfortable	4	28.60	10	71.40	14	100				
Working relationship										
Good	12	10.20	106	89.80	118	100	0.00	4.77	2.12	10.70
Worst	20	35.10	37	64.90	57	100				
Work procedure										
Good	5	4.40	109	95.60	114	100	0.00	17.31	6.18	48.44
Worst	27	44.30	34	55.70	61	100				
Supervision										
Good	11	44.00	14	56.00	25	100	0.00	4.82	1.93	12.04
Worst	21	14.00	129	86.00	150	100				
Insurance										
Good	10	18.20	45	81.80	55	100	1.00	0.99	0.43	2.26
Worst	22	18.30	98	81.70	120	100				

\*Fisher exact test.

number of nurses with a nursing professional education level is more than nurses with a diploma III education level. According to a survey conducted by the Ministry of Health, the number of nurse profession is less than a diploma III nurse [11]. This study is also in line with research conducted by [14] that the level of education is not related to the performance of nurses.

**Table 4: The most influential variable on nurse performance (n = 165)**

Variable	p-value	Exp B (OR)	95% CI for Exp (B)	
			Lower	Upper
Work time*	0.00*	1.73	0.05	5.95
Work result**	0.00	12.17	4.20	34.57
Work procedure**	0.00	24.50	7.34	81.74

\*First model, \*\*Second model.

In this study, the majority of the nurse was ≤30 years old. Nurses ≤30 years old have good performance due to the relatively young age of nurses. At a young age, most people are more energetic. The body's ability to tolerate the activities carried out is still good. So that they can do all work and activities more easily without experiencing health problems that have an impact on increasing their performance [15].

Working time was one of the most influential variables to nurse performance in conducting patient safety. We found that working time had 1.73 times increase nurse performance. The results were in line with a study conducted inpatient room by Gunawan *et al.* [9], [16] that working time will affect the capacity and level of performance of nurses. Basically, the longer the nurse's working period, the more proficient, have better capacity and ability compared to nurses who have fewer years of service. The expertise approach is carried out by continuing to do things repeatedly so that they can increase expertise in providing nursing action interventions compared to nurses who have fewer years of service. The experience gained during the work period makes senior nurses more confident in taking action on patients because they have been trained longer and are agile [16].

Changes in marital status from single to married make nurses more responsible in their work so that they bind performance in providing nursing care to patients. In this study, there is a relationship between marital status and nurse performance in conducting patient safety. In line with research by Kementerian Kesehatan Indonesia [11] that there is a relationship between marital status and the innovation ability of nurses in performing nursing care. Nurses who are married, 15 times can innovate in nursing care compared to those who are not married. Married people experience less turnover and are more satisfied with their jobs than unmarried people [17].

Supervision is a routine activity carried out by superiors to ensure the implementation of nursing care runs smoothly according to standards. In this study, supervision has a relationship with the performance of nurses. In line with research conducted by Sirajudin *et al.* [18] that clinical supervision carried out by supervisors has an impact on the clinical ability of nurses in carrying out nursing care. During supervision, discussions are held with experienced superiors to solve problems, increase knowledge, and develop nursing practice [19].

We found that salary did not affect nurse performance in conducting patient safety in Sembiring Hospital. Because this hospital is a private hospital, not government-owned. This finding is quite confusing because it contradicts the theory that salary is a driving force for enthusiasm to work to improve performance [20], [21]. Salary is remuneration provided by the agency to workers [22]. In this study, the majority of nurses working in this hospital were alumni of the Deli Husada Deli Tua Health Institute, which is a foundation with the Sembiring Hospital. So that nurses feel they are working in their own homes so they don't care about the salary they get. The relationship between salary and nurse performance requires further research.

Responsibility affects the performance of nurses. Responsibility is a person's ability to complete a given job [23]. Nurses have the responsibility to provide

comprehensive nursing care to patients regardless of ethnicity, religion, and financial status. Nurses as a profession provide direct action to patients who are guided by nursing standards based on a code of ethics within the scope of authority and responsibility [24].

Achievement affects performance. Nurses who have good achievements will have good nurses' performance. In this study, nurses work according to a specified schedule. The nurse came on time. Leaders reward nurses who come on time and provide good nursing care. Because there will be evaluation results from hospital management as a guide in determining nurses who have achievements. This is in line with research conducted by that good achievement will increase nurses' performance [11].

Work results affect performance. Sembiring Hospital is a private hospital where nurses are required to provide a complete service. So that it shows maximum work results. In this study, work results can increase the performance of nurses 12.17 times. Nurses who have good work results increase performance. Apart from that, this also needs to be supported with responsibility. If nurses do not carry out their responsibilities properly, malpractice will occur and the patient's life will be lost [25], [26].

Self-development is not related to performance. This is contrary to the theory which says that work will achieve the highest success if a person has the will to continue to learn and develop [25]. Good self-development has the benefits of a long career that helps nurses to progress and develop [27]. The self-development of nurses in this hospital is still lacking. Development is only for continuing further education. However, if the promotion and training are only for certain people the nurse's self-development in this hospital has not been maximized.

Self-actualization affects performance. The leadership at the Sembiring Hospital provides nurses with the opportunity to be creative at work to improve work performance so that performance can increase. This is following McClelland's theory that a person must learn to master skills to achieve high performance [28], [29].

The working relationship influences the performance of nurses. In this study, there was no difference in the employment status of nurses. So that nurses have good working relationships with others. In this case, the Sembiring Hospital is a non-government private hospital that allows it to have civil servants and honorary employees. This study is in line with research conducted by Amarat *et al.* [30] that there is a relationship between work relationships and nurse performance.

Working conditions have no relationship with performance. This is in line with the research conducted by Cho and Han [28] that there is no significant effect between working conditions with the performance of nurses. This is because nurses are required to provide

the best nursing care to patients even though the working environment conditions are not supportive. Good performance can be created by setting a healthy environment [29], [31].

Social security is not related to performance. This is because the Sembiring Hospital is a private hospital that does not provide an old age guarantee to its employees, one of which is a nurse such as a government-owned hospital. This is in line with research conducted by Awan *et al.* [32] that social security does not affect the performance of employees. Only a part of the nurses of the Sembiring Hospital has social security for workers.

Work procedures are the most influential factors on the performance of nurses. This is following a study conducted by Page-Cuttrara and Turk [33]. Working procedures 24.50 times can improve the performance of nurses. Standard operating procedures in hospitals are by the duties and functions of nurses. Nurses also perform nursing care actions by standard operating procedures. This is assessed by the hospital leadership. Hospitals that have clear work procedures can provide optimal services [34], [35].

This study has limitations, namely: This research was conducted by the respondent's superiors. Respondents may be less flexible in filling out the questionnaire given. Besides having limitations, this research also has implications. This finding is very useful for policymakers in the hospital to pay attention to the characteristics and motivation factors both internal and external in making policies to improve the performance of employees, especially nurses.

## Conclusions

Nurse performance in conducting patient safety can be influenced by various factors. Improved performance can be controlled by understanding the influencing factors so that performance can increase and can improve the quality of nursing care provided. The hospital leadership must consider the factors of the working period, work results, and work procedures in the hospital. Further research needs to be done on the relationship between education status, self-development, salary, working conditions, and insurance on nurse performance in conducting patient safety.

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## Authors Contribution

Alprindo Sembiring Meliala conceived and carried out the research and wrote the manuscript., Ida Yustina, Zulfendri, Setiawan, and Siti Saidah Nasution reviewed the research process, design, and results in the analysis of research.

## References

- World Health Organization. Patient Safety. Geneva: World Health Organization; 2016. Available from: <http://www.who.int/patientsafety/en/> [Last accessed on 2016 Nov 27].
- The Joint Commission. National Patient Safety Goals Effective January 2019; 2019. Available from: [https://www.jointcommission.org/sitecore/media-library/tjc/documents/standards/national-patient-safety-goals/historical/npsg\\_chapter\\_cah\\_jan2019/](https://www.jointcommission.org/sitecore/media-library/tjc/documents/standards/national-patient-safety-goals/historical/npsg_chapter_cah_jan2019/) [Last Accessed on 2021 August 10].
- Ministry of Health Republik Indonesia. Profil Kesehatan Indonesia Tahun 2018. Indonesia: Ministry of Health Republik Indonesia; 2019.
- Cha C, Sung C. Factors related to nursing performance in South Korean intensive care units. *Int J Nurs Pract*. 2020;26(6):e12874. <https://doi.org/10.1111/ijn.12874> PMID:32686301
- Al-Ajarmeh DO, Rayan AH, Eshah NF, Al-Hamdan ZM. Nurse-nurse collaboration and performance among nurses in intensive care units. *Nurs Crit Care*. 2021;12(1):1-9. <https://doi.org/10.1111/nicc.12745> PMID:34962022
- Sonoda Y, Onozuka D, Hagihara A. Factors related to teamwork performance and stress of operating room nurses. *J Nurs Manag*. 2018;26(1):66-73. <https://doi.org/10.1111/jonm.12522> PMID:28744975
- Agency for Healthcare Research and Quality. AHRQ Hospital Survey on Patient Safety Culture: User's Guide. U.S Department of Health and Human Service Agency for Healthcare Research and Quality (AHRQ); 2016.
- Agustin T. Effectiveness of the education on the motivation of the nurses and work culture related to the implementation of patient safety at ICU/HCU Dr. Soekardjo Hospital, Tasikmalaya. In: 2<sup>nd</sup> Bakti Tunas Husada-Health Science International Conference (BTH-HSIC 2019) 2020 Jun 8. Amsterdam, Netherlands: Atlantis Press; 2020. p. 173-5.
- Gunawan NP, Hariyati RT, Gayatri D. Motivation as a factor affecting nurse performance in regional general hospitals: A factors analysis. *Enferm Clin*. 2019;29:515-20.
- Abu Yahya O, Ismaile S, Allari RS, Hammoudi BM. Correlates of nurses' motivation and their demographic characteristics. *Nurs Forum* 2019;54(1):7-15. <https://doi.org/10.1111/nuf.12291> PMID:30508252
- Kementerian Kesehatan Indonesia. Situasi Tenaga Keperawatan. Pusat Data dan Informasi Kementerian Kesehatan Republik Indonesia. Indonesia: Kementerian Kesehatan Indonesia; 2017. Available from: <http://www.depkes.go.id/resources/download/pusdatin/infodatin/infodatin%20perawat%202017.pdf> [Last accessed on 2021 Sept 09].
- Nurssalam. Praktik A. Manajemen Keperawatan Aplikasi Dalam Praktik. Keperawatan Profesional; 2013.
- Liou SR, Cheng CY, Tsai HM, Chang CH. Innovative strategies for teaching nursing research in Taiwan. *Nurs Res*. 2013;62(5):335-4. <https://doi.org/10.1097/NNR.0b013e31829fd827> PMID:23995467
- Al-Ghareeb A, McKenna L, Cooper S. The influence of anxiety on student nurse performance in a simulated clinical setting: A mixed methods design. *Int J Nurs Stud*. 2019;98:57-66. <https://doi.org/10.1016/j.ijnurstu.2019.06.006> PMID:31284161
- Jakob R, McKenna L, D'Amore A. The changing skill mix in nursing: Considerations for and against different levels of nurse. 2015. *J Nurs Manag*. 23(4):421-6. <https://doi.org/10.1111/jonm.12162> PMID:24112358
- Atatsi EA, Stoffers J, Kil A. Factors affecting employee performance: A systematic literature review. *J Adv Manag Res*. 2019;16:329-51.
- Ziapour A, Kazemi N, Pour NK, Ziapour M. Study the job satisfaction and its affected factors in Kermanshah hospital nurses. *Nat Sci* 2014;12:88-92.
- Sirajudin N, Agianto A, Nursalam N, Herry S. Clinical supervision training to increase nurses' work performance in hospitals. *Indian J Public Health Res Dev* 2019;10:2751-5.
- Tseng YH, Griffiths F, de Kadt J, Nxumalo N, Rwafa T, Malatji H, et al. Integrating community health workers into the formal health system to improve performance: A qualitative study on the role of on-site supervision in the South African programme. *BMJ Open*. 2019;9(2):e022186.
- Yuan B, Yu Y, Zhang H, Li H, Kong C, Zhang W. Satisfaction of Township Hospitals Health Workers on How They Are Paid in China. *Int J Environ Res Public Health*. 2021 Nov 15;18(22):11978. <https://doi.org/10.3390/ijerph182211978> PMID:34831735
- Phillips T, Evans JL, Tooley S, Shirey MR. Nurse manager succession planning: A cost-benefit analysis. *J Nurs Manag*. 2018;26(2):238-43. <https://doi.org/10.1111/jonm.12512> PMID:29230903
- Saha R, Cerchione R, Singh R, Dahiya R. Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corpor Soc Respons Environ Manag*. 2020;27(2):409-29.
- Razzaghi M, Balouch S, Ghalavandi H, Mousavinia SM. The role of moral intelligence and social capital in nurses' responsibility: The variable share of professional ethic. *Med Ethic* 2020;13:45.
- Christensen SS. Escape from the diffusion of responsibility: A review and guide for nurses. *J Nurs Manag*. 2019;27(2):264-70. <https://doi.org/10.1111/jonm.12677> PMID:30178904
- Fukada M. Nursing competency: Definition, structure and development. *Yonago Acta Medica*. 2018;61(1):1-7. <https://doi.org/10.33160/yam.2018.03.001>
- Parizad N, Lopez V, Jasemi M, Asl RG, Taylor A, Taghinejad R. Job stress and its relationship with nurses' autonomy and nurse-physician collaboration in intensive care unit. *J Nurs Manag*. 2021;29(7):2084-91. <https://doi.org/10.1111/jonm.13343> PMID:33894092
- Kalhor R, Khosravizadeh O, Moosavi S, Heidari M, Habibi H.

- Role of organizational climate in job involvement: A way to develop the organizational commitment of nursing staff. *J Evid Based Integr Med*. 2018;23:2515690X18790726.
28. Cho H, Han K. Associations among nursing work environment and health-promoting behaviors of nurses and nursing performance quality: A multilevel modeling approach. *J Nurs Scholarsh*. 2018;50(4):403-10.
29. Sarıköse S, Göktepe N. Effects of nurses' individual, professional and work environment characteristics on job performance. *J Clin Nurs*. 2022;31(5-6):633-41. <https://doi.org/10.1111/jocn.15921> PMID:34151505
30. Amarat M, Akbolat M, Ünal Ö, Karakaya BG. The mediating role of work alienation in the effect of workplace loneliness on nurses' performance. *J Nurs Manag*. 2019;27(3):553-9.
31. Dimova R, Stoyanova R, Harizanova S, Tarnovska M, Keskinova D. Academic staff satisfaction with their work: A cross-sectional study in a medical university. *Open Access Maced J Med Sci*. 2019;7(14):2384-90.
32. Awan A, Afzal M, Majeed I, Waqas A, Gilani SA. Assessment of knowledge, attitude and practices regarding occupational hazards among nurses at nawaz sharif social security hospital Lahore Pakistan. *Saudi J Med Pharm Sci*. 2017;3(6):622-30.
33. Page-Cutrara K, Turk M. Impact of prebriefing on competency performance, clinical judgment and experience in simulation: An experimental study. *Nurse Educ Today*. 2017;48:78-83. <https://doi.org/10.1016/j.nedt.2016.09.012> PMID:27721089
34. Assadi T, Sadeghi F, Noyani A, SeidAbadi AM, Yekesadat SM. Occupational burnout and its related factors among iranian nurses: A cross-sectional study in Shahroud, Northeast of Iran. *Open Access Maced J Med Sci*. 2019;7(17):2902-7. <https://doi.org/10.3889/oamjms.2019.744> PMID:31844456
35. Braithwaite J, Churruca K, Ellis LA, Long J, Clay-Williams R, Damen N, et al. *Complexity Science in Healthcare*. Sydney: Australian Institute of Health Innovation, Macquarie University; 2017.