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## Knowledge and attitude towards patient safety among registered nurses of a private hospital in Selangor Malaysia

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### Abstract

**Background:** Many patients experience losses during hospitalization due to various mistakes and unwanted events. Knowledge and attitudes of nurses toward patient safety greatly affect the provision of safe patient care. Registered nurses need good knowledge and attitudes to provide good nursing care during inpatient care.

**Purpose:** To improve the knowledge and attitude of registered nurses toward patient safety with proper guidelines to prevent any incident or adverse event and simultaneously improve safety and quality health care in Malaysia.

**Method:** This cross-sectional analytic study was conducted in 2021 at a private hospital in Klang Valley, Malaysia. One hundred twenty-eight (128) registered nurses (RNs) were recruited through non-probability sampling. This questionnaire was used to collect data, which was then analyzed using SPSS Version 26, descriptive analysis, Kruskal Wallis, and Mann-Whitney tests.

**Results:** Showed that 124 respondents (96.9%) had good knowledge about patient safety, and 47.7% (61 respondents) had a good attitude. The relationship between nurses' knowledge of patient safety and age, education level, experience, and unit or department was not significant at  $p$  values 0.362, 0.902, 0.466, and 0.307, respectively.

**Conclusion:** Determining the knowledge and attitudes of nurses toward patient safety will improve the quality of nursing care by preventing incidents that are detrimental to patients.

**Keywords:** Registered Nurses; Patient Safety; Culture; Adverse Events.

### INTRODUCTION

Nowadays, private or government healthcare facilities emphasize the patient's safety during hospitalization. Patient safety is an important topic of national and international priority in delivering. World Health Organization (2019) reported the incident of adverse events led to one of 10 causes of mortality and disability due to unsafe care. This challenges hospital management, an increasing number of incidents and essential issues. Registered nurses must possess good knowledge and attitude toward patient safety and play an important role in providing quality patient care during hospitalization. According to Wake et al. (2021), nurses are in the best position to improve patient

safety as the largest group of healthcare providers.

Furthermore, registered nurses are the people with the patient 24 hours until they recover from their disease. Good knowledge and a positive attitude are important elements in promoting patient safety. The research found that nursing personnel should update their knowledge and positive attitude regarding patient safety and incorporate it into their practice to promote it and play a prominent role in improving patient safety (Pramanik et al., 2021). In Malaysia, to improve patient safety in hospitals within all hospital providers, the Patient Safety Council of Malaysia was established in January 2003 (Jarrar et al., 2016) to prevent adverse

patient events. In addition, it also helps to improve the knowledge and attitude of registered nurses toward patient safety with proper guidelines to prevent any incident or adverse event and simultaneously improve safety and quality health care in Malaysia.

## RESEARCH METHOD

This cross-sectional study was conducted in 2020 at one of the private hospitals in Kajang, Malaysia. The study population (N=152) included all registered nurses in the corresponding study setting. The sampling method used in this study was non-probability sampling. Based on Krejcie and Morgan's (1970) table, the population was 152 registered nurses (N=152) and a sample size of 108 registered nurses. However, in this study, 128 registered nurses participated (n=128).

All questionnaires were presented in English because it is used as the principal language in hospitals and communication for nurses in the clinical context. The instrument consists of three questionnaires concerning socio-demographics, knowledge and patient safety attitudes. The questionnaire was distributed on November 2021. It was distributed among 152 registered nurses in the general ward and specialised areas (Accident & Emergency, Intensive care Unit, Hemodialysis Unit, Operation Theatre, labour and delivery, Endoscopy room, and cardiac Catheterization Laboratory Unit). The questionnaire was divided into three parts: demographic, knowledge and attitude. The first part of the questionnaire consisted of a socio-demographic, which included five questions. Part two questionnaire was regarding nurses' knowledge towards patient

safety adopted from H.Biresaw et al. (2020), with 11 questions. Part three was a questionnaire regarding the attitude towards patient safety among registered nurses with 13 questionnaires. A five-point Likert scale (1 strong disagree/very poor, 2 =disagree/ poor, 3=neutral/fair, 4 =agree/good, 5 =strongly agree/very good) was used to measure the attitudes of the registered nurses. The survey questionnaires have been distributed via Google Forms. This study's Cronbach's Alpha value was 0.7, with 10% of the pilot study sample. The data was collected through Google Forms, and the link was given to the respondent via WhatsApp. Permission, explanation and informed consent were stated in the google form. The data were analyzed by using SPSS software version 26. The analysis included descriptive statistics such as frequencies, percentages, means and standard deviations. The Kruskal Wallis and Mann Whitney was used to analyzing relationships between knowledge and attitude with socio-demographics, including age, education level, working experience and unit or department.

Ethical clearance is sought from the University affiliation's Research Management Committee (RMC). The proposal for this study was reviewed and approved by RMC. The purpose of the study, informed consent and the respondent criteria regarding privacy and confidentiality are attached and briefly explained in the google form. After getting approval from RMC, the researcher wrote the letter of application and submitted the research proposal to the hospital management to get approval to start her research project.

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## RESULTS

**Table 1. Frequencies and Percentages of Respondents' Characteristics (N=128)**

Characteristic	Frequency (n)	Percentage (%)
<b>Gender</b>		
Male	11	8.6
Female	117	91.4
<b>Age</b>		
21-30	51	39.8
31-40	66	51.6
41-50	9	7.0
>50	2	1.6
<b>Level of Education</b>		
Diploma in Nursing	117	91.4
Degree in Nursing	11	8.6
Master in Nursing	0	0
<b>Post Basic</b>		
Critical Care	10	7.8
Nursing	10	7.8
Midwifery	9	7.0
Trauma Paediatric	8	6.3
Peri-operative	6	4.7
Renal	4	3.1
Orthopaedic	4	3.1
Endoscope	3	2.3
Neonatal	3	2.3
ENT	1	0.8

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**Table 2. The Percentage Level of Knowledge of Each Questionnaire Towards Patient Safety.**

Question		(n/%)	Mean	Std. Deviation
B1. The clinical environment can be a cause of errors	Yes	115/89.8	1.9	0.303
	No	13/10.2		
B2. Medical errors are a sign of incompetence.	Yes	106/82.8	1.83	0.379
	No	22/17.2		
B3. National health surveillance sets the key to patient safety strategies	Yes	116/90.6	1.91	0.293
	No	12/9.4		
B4. Patients have an important role in preventing errors.	Yes	110/85.9	1.86	0.349
	No	18/14.1		
B5. Human error is inevitable.	Yes	99/77.3	1.77	0.420
	No	22/22.7		
B6. An adverse event is an event that affects the patient.	Yes	116/90.6	1.91	0.293
	No	12/9.4		
B7. Patient safety is the characteristic of a highly reliable healthcare Organisation.	Yes	126/98.4	1.98	0.125
	No	2/1.6		
B8. The key dimension of patient safety is culture.	Yes	86/67.2	1.67	0.471
	No	42/32.8		
B9. A mistake is a failure to execute an action plan as intended or the implementation of the wrong plan.	Yes	114/89.1	1.89	0.313
	No	14/10.9		
B10. There are contributing factors to the occurrence of clinical errors.	Yes	121/94.5	1.95	0.228
	No	7/5.5		
B11. There should be a next step to be done after the occurrence of an error.	Yes	126/98.4	1.98	0.125
	No	2/1.6		

**Table 3. The Level of Knowledge Toward Patient Safety (N=128)**

Level of Knowledge	Mean Score (n/%)
Poor	0
Moderate	4/3.1
Good	124/96.9

**Table 4. The Level of Attitude Towards Patient Safety (N=128)**

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Question		Frequency (n)	Percentage (%)	Mean	Std. Deviation
A1. Nurse input well received in this clinical area	Strongly Agree	36	28.1	4.17	0.616
	Agree	79	61.7		
	Neutral	12	9.4		
	Disagree	1	0.8		
	Strongly Disagree	0	0		
A2. In this clinical area, it is easy to speak up if I perceive a problem with the patient	Strongly Agree	17	13.3	3.85	0.688
	Agree	80	62.5		
	Neutral	26	20.3		
	Disagree	5	3.9		
	Strongly Disagree	0	0		
A3. Disagreements in this clinical area are resolved appropriately	Strongly Agree	0	0	2.77	0.880
	Agree	22	17.2		
	Neutral	71	55.5		
	Disagree	19	14.8		
	Strongly Disagree	16	12.5		
A4. I have the support I need from other personnel to care for the patient	Strongly Agree	25	19.5	3.84	0.791
	Agree	63	49.2		
	Neutral	34	26.6		
	Disagree	6	4.7		
	Strongly Disagree	0	0		
A5. It is easy for personnel here to ask questions when there is something that they do not understand	Strongly Agree	30	23.4	3.98	0.721
	Agree	68	53.1		
	Neutral	28	21.9		
	Disagree	2	1.6		
	Strongly Disagree	0	0		
A6. The healthcare workers here work together as a well-coordinated team	Strongly Agree	21	16.4	3.48	1.184
	Agree	56	43.8		
	Neutral	31	24.2		
	Disagree	4	3.1		
	Strongly Disagree	16	12.5		
A7. I would feel safe being treated here as a patient	Strongly Agree	14	10.9	3.56	0.978
	Agree	65	50.8		
	Neutral	38	29.7		
	Disagree	1	0.8		
	Strongly Disagree	10	7.8		
A8. Medical errors are handled	Strongly Agree	24	18.8	3.86	0.820

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appropriately in this clinical area	Agree	71	55.5		
	Neutral	26	20.3		
	Disagree	5	3.9		
	Strongly Disagree	2	1.6		
A9. I know the proper channels to direct questions regarding patient safety	Strongly Agree	13	10.2	3.59	0.984
	Agree	71	55.5		
	Neutral	33	25.8		
	Disagree	0	0		
A10. I am encouraged by my colleagues to report any patient safety concerns	Strongly Agree	18	14.1	3.64	1.048
	Agree	71	55.5		
	Neutral	26	20.3		
	Disagree	1	0.8		
A11. This clinical area makes it easy to learn from the errors of others	Strongly Agree	11	8.6	3.55	0.938
	Agree	68	53.1		
	Neutral	38	29.7		
	Disagree	2	1.6		
A12. Working here is like being part of a large family	Strongly Agree	25	19.5	3.88	0.774
	Agree	67	52.3		
	Neutral	32	25.0		
	Disagree	3	2.3		
A13. Management does not knowingly compromise patient safety	Strongly Agree	8	6.3	2.84	1.007
	Agree	20	15.6		
	Neutral	56	43.8		
	Disagree	32	25.0		
	Strongly Disagree	12	9.4		

**Table 5. Analysis of The Level of Attitude Registered Nurses Towards Patient Safety**

Attitude towards safety	Mean Score (n/%)
Poor	0/0
Moderate	67/52.3
Good	61/47.7

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**Table 6. The Relationship Between The Level of Knowledge and Attitude With Socio Demographic**

Variable	p-value
<b>Level of Knowledge</b>	
Age	0.725
Education	0.302
Department	0.466
Working Experience	0.307
<b>Attitude towards patient safety</b>	
Age	0.331
Education	0.181
Department	0.414
Working Experience	0.339

There were 128 respondents who participated in this study. Table 1 shows that 8.6 % (n=11) are male respondents, and n=117 (91.4%) are female respondents. For the age distribution, the highest number of respondents came from 31 – 40 with 66 (51.6%) respondents, followed by 21 – 30 with 51 (39.8%) respondents. From this study, the respondent's level of education was a diploma in nursing (117, 91.4%), while 11 (8.6%) respondents had a degree in nursing. From the data distribution for working experience, the highest respondent comes from 10 years and above, with 53 (41.4%) respondents, followed by 7-9 years of experience with 37 (28.9%) respondents. There are 19 (14.8%) respondents with less than 1-3 years and 4- 6 years of experience, respectively.

Table 2 shows the resulting level of knowledge among registered nurses towards patient safety. There was a questionnaire that had 11 questions on knowledge of patient safety. The table shows that the respondents have good knowledge of the item "is patient safety the characteristic of highly reliable health care organisation, and there should be a next step to be done after the occurrence of an error, "contributing to 98.4%. However, table 3 shows that 124 (96.9%) of the respondents have good knowledge of patient safety, while 4 (3.1%) have a moderate level of knowledge.

Table 4 shows 13 questions on attitudes towards patient safety among registered nurse nurses. The

result from the attitude clearly describes each item. For the first statement, 'Nurse input well received in this clinical area' 36 (28.1%) registered nurses strongly agreed, 79 (61.7%) agreed, 12(9.4%) were neutral, and 1 (0.8%) disagreed. Statement two, "In this clinical area, it is easy to speak up if I perceive a problem with the patient", most registered nurses agree with this statement 80 (62.5%). For the statement, "Disagreements in this clinical area are resolved appropriately", 71(55.5%) registered nurses were neutral. I have the support from other personnel to care for the patient," 63 (49.2%) agreed. For statements, "It is easy for personnel here to ask questions when there is something that they do not understand", 68 (53.1%) agree, followed by strongly agree 30 (23.4%). 'The health care workers here work together as a well-coordinated team' 56 (43.8%) registered nurses agreed. 'I would feel safe being treated here as a patient', 65 (50.8%) agreed with this statement, and 38 (29.7%) were neutral.

Table 5 shows 61 (47.7%) registered nurses have a good attitude, while 67 (52.3%) respondents have a moderate attitude towards patient safety.

The analysis of the relationship between knowledge and attitude with socio-demographic profiles like age, level of education, working experience, unit, or department showed no relationship where the p-value of all the variables >0.05. The relationship level of knowledge with age the p-value is 0.725, education 0.302, department 0.466 and working

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experience 0.307. However, for the relationship attitude towards patient safety with age, the p-value was 0.331, education 0.181, department 0.414 and working experience 0.339.

## DISCUSSION

### The level of knowledge among registered nurses towards patient safety

In this study, the researcher found that most of the registered nurses at the Specialist Hospital have a level of knowledge towards patient safety of 96.9% (124 respondents), and four (3.1%) have a good moderate level of knowledge. The researcher found that the respondents have good knowledge of the data in this study. Patient safety is the characteristic of a highly reliable healthcare organization. There should be the next step after an error which contributes 98.4%. This result, similar to a study by Wake et al. (2021), stated that the nurses had good knowledge (58.7%). According to Wake et al. (2021), participants with good knowledge of patient safety received information during initial education and continued their education. This study finding was higher when compared with the study done at a Tertiary Care Centre in South India, where the level of knowledge towards patient safety among registered nurses was 70.8% of the nursing personnel had moderately adequate knowledge, and 4.4% had adequate knowledge. The difference in finding may be because of the sample of 600 nurses.

### The attitude of registered nurses towards patient safety

Conversely, regarding the attitude of registered nurses towards patient safety at the Specialist Hospital in this study, the researcher found that 47.7% (61 respondents) have a good attitude, and 67 (52.3%) respondents have a moderate attitude towards patient safety. This study showed that the respondents agreed they are easy to if they face a problem with the patient. The question in this attitude, which is this clinical area, it is easy to speak up if I perceived a problem with the patient, showed that 62.5% of respondents agreed with that statement.

This study finding was similar to the study conducted by Wake et al. (2021) at Asella Referral and

Teaching Hospital, Arsi Zone, Oromia Regional State, Ethiopia, with 172 participants with 52.9% had a positive attitude, and 47.1% had a negative attitude towards patient safety. The study noted that the nurses with working experience of >13 years have a positive attitude compared with nurses with working experience of <13 years. The study conducted at Gondar University Specialized Hospital, Ethiopia, also had similar findings: 56.1% had good attitudes, and 43.9% of participants had poor attitudes. The study was participated by 386 registered nurses. This study finding was lower than that conducted at a tertiary Care Centre in South India, where 60.3% of the nursing personnel had a favourable attitude, and 39.7% of the nurses had a moderately favourable one. The sample size is large, with 600 participants compared with this study, only 128 samples, which has impacted the result.

### The relationship between the level of knowledge towards patient safety and social demographic profile

This study showed the relationship between the level of knowledge towards patient safety and social demographic profile (age, level of education, experience and unit department) among registered nurses. There was no relationship, which a p-value >0.05 and not significant. That showed knowledge and social demographic such as age, level of education, experience, and working department are not related to enhancing patient safety. However, the study by Biresaw et al. (2020) at the University of Gondar Specialized Hospital found that age, level of education, and experience were significant to nurses' knowledge of patient safety at the p-value of <0.05. The researchers found that participants over 30 years old, with degree holders and work experience above ten years, had good knowledge.

## LIMITATION AND RECOMMENDATION

This study also had its limitation. Due to the pandemic Covid-19, all the questionnaire was distributed via Google form. It is difficult for the researcher to monitor the progress of respondents who answered the questionnaire, depending on the respondent's trustworthiness. There could be bias in

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patient safety knowledge as respondents might discuss or refer to other sources such as the internet.

From the result of this study, the researcher recommended that awareness or training be done for all registered nurses in yearly basics to improve their knowledge regarding patient safety. Pramanik et al. (2016) suggested that nursing personnel should be urged to update their knowledge, inculcate a positive attitude regarding patient safety and incorporate it into their practice to promote patient safety. Besides that, the audit must also be conducted, which is one element of assessing registered nurses' knowledge. The Patient Safety Goal has been audited quarterly to assess the staff's knowledge. Sending staff to attend a workshop on patient safety will gain knowledge and skill and motivate staff to improve and prevent patient harm or incident at the hospital.

On the other hand, all nursing institutes also play an important role in awareness and training regarding patient safety before all their students qualify. It is because to prepare their student before they start working as registered nurses. This was supported by Vaismoradi (2012) that nursing education needs modification in teaching content of patient safety, addressing discontinuity between education and practice and pursuit of patient safety improvement in clinical practice and moving toward an international approach to the designation of the nursing curriculum. Helsinki (2014) stated the role of education: Education plays a key role in improving patient safety, and we entirely support the development, publishing and provision of patient safety education. Orientation programs and training for the newly qualified registered nurse are also one of strategy to improve patient safety. Patient safety is one of the elements in the orientation program to expose the newly qualified registered nurses in preparing them for the working environment. Rahman et al (2015) recommended that all new staff attend a general orientation program and training regarding the policies, procedures and their role in improving the quality of patient care. Besides that, the training program will also increase confidence, knowledge, critical thinking ability and interpersonal skills.

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## CONCLUSION

In this study, the registered nurses had good knowledge and moderate attitude towards patient safety. Registered nurses are aware of patient safety, such as the cause and prevention of medical errors that will harm the patient. However, emphasizing continuing education, training, and awareness is important to improve knowledge and attitude towards patient safety. On the other hand, an audit is also important to assess registered nurses' knowledge. These will reduce all types of errors and improve the hospital's quality.

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