

Sex differences on patient safety culture practices among nurses in Karawang, Indonesia: a cross-sectional study

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ABSTRACT

Nurses are critical in enhancing the quality of care and patient safety due to their commitment to caring for patients 24 hours a day and their interaction with families and other health professionals. The role of gender in the interprofessional team is more complex and warrants further investigation, even though it has been increasingly studied at the level of the individual healthcare provider. In this study, we examined sex differences in patient safety culture practices among nurses. This study was conducted using a cross-sectional design at a general public hospital in Karawang, West Java, Indonesia. The hospital survey on patient safety culture (HSPSC) was used. A chi-square test and an independent t-test were used to determine whether there were any differences in patient safety culture practice between the sexes. A total of 75 males and 145 females agreed to join this study. The mean age of female and male participants was 34.21 ± 14.07 and 36.29 ± 12.51 years old, respectively. Age, marital status, and working position were significantly different between males and females ($p < 0.05$). Females reported to have a higher overall score of patient safety culture practices than males (3.65 (SD = 1.12) vs. 3.11 (SD = 1.43), p -value = 0.001). According to the patient safety culture practice domain, teamwork (4.21 (SD = 1.35) vs. 3.78 (SD = 1.76), p -value = 0.001), response to error (3.56 (SD = 1.93) vs. 3.31 (SD = 1.93), p -value = 0.001), and communication openness (3.88 vs. 2.35 (SD = 0.92), p -value = 0.001) were higher among female than male. Nurses must be trained, and professional communication must be improved as a means of ensuring better patient safety. Patient safety cultures vary widely across hospitals, units, and countries, as evidenced by the growing number of studies that have looked at this issue in depth.

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1. INTRODUCTION

Indonesia, a developing country with a population of nearly 268.6 billion, faces enormous medical and health service tasks, including strengthening patients' safety and improving the quality of health care. The Government also published various related regulations of which the most recent ones stipulate that every health facility, whether accredited or not, should have implemented a patient safety program incorporating the incident reporting system [1]. Despite being implemented for more than a decade, Indonesia's patient safety incident reporting system has not fully adhered to the WHO guidelines. There is a pressing need for the Indonesian Government to improve the system by putting specific regulations and by creating a robust

infrastructure at all levels to support incident reporting [2]. A previous study conducted in Indonesia found that about 2.4% of adverse events were classified as potentially serious and 10.3% as potentially significant. Most workers in health care centres did not understand the concept and definition of patient safety, and there were no modules or guidelines available in the hospital [3].

Nurses are critical in enhancing the quality of care and patient safety due to their commitment to caring for patients 24 hours a day and their interaction with families and other health professionals [4], [5]. A systematic review of 29 studies conducted in Asia and 11 in the United States concluded that six of the twelve HSOPS dimensions scored below 50% positivity, with "nonpunitive response to errors" scoring the lowest [6]. According to a review of 18 studies conducted in Arab countries, while non-punitive response to error is viewed as a serious issue that needs to be addressed, healthcare professionals in Arab countries continue to believe that a 'culture of blame' exists that prevents them from reporting incidents [7], [8]. Conducted a meta-analysis of 11 descriptive studies on hospital staff and discovered that only 8.3 and 32.3 percent of respondents to the reviewed articles rated Iran's patient safety culture as excellent or very good, respectively.

A previous study was conducted to investigate the association between the perceptions of the safety culture of hospital employees and the performance of hospital safety; it found a statistically positive relation of at least one safety culture composite/dimension with selected adverse events [9]. In another research, findings showed that a clear culture of patient safety is associated with a lower rate of complications for patients and fewer adverse events [10]. It is described as a culture through which nurses are aware of mistakes, encouraged to address them, and improve their capacity to learn from past mistakes and take corrective action [11]. A meta-analysis, including 11 descriptive studies on hospital staff, showed that only 8.3 and 32.3% of the respondents of the reviewed articles have rated patient safety culture in Iran as excellent and very good, respectively [8]. The important role of the patient safety culture in clinical settings requires improvement [12], [13].

Sociocultural norms relating to multiple social differences, such as gender, can influence hierarchical relationships in real life [14]. A person's gender has many facets and can change at any time [15]. Women, men, and people of all gender identities and expressions are all included in the concept of gender, as are the socially constructed roles and expectations that are imposed on them based on their ascribed or actual gender [15]. Several studies in the field of surgery and anesthesia have highlighted the role of gender in shaping the experiences and outcomes of healthcare professionals [16], [17]. The role of gender in the interprofessional team is more complex and warrants further investigation, even though it has been increasingly studied at the level of the individual healthcare provider. For interprofessional education and training, this could have significant implications, especially in light of the growth and increased investment in equity, diversity, and inclusion. In this study, we examined sex differences in patient safety culture practices among nurses in Karawang, Indonesia.

2. METHODS

2.1. Study design

This study was conducted using a cross-sectional design at a general public hospital in Karawang, West Java, Indonesia. There is only one general public hospital in Karawang. It has become a reference hospital in this area with differs ethnicity both health care providers and patients.

2.2. Sample

The criteria for inclusion were senior nurses who work in either clinical or managerial positions (this subset [senior nurses] includes rotating shifts in nurses, direct ward/unit supervisors [head nurses], rotating shift nursing supervisors, nurse educators, nurse managers, and nurse executives), have at least 3 years of nursing diploma, have at least 6 months of current workplace experience. While the exclusion criteria were nurse who takes leave due to sickness or maternity leave, nurse following specific training on patient safety during this study, and unwillingness to participate.

The sample size for this analysis has been determined according to tables from Cohen. It has been estimated that 64 participants will need to have confidence in the results at a medium-effect size [18], which is widely used in the social sciences, and a power estimate of 0.8, with an alpha of 0.05. In the final, there was 154 sample be recruited in this study with 20% attrition rate.

2.3. Instrument

The researcher used a census. The socio-demographic question includes 14 items. These items cover gender (male and female), age, level of education (diploma, bachelor's, master's, and above), length of work as a nurse, position (nurse level 1 to 5), and working area.

The hospital survey on patient safety culture (HSPSC) developed by the Agency for Healthcare Research and Quality (AHRQ) U.S. Department of Health and Human Services (2016) used operationally to measure perceptions of the safety culture. This instrument consists of 12 composites of safety culture with a total of 42 items rated on a 5-point Likert scale ranging from "5= strongly agree" to "1= strongly disagree" or a 5-point frequency scale wherein 5 = always and 1 = never before.

2.4. Procedure

The researcher approached the Karawang hospital for permission to conduct the study after obtaining a letter of permission from Lincoln University College to conduct the study in Indonesia. The researcher begins collecting data after receiving a letter of approval from each hospital's Ethical Committee. The researcher needed permission from the head nurse to make the study's purpose and eligibility criteria clear to potential subjects before beginning the recruitment process. The notified consent form was distributed and collected at the end of the ward meeting during the time allotted. Some explanations about participant protection, including anonymity, the unnamed signature box to ensure confidentiality, and a statement that all information provided is for academic purposes only, are included in the informed consent. After obtaining informed consent, the researcher distributed the survey to those who had agreed to participate. Participants may also opt out of the study if they find it burdensome. The questionnaire is completely anonymous and does not ask for any personal information about the respondent, and all questionnaires were returned to the researcher in sealed envelopes.

2.5. Data analysis

Descriptions of demographic characteristics and patient safety culture practice were made using descriptive statistics and frequency distributions to account for sex differences in the distribution of these variables. A chi-square test and an independent t-test were used to determine whether there were any differences in patient safety culture practice between the sexes. A p-value of 0.05 indicated that the result was statistically significant. The statistical analyses were carried out using SPSS v. 23.0 (SPSS Inc., Chicago, IL, USA).

3. RESULTS

3.1. Demographic characteristics

The mean age of female and male participants was 34.21 ± 14.07 and 36.29 ± 12.51 years old, respectively (Table 1). In the sample of males, the majority of them (54.7%) had a diploma degree, 53.3% married, 76% nurse level 1 to 2, 42.7% working at inpatients unit, and had working experience for about 19.01 ± 6.55 years. While in the female sample, the majority of them (51.7%) had a diploma degree, 78.6% married, 52.4% nurse level 1 to 2, 53.8% working at inpatients unit, and had working experience for about 17.93 ± 5.64 years. Age, marital status, and working position were significantly different between males and females ($p < 0.05$).

Table 1. Demographic comparison between male and female (n = 220)

Variables		Total n = 220 (%)	Male n = 75 (%)	Female n = 145 (%)	p-value
Age, Mean \pm SD		35.76 ± 13.45	36.29 ± 12.51	34.21 ± 14.07	0.001
Education level	Diploma III	116 (52.7)	41 (54.7)	75 (51.7)	0.238
	Bachelor	100 (45.5)	33 (44.0)	67 (46.2)	
	Master or specialist	4 (1.8)	1 (1.3)	3 (2.1)	
Marital status	Married	154 (70.0)	40 (53.3)	114 (78.6)	0.032
	Single	66 (30.0)	35 (46.7)	31 (21.4)	
Working position	Nurse level 1-2	133 (60.4)	57 (76.0)	76 (52.4)	0.014
	Nurse level 2-5	87 (39.6)	18 (24.0)	69 (47.6)	
Working unit	Inpatient department	110 (50.0)	32 (42.7)	78 (53.8)	0.130
	Outpatient department	45 (20.4)	18 (24.0)	27 (18.6)	
	Surgery department	35 (15.9)	15 (20.0)	20 (13.8)	
	Emergency department	30 (13.7)	10 (13.3)	20 (13.8)	
Working experience (year), Mean \pm SD		18.87 ± 6.34	19.01 ± 6.55	17.93 ± 5.64	0.317

3.2. Sex differences in patient safety culture practice

Females reported having a higher overall score of patient safety culture practices than males (3.65 (SD = 1.12) vs. 3.11 (SD = 1.43), p -value = 0.001) (Table 2). According to patient safety culture practice domain, teamwork (4.21 (SD = 1.35) vs. 3.78 (SD = 1.76), p -value = 0.001), response to error (3.56 (SD = 1.93) vs. 3.31 (SD = 1.93), p -value = 0.001), and communication openness (3.881.56 vs. 2.35 (SD = 0.92), p -value = 0.001) were higher among female than male. While the other domain such as staffing and work pace, organizational learning – continuous improvement, response to error, supervisor, manager, or clinical leader support for patient safety, communication about error, communication openness, reporting patient safety events, hospital management support for patient safety, and handoffs and information exchange, were not significantly different between males and females.

Table 2. Sex difference in patient safety culture practice (n = 220)

Variables	Male		Female		p-value
	Mean	SD	Mean	SD	
Patients' safety culture	3.11	1.43	3.65	1.12	0.001
Domain score					
Teamwork	3.78	1.76	4.21	1.35	0.001
Staffing and work pace	3.42	1.56	3.49	1.40	0.485
Organizational learning – continuous improvement	3.56	1.44	3.66	1.37	0.326
Response to error	3.31	1.93	3.56	1.93	0.001
Supervisor, manager, or clinical leader support for patient safety	3.64	1.57	3.44	1.68	0.116
Communication about the error	2.15	1.10	2.32	0.87	0.520
Communication openness	2.35	0.92	3.88	1.56	0.001
Reporting patient safety events	2.21	1.43	2.56	1.35	0.236
Hospital management support for patient safety	2.54	1.51	2.61	1.37	0.264
Handoffs and information exchange	3.53	1.20	3.47	1.23	0.318

4. DISCUSSION

This study found that nurses had a moderate level of patient safety culture practices. This study reflects that nurses need to do better practice toward patients' safety but somehow need to improve in order to achieve good quality of care. In Turkey, the average total score of nurses on the patient safety culture was 2.58 (SD = 0.39), with the highest score on the employee behavior subscale and the lowest score on the adverse event reporting system subscale [8], [19]. Conducted a meta-analysis of 11 descriptive studies on hospital staff and discovered that only 8.3% and to 32.3% of respondents have excellent or very good patient safety culture, respectively. For example, a Brazilian study found that, aside from the recognition of stress, the perception of safety climate differed significantly across the categories in another study, and that there is a correlation between the five SAQ domains and the variables time of experience and intention to leave the profession. An Egyptian study found that more than half (57.9%) of respondents believed that patient safety was inadequate. Sixty-three percent of nurses believed that adverse events never occurred, and fifty-four percent of them did not formally report any adverse events [20]. This study found that female nurses were more likely to practice patient safety culture than male nurses. Female teamwork may be a factor in this patient safety culture discrepancy [21], [22]. In our study, we found that female nurses were more likely than their male counterparts to collaborate. According to our findings, these variables have a significant impact on how people interact within and across professional groups. Traditional roles, norms, and stereotypes of gender [23] affect both men and women in different ways. There may be serious consequences for teamwork if the different experiences of women and men lead to a culture that encourages medical errors and adverse events by undermining team morale, communication, and psychological safety [24]-[26]. Regardless of their position in the traditional hierarchical structure, women and men in all professions felt that men were treated with more respect than their female colleagues.

Female nurses communicated more openly than male nurses. It is critical for employees to feel empowered to speak up when they observe something that could jeopardize patient care without fear of repercussions from those in positions of authority (AHRQ, 2009). The effectiveness of an organization's communication process can be affected by cultural and gender differences [27]. Health informatics' top table should include the study of how people communicate in healthcare for two reasons: improving communication and better understanding the function of information systems [28]. More and more efforts are being made to ensure that health care systems are "culturally competent" so that patients from various cultural and linguistic backgrounds can receive care that is tailored to their specific needs [29], [30]. Health care organizations must know which attitudes and behaviors are appropriate for patients in order to establish and maintain a healthy culture of safety [31].

5. CONCLUSION

This study found that patient safety culture among nurses was reported moderate. Female reported to have higher overall score of patient safety culture practices than male. According to patient safety culture practice domain, teamwork, response to error, and communication openness were higher among female than male. Nurses must be trained and professional communication improved as a means of ensuring better patient safety. Patient safety cultures vary widely across hospitals, units, and countries, as evidenced by the growing number of studies that have looked at this issue in depth.

CONFLICT OF INTEREST STATEMENT

All authors declare no conflict of interest.

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