

The Relationship Between Health Professionals' Perceptions of Patient Safety Culture and Personal Characteristics



INSTITUT JANTUNG NEGARA
National Heart Institute

Raja Nor Azlina Raja Abdul Manan, Nurul Hani Shaari, Dr. Farina Mohd Salleh, Amirah Nur Zainal

National Heart Institute, Kuala Lumpur, Malaysia

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BACKGROUND

Safety culture evaluation uses uniform surveys as a method to identify areas for improvement and is beneficial for detecting organisational characteristics that may contribute to the occurrence of adverse events and patient harm in organisations. The **Safety Attitude Questionnaire** and the **Hospital Survey on Patient Safety Culture (HSOPSC)** are two safety culture measurement tools that are used frequently in hospital settings.

A HSOPSC is used as a tool for assessing employee's perceptions on various aspects of patient safety e.g. communication, teamwork, leadership, and the overall safety culture of the organization. The goals of conducting this survey include identifying strengths and weaknesses, comparing results to industry benchmarks, promoting transparency, and monitoring progress over time. The National Heart Institute has conducted this survey on an annual basis since 2015.

OBJECTIVES

01

To examine healthcare professionals' perceptions of the patient safety culture in an organisation

02

Identify / determine the relationship between healthcare professionals' perceptions of patient safety culture and employee characteristics (job position, tenure, and workplace environment)

METHODOLOGY

Questionnaire

A validated technique from the Agency for Healthcare Research and Quality (AHRQ) was applied in this study to evaluate 10 patient safety culture composites. The survey encompasses 31 items, which can be answered using a frequency scale (from "never" to "always") or a 5-point Likert scale (from "strongly disagree" to "strongly agree").

Study Design and Sample Size

A cross-sectional study was conducted over a period of 1 month (1 to 31 August 2022) at the National Heart Institute, Malaysia.

The minimum sample size for a total of 2,598 employees (455-bed hospital) is 700 respondents. It was projected that 50% of the 700-person sample size would completed the survey. (n=350 respondents).

Bilingual (English and Malay) versions of the HSOPSC questionnaire were distributed to all doctors, nurses, allied health professionals, and hospital support staff via the SurveyMonkey platform.

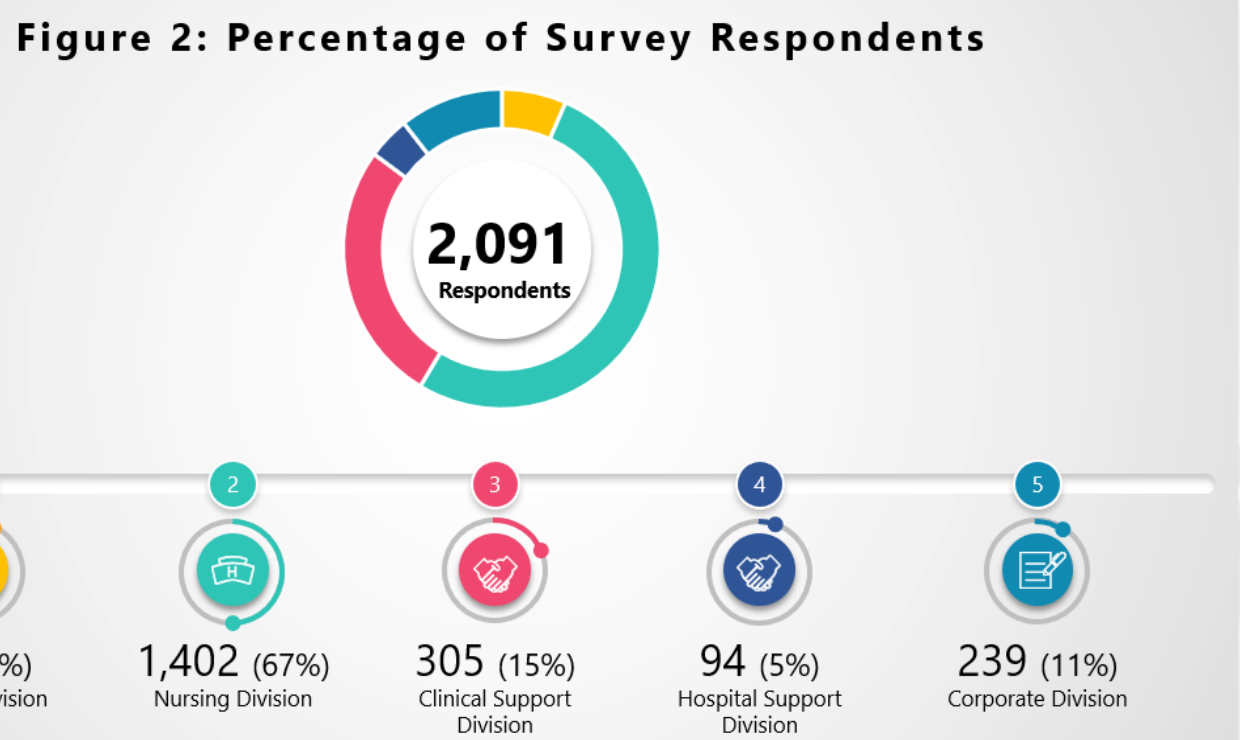
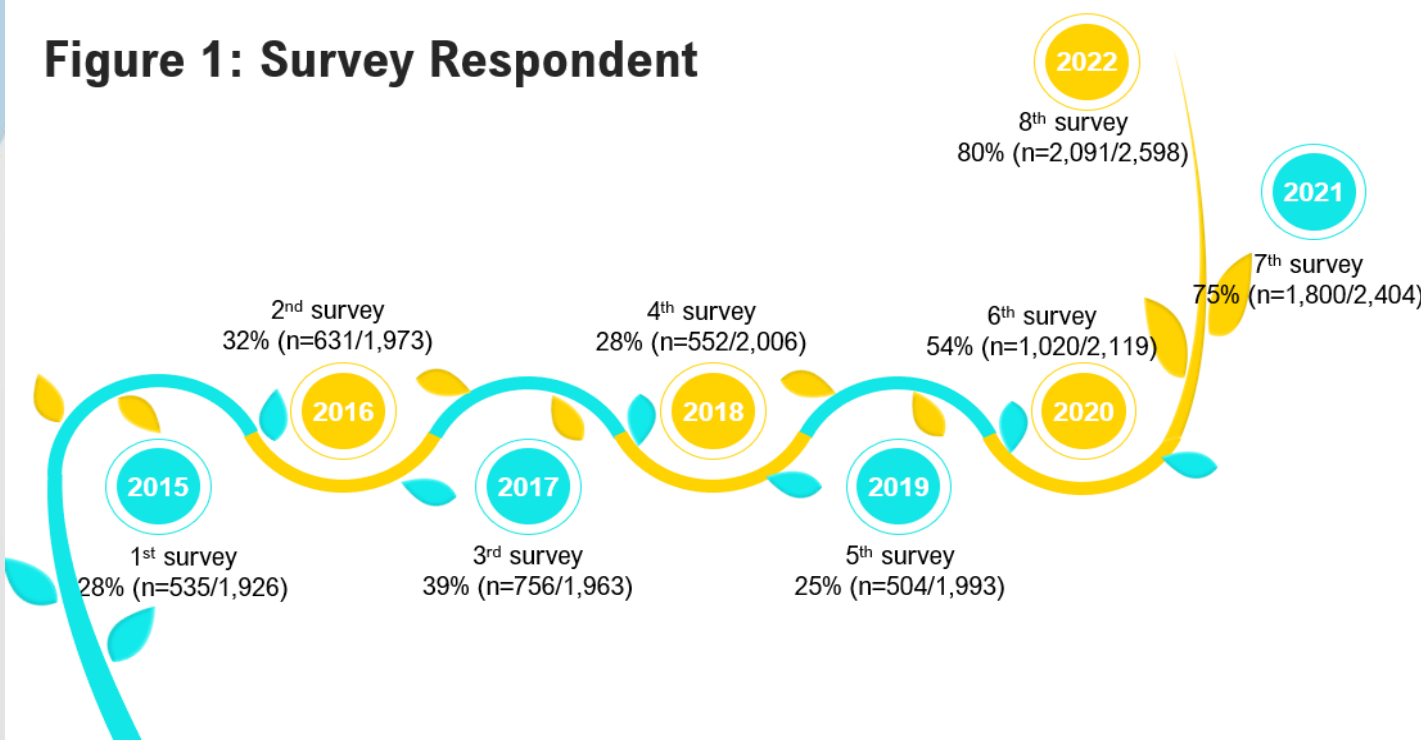
Statistical Analysis

SPSS 27 and Microsoft Excel 2019 were utilized to conduct statistical analysis, as well as descriptive statistics to analyze demographic information, and scores for patient safety culture dimensions, items, and outcomes.

RESULTS AND DISCUSSION

Demographic Variables

The survey form was made accessible online, and 2,091 employees responded (response rate: 83%)(Figure 1). Since the initial survey in 2015, the number of respondents has steadily increased. The majority of respondents were from the Nursing Division with 1,402 respondents completing the survey, followed by the Clinical Support Division (e.g. Physiotherapist, Medical Laboratory Technologist) with 305 respondents (Figure 2).

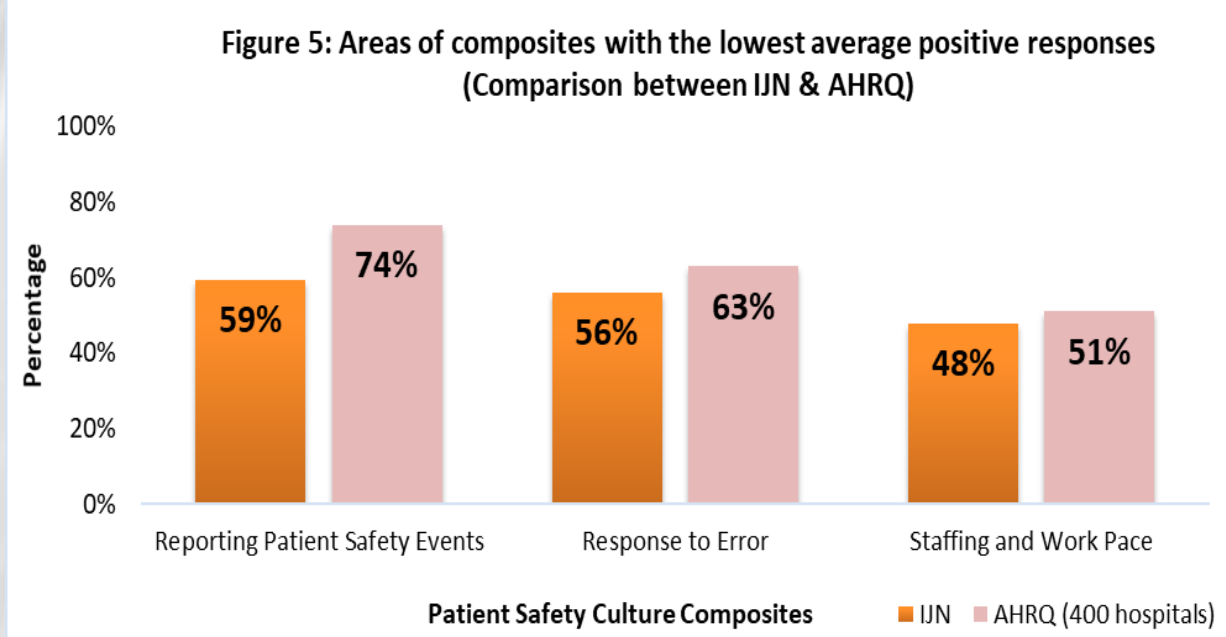
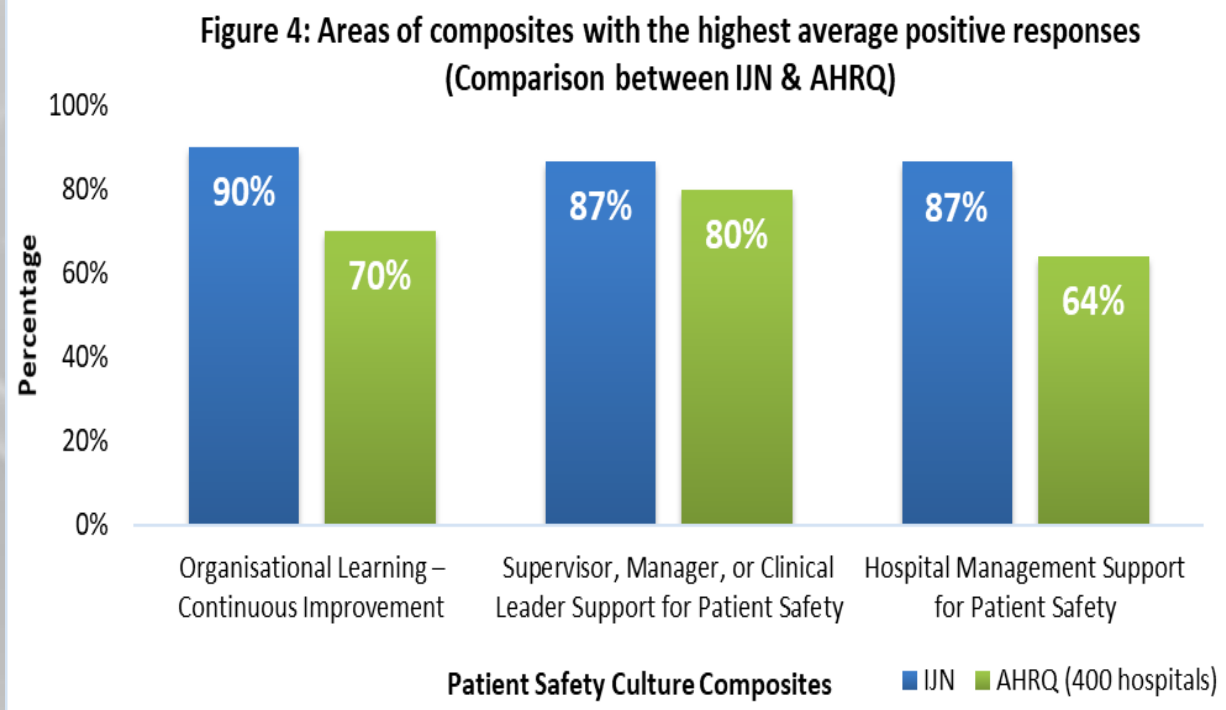


Patient Safety Culture Composite

- Each patient safety culture composite scored between 48% and 90% of positive responses (Strongly Agree and Agree). "Organizational Learning—Continuous Improvement" obtained the highest ratings (>90%) for patient safety culture dimensions (Figure 3).
- Patient safety culture dimensions "Reporting Patient Safety Events", "Response to Error" and "Staffing and Work Pace" both received low positive response rates (<60%).
- All of the composites had comparatively higher positive response ratings when benchmarked with AHRQ, except "Reporting Patient Safety Events" (59%), "Response to Error" (56%) and "Staffing and Work Pace" (48%) which had the lowest positive response rate. (Figure 5).

Figure 3: Composite-Level Average Percent Positive Response

No.	Patient Safety Culture Composites	% Positive Response
1.	Organizational Learning—Continuous Improvement (3 items)	90%
2.	Supervisor, Manager, or Clinical Leader Support for Patient Safety (3 items)	87%
3.	Hospital Management Support for Patient Safety (3 items)	87%
4.	Teamwork (3 items)	86%
5.	Communication About Error (3 items)	84%
6.	Communication Openness (4 items)	78%
7.	Handoffs and Information Exchange (3 items)	68%
8.	Reporting Patient Safety Events (2 items)	59%
9.	Response to Error (4 items)	56%
10.	Staffing and Work Pace (3 items)	48%



Employee Characteristics

- Patient safety culture was rated as significantly different across staff job positions. Registered Nurse had the highest score in 5 dimensions; "Organizational Learning—Continuous Improvement", "Supervisor, Manager, or Clinical Leader Support for Patient Safety", "Communication About Error", "Hospital Management Support for Patient Safety", and "Handoffs and Information Exchange" (Table 1).
- Registered Nurse had a higher likelihood of high overall patient safety grade compared to other staff positions.
- There was a higher likelihood of high overall patient safety grade in the primary clinical care areas compared to clinical support areas.
- The average overall patient safety rating for all participants was at 89%, however it differed significantly between staff roles ($P < 0.001$), with "Hospital Aide and Attendant" scored the lowest overall patient safety (77%).

Table 1: Descriptive analysis of patient safety culture dimensions

Respondent Characteristics	All Participants	Managers, Clinicians	Registered Nurses	Allied Health Professionals	Hospital Aide, Attendant	Corporate Support	P
Job tenure, n (%)							< 0.001
Less than 1 year	165 (10.2)	9 (8)	108 (11.9)	8 (6.5)	28 (8.9)	12 (7.4)	
1 to 5 years	517 (32)	16 (14.3)	362 (40)	36 (29.3)	78 (24.8)	25 (15.3)	
6 to 10 years	355 (22)	15 (13.4)	184 (20.3)	32 (26)	83 (26.4)	41 (25.2)	
11 or more years	580 (35.9)	72 (64.3)	251 (27.7)	47 (38.2)	125 (39.8)	85 (52.1)	
Patient safety culture dimensions, n (%)							
Teamwork	1505 (86.2)	111 (91.7)	870 (90.1)	112 (81.8)	248 (73.2)	164 (89.6)	< 0.001
Staffing and Work Pace	825 (47.9)	67 (57.3)	461 (47.9)	48 (35)	158 (47.3)	91 (52.3)	< 0.001
Organizational Learning—Continuous Improvement	1543 (90.2)	103 (88)	910 (94.5)	110 (80.3)	278 (85.5)	142 (84.5)	< 0.001
Response to Error	972 (56.1)	95 (78.5)	547 (56.9)	72 (52.6)	151 (44.9)	107 (60.1)	< 0.001
Supervisor, Manager, or Clinical Leader Support for Patient Safety	1441 (86.7)	103 (89.6)	843 (91.1)	100 (76.3)	253 (79.1)	142 (83)	< 0.001
Communication About Error	1395 (84.3)	104 (88.9)	839 (91)	99 (76.7)	227 (71.2)	126 (75)	< 0.001
Communication Openness	1250 (77.5)	94 (84.7)	776 (84.6)	91 (70.5)	184 (60.7)	105 (69)	< 0.001
Reporting Patient Safety Events	814 (59.4)	64 (66.7)	520 (63.6)	66 (56.9)	93 (39.4)	71 (67.6)	< 0.001
Hospital Management Support for Patient Safety	1389 (86.5)	92 (82.9)	817 (90)	102 (81.6)	252 (81.3)	126 (83.4)	< 0.001
Handoffs and Information Exchange	983 (68)	62 (66.7)	666 (75)	40 (39.2)	152 (59.6)	63 (58.9)	< 0.001
Overall patient safety	1560 (89.2)	111 (91.7)	919 (95)	111 (81)	265 (77.7)	154 (84.2)	< 0.001

Effective Problem-Solving Strategies

Following the 2022 survey, our focus was to look into organization-wide actions based on specific domains where performance indicates a substantial or significant gap (**Staffing & Work Pace and Response to Error**).

	Staffing and Work Pace Implemented employee retention strategies; improve staff welfare and benefits, work life balance, career development plan and improve hiring process.
	Response to Error Establish an environment that encourages a fair culture and the reporting of errors without fear of retribution.

One of the strategies was also to assist departments with low performance as these departments are considered to be the most vulnerable to major / significant occurrences in terms of patient safety.

CONCLUSIONS

- Several departments perceived there is a culture of punitive response to errors in their workplace, and an action plan was established to reduce inequality and disparity between supervisors and employees. The individual department heads should consider creating a "blame-free" environment in order to promote patient safety culture and increase adverse event reporting in the organization.
- As Malaysia's premier and the largest cardiac center in South East Asia, the National Heart Institute shall also address issues of staffing to meet the rising workload.

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