

Perceptions of Healthcare Workers on Patient Safety Culture in a Local Tertiary Government Hospital in the Philippines

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Abstract— Patient safety culture is an important aspect to consider in the development of effective strategies for prevention and risk reduction of patient harm. Currently, there is limited research on the scope of patient safety culture in Philippine hospitals. This study aims to assess and compare the perceptions of medical and non-medical healthcare workers on patient safety culture, determine the hospital's overall grade of patient safety as perceived by hospital staff, and evaluate the factors influencing patient safety culture. The study was conducted at a local tertiary government hospital in the Philippines from March to December 2024. It makes use of a mixed-method: quantitative stage makes use of the Agency of Health and Quality Research Hospital Survey on Patient Safety Culture, and the qualitative stage makes use of a focused group technique. Of the 720 randomly selected participants, there is a total of 584 (81.1%) respondents, including 387 medical and 197 non-medical staff. Mann-Whitney U test was used to find significant difference between medical and non-medical staff in the scores, and chi-square was used for categorical data. Results show that the majority (62.5%) perceive the hospital's overall grade of patient safety as "very good", while 18.4% perceived it as acceptable, 17.6% as excellent, and only 1.5% as poor. Among the 12 patient safety culture composites, teamwork within units and organizational learning—continuous improvement has the highest average composite positive scores, 88.65 % and 85.05%, respectively, while nonpunitive response to error and staffing have the lowest, 30.4% and 34.7 %, respectively. Comparing medical and non-medical staff, there is a significant difference in the composite positive scores of the following: teamwork within units ($p=0.04$), Organizational Learning—Continuous Improvement ($p<0.001$), frequency of events reported ($p<0.001$), and Teamwork Across Units ($p=0.01$). Healthcare system factors that influence patient safety culture include inadequate staffing, administration's fault-finding approach, and effective implementation of appropriate policies and protocols, while healthcare professional factors include fear of reporting incidents, effective communication, teamwork, and inclination to focus only on the medical aspect of patient care. In conclusion, there is generally a positive perception of patient safety amongst hospital staff. The four composites that differ in medical and non-medical staff should be taken into account for effective strategies and programs.

Keywords— patient safety culture, perception, healthcare workers, government hospital, Philippines.

BACKGROUND

Patient safety has become an area of focus for hospitals all over the world since unsafe care has become a leading cause of death and disability on a global scale. The World Health Organization research shows that for every 10 patients, one patient is harmed in high-income countries, while in low- and middle-income countries, about 2.6 million deaths occur annually due to unsafe care. Almost half of the cases are

preventable, including medication errors, health-care associated infections, and diagnostic errors (World Health Organization, 2019, para. 2).

Hospitals are currently focused on developing strategies in patient safety to mitigate the burden of harm inflicted on patients. Strategies in patient safety take into consideration patient safety culture which is one of the major factors that affect the degree of

patient harm that occurs in hospitals. (Agency for Healthcare Research and Quality, 2021). Studies have shown that a positive patient safety culture results in a significant reduction in medical errors and a more efficient healthcare staff. The rationale is that increased awareness by healthcare workers ensures that patients will be at less risk of harm (Azyabi, 2022).

Patient safety culture is described as the “product of individual and group core values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization’s health and safety management” (Wagner, 2019). It is prudent to evaluate the perception of healthcare workers regarding patient safety culture to ensure that strategies to enhance patient safety and quality of care are direct and applicable. This should be done as one of the first steps in creating programs to improve patient safety in hospitals. It is imperative to assess the perspectives of healthcare workers on patient safety culture since perception affects behavior. Subsequently, focused strategies can be developed based on the perspectives of specific groups.

This study evaluates the perception of healthcare workers regarding the patient safety culture in Ospital ng Makati, a local government tertiary hospital in one of the major cities in the Philippines. Specific objectives are to determine the perceptions of healthcare workers on the composites of patient safety culture, to assess and compare the perceptions of the medical and non-medical healthcare workers, and to evaluate the factors influencing patient safety culture as perceived by healthcare professionals.

METHODS: Study design, setting, and population

This is a descriptive cross-sectional study using a mixed-method sequential explanatory design, conducted in two connected stages: first a quantitative stage using the Hospital Survey on Patient Safety Culture (HSOPSC), and a qualitative stage, using a focus group technique, to explore the results of the previous stage and the elements that influence the professionals’ perception. The study was conducted at a local government tertiary hospital with a 300 total

bed capacity with 1404 employees, including 948 medical staff and 456 non-medical staff, from March to December 2024.

The population for this study is all medical staff (consultants, residents, clinical nurses, pharmacists, medical technologists, dieticians, and therapists) and non-medical staff (administrators and administrative staff, managers, technicians, hospital aides, maintenance crew, house-keeping staff, dietary staff, and janitorial staff). Staff must have worked a minimum of 6 months in their respective areas to ensure that study participants are familiar with the hospital system and culture to provide information relevant to the study. The respondents were selected using simple random sampling and lottery methods. The sample size is based on the minimum sample size indicated by the Agency of Health and Quality Research (AHQR) guidelines which is based on the total number of hospital staff. It assumes a response rate of 50 percent, and a confidence interval of ± 5 percent (Sorra, 2018). As a way of increasing the power of the study to detect significant differences and to cater for non-respondents, 20% of the sample size was added, summing up to 720.

For the qualitative stage of the study, convenience sampling was done to select participants. Invitations to participate were sent to all the departments and units via a computerized system (institutional communication tool). Of those who agreed to participate, the first 10 participants who confirmed for each group were chosen. The AHRQ Hospital Survey on Patient Safety Culture (HSOPSC) was used in this study. It has become the most widely applied patient safety culture questionnaire internationally (Waterson, 2014). The HSOPSC is a five-point Likert scale that is comprised of 42 items measuring 12 composites of patient safety culture. The 12 composite measures are as follows: “teamwork within units or departments; supervisor or manager expectations and actions promoting patient safety; organizational continuous learning improvement; hospital management support for patient safety; overall perceptions of patient safety; feedback and communication about errors; communication openness; frequency of events reported; teamwork across hospital units; staffing;

hospital handoffs and transitions; and non-punitive responses to errors”.

The percentage of positive responses for each item is calculated where negatively worded items are reversed as the percentage of positive responses are computed. The composite score is calculated by dividing the total number of positive responses to the items in the dimension by the total number of items in each dimension. The comparisons between groups’ composite scores can be assessed using one-way analysis of variance if there are more than two groups and a t-test for independent samples if there are two groups”. AHRQ does not specify a benchmark for a score that is considered “good.” Instead, organizations can compare their scores to those in the AHRQ Databases Reports, to hospitals similar to them, and/or to similar units or staff positions (Sorra, 2018, p. 32).

Studies can provide their own rating scale to identify strengths and weaknesses. The rating scale can be used as a baseline measurement of the hospital’s patient safety culture (Nieva, 2003). For this study, the dimensions with “positive response rates of 75% or above are identified as strengths and those with at least 50% positive response rate are identified as potential for improvement, whereas dimensions with less than 50% are identified as weaknesses”. This rating scale was also used in a previous study done in Turkey (Günes, 2016, p. 227).

For the qualitative date, focused group discussion was done. Identified elements that could explain and influence the hospital staff’s perception of the patient safety culture were tabulated and described in detail. A qualitative coding process, which entails systematically categorizing excerpts from the qualitative data in order to find themes and patterns, was applied. In this way, the semi-structured qualitative data from the transcripts was structured into themes and patterns for analysis.

Data Collection

A resident physician staff performed the recruitment. Permission to use the AHQR HSOPSC was obtained from the United States Agency of Health and Quality Research. Permission to use the validated Filipino translated version was also obtained from the author of

the research “Safety Culture and Safety Attitudes of Nurses in the National University Hospital” which was published in 2016 in the Philippine Journal of Nursing. The open-access, validated, and standardized AHQR HSOPSC was self-administered to both medical and non-medical staff.

The survey was created on Google form and distributed electronically via email or Viber application. A validated Filipino translation of the AHQR HSOPSC was made available for those who are not literate in English or those who prefer to answer the survey in Filipino. For those who do not have access to the internet, a printed copy of the survey was provided.

Focused group discussions were conducted online and video-recorded, with the possibility of a ‘hybrid’ set-up if there are participants who anticipate technical difficulties in participating on-line. There were two separate groups for the focused group discussion to avoid the bias that could arise due to professional hierarchies. One group consisted of 10 medical staff, while the other consisted of 10 non-medical staff.

The focused group discussion involved semi-structured open-ended questions and were conducted using both Filipino and English as a means of communication. The results of the quantitative stage were presented during the on-line focused group discussion, and elements that could explain and influence the hospital staff’s perception of the patient safety culture were identified and explored. Data collection was done from March 2024 to December 2024.

DATA ANALYSIS

The research is a descriptive correlational study with comparative analysis. Completed forms were imported into a Microsoft Excel Sheet and SPSS version 23 was used to collect, tabulate, and statistically analyze the data. Descriptive statistics and t-test using Statistical Package for the Social Sciences (SPSS) version 10 was used to explore the differences in average positive response rate between medical and non-medical staff. Items under the composites are on a five-point Likert scale, with a variation of 5 perception levels, from “Totally

disagree” to “Totally agree” and from “Never” to “Always”. Percent of positive responses were obtained to describe the safety culture as prescribed by toolkits of AHRQ-HSOPS. The average percentage of positive responses on patient safety culture was computed as a composite score. Missing responses were excluded when displaying percentages of response to the survey items.

In addition, the HSOPSC questionnaire includes an item that required respondents to rate their overall perception of patient safety (patient safety grade) on a five-point Likert scale (A = excellent, B = very good, C = acceptable, D = poor, E = failing). Also, respondents were required to state the number of adverse events they have reported over the past 12 months as follows: 1 = never; 2 = rarely; 3 = sometimes; 4 = most of the time; and 5 = always. Demographic variables, such as hospital work area, length of time worked in the hospital, hours worked per week, staff position, and whether or not the respondent has direct interaction with patients, was evaluated at the last section of the questionnaire. Data analysis of demographic variables was included to be tested in the hypotheses.

The composite scores were calculated by dividing the total number of positive responses to the items in the dimension by the total number of items in each dimension. The dimensions with positive response rates of 75% or above were identified as strengths and those with 50-74% positive response rate are identified as potential for improvement, whereas dimensions with less than 50% were identified as weaknesses

(Nieva & Sorra, 2003, p. 18). Correlation matrix between factors and safety culture was used.

Comparison of the scores of the two groups of participants made use of the t-test for each dimension to determine if the difference is statistically significant. Cronbach’s alpha was calculated for each factor to examine the internal consistency or reliability of all of the dimensions of the survey, with the minimum criterion for acceptable reliability of at least $\alpha > 0.60$ as recommended for the majority of research purposes. P of < 0.05 was noted as statistical significance.

For the qualitative data, identified elements that could explain and influence the hospital staff’s perception of the patient safety culture were tabulated and described in detail. Qualitative coding was applied, combined with open and focused coding. The views, opinions, and suggestions / recommendations of the medical and non-medical staff were compared and analyzed.

RESULTS

There are a total of 584 respondents out of 720 who were included in the study, with an overall survey response rate of 81.1 %. Of the 584 respondents, there are 387 medical staff (66.3 %) and 197 (33.7%) non-medical staff. The medical staff includes physicians (188), clinical nurses (135), medical technologists (20), therapists (24), pharmacists (8), midwives (5), dieticians (5), and psychologists (2). As shown in the pie graph, the majority (49%) were physicians, followed by clinical nurses (35%). (Figure 1).

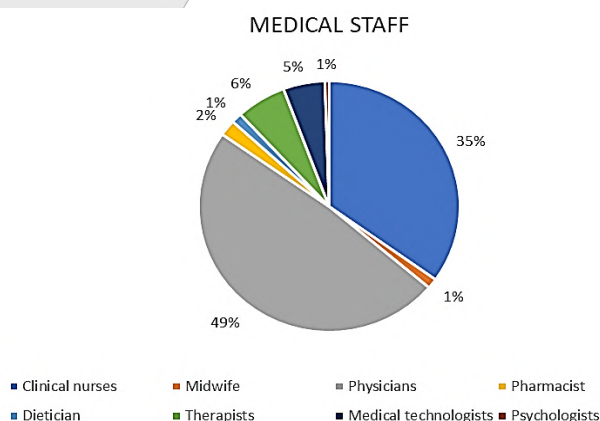


Figure 1. Medical Staff Job Roles

The non-medical staff includes administrators/managers (97), technicians (64), hospital aides (27), house-keeping staff (5), dietary staff (2), and maintenance staff (2). As shown in the

pie graph, the majority (49%) were administrators/managers followed by technicians (32%). (Figure 2)

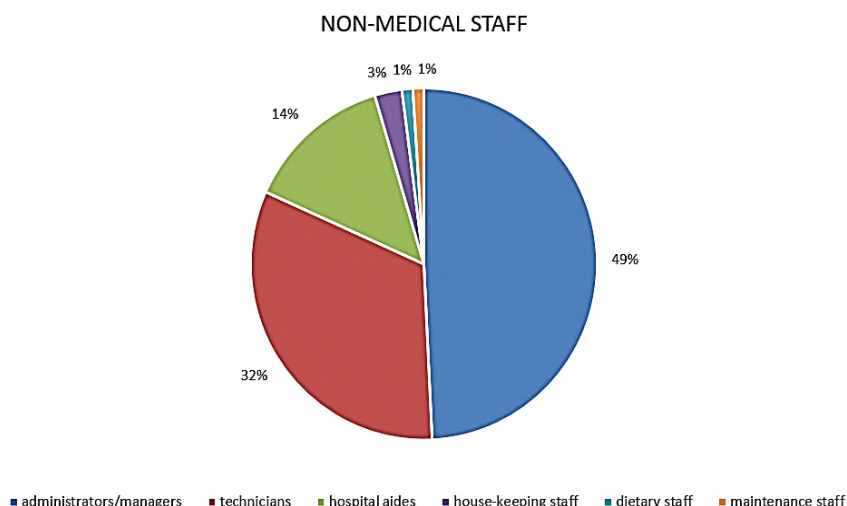


Figure 2. Non-medical Staff Job Roles

The majority of respondents have been working in their respective units/areas for 1-5 years, followed by 6-10 years, and less than 1 year. One hundred nineteen (20%) have been working in their units/areas for more than 10 years. Majority of respondents work 40-59 hours per week (66.4%). Only eighty-two respondents work less than 40 hours a week. About twenty percent work more than 60 hours per week, majority of whom are medical staff.

Majority (419) of respondents (72%) did not report any patient safety incidents in the past 12 months, and about 17% reported 1-2 patient safety incidents. Only

sixty-three (10.7 %) reported three or more incidents. (Figure 3) This shows that the administration's record of the number of safety incident reports may not be accurate and is not reflective of the actual status of patient safety conditions in the hospital. Results show that both medical and non-medical staff do not have an inclination to report such incidents. Similarly, the majority of both groups have not reported any safety incidents in the past 12 months. (Figure 4) It is notable that there are more non-medical staff (21) who reported six or more incidents in the past 12 months compared to medical staff (5).

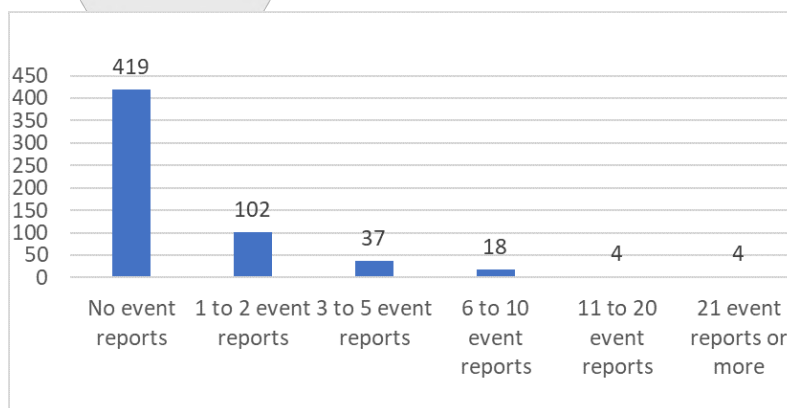


Figure 3. Number of Events Reported in Past 12 months

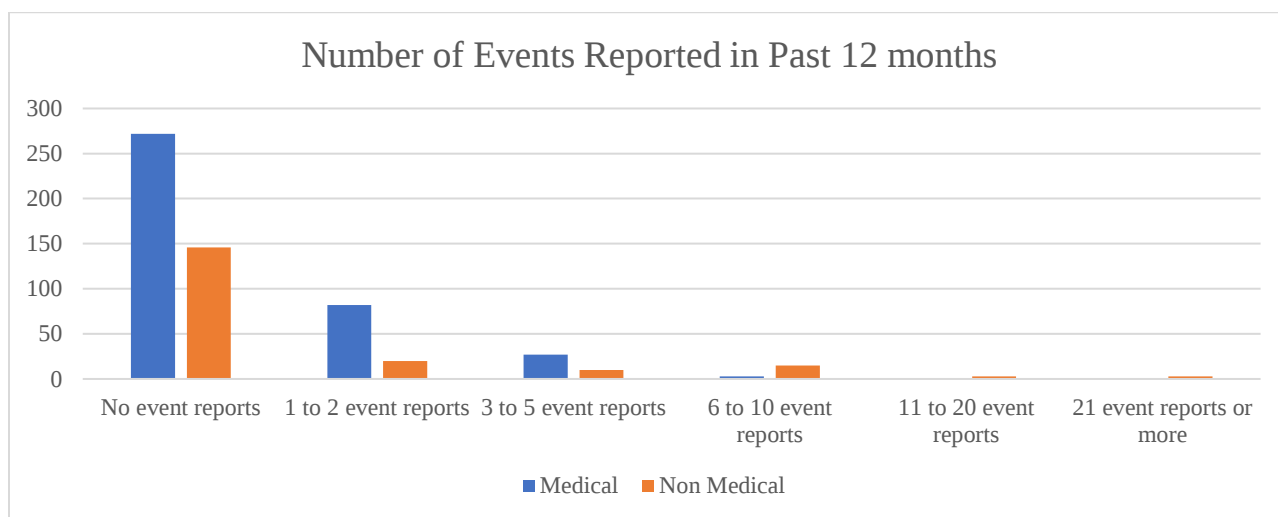


Figure 4. Comparison of Medical and Non-medical Staff of Number of Events Reported in Past 12 months

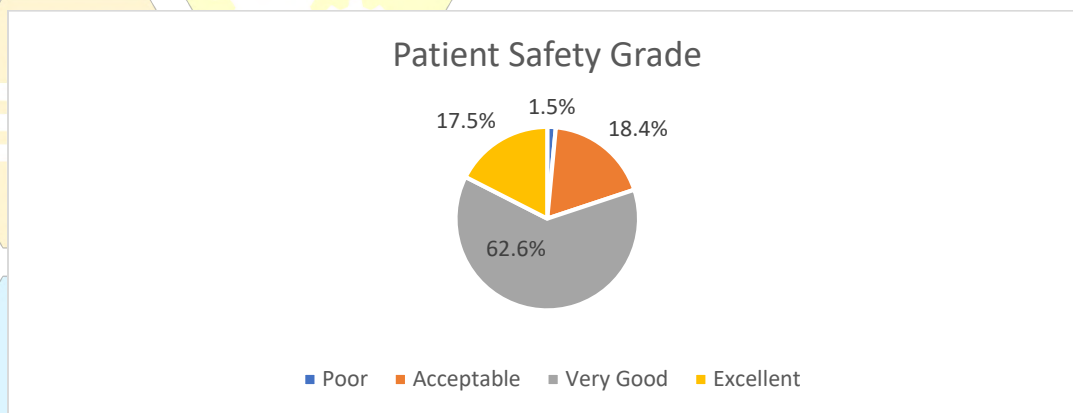


Figure 5. Patient Safety Grade

Majority (62.6 %) of the respondents evaluate the hospital's patient safety grade to be very good, while only 1.5 % evaluated it as poor. This is a positive indicator of patient safety culture in the hospital.

(Figure 5) For both medical and non-medical staff, the majority of each group evaluated it as 'Very Good.'

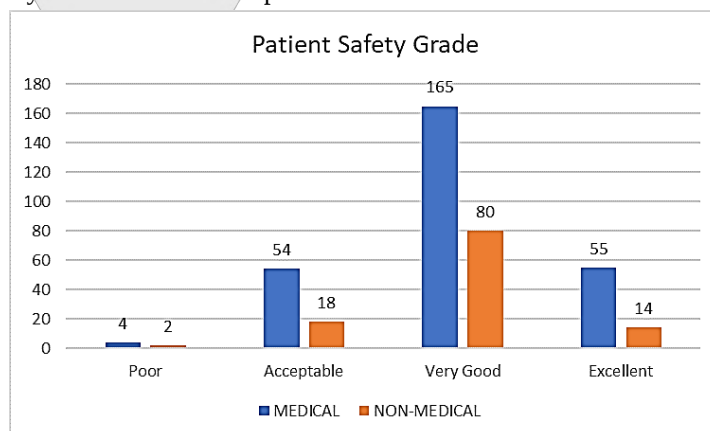


Figure 6. Patient Safety Grade: Comparison of Medical and Non-medical Staff

Based on the frequency of responses of both medical and non-medical staff, Teamwork Within Units, Organizational Learning- Continuous improvement, and Feedback and Communication About Error are the top dimensions of patient safety culture with the greatest number of positive response rates. (Table 1)

They are identified as strengths with positive response rates of 75% or above. The dimensions which have 50-75% positive response rates are identified as

potential for improvement, namely: Supervisor/Manager Expectations and Actions Promoting Patient Safety, Frequency of Events Reported, Communication Openness, Overall Perceptions of Patient Safety, Management Support for Patient Safety, and Teamwork Across Units. The dimensions with less than 50% are identified as weaknesses, namely: Handoffs and Transitions, Management Support for Patient Safety, Staffing, and Nonpunitive Response to Error.

Table 1: Ranking of Composites based on Positive Responses of Both Medical and Non-medical Staff

Composites	% Positive Responses
Teamwork within Units	88.6
Organizational learning—Continuous improvement	85.0
Feedback and Communication About Error	82.9
Supervisor/Manager Expectations and Actions Promoting Patient Safety	70.5
Communication Openness	62.1
Frequency of Events Reported	61.0
Overall Perceptions of Patient Safety	57.2
Teamwork Across Units	50.9
Handoffs and Transitions	42.1
Management Support for Patient Safety	39.7
Staffing	34.7
Nonpunitive Response to Error	30.4

Based on the frequency of responses of medical staff, Teamwork Within Units, Organizational Learning-Continuous improvement, and Feedback and Communication About Error are the top dimensions of patient safety culture with the greatest number of positive response rates. (Table 2) They are identified as strengths with positive response rates of 75% or above. The dimensions which have 50-75% positive response rates are identified as potential for

improvement, namely: Supervisor/Manager Expectations and Actions Promoting Patient Safety, Frequency of Events Reported, Communication Openness, Overall Perceptions of Patient Safety, Management Support for Patient Safety, and Teamwork Across Units. The dimensions with less than 50% are identified as weaknesses, namely: Handoffs and Transitions, Staffing, and Nonpunitive Response to Error.

Table 2: Ranking of Composites based on Positive Responses of Medical Staff

Composites	% Positive Responses
Teamwork within Units	90.2
Organizational learning—Continuous improvement	86.7
Feedback and Communication About Error	82.9
Supervisor/Manager Expectations and Actions Promoting Patient Safety	69.2
Frequency of Events Reported	63.8
Communication Openness	62.8
Overall Perceptions of Patient Safety	58.9
Management Support for Patient Safety	55.6

Teamwork Across Units	53.7
Handoffs and Transitions	44.5
Staffing	35.0
Nonpunitive Response to Error	26.0

Based on the frequency of responses of non-medical staff, Teamwork Within Units, Feedback and Communication About Error, and Organizational Learning- Continuous Improvement are the top dimensions of patient safety culture with the greatest number of positive response rates. (Table 3) They are identified as strengths with positive response rates of 75% or above.

The dimensions which have 50-75% positive response rates are identified as potential for improvement, namely: Supervisor/Manager Expectations and Actions Promoting Patient Safety, Communication Openness, Frequency of Events Reported, and Overall Perceptions of Patient Safety. The dimensions with less than 50% are identified as weaknesses, namely: Management Support for Patient Safety, Teamwork Across Units, Handoffs and Transitions, Staffing, and Nonpunitive Response to Error.

The ranking of composites based on positive responses of non-medical staff are similar to the medical staff with regards to dimensions identified as strengths. However, there are more dimensions identified as weaknesses. In addition to Handoffs and Transitions, Staffing, and Nonpunitive Response to Error, non-medical staff identified Management Support for Patient Safety and Teamwork Across Units as well. This may be due to the nature of their work which may not entail as much dependency on other units. For example, doctors and nurse often need to coordinate with the pharmacy department with medication issues, whereas non-medical staff do not encounter complicated issues as often when dealing with other departments or units. Furthermore, non-medical staff tend to be regard patient safety issues with regards to equipments and machines which management support may not be able to address immediately due to financial reasons.

Table 3: Ranking of Composites based on Positive Responses of Non-medical Staff

Composites	% Positive Responses
Teamwork within Units	85.5
Feedback and Communication About Error	83.0
Organizational learning—Continuous improvement	81.8
Supervisor/Manager Expectations and Actions Promoting Patient Safety	73.0
Communication Openness	60.8
Frequency of Events Reported	54.8
Overall Perceptions of Patient Safety	54.1
Management Support for Patient Safety	49.1
Teamwork Across Units	45.3
Handoffs and Transitions	37.4
Staffing	34.1
Nonpunitive Response to Error	26.0

Results also show there are significant differences in the responses in of medical and non-medical staff in relation to four composites: teamwork within units ($p=0.04$), organizational learning ($p<0.001$), frequency of events reported ($p<0.001$), and teamwork across units ($p<0.01$). There is no significant

difference between the two groups when it comes to responses regarding patient safety grade.

For the focused group discussion, a total of 20 hospital staff were interviewed: ten medical staff which included (5) resident physicians, (1) consultant, (2)

nurses, (1) medical technologist, and (1) pharmacist, and ten non-medical staff which included (2) administrators (7) managers, and (1) technician. Topics of discussion included specific aspects of patient safety culture. (Table 4) The factors influencing patient safety culture as perceived by health care professionals were thematically categorized as healthcare system factors and healthcare staff factors.

Table 4. Topics Explored During Focus Group Discussion

Patient Safety Event Reporting
Positive aspects of patient safety culture in the hospital
Negative aspects of patient safety culture in the hospital
Staff education and training
Communication
Work relations and Teamwork
Challenges and support for improving patient safety culture

Healthcare system factors

Patient safety event reporting is regarded as an important part of a positive patient safety culture. However, staff are not inclined to report mainly because of fear of the consequences of reporting incidents. It is suggested that staff perceive the administration to have a fault-finding approach in handling reports.

“the blame and shame culture is a reason...the event seems to be magnified and made into a big issue when reported” (section manager)

“...what runs through their mind is that maybe fault-finding will be the end point of the reporting...like putting a spotlight on someone or putting the blame on someone so they opt not to report the incidents.” (resident physician)

Furthermore, physicians view themselves as “captain of the ship” in patient care so that they are even more hesitant to report incidents since they feel that they will carry the burden of responsibility for the occurrence of errors and suffer the consequences of

punishment. Aside from fear of punishment, staff also fear that reports may be misinterpreted and be regarded as a more significant issue than it actually is. Perhaps they do not trust the evaluation of the hospital administrators.

Another negative aspect of the patient safety culture is ineffective orientation process and information dissemination of how, where, and what to report. This is evident in the lack of knowledge of the staff on the process for incident reporting.

“they did not recognize the importance of reporting certain patient safety events.” (resident physician)

“they don't know what needs to be reported and where to channel the reports ...because there are many newly hired nurses” (nurse)

Since hiring of new employees is a continuous process throughout the year for the replacement of staff who resign or are transferred to other areas, many new hires may not be familiar with the process if they missed the scheduled bi-annual orientation meetings for new staff. Hospitals are ethically obliged to provide continuous service to patients so that they cannot be restricted to hiring only on certain times of the year since staffing issues may abruptly change at any time. Unforeseen situations include pandemics, resignations of staff due to personal reasons, temporary leaves or absences of staff due to medical reasons, or firing of employees due to non-compliance with hospital standards or policies.

This aspect contributes greatly to the mentality and attitude of staff since they enter the hospital workforce with the assumption of the hospital having a “blame culture” when it comes to patient safety issues that result from human errors.

“they should be informed that...it is non-punitive even if they report, and tell them that they will not be reprimanded” (section manager)

Ineffective orientation process and information dissemination of how, where, and what to report not only pertains to newly-hired staff, but also to staff that have been working in the hospital for awhile. Since

there have been changes in the reporting process, those who have been employed for quite some time may be aware of it since they assume they already know the process and feel they do not need to attend the orientations anymore.

“Those who haven't had staff orientation for quite some time, most probably they don't know where to go if they are involved in a safety incident.” (section manager)

The ineffective and insufficient feedback mechanism of incident reports is another negative aspect of patient safety culture which is part of the lack of transparency of the administration. Staff feel a disconnect with the administration or continue to have feelings of mistrust if they are not given follow-up reports on the incidents. They may not recognize the importance of the incident if they are not informed of the consequences or implications that have surfaced from the investigations.

“A feedback mechanism should be in place after an incident is reported so that staff will not feel that their reports are being ignored or have no impact.” (section manager)

“...not sure where their report will lead” (section manager)

“...mindset seems to be why should I report if there is no feedback and if it cannot be addressed.” (pharmacist)

Delayed investigation of patient safety incidents is also a contributing factor to the ineffective and insufficient feedback mechanism. If the incidents are not investigated immediately, significant information may be lost due to staff not being able to recall the incidents accurately anymore. As a consequence, the administration may not be able to effectively address the incident as to corrective actions and/or recommendations.

Inadequate staffing is recognized as a negative aspect of patient safety culture and is also regarded as one root cause of the staff's lack of time to report incidents.

“... a negative aspect of our culture is the workload and time pressure with regards to safety incident reporting. The staff is lacking time or struggling with the workload, so they are unable to report.” (section manager)

The increased workload and pressures due to inadequate staffing contributes to the lack of time as well.

“They already lack time to do all the things they have to do, and then they forget to report the incidents.” (administrator)

This perspective on incident reporting is one explanation why the non-medical staff are more inclined to report safety incidents. They have more time during their work hours to comply with the reporting process, whereas the medical staff often have to proceed with the process after their official duty schedule.

“The workload of the non-medical staff is less compared to medical staff and their work is lighter too compared to the medical staff...the medical staff lack time, so they tend not to report.” (administrator)

Moreover, it is important to note that the medical staff in the highly active areas of the hospitals which cater to a greater number of patients or to critically-ill patients have even less time to report during their duty shift and tend not to report after official work hours due to fatigue.

The frequency of patient reporting by staff is also affected by the time of year. During the peak months when there is a higher volume of patients that seek consultation or are admitted, both medical and non-medical staff may not report as much. This applies specifically to the emergency room. Generally, inadequate staffing has a detrimental effect on patient safety since the quality of work tends to decline when staff feel overwhelmed or physically or mentally fatigued. They tend to overlook certain aspects of patient safety which may result in substandard care for patients leading to negative patient outcomes.

A notable positive aspect of patient safety culture is effective implementation of appropriate patient safety guidelines, policies, and protocols. The administration is able to do so by continuous encouragement of reporting safety incidents. One such program that was created specifically to increase reporting rates is the Safety Huddle program which requires departments to have an allotted time every day to discuss patient safety issues that occurred during the previous day; in doing so, more patient safety incidents are identified and staff encourage each other to report them.

The hospital also has designated committees such as Fall Committee and Infusion Therapy Committee, to address specific patient safety issues that significantly impact the quality of patient care, such as falls and extravasations.

“The majority perceive patient safety as “very good” because we have policies in place and committee heads. Upon admission, there’s already a risk assessment required by the fall committee. ...There are other risk assessment tools in place in the hospital.” (Resident physician)

Healthcare Professional Factors

Healthcare professional factors that are identified as significant factors influencing patient safety culture of the hospital are: peer pressure, inclination to focus only on medical aspect of work and to dedicate most of their time for it, prioritization of work-life balance, heightened concern and observance of the non-medical staff on the different aspects of safety incidents, different levels of knowledge of the medical and non-medical staff on the clinical aspect of safety incidents, open and effective communication, effective teamwork, and unawareness of the administrative measures being taken to improve patient safety.

Peer pressure is one of the main barriers to patient safety reporting since many staff feel that if they report their colleagues’ errors that are the cause of the safety incidents, they will get upset and take it personally so that they may retaliate.

“the staff is afraid to report because the person who is involved might retaliate.” (section manager)

Staff also feel that it is a possibility that their colleague will feel embarrassed if their error was reported and may end their friendship because of the report. So, to avoid getting their colleagues angry or embarrassed, they opt to ‘fix’ errors that resulted in safety incidents.

“...afraid of being embarrassed. People want to keep the issue contained within the department or area... if it can be solved, it is solved without being reported” (section manager)

Moreover, staff recognize that having incidents indicated in their permanent records has a negative connotation and may affect their future opportunities to work somewhere else. In this light, staff feel guilty in reporting their colleagues who are involved in patient safety incidents.

“some staff are afraid when they are told to make an incident report because it will be added to their records, and they think it will be a negative impression.” (administrator)

Another factor that influences patient safety culture is the inclination of the staff to focus only on the medical aspect of their work. They dedicate most of their time on the medical management of the patient such as medication and other treatments, but they do not regard the non-medical issues that would benefit the quality of care. Since non-medical staff are not involved with medical management, they relatively have more time to comply with the reporting process.

“Medical staff tend not to report themselves when they make an error... Non-medical staff have more time to report.” (consultant)

“...residents are more focused with primary treatment and less of the admin or safety side of work” (resident physician)

“..the medical staff cannot leave the patient to report, and the non-medical staff can report immediately” (administrator)

The medical staff claim to lack time for reporting patient safety incidents because they are ‘busy’ serving the patients’ needs, but actually they just do not realize that non-medical needs of patients are

crucial in the quality of care. This is evident since the reporting process does not take a significant amount of time to affect medical management; a QR code is easily accessible at each area of the hospital so that incidents can be reported immediately.

Non-medical staff tend to report more incidents than medical staff because they are more observant and aware of the technical aspects of patient care and reporting process. They are forced to report dysfunctional equipment immediately to avoid interruption of their work.

“For the non-medical staff, they are more conscious if something goes wrong because their work is more technical and not directly on the patient. Their work is more technical compared to the staff who work at the bedside. So, they are more inclined to report a patient safety event that involves the environment or equipment.” (administrator)

The medical and non-medical staff's different levels of knowledge regarding the clinical aspect of safety incidents is another factor in the difference in their perception of safety incident reporting. Inaccurate assessment of the incident and its severity may contribute to their tendency to report more incidents even though it may not be significant enough to warrant reporting or may actually not be a safety incident at all.

“The assessment of incident severity by medical staff is different from non-medical staff...The non-medical staff have no idea about the medical aspect so they immediately report all incidents than the medical staff who don't report everything if they don't think it's serious.” (administrator)

This is mainly because they do not have the same training experience on patient safety compared to the medical staff.

Furthermore, non-medical staff tend to be more familiar with the reporting process and patient safety issues since they have worked longer at the hospital compared to the medical staff. Resident physicians leave the hospital after their training ends in 3-5 years, while the attrition rate of the nursing staff is variable

considering the demand for nurses in hospitals on a local, national, and international level.

“Non-medical staff tend to report more incidents because they're more familiar with the policies. The residents, especially the new residents, are not aware of the reporting policy regarding patient safety. Unlike with the non-medical staff, they have more years of tenure.” (resident physician)

A fourth factor that influences patient safety culture is the hospital staff's prioritization of work-life balance. Post-Covid pandemic human resource management includes focusing holistically on the care of employees including mental and psychological support. Hence, staff tend to perceive their jobs in light of work-life balance. The additional work and time required in the reporting process affects their work-life balance since incidents may need to be discussed even further during their off-duty hours.

“They think that they might be called for a meeting even though they are off duty... They think that their time to rest will be sacrificed for the meeting regarding the safety incident. They are also thinking about the paperwork that will be asked of them.” (administrator)

Two main factors that positively influence patient safety culture are open and effective communication and effective teamwork. This underlies the staffs' attitude on providing truthful information regarding safety incidents, resulting in improvements of patient safety management.

“I think effective communication within the units is a factor. The units that work closely together are more seamless in the sharing of responsibilities and information. That's what contributes to improvement.” (section manager)

“One of the important factors is effective communication in terms of patient safety because it leads to avoiding delays in the management or avoiding in the delay of the reporting for example” (resident physician).

A contributing factor in the improved communication and teamwork of the staff resulted from the change in quality standards of the hospital.

“Regarding our culture, people are used to ISO or quality improvement measures, so there are more open lines of communication now than before in segregated areas...Areas used to be boxed. Now communication is more open and there is interdependence between areas and within and among the ranks. The staff's awareness of such things is good.” (section manager)

Effective teamwork is manifested by the support that colleagues give each other in getting work done. They refrain from putting blame on others and are loyal to colleagues. They have a positive work environment in which they help colleagues in professional improvement by sharing knowledge and information.

“Every month we have a pharmacy meeting and every Tuesday we have a safety huddle, where we will tackle all the errors. We were able to come up with a solution right away because there was open communication” (pharmacist)

“What we are doing is being proactive when there is a deviation in the results. What we do is we call the resident to confirm if they are expecting this kind of result. And if ever a problem arises, we address it right away and then we conduct cause and effect analysis.” (medical technologist)

One factor that was noted to have a negative influence on patient safety culture is the staff's lack of awareness regarding the administrative measures being taken to improve patient safety. It reflects that staff do not recognize or appreciate the administration's support for patient safety.

DISCUSSION

Patient safety culture is an important aspect to consider in formulating strategies and taking measures to improve the quality of patient safety. In this study, there are a total of 584 participants in the study with a satisfactory response rate of 81.1 %. This indicates that staff are willing to participate in a study that is focused on improving patient safety culture.

Baseline data show that most of the responders have considerable work experience at Ospital Ng Makati in their respective units or areas which indicates that their contribution to the evaluation of the hospital's patient safety culture is valuable. Overall, since the majority of the respondents have been employed in the hospital for more than a year and work a significant amount of time in their respective units/areas, their reliability with regards to their perception of patient safety culture can be considered highly acceptable.

The study shows that staff are not inclined to report patient safety incidents. Majority (419) of respondents (72%) did not report any patient safety incidents in the past 12 months, and about 17% reported 1-2 patient safety incidents. Only sixty-three (10.7 %) reported three or more incidents. This is similar to findings of the study by Liukka done in 2021 in which almost half of physicians (47.4%) did not report any patient safety event in the past year. (Liukka, 2021). It revealed that the staff was not satisfied with the response of the administration since they did not receive feedback and the mistakes were recurrent. In comparison, the main reason for the lack of or hesitancy in reporting safety incidents in Ospital ng Makati is fear of the consequences.

Although the majority of respondents evaluated the hospital patient safety grade to be ‘very good’ which is a positive indicator of patient safety culture in the hospital, it shows that improvements need to be made. Since only about 17% of the respondents perceived it as excellent, the hospital should boost its patient safety campaign so as to tackle all of the aspects of patient safety culture and expand its scope in measures to improve patient safety. The three composites that are identified as strengths, specifically teamwork within units, organizational learning—continuous improvement, and feedback and communication about error, should be enhanced while the four composites that are identified as weaknesses, specifically handoffs and transitions, management support for patient safety, staffing, and nonpunitive response to error) should aggressively be addressed.

It is notable that there are five composites that have potential for improvement: Supervisor/Manager

Expectations and Actions Promoting Patient Safety, Communication Openness, Frequency of Events Reported, Overall Perceptions of Patient Safety, and Teamwork Across Units. These composites should not be discounted as significant aspects of patient safety culture that need to be addressed since in time, they may become weaknesses if not given the proper attention and actions for improvement. If measures are taken to address these aspects of patient safety culture, they may become strengths and have a substantial impact on the improvement of quality of care.

One reason that teamwork within units is considered the hospital's greatest strength as a composite of patient safety culture is because the hospital strives to comply with accreditation requirements of certain organizations such as International Organization for Standardization (ISO) and Joint Commission International (JCI) in pursuit of maintaining high standards of quality care. Accreditation of such organizations require teamwork of all staff within each unit since units are evaluated separately with specific requirements.

Another reason why teamwork within units has become a strength is because of more effective communication with the development of information technology. The use of high technology gadgets (eg cellphones and computers) and social media applications such as viber and messenger allow staff to create chat groups for faster and easier communication. The hospital offers free internet wi-fi connection for the use of these apps. It is notable that this form of communication is easily accessible and commonly used by most of the staff both for work-related and personal use. These messaging app platforms are generally integrated into the daily digital routine of Filipinos. It is notable that the Philippines is highly developed in information and communications technology, and Filipinos live in a digital society where social media is integral to their lives. Facebook messenger is the Philippines' most popular social media platform for regular and brief interactions. According to the Global Digital Report 2024, Filipinos are highly reliant on social media to maintain relationships with their loved ones, with 67% of all Filipino social media users use social media to keep in

touch with family and friends, and 43.4 % use social media on their spare time. (Kemp, 2024)

On the other hand, organizational learning—continuous improvement is perceived as a strength since the hospital is a training institution. The administration is inclined to develop programs for continuous learning on medical and non-medical updates, as well as organizing activities for healthcare awareness.

Moreover, feedback and communication are perceived as strengths since the hospital has dedicated patient safety administrative leaders, including patient safety administrative officers in the nursing division and individual units or areas. In addition, the hospital implements a Safety Huddle Program which entails brief and routine meetings for sharing information about potential or existing safety problems facing patients or workers, and ways to prevent errors, including errors that have happened and changes that have been implemented as a result of the error.

Findings of the study on the composites that are identified as strengths are similar to the results of the study done in 2016 by Paguio in National University Hospital (NUH) in Singapore which includes 164 Filipino nurses. The study found that organizational learning—continuous improvement scored the highest followed by teamwork within units and feedback and communication about error. One reason for the difference between Ospital ng Makati and National University Hospital is that NUH may have more financial access to conduct training and other educational activities. (Paguio, 2016)

In another study done in Ethiopian public hospitals, teamwork within units and organizational learning-continuous improvement were also identified as top composites with high scores. The other top composites were hospital handoffs and transition and communication openness. (Beyene Shashamo, 2023).

Findings of the study on the composites that are identified as weaknesses (Handoffs and Transitions, Management Support for Patient Safety, Staffing, and Nonpunitive Response to Error) are also similar to the study done by Paguio in National University Hospital

in Singapore. It found that the dimension with the least positive perception or areas with greatest potential for improvement also include Hospital Handoffs and Transitions and Non-Punitive Response to Error. This reflects that Filipino nurses may need to have more training on this aspect of communication in their basic nursing education curriculum. Moreover, it also reflects that Filipino nurses have a tendency to associate error with punishment, whether they work locally or abroad. Perhaps this may be due to their formal educational training as well in which emphasis is placed on disciplinary measures to errors and a lack of knowledge on the administrative aspect of improving quality of care that includes a broader scope of how to handle errors.

In comparison, the local study by Morales et al in 2020 which included two hundred sixty-one nursing managers from internationally-accredited private hospitals in Metro Manila found that in one of the two hospitals in the study, communication openness had the lowest score and was interpreted as fair, while in this study, communication openness is not a weakness, but rather a composite with potential for improvement. The type of hospitals where the study was conducted may be a factor for this finding. Since Ospital Ng Makati is a local government hospital in which staff have generally developed a long working relationship with each other, communication openness is easier to attain compared with larger private hospitals like the ones in the study by Morales.

With regards to the composites that are identified in which there is a significant difference in perception between the medical and non-medical staff, the non-medical staff group had lesser positive responses to the composites of teamwork within units, teamwork across units, organizational learning, continuous improvement, while the medical staff group had lesser positive responses to the composite frequency of events reported. One of the main reasons for the difference is that medical and non-medical staff may not have the same exposure or opportunity to train in patient safety. Furthermore, the work of non-medical staff may not require as much coordination and teamwork compared to medical staff who highly depend on coordination and cooperation in the

treatment and management of patients especially for complicated cases or for those requiring multi-disciplinary management. One factor for the medical staff group having lesser positive responses to the composite of frequency of events reported is their perception that the clinical aspect of their work is more important and should be given priority over administrative aspects of their work such as reporting.

These results are unlike the recent study done in the United States in 2022 which found that medical staff had higher perceptions of frequency of reported error events than nonmedical staff. (Azyabi, 2022). This may indicate that the medical staff in the United States highly consider safety incident reporting as a significant factor in quality of healthcare by providing information that could shape the strategies to improve patient safety. Furthermore, the non-medical staff in the United States may be less inclined to be exposed to patient safety incidents since issues in materials, equipment, and other technical aspects of the work may not be as much of a problem compared to low-middle income countries (LMIC) where funding for government hospitals is a set-back.

Unlike the study done by Azyabi in the United States which found that medical staff have lower overall perceptions of patient safety than nonmedical staff, this study shows that there is no significant difference between the two groups with regards to response to patient safety grade. (Azyabi, 2022). This may be due to a higher level of knowledge that medical staff have compared to non-medical staff in the United States with regards to what factors to consider in evaluating the hospital's patient safety status. The non-medical staff may not give value to the other aspects of patient safety, or the non-medical staff may not be exposed much to the clinical areas of the hospital.

In Ospital Ng Makati, since both medical staff and non-medical staff perceive patient safety grade to be 'very good', it suggests that both groups have the same knowledge of the factors to consider when evaluating patient safety grade and that both groups are exposed frequently to both clinical and non-clinical areas.

The factors found to influence patient safety culture as perceived by health care professionals can be classified as healthcare system factors and healthcare staff factors. Staffing is an obvious weakness that the hospital faces due to the global issue of nursing migration. A hospital's administration should be sympathetic and considerate to the staff who extend their work hours and take on high workloads due to staffing issues. However, standards of quality care should not be sacrificed. One way to address staffing issues is to limit the number of patients accordingly since staffing is a factor of accommodation capability in addition to physical capacity. Furthermore, the qualifications and skills of staff should be considered and not just the number of staff. It is a risk to patient safety to hire staff just for the sake of having more 'helping hands'. If the staff hired are not at par to standards in terms of knowledge, attitude, and skills, they may be inclined to commit errors that cause harm to patients. In this way, an increase in staff could lead to an increase in patient safety incidents. It is important to note that hospital administration bears a certain degree of responsibility for negligence of staff involved in safety incidents because the recruitment process may not be stringent enough.

Moreover, despite the positive perception of the staff with regards to patient safety grade, there are staff who feel that the patient safety officers are not immediately visible when incidents occur. This suggests that there may be a lack in staffing for the Patient Safety Section. Currently, it is composed of the head who is a medical specialist, two coordinators who are registered nurses, and committee members of the Fall Committee and Infusion Therapy Committee. One way to improve the visibility of the patient safety officers is to reform the organizational structure. Due to the bulk of work of handling patient safety incidents and tackling other aspects of patient safety, including an assistant to the head and additional coordinators will improve efficiency. Furthermore, more committees can be formed to focus on specific aspects of safety such as effective communication, medication safety, and surgical safety.

Both medical and non-medical staff agree that the compelling reason for hesitancy in safety incident

reporting is fear of the consequences such as disciplinary actions and/or retaliation by the staff involved in the incident as well as and punishment. Moreover, staff will tend not to report incidents if they themselves are involved, mainly due to fear of punishment. It is quite understandable since it is human nature to experience a certain degree of fear and anxiety when one commits an error or mistake. In this regard, the response of the administration regarding accountability for human error in safety events is a significant factor in the decision of staff to report themselves. If the disciplinary actions or punishments are considered harsh or unfair, staff will tend not to report incidents regardless of the severity.

Fear of accountability is complicated with the hospital being a residency training institution. Resident physicians are also anxious and hesitant about reporting incidents since it may affect their promotion and cause delays in completing their residency program. In this regard, it is important for consultants to practice 'tough love' in terms of their training. The consultants should make residents understand that disciplinary actions are for their benefit in terms of learning. Unfortunately, despite aggressive efforts to determine the actual number of safety incidents, hospital administration will not likely obtain it because of the healthcare worker factor of fear which is a natural human reaction when errors are made. Because it is difficult for staff to personally overcome their fear, it is important for the hospital to continuously take measures to lessen their fears and emphasize the importance of reporting incidents, so as to close the gap of reported number of incidents versus actual number of incidents. It is only with accurate data can the hospital improve the quality of patient safety.

The concept of fear of punishment is generally a pervasive factor found in many of previous researches. Often, there is a long period of silence when incidents are eventually reported. Alleviating the fear of staff is perhaps the biggest challenge to tackle since both medical and non-medical staff tend to naturally feel fear of punishment for wrong-doings when they enter the hospital workforce.

Inclination of medical staff to focus only on the medical aspect of their work actually stems from their educational background. For example, current curriculum and training programs of medical students do not focus on their role in administrative aspects of patient care. It prioritizes only on diagnosis, therapeutics, and clinical management.

CONCLUSION

Among the twelve patient safety culture composites, "Teamwork within Units" and "Organizational Learning—Continuous Improvement," and "Feedback and Communication About Error" scored highest (88.6 %, 85.0 %, and 82.9 % positive responses, respectively) and considered strengths, while "handoff and transitions," "management support for patient safety," "staffing," and "nonpunitive response to error" scored lowest (42.1 %, 39.7 %, 34.7%, and 30.4% positive responses respectively) and considered weaknesses. Significant differences between medical and non-medical staff perceptions were found in four composites: teamwork within units ($p=0.04$), organizational learning ($p < 0.001$), frequency of events reported ($p < 0.001$), and teamwork across units ($p=0.01$). While there is generally a positive perception of patient safety, areas for improvement exist, particularly in response to errors and staffing. Fear of accountability is the main reason for hesitancy in reporting safety incidents.

Reported numbers of safety incidents are not reflective of the actual number of incidents since staff are not inclined to report mainly because of fear. Reported data on safety incidents should be evaluated from this perspective and not assume that a hospital has a relatively 'good' patient safety status and culture just because of low reported incidents.

In conclusion, the benefit of determining the perceptions of healthcare workers on patient safety culture, if there is a significant difference between medical and non-medical healthcare workers, and evaluation of the factors influencing patient safety culture as perceived by healthcare professionals, will lead to a more effective program development as well

as more focused and effective strategies on of patient safety culture.

Hospital administration can influence patient safety culture by the measures it takes to improve the perception of the staff regarding patient safety. Hospital leaders should be receptive to making changes in measures to improve patient safety so as to have a more focused strategy and taking into consideration the differences in perception of medical and non-medical staff.

RECOMMENDATIONS

Since there is a discrepancy in the knowledge and awareness of medical and non-medical staff regarding patient safety, it is recommended to provide more opportunities for education and awareness through activities in the form of lectures or town-hall type of discussions.

More frequent orientations of newly-hired staff is also recommended since the hiring process is generally done throughout the year (as needed for vacant positions since staffing changes can be sporadic due to unperceived changes (eg resignations due to personal reasons) and positions in hospitals must be filled immediately so as not to sacrifice quality patient care. Staff that have been employed for a long time should be required to attend the orientations annually as a 'refresher' about the process and to be updated on any changes.

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