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Improving patient safety in primary healthcare

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Abstract

Background: Adverse events remain prevalent in primary healthcare, with an estimated 24–85% considered preventable. However, their identification is hindered by limited reporting accuracy and the absence of standardized risk classification systems. **Objective:** This activity aims to strengthen patient safety efforts by disseminating the results of patient safety culture assessments, providing education, and facilitating case-based discussions of incidents through community service activities. **Methods:** A direct outreach method with a participatory approach involving partners was implemented, starting with dissemination, education, discussion, and evaluation. The activity took place in the Puskesmas Kebon Handil on targeting 50 staff. Evaluation was conducted through pre- and post-tests on knowledge and attitudes regarding the implementation of patient safety culture. **Results:** The evaluation results showed an increase in Puskesmas staff's knowledge of patient safety culture and improvement strategies. To strengthen patient safety, Puskesmas management was advised to optimize staff workload allocation, improve competency and capacity, foster open communication, ensure a non-punitive reporting environment, and implement an easily accessible and user-friendly reporting system. **Conclusion:** Sustainable implementation of these strategies is essential for continuous improvement of quality and patient safety.

Keywords: Education; patient safety culture; primary health care

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INTRODUCTION

Patient safety is a system that makes patient care safer by minimizing risks and preventing injuries caused by errors. Patient safety means the extent to which patients are protected from preventable harm; poor patient safety shows that patients are not adequately protected[1]. Patient safety incidents continue to occur exponentially, becoming a public health problem and a major challenge associated with unsafe healthcare worldwide[2].

Pham et al. (2016) found adverse event data in five countries: Hong Kong 31%, Australia 25%, India 23%, the United States 12%, and Canada 10%[3], while in Brazil it reached 7.6%[4],[5]. About 1.5 million deaths in the United States are caused by non-sterile injection practices, and in Europe, 83.5% of patients face infection risks due to unsterile equipment use, with around 11% of patients receiving incorrect prescriptions[6]. In England, the National Patient Safety Agency reported 1.8 million patient incidents[7].

In Indonesia, data on patient safety incidents are still scarce and poorly recorded[8]. Ideally, all health service facilities should report every incident to the Patient Safety Committee. The Committee reported an increase in incidents from 1,489 cases (2018) to 7,465 cases (2019)[9]. One major reason for the lack of data is a culture of reluctance to report due to fear of blame and potential career consequences[10],[11].

Research on patient safety generally focuses on hospitals, even though most outpatient and medical consultations occur in primary health facilities such as community health centers (Puskesmas). Many adverse events also occur in primary care, with 24–85% preventable[12],[13]. A portion of hospital incidents even originate from the primary care level[14]. Fassi's study in Moroccan primary care found that 22.3% of respondents reported 1–2 incidents in the past year, and 11.1% reported 3 or more[13]. Inaccurate recording and reporting make it difficult to estimate the number of medical errors[15]. Furthermore, there are no standardized criteria for identifying and classifying patient safety risks in primary care[16].

Building a patient safety culture requires strong awareness within healthcare organizations[17],[18],[19]. Without such a culture, Puskesmas staff face risks of action errors, psychological distress, reduced productivity, and interpersonal conflict, all of which increase patient risk. Health professionals who embrace safety culture recognize that care delivery is not risk-free, take responsibility, and continuously strive to improve[20],[21],[22].

In 2024, researchers conducted an assessment of patient safety culture at Puskesmas Kebon Handil, Jambi City. The results revealed that implementation was suboptimal. The program relied heavily on leadership oversight, was poorly socialized, and incident reporting was incomplete and outdated. Staff were reluctant to report for fear of blame. Therefore, this Community Service Program aimed to disseminate assessment results, provide education, and facilitate case-based discussions on patient safety incidents.

METHODS

Study design and setting

This community service activity employed a direct (face-to-face) counseling method with a participatory approach, involving partners in each stage: dissemination, education, discussion, and evaluation. The activity was carried out at the Puskesmas Kebon Handil, Jambi City, on Thursday, August 28, 2025.

Population, samples and sampling
The target population included all management and staff of Puskesmas Kebon Handil, totaling 50 participants. No random sampling was applied as all staff were involved.

Instruments and criteria
Evaluation instruments consisted of pre-test and post-test questionnaires assessing knowledge toward the implementation of patient safety culture. The criteria for assessment included understanding of safety principles, reporting behaviour, and strategies for improvement.

Procedure and data collection
The community service procedure consisted of three phases:
1. Preparation Phase: Team meetings to plan the theme and activities, preliminary surveys to collect supporting data, determination of the site, division of team roles, coordination with the partner institution, and arrangement of necessary logistics.
2. Implementation Phase: Activities began at 10:00 AM and included:
   a) Dissemination of patient safety culture assessment results for 2024.
   b) Educational sessions on strategies for improving patient safety, followed by discussions and case analysis.
3. Evaluation Phase: Evaluation was conducted using pre-test and post-test comparisons of participants' knowledge on patient safety culture and strategies.

Statistical analysis
Descriptive quantitative analysis was used to compare mean differences between pre-test and post-test scores.

Ethical concideration
This activity was conducted as part of a community service program with institutional approval. All participants gave verbal consent, and confidentiality of responses was maintained.

RESULTS
Dissemination of patient safety culture assessment
The dissemination of patient safety culture assessment results provided an overview of the extent to which safety promotion was established within the organization. The 2024 assessment showed that overall patient safety culture at Puskesmas Kebon Handil was strong (78.9%). At the unit level, it was also strong (78.2%), though two of seven dimensions were weak: staffing (63.5%) and open communication (50.3%). Organizational-level results were good (87.3%), while outcome measures, such as incident reporting frequency, remained weak (46.8%). Of the 12 dimensions, three were weak: staffing, open communication, and frequency of reporting. Limited staff and high workload increased the risk of errors. Communication barriers also hindered openness in reporting incidents. Fear of punishment discouraged staff from reporting.

Education on strategies to improve patient safety
Education sessions covered:
1. Definition and types of patient safety incidents.

2. Seven steps to patient safety.
3. Six patient safety goals.
4. The patient safety improvement cycle (incident reporting, RCA/FMEA analysis, problem-solving, guidelines, socialization, implementation, and evaluation).

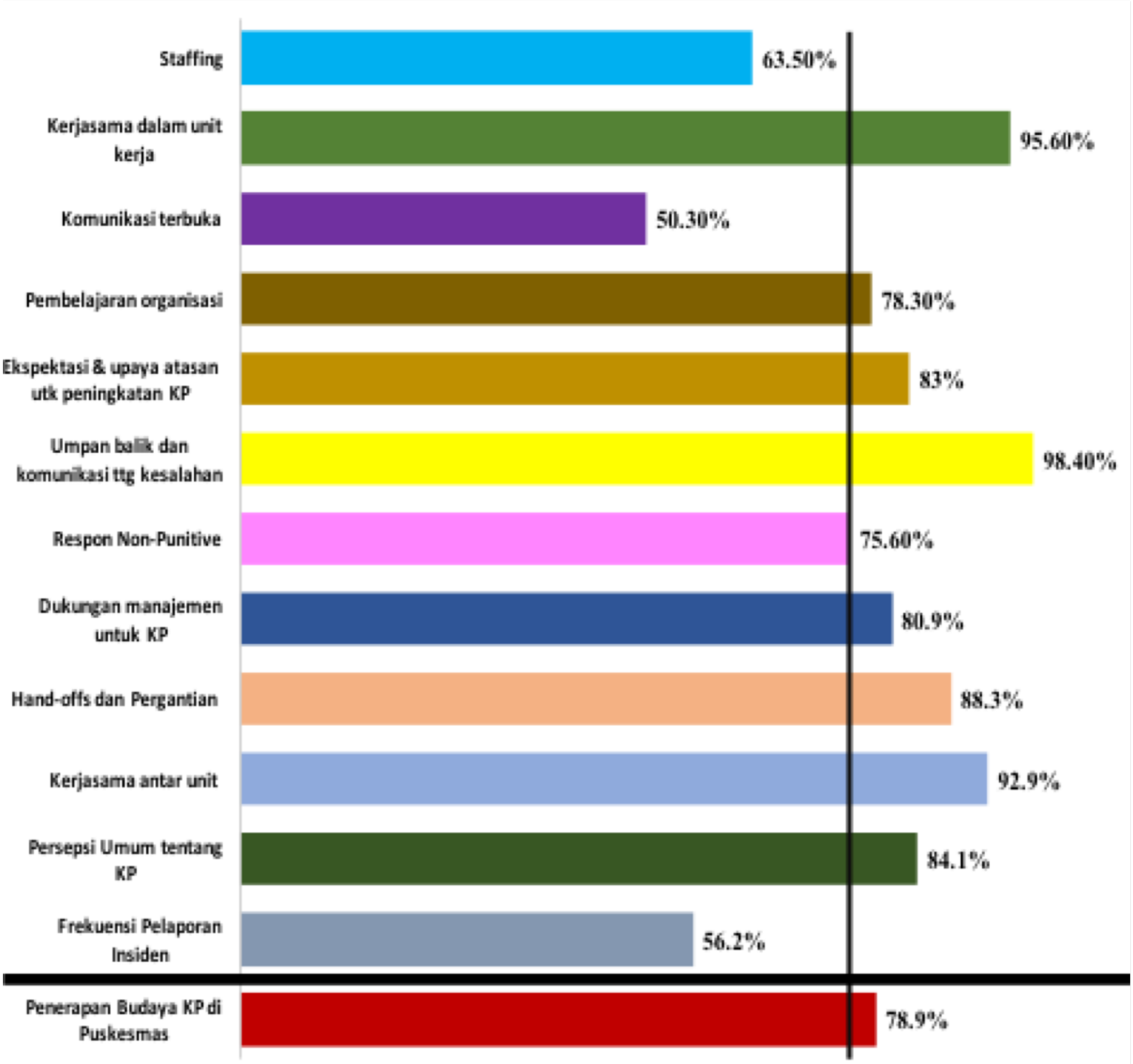

Figure 1. The average of the dimensions of patient safety culture at Puskesmas Kebon Handil in 2024

Case discussions and group reflections followed, and post-activity evaluations revealed increased knowledge: the proportion of participants with good knowledge rose from 52% (pre-test mean 6.4) to 94% (post-test mean 8.9).

Table 1. Knowledge evaluation results (pre-test and post-test)

Knowledge score	Mean	Category	f (n=50)	%
Pre-test	6.4	• Good	26	52
		• Poor	24	48
Post-test	8.9	• Good	47	94
		• Poor	3	6

Source: Primary data

DISCUSSION

Patient safety culture assessment allows the Community Health Center to obtain a clear picture of patient safety aspects that require more attention by identifying strengths and weaknesses in the implementation of safety culture[23]. The accreditation process has been confirmed to have a positive effect on the implementation and outcomes of the KP culture and to improve the quality of service[24]. Staffing limitations, excessive workloads, and uncomfortable working conditions can increase the likelihood of errors that negatively impact patients(13). An imbalance of staff to work can have serious consequences for patient safety and quality of care[25].

Communication systems are developed to improve collaboration between units and the quality of professional work[26]. A good communication strategy is useful for increasing the frequency of reporting patient incidents, eliminating the assumption of negative consequences for incident reports, and providing a medium for freely expressing ideas about service quality and patient safety. According to Fassi et al. (2024), as a result of a culture of "blame and shame," staff feel that errors are due to personal negligence. Fear of punishment and anxiety about being blamed will limit the frequency of incident reporting and become major barriers to improvement efforts[10],[11].

An effective, anonymous, and non-punitive incident reporting system without fear of sanctions allows for the identification and analysis of adverse patient incidents to prevent recurrence. The strategy implemented is to implement a non-punitive incident reporting system and encourage active reporting. Reason's Swiss Cheese Model theory emphasizes the importance of learning from mistakes[27].

CONCLUSIONS

The socialization and educational activities on patient safety were well implemented and enthusiastically followed by all participants. Overall, the patient safety culture at Puskesmas Kebon Handil was strong, but certain dimensions—staffing, communication openness, and reporting frequency—require improvement. Management is encouraged to optimize staffing, foster open communication, ensure a blame-free environment, and implement accessible reporting systems. Continuous application of patient safety strategies is essential for ongoing quality improvement.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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DECLARATION OF ARTIFICIAL INTELLIGENCE USE

This study used artificial intelligence (AI) tools and methodologies in article manuscript writing support.

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