Perceived barriers in incident reporting among health professionals in a secondary care hospital in Makassar, Indonesia

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Abstract

Background : Underreporting is a major issue around the globe while using incident reporting systems to improve patient safety. A confined concept of reporting exists in health care settings in Indonesia. Aims: To investigate the perceived barriers in incident reporting among the health professionals. Settings and Design: The study was conducted among 84 randomly selected health professionals in a secondary care hospital in Makassar, Indonesia. Methods and Material: A descriptive cross-sectional study was completed using a self-created questionnaire and was collected back. The questionnaire consisted of 16 questions containing the obstacles in reporting which then grouped into four major dimensions of fear, uselessness, risk acceptance, and practical reasons.

Statistical analysis used: The data was analyzed using SPSS version 25. Descriptive statistics using frequencies were used to analyze the perceived barriers. Results: A total of 84 participants completed the questionnaire. The highest barrier in reporting was forgetfulness by 14 (16.7%) of the participants who were strongly agreed, and 30 (35.7%) were agreed. The second highest barrier was fear of being investigated by 30 (35.7%) of participants who were agreed. Not knowing the procedure of reporting a problem holds third as 20 (23.8%) answered agreed, while 10 (11.9%) were strongly agreed. Among the four major dimensions, practical reasons were the highest barrier in reporting, followed by risk
acceptance, fear, and uselessness. **Conclusions:** Underreporting is the main problem in hospitals in Indonesia. Strategies like launching a monitoring system, a faster reporting system, positive feedback, and confidentiality could help the staff to report incidents.

**Keywords:** Perceived barriers, Incident reporting, Health professionals, Indonesia

**Key Messages:**

Barriers to incident reporting in hospitals are a principal issue in Indonesia. Strategies are needed to improve incidents reporting to ensure patient safety in health care settings and will also help to avoid economic losses.

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**Introduction**

Incident reporting should be a significant factor in improving patient safety and quality of care. It should also be an essential element of the legislative culture of a system [1-3]. Health professionals do not know the cost of injuries that occur in the health care setting, which could be overcome by proper reporting [4]. Sometimes when the health providers know about the value of reporting and its outcomes, their attitude does not accept it [5]. That is the reason why there is a need for facilitators to be motivated in reporting and removing the barriers to incident reporting to enhance reporting is superior [6]. Incidents in the health care settings are because of the widespread interaction of human behaviors, social aspects, technical issues, and lack of proper system. Various ranges of errors occur as an overlap between individuals and system [7]. Based on WHO in 2009, patient safety is defined as the reduction of risk of unnecessary harm associated with health care to an acceptable minimum [8]. Later, patient safety is defined by the Institute of Medicine (IOM) as "the prevention of harm to patients."

Patient safety is the goal of a hospital system that aims to make patient care safer. These include risk assessment, identification, and management of matters related to patient risk, reporting, and analyzing, the ability to learn from incidents and follow-up and the implementation of solutions to minimize the risk of occurrence and prevent injuries caused by errors due to the action or not taking
the actions that should be taken. Besides, every health facility must handle sentinel events [9]. In 1999, the IOM in the United States published a report, To Err Is Human: Building a Safer Health that surprised many. This report suggests that a minimum of 44,000 and a maximum of 98,000 patients died in hospitals in one year due to therapeutic mistakes, which is preventable. In this report, IOM defines that errors are failures of implementing plans or execution errors [10]. Generally, the patient safety incident report has main issues that conclude as a description of reporting incidents and an overview of incidents that happened in the hospital.

The perceived barrier is the evaluation of individuals against obstacles in their journey to adapt or follow certain behaviors. The Health Belief Model (HBM) explains that perceived barrier is an individual opinion that makes it stop adopting a behavior [11]. The perceived barrier in this study is a barrier by the staff who wants to report incidents of patient safety. These obstacles are perceived obstacles that come from one or others. Besides, the intended patient safety incident is known, whether caused by yourself or someone else. The existence of barriers is very influential in the willingness to take action to report incidents that have to be carried out. Several studies have shown that perceived barriers influence willingness to report patient safety incidents [2, 12-15].

As barriers in incident reporting is a major issue in health care settings. This study aimed to analyze the behaviors of health professionals on perceived barriers that become an obstacle in incident reporting in a secondary care hospital in Makassar, Indonesia. The study will help the policymakers and health authorities to know about the root cause of barriers in reporting incidents to ensure patient safety in hospitals.

**Subjects and Methods**

**Study design**

In July 2018, a cross-sectional survey of health care professionals was conducted. The questionnaire on perceived barriers created by the authors was distributed and filled by randomly selected professionals. The filled questionnaire was collected back by the author.
Setting
The survey was conducted in a secondary care hospital in Makassar, Indonesia. As directed by hospital officials, the authors were not allowed to specify the name of the hospital while publishing the study.

Population and sample
The sampling frame for this study was health professionals. Health professionals in this study were those who come in contact directly or indirectly with the patients. The health care professionals included in the study were doctors, nurses, midwives, pharmacists, and laboratory personnel. Simple random sampling was applied in this study. The total health worker in the hospital was 338, and the samples were selected by using the formula below:

<table>
<thead>
<tr>
<th>Health workers</th>
<th>Population</th>
<th>Sample size</th>
<th>Rounding results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td>10</td>
<td>$\frac{10}{338} \times 83 = 2.45$</td>
<td>3</td>
</tr>
<tr>
<td>Nurses</td>
<td>269</td>
<td>$\frac{269}{338} \times 83 = 66.05$</td>
<td>66</td>
</tr>
<tr>
<td>Midwives</td>
<td>25</td>
<td>$\frac{25}{338} \times 83 = 6.13$</td>
<td>6</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>24</td>
<td>$\frac{24}{338} \times 83 = 5.89$</td>
<td>6</td>
</tr>
<tr>
<td>laboratory personnel</td>
<td>10</td>
<td>$\frac{10}{338} \times 83 = 2.45$</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>338</td>
<td></td>
<td>84</td>
</tr>
</tbody>
</table>

Questionnaire
The questionnaire was developed by the author that covers most of the barriers in incident reporting. The survey consisted of 16 potential indicators to incident reporting, which were grouped into four major dimensions of fear, uselessness, risk acceptance, and practical reason. As the participants were qualified health care professionals, so no difficulty was found in understanding the questions set for the study.

Measurement
This study analyzed 16 indicators that became the barriers among health care professionals in the hospital. Each indicator was measured by five Likert scales that are Strongly Agree (SA), Agree (A),
Undecided (U), Disagree (D), and Strongly Disagree (SD). The four major groups were evaluated as low, medium, and high.

**Results**

The majority of the respondents (59%) were young adults with an age range of 26 and 35 years. This life span is considered as a developmental stage that possibly experiences changes physically, socially, and in personality. The majority of the participants (76%) were below the age of 35 years, as shown in figure 1. This condition is likely to be more healthy, energize, and productive ages.

![Figure 1: Description of participant’s age group](image)

**The sixteen indicators**

The highest barrier among the professionals to report a problem was forgetfulness by 16.7% of the participants who strongly agreed, and 35.7% of them agreed. The second main barrier to report a problem was the reporter investigation by 35.7% of participants who were agreed, and 4.8% were strongly agreed. Not knowing the procedure of reporting a problem holds the third place as the barrier in incident reporting, with 23.8% answered agreed, while 11.9% answered strongly agreed. More than half (58.3%) of the respondents were disagree that “fear of loss of prestige among colleagues” being a barrier in incident reporting. Among the respondents, 44% were disagree with the fear of disciplinary action as a barrier in reporting, while 41.7% of participants disagree with do not want to get in trouble...
as a barrier in incident reporting. All the result of the study is shown in table 2. Perceived barriers were further grouped into four dimensions of fear, uselessness, risk acceptance, and practical reason.

**Table 2: Questionnaire on barriers in incident reporting and participants response**

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>n</td>
</tr>
<tr>
<td>1</td>
<td>Fear of loss of prestige among colleagues</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Not sure that the reporter will be anonymous</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Fear of legal penalties</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Do not want to get in trouble</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Certain that the reporter will be investigated</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Fear of disciplinary action</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Fear of administrative sanctions</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Feel embarrassed to report a petty incident</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Fear of being blamed</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Fear of losing job</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Forms are not available</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Information is not readily available</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Not knowing the procedure of reporting</td>
<td>10</td>
</tr>
<tr>
<td>14</td>
<td>Forms are too long and complicated</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Time involved in documenting error</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Forgetfulness</td>
<td>14</td>
</tr>
</tbody>
</table>

**Four dimensions**

These 16 indicators of the perceived barrier were further grouped into four major dimensions including fear, uselessness, risk acceptance, and practical reason. Fear is a barrier related to feeling anxious to report a problem due to some reasons. It includes fear of legal penalties, disciplinary action, and administrative sanctions. Furthermore, uselessness is a response that reporting incidents do not provide much benefit or acknowledgment that the hindrance of patient safety incidents can be
fixed even without communicating disturbances that happen [12]. The results of the four major dimensions evaluated are shown in table 3. Uselessness can appear due to the inadequacy of achievement of objectives that are the target of each staff. If the main purpose of the reporting system is to record the frequency of patient safety incidents to supervise and enhance the quality of service, then all concerns that refer to disturbances, causes, and everything important in the analysis process needs to be announced. Nevertheless, if the purpose of identifying only problems and complaints, the event is not necessary to be reported [12].

Acceptance of risk is the perceived attitude and response that an event is part of the work, and that cannot be prevented. These include that individuals do not report incidents because incidents that happen in hospitals are considered reasonable and will inevitably occur. Practical reasons are factors related to the management of actions reporting incidents. Requires a lot of time and forms that are too long to fill incidents are ones of the obstacles in this factor [16]. The practical reason is a perceived barrier that comes from practice problems. The practical reason was measured using two questions of the Likert scale. The perceived obstacles of the reporting practices of patient safety incidents consist of responses that the form of patient safety incident report is very long, complicated, and demands a lot of time and effort in filling the form [12]. The responses of participants to the four major factors as a barrier in incident reporting showed in table 3.

The results of this study showed that 44% of the professionals believed practical reason as the high barrier, and 40.5% declared it as a medium barrier in incident reporting. This means the majority of professionals considered that practical problems are a major barrier in reporting the patient's safety incident. A practical reason as an obstacle can have an unfavourable impression on the reporting of patient safety incidents. The higher the barriers felt by the professionals in the issue of incident reporting practice, the worse it will be. Besides, there were only 15.5% of professionals who considered practical reason as a low barrier in incident reporting. Practical reason includes no availability of reporting forms, information, and reporting procedures. It also involved forms that are too long and complicated, takes a lot of time, as well as workload quandaries when busy [17].

The majority of the participants (79.8%) recorded risk acceptance as a medium barrier in reporting incidents, while 11.9% stated as a high factor as incident reporting barrier, and 8.3% of them reported risk acceptance as a low barrier in incident reporting. The participants believed that reporting incidents do not bring many benefits that the problem of patient safety incidents can be resolved even without reporting incidents that happen. Furthermore, 44% of the health professionals considered fear
as a medium barrier in reporting, 47.6% of them reported fear as a low barrier in incident reporting in the hospital, while 8.3% of the participants recorded fear as a high barrier in incident reporting. High-risk acceptance is also mentioned as a perceived obstacle. Risk acceptance can adversely affect the attitude of the professionals. This is because of the response that an incident is part of the work and cannot be avoided [16]. The study found that the majority of participants (79.8%) had moderate risk acceptance. The higher the risk acceptance, the more deterrent reporting patient safety incidents.

Meanwhile, 44.4% of the participants reported uselessness as a medium barrier in incident reporting. The professionals believed that there are benefits to report an incident. Among the participants, 54.8% considered uselessness as a low barrier, while 1.2% considered uselessness as a high barrier in incident reporting. They believe that there were moderate benefits or no such benefits in reporting, that is why they considered that it is useless to report in an incident in the health care setting.

Table 3: Major factors of incident reporting barriers

<table>
<thead>
<tr>
<th>No</th>
<th>Major factors</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>Fear</td>
<td>40</td>
<td>47.6</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>Uselessness</td>
<td>46</td>
<td>54.8</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>Risk acceptance</td>
<td>7</td>
<td>8.3</td>
<td>67</td>
<td>79.8</td>
</tr>
<tr>
<td>4</td>
<td>Practical reasons</td>
<td>13</td>
<td>15.5</td>
<td>34</td>
<td>40.5</td>
</tr>
</tbody>
</table>

**Perceived barrier**

Majority of the professionals at the hospital responded that the barrier in reporting patient safety incidents were medium 71.4% and 4.8% reported it as a high barrier in reporting incidents. Furthermore, only 23.8% of the professionals felt that these are low barriers in reporting patient safety incidents. This is because the majority of hospital professionals still believed that there are other obstacles in reporting patient safety incidents. Cumulative assessment of perceived barrier in reporting patient safety incidents is shown in table 4.
Table 4: Response of health professional to perceived barrier as an obstacle

<table>
<thead>
<tr>
<th>Perceived barrier</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>20</td>
<td>23.8</td>
</tr>
<tr>
<td>Medium</td>
<td>60</td>
<td>71.4</td>
</tr>
<tr>
<td>High</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>100</td>
</tr>
</tbody>
</table>

Discussion

The reporting system in hospitals provides important information and valuable data for decreasing patient risk by evaluating the nature and type of incidents that happened. The current study evaluates some of the major barriers in incident reporting. The perceived barrier is a perceived impediment in performing the reporting action of patient safety incidents. The presence of patient safety incidents is due to individual factors and organizational factors. Therefore, to minimize the event of incident management, actions are required to eliminate and distinguish events. If the incident is known, corrective action can be made. Incident reporting provides data that can be used to carry out advanced procedures, such as Root Cause Analysis (RCA) to identify the process of upgrading and measuring other strategies to avoid incidents [2, 18]. In this study, perceived barriers in incident reporting among health care professionals were evaluated. Among the 16 indicators, the highest barrier among the professionals to report a problem was, “forgetfulness” which held 16.7%. The findings are similar to the prior study that identified 115 reasons for under-reporting, 22.2% of them reported forgetfulness as one of the main barriers in incident reporting [19]. Further, another study also stated that the most prominent and frequently emerging obstacle is the response that reporting incidents take a lot of time and often neglected when busy [17].

The second highest barrier to report a problem was that “the reporter will be investigated” as 35.7% of participants were agreed. The result was similar to the previous results, where the fear of investigation and disciplinary action was one of the barriers in incident reporting [2]. Furthermore, 23.8% of the hospital professionals recorded “Not knowing the procedure” as a barrier in reporting. This result is similar to one of the previous studies, which concluded that a lack of knowledge and understanding the incident reporting and patient safety is among the major obstacles in incident reporting [20].

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After evaluating the four main dimensions of reporting majority of the health professionals (44%) considered fear as a medium barrier in incident reporting, while 8.3% of the participants reported fear as a high barrier in incident reporting. The prior study also showed similar results that most of the respondents stated fear as a barrier in incident reporting [19]. Other studies also evaluated that fear is one of the principal reasons in incident reporting [19, 21-23]. A prior study conducted on nurses stated underreporting because of the fear of punishment and the use of their records against them [24]. They believed that reporting a problem may lose prestige among colleagues. The existence of fear is noted as a barrier to report patient safety incidents. Fear of being blamed is also one of the biggest obstacles in reporting patient safety incidents [12]. Therefore, some improvement is still needed to eliminate the fear of personnel in incident reporting. Providing education, information, and training is the ideal solution that can reduce fear while reporting [2]. The fear of the professionals to report patient safety incidents is a barrier in publishing. Therefore, a fix is required for the staff or human resources to remove the fear of reporting the patient's safety incident that needs minimization.

In this study, 44% participants considered uselessness as a medium obstacle, while 1.2% considered uselessness as a high barrier in incident reporting, as they believed that there are ill benefits or no benefits in reporting an incident that is why they suppose that it is useless to report an incident in the hospital. The finding is in line with the previous study in which most of the respondents considered that the lack of feedback was the main determinant to record a problem. Organizational factors related to structures and processes for reporting, such as inadequate feedback was known as the higher barrier in incident reporting [2]. Prior studies also showed that reporters’ attitude about the benefits of the reporting is a major factor for encouraging the willingness to report [25]. As discovered in other studies, inadequate feedback has been recognized as one of the most significant barriers to reporting [13, 26]. Therefore, incentives are needed for the development of strategies to improve the skills of professionals regarding the true meaning of adverse event reporting in the context of patient care and the evaluation of health technologies. This would enable cultural changes and redefine the expectations of risk management [27].

The results of this study also showed that 44% of the professionals considered practical reason as amongst the highest barriers, and 40.5% of them reported it as a medium barrier in incident reporting. This means that the majority of professionals considered that practical problems such as long forms, workload, and unable to understand the procedure are the major obstacles in reporting.
the patient's safety incident. A high practical reason as an obstacle can have a bad impact in reporting patient safety incidents. Besides, there were only 15.5% of professionals who considered practical reason as a low barrier in incident reporting. The results are similar to the previous findings that stated long forms, insufficient time, workload, and organizational factors as barriers in reporting [2]. On the other side, 79.8% of the participants recorded "risk acceptance" as a medium factor in reporting, 11.9% stated as a high, while 8.3% of them reported "risk acceptance" as a low barrier in reporting in the hospital. Risk acceptance can adversely affect the attitude of the staff because they believed that an incident is part of the work and cannot be avoided [16].

The current study evaluated the potential barriers and showed perceived barriers as obstacles in reporting. There is a need for reducing the barriers to ensure patient safety. These barriers can be reduced or eliminated through proper planning to report an incident. Educating the staff, motivation, positive feedback, prioritizing patient safety, confidentiality, and simple forms for reporting can reduce the barriers in incident reporting. There is a need for further research in other hospitals to further investigate the barriers in reporting.

**Conclusion**

The perceived barrier in reporting the incidence in the hospital was moderate. This suggests that the existence of barriers eludes them to report an incident. Obstacles like forgetfulness, fear of losing a job, fear of investigation, workload, lack of positive feedback and friendly reporting, lack of training, and risk acceptance are the main factors in underreporting. Motivating the professionals, through the importance of reporting, can help to report the incidence. Strategies are needed to launch an incident monitoring system, educate the health workers to report, and establish minimum criteria to report will help health professionals to report an issue that occurred in the health care setting. Besides this, quick reporting systems, faster response actions, and feedback need to be developed to increase incident reporting.

**Ethical statement**

This study was approved by the health research ethics committee of Faculty of Nursing, Universitas Airlangga (967-KEPK)
Acknowledgement

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References


