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Perspectives of Multidisciplinary Staff toward the Improvement of Communication and Patient Safety by Safety Huddles

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ABSTRACT

Introduction: Evidence in the literature shows that healthcare utilizing deliberate discussion linking events (HUDDLEs) for patient safety could enhance inter-professional relationships through improved communication, thereby increasing the situational awareness of healthcare professionals. The present study aimed to assess the perspectives of frontline staff toward the impact of safety huddles on patient safety and explore further strategies to improve their delivery in order to enhance the situational awareness of patient safety.

Materials and Methods: Safety huddles were implemented in two inpatient wards at Great Ormond Street Hospital (GOSH), a tertiary children's hospital in London, UK. A staff survey was conducted at two intervals (18 and 30 months) before the initiation of the huddles using a questionnaire to evaluate the perceptions of the staff toward the huddles. The questionnaire was devised and scored based on Likert scales and free-text responses.

Results: The healthcare staff believed that safety huddles played a critical role in highlighting the problems of patients and identifying clinical deterioration. Moreover, they could improve the communication within the healthcare team, reduce anxiety, and enhance team cohesiveness.

Conclusion: According to the results, safety huddles had an extremely positive influence on frontline staff. Therefore, they could be implemented in healthcare settings to increase situational awareness and improve teamwork and communication, thereby enhancing patient safety. Considering their positive impact, safety huddles were introduced to the other wards and specialties across GOSH as well. In addition, safety huddles were incorporated into the RCPCH S.A.F.E program as a key intervention to improve situational awareness.

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Introduction

Achieving effective communication and teamwork remains a significant challenge in healthcare settings and is essential for excellent situational awareness (SA) (1-3). Poor SA has been associated with errors and incidents (4-6). According to the Joint Commission Center for Transforming Healthcare, poor communication remains a leading cause of approximately 80% of medical errors (7). Research suggests that teamwork and communication are the two main tools for providing of safe and high-quality patient care (3, 8, 9).

A highly dynamic and diverse setting, such as the International and Private Patients (IPP) at Great Ormond Street Hospital (GOSH) (London, UK), requires the frontline clinical staff to have access to a system for effective communication and teamwork to provide quality of care to a very large number of patients with various complications. Furthermore, our international patients constitute a challenging group in terms of delivering safe care since there are multiple cultural and language barriers that need to be overcome by the clinical team to ascertain that clear and

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consistent information is shared between the frontline staff and parents.

Debriefing sessions and safety HUDDLEs (Healthcare Utilizing Deliberate Discussion Linking Events) have been successfully used to improve SA and provide safe care to patients (10-14). Safety huddles are short meetings that increase SA among the clinical staff, evaluate the situation and events, to anticipate and share ideas to ensure well-coordinated patient care. The aim of safety huddles is to escalate problems before a patient deteriorates and reduce unexpected deterioration.

Evidence in the literature shows that safety huddles can improve various outcomes, including inter-professional collaboration and communication, in addition to having a positive influence on the staff approach to patient safety (10, 11, 13-15).

Huddles enhance interpersonal relationships and working culture and provide a venue to share information (10, 11, 15, 16).

The present study aimed to describe the development and implementation of safety huddles in two inpatient wards at GOSH, explore the perspectives of the frontline staff toward the impact of safety huddle, and elucidate further steps toward spreading the use of safety huddles, and develop clinical measures to demonstrate the subsequent improvement in patient safety.

Materials and Methods

Setting and Intervention

This study was conducted at the International and Private Patients (IPP) division of Great Ormond Street Hospital for sick children, London, United Kingdom (UK) . IPP is a highly diverse and complex clinical area consisting of two pediatric wards (Bumblebee and Butterfly). The Bumblebee Ward (21 beds) is a mixed specialty ward for the children requiring the specialized treatments that are unavailable in their own countries, including surgical and medical specialties. The Butterfly Ward (21 beds) provides care for the patients with complex hematology/oncology and bone marrow transplant conditions. A previous study (hospital audit 2012) identified significant variability in the recognition and escalation of clinical deterioration of patients on these wards. This was mainly attributed to an insufficient communication process within and outside the wards. In order to reduce unexpected deterioration in the patients, various quality improvement programs were introduced to reinforce SA among the frontline staff.

Influenced by the literature on debriefing sessions, safety huddles and situational awareness and their successful implementation at Cincinnati Children's Hospital (U.S.) (8, 10, 17, 18), safety huddles were introduced in IPP in December 2012, utilizing a Children's Early Warning Score (CEWS) to enhance SA. All the staff members were briefed, and relevant training sessions were held. A "safety huddle" is a regular, scheduled, multi-professional meeting of no more than ten minutes, where all inpatients are described according to their CEWS by each of the named nurses in order to identify the sickest and most at - risk patients, prompting immediate and appropriate escalation.

Safety huddles are also used as a platform to highlight additional risk factors (e.g., family concerns, high-risk therapies, communication issues) and identify high-risk patients as 'watchers' (Table 1).

Safety huddles are held in the presence of the interactive electronic patient board at a predetermined time (midday or midnight) in all the wards. The time of the huddles were selected, so that the frontline staff could attend the session after the morning/night ward rounds once the patients are reviewed by the medical and nursing teams. Every huddle is chaired by the head nurse, and all the frontline staff, including physicians, nurses, healthcare assistants, interpreters, clinical assistants, ward manager, pharmacists, and phlebotomists attend the session on time.

To evaluate the knowledge of the frontline staff regarding the purpose and effectiveness of safety huddles and to identify the associated shortcomings, a staff survey was conducted 18 months after introducing the safety huddle in 2014. The majority of the staff confirmed the huddles as a remarkable intervention to improve SA.

Improvements suggested were to increase frontline staff attendance; to be more disciplined in duration of huddle and standardisation of huddle time.

Following this survey, new strategies were established to improve the huddle, namely use of an interactive electronic patient board highlighting the CEWS of each patient on ward, use of Nervecentre software19 to record and escalate CEWS of patient, mandatory frontline staff attendance at the huddle and setting a fixed huddle time.

In addition, we also used a visual-auditory tool (a noisy bumblebee) to improve staff attendance at the huddle. The noisy bumblebee was set to make noise (loud ringing buzz) at a fixed time every day to remind the staff about huddle time thus prompting attendance.

The second survey was conducted in 2015, one year after implementing the changes in the safety huddles. No ethical approval was required for the surveys.

Table 1: Huddle structure: points to be discussed at each huddle

1. CEWS* of all patients
2. High CEWS
    a. Why – high CEWS?
    b. What – to do?
    c. Who – to escalate?
3. Any "Watcher" – use SBARD@
4. Any patient with significant changes
5. Any other important issues

*CEWS – Children's Early Warning Score,
@SBARD–Situation, Background, Assessment, Recommendation & Decision

Data Collection

Data were collected using written questionnaires, which were completed by the frontline staff in each ward. The questionnaire consisted of 14 items prepared by the authors and was approved by the quality improvement department of the hospital. The questions were developed based on the clinical observations and available literature on safety huddles.

The questions in the questionnaire were developed to assess and explore the perceptions of the clinical staff on the impact of the safety huddle on patient safety (identification, mitigation, and escalation of deteriorating patients) and working culture especially communication, support, and teamwork. The questionnaire were scored based on a Likert scale to specifying the level of agreement or disagreement. In addition, the participants were allowed to provide comments and suggestions regarding the safety huddle.

The obtained results were recorded based on the agreement or disagreement of the participants. The respondents included the staff members engaged in the IPP, consultants, senior residents, senior and junior nursing staff, healthcare assistants, ward managers, practice educators, phlebotomists, pharmacists, and interpreters. The participants were asked to complete the questionnaire within 10 minutes. Participation was anonymous and voluntary. The majority of the staff (80%) had been employed in the same ward during 2012-2015 and participated in both the surveys.

Results

In total, 41 responses were collected in the first survey (41 participants), and 42 responses were obtained in the second survey (42 participants), with the response rate of 100% in both surveys. The findings revealed a high acceptance rate of safety huddles among the frontline clinical staff. The analysis of the first survey indicated that 92% of the staff agreed that safety huddles could help identify the deteriorating patients in the ward (Figure 1).

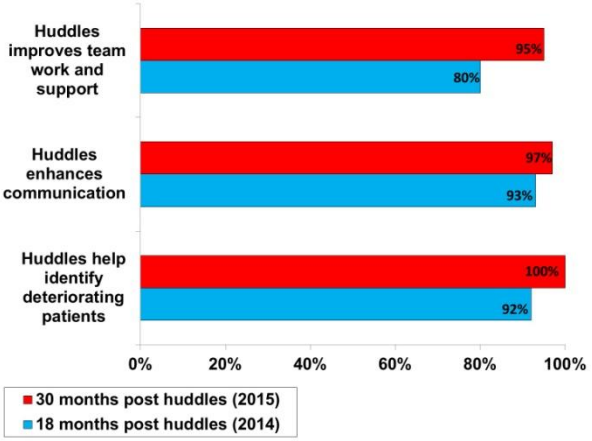

Figure1: Staff's perception of safety huddles (% agreed).

After implementing changes to the huddle as described above in methods, the second study reinforced that it played a crucial part in highlighting patient problems and identifying clinical deterioration on inpatient wards (100% agreed). Likewise, huddles also provided opportunities for information sharing and helped improve communication within the team and within the hospital. 97% of the participants in the second survey agreed that safety huddles provided an effective communication system among the staff.

Use of the Nervecentre software facilitated the recording and escalating of the CEWS of patients. Children with CEWS above three were automatically escalated to the head nurse and physicians on the ward. Similarly, children with the CEWS of higher than five were escalated across the hospital in order to prompt immediate review. It increased staff's perception of support and eventually improved patient safety. In the second survey, 95% of participants believed that safety huddles created a healthy teamwork atmosphere among the staff and improved teamwork. In this regard, nurses and healthcare assistants reported that the huddles increased their confidence in expressing and escalating their concerns. In particular, head nurses stated that the huddles made them feel more connected to all the staff in the wards and helped them visualize the bigger picture. Some of the comments in this respect are presented in Table 2.

Table2: Comments of Staff on Safety Huddles

"Safe, accurate, and extremely valuable; a positive development."
"Very helpful in identifying and escalating a critically ill child. It highlights the patient we need to watch most."
"A useful approach for the team to come together; an opportunity to regroup."
"Safety huddles help you become aware of the status of all the patients in the ward, not just your own patient, creating a safer environment. They also improve communication within the team."
"Safety huddles are a powerful method to obtain the situational awareness of our cubicalized ward. We are all able to discern who the sickest patients are."
"It also strengthens our teamwork. As a head nurse, I feel that safety huddles really help systematize clinical management."
"Very useful, great communication, leadership, delegation at huddles; relieves anxiety if worried."

Discussion

Poor SA is one of the leading causes of unexpected patient harm in healthcare systems (4-6). Therefore, Improving SA is an essential requirement to provide safe and efficient care to patients. . According to the literature, debriefing sessions or safety huddles have a number of positive outcomes in healthcare settings and are an effective approach to reinforcing SA among staff, thereby contributing to patient safety (8, 10, 16, 17, 20). Safety huddles enhance awareness and communication, reevaluating and presenting the opportunity to share information for well-coordinated patient care (10, 11, 16). Furthermore, they provide a platform to raise concerns and enhance the perceptions

of the clinical staff toward supporting this method. As a result, safety huddles promote teamwork by enhancing professional interactions and create a sense of community among the healthcare staff (8, 10, 11, 17).

The acronym HUDDLE (healthcare, utilizing, deliberate, discussion, linking, events) (13) is descriptive in iteself and explains the effects of discussions on raising awareness regarding patient safety (13, 14). Such debriefing sessions have been well established in anesthesia, intensive care, and surgery (9, 15, 16, 21) as a valuable system to promote teamwork within surgery and anesthesia (13, 15, 16, 21).

Debriefing sessions have also been associated with the reduced incidence of non-routine and unexpected events (17, 18, 22). Similarly, medication safety huddles in pharmacy (23) have been shown to be effective in identifying and preventing medication errors.

Implementing the safety huddles in the IPP at GOSH was one of the core interventions to improve SA with the aim of providing safe, high-quality care to children.

IPP is a highly complex and dynamic clinical environment, which requires efficient teamwork and effective communication within and outside the team.

In the present study, the multicultural, multilingual demographic and geographical presentations of the studied wards presented additional challenges against communication and delivery of high-quality care.

Therefore, it was essential to implement and introduce various strategies to improve teamwork and communication and create an optimistic working environment among the staff and across the hospital.

After noticing the inconsistencies in communication and inadequate SA among the clinical staff, we introduced safety huddles at GOSH in order to positively influence the frontline staff. Safety huddles are novel to the pediatric settings in the UK, and our wards (GOSH IPP) are the first pediatric inpatient wards to successfully implement and establish safety huddles. The main principle was to bring together everyone around the hospitalized child, including the parents, administrative staff, students, allied health professionals, and nursing and medical staff so as to contribute to providing safe, high-quality, child-centered care. The safety huddle embedded the same language (in our study – CEWS) of deterioration amongst the frontline staff so that patients are described in the same ways across nursing, medical, allied health professionals and administrative staff. According to the results of the present study, safety huddles increased the efficiency of exchanging critical information, empowering the frontline staff to express their opinion. This resulted in improved communication between staff and in turn enhanced working relationship within and between teams leading to improved patient safety. According to the staff, the huddles allowed them to better vocalize, discuss, and raise concerns. In addition, they stated that the huddles helped them to easily identify, mitigate, and escalate the conditions of various patients. In a similar study focusing on the perspectives of clinical staff toward safety huddles in surgery wards (15), 97% of the participants agreed that the huddles helped them to identify the problems of patients accurately. Consistent with this, 100% of the participants in the present study believed that the safety huddles highlighted the problems of the patients. Similarly, other studies (16, 20, 24) have denoted that safety huddle have a positive impact on teamwork and communication. Therefore, our findings are in line with the previous studies in this regard. Having an optimistic and encouraging environment is essential for providing high-quality health care (9,20,24). A positive safety culture and environment have been associated with few adverse events in hospitals (9, 25-27). Four years after the implementation of safety huddles, they are conducted daily in the IPP and have become a crucial part of the routine practice in the inpatient wards. Our inpatient wards (Bumblebee and Butterfly) were the first pediatric wards in the UK to successfully establish safety huddles on a daily basis in 2012. These huddles increase situational awareness amongst the entire team caring for our patients, improves team work and communication between them, thus enhancing patient safety.

This overwhelming acceptance of the safety huddles by the IPP staff has led to its successful implementation in other specialties and wards across GOSH. Considering such a successful implementation in our wards, the huddle was included in the RCPCH (Royal College of Paediatrics and Child Health) S.A.F.E programme as one of the most important and core interventions to improve SA in 2014. The S.A.F.E (28) program (Situational Awareness for Everyone) aimed to reduce the rate of preventable deaths and errors occurring in the pediatric departments in the UK through improving SA. The SAFE project initially supported 12 hospitals (wave 1) to work together to implement safety huddles on their inpatient wards. It has since spread to include 27 more paediatric centres (wave 2) across UK. In our study, the most common criticism regarding safety huddles was the time taken to conduct the huddle and consistent staff participation.

Over time, the huddles have become more focused and structured, and lasts no more than 10 minutes. This could be noted in the responses of the staff in the first and second survey (Figure 1). In the second survey, 95% agreed huddles created a team atmosphere and the staff felt well supported as opposed to 80% from the first survey.

As a qualitative survey, the current research has some limitations. Ideally, we would have data pre-implementation for the comparison of our findings. Although it was difficult to quantitatively measure the impact of safety huddles, the staff satisfaction described in the surveys established that the frontline staff felt more supported and equipped to handle deteriorating patients. A study conducted by Cincinnati Children's hospital revealed that the huddle incorporated to

improve SA was associated with a significant decrease in UNSAFE (unrecognized situation awareness failures events) transfers and serious safety events among inpatients18. We hope to see a similar impact of huddle after its successful implementation across our entire hospital. Our next steps are to collect quantitative data across our hospital to demonstrate that the number of unexpected transfers of patients to intensive care and the number of resuscitation calls (2222 calls) have reduced after introducing safety huddles.

Conclusion

As a novel system, safety huddles could be easily implemented to identify, mitigate, and escalate high-risk patients, thereby enhancing situational awareness. They also appear to improve the efficacy of information sharing and communication, create a sense of community, and promote teamwork. This may increase situational awareness for reducing failures and improving patient safety.

What is already known on this topic?

a) Maintaining situational awareness is essential to delivering safe, high-quality care.
b) Safety huddles could improve situational awareness, influence various outcomes (e.g., inter-professional collaboration and communication, and positively affect the approaches of the clinical staff to patient safety.
c) A positive safety culture and environment is associated with the reduction of adverse events in hospitals.

What information does this study add?

a) Safety huddles could be easily implemented to increase situational awareness in order to decrease clinical failures and improve patient safety.
b) Safety huddles create a sense of community, enhance teamwork, and help the frontline staff to feel more supported and equipped to handle deteriorating patients.

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