

# Clinical Handover Practice in the Emergency and Trauma Department of SASMEC@IIUM: An Observational Qualitative Study

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## ABSTRACT

**Introduction:** Where there is a high patient turnover rate and a fast-paced atmosphere with unpredictable events, such as in the emergency and trauma department (ETD), the likelihood of miscommunication and errors rises. Communication between the shifts or among the employees must be informed of crucial information to ensure safety and effective clinical handover practices. Therefore, the primary goal of this study is to discover clinical handover practices that can improve communication between emergency healthcare personnel (HCPs) and within various departments.

**Objective:** To identify the existing shift handover procedures, the resources and supports available to improve clinical handover efficacy, as well as the factors that promote and impede clinical handover effectiveness among the emergency staff.

**Methods:** This descriptive, qualitative study used a purposive sampling strategy, obtaining 33 nurses, doctors, and assistant medical officers (AMOs) where the data reached saturation. Open-ended questions using a topic guide interview were used to elicit the participants' opinions on the current clinical handover procedures in the department. Thematic analysis was used to analyse the data after the sub-themes and themes were created.

**Results:** Six themes were identified for this study, consisting of 1) learning methods of clinical handover, 2) information passed to the next shift, 3) information expected to be received, 4) opinions on current handover, 5) handover effectiveness, and 6) suggestions for improvement.

**Conclusion:** The emergency HCPs have diverse backgrounds in clinical handover and working experiences due to having previously worked in other hospitals or departments. In this study, they discussed their own experiences with clinical handover in the department as well as the variables that determine how well the clinical handover process works. The findings were focused on the components that the participants believed may be advantageous for the general improvement of the clinical handover.

**Keywords:** Clinical handover; Practice; Emergency and Trauma Department; Qualitative.

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## INTRODUCTION

The emergency and trauma department (ETD) is a well-known area of high turnover patients, generated by admissions, transfers, and discharges. While this situation occurs, there is a need for clinical handover reports from one staff member to another, from one department to another, or even between various health professions.<sup>1</sup>

Clinical handover is defined as *“the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis”*<sup>2</sup> and it is conducted at the bedside of the patients. Clinical handover is a critical nature of communication between the staff, given physicians, nurses, or even the assistant medical officer. However, it received relatively less attention, and the evidence is limited, particularly in Malaysian settings.

Several studies have reported that inefficient clinical handover leads to poor patient<sup>1</sup> and jeopardises patient safety<sup>3</sup>. In the ETD, communication failures occur due to the fast-paced nature of urgent care as well as the unpredictable nature of the department.<sup>1</sup> It is necessary to develop the standard and improve the communication aspects.

Hence, this study examined the current shift handover practices among emergency healthcare providers (HCPs) at SASMEC@IIUM, identified the resources and supports to enhance clinical handover effectiveness, and determined the barriers and facilitators to the effectiveness of clinical handover. This, in return, could avoid and reduce the occurrence of major incidents while handing over patients' information.

Conducting a qualitative study helps to gain a better understanding of clinical handover practice among emergency HCPs and its implications for effectiveness. It is hoped that the findings could assist the administrator in identifying the best approach to clinical handover and produce the standard guideline to be used by the emergency HCPs, regardless of their profession, and can be extended to the whole organisation. Hence, this study aimed to identify the existing shift handover procedures, the resources and supports available to

improve clinical handover efficacy, and the factors that promote and impede clinical handover effectiveness among the emergency staff.

## METHODS

### Study Setting, Design and Sample

A qualitative study was conducted among experienced emergency HCPs who have been working in the department, using a purposive sampling method. About 33 participants who are currently working at the emergency and trauma department of SASMEC@IIUM were successfully recruited for this study. The participants consisted of three different professions: 14 nurses, 10 physicians, and 9 assistant medical officers who are permanently working in the department as residents. This study excluded those who were undergoing official leave, such as maternity leave, paternity leave, or study leave.

### Material

A semi-structured interview using open-ended questions was used as the primary method of data collection. The topic guide for the interview was developed in the English language by the principal researcher, Dr. Nurul'Ain Ahayalimudin, a qualitative researcher who had numerous experiences in developing interview topic guides for qualitative studies. The interview consisted of questions that related to the participant's experiences during their working days, suggestions, opinions, and expectations for the practice of clinical handover while working at the department.

### Ethical consideration

Approval of this research study has been obtained from the Department of Education and Research, SASMEC@IIUM, and the International Islamic University Malaysia Research Ethics Committee (IREC) on 12<sup>th</sup> January 2021. Afterwards, the participants were approached with the consent form during the scheduled meeting. All information regarding the study was explained to the participants before the interview session to make sure they understood well and got more ideas on the questions that would be asked. A consent form was completed by the

participants before the interview as evidence of their willingness to be involved in this study. The data was kept private and confidential using pseudonyms.

**Data collection**

The data collection started from March 2022 until September 2022. In this study, the data were collected through a one-on-one interview using the topic guide. Interviews were conducted in English and Malay, with the duration of each interview session being approximately 30 minutes on average. The interview sessions were audio-recorded. In addition, the interview was conducted informally with a conversational style using open-ended questions.

**Data analysis**

After listening to the audio recordings of the interviews numerous times, the recordings were transcribed and thematically analysed. By employing the thematic analysis by Braun and Clarke,<sup>4</sup> the researcher was able to identify, analyse, organise, describe, and report the themes based on the data set. The data were used to identify similar or repeated answers from different individuals. It was analysed after that before being turned into pertinent themes and organised. The researcher then described and published the data, highlighting the significance of the themes. The relevant aspects of the data were then coded to make sure they matched the study topic. Based on the previously published research pertinent to the subject, data interpretation and contextualisation have been completed. To make sure that the results were consistent, a different researcher served as a peer reviewer and looked over the research procedure and data analysis.

**Trustworthiness**

The criteria of trustworthiness developed by Lincoln and Guba<sup>5</sup> were used in this study, which are dependability, credibility, conformability, and transferability. To ensure dependability in this study, the researcher’s supervisor acted as a peer reviewer and examined the research process and the data analysis to ensure that the findings were consistent. Also, reflexivity as a researcher kept

reminding herself to not be biased throughout the whole research process.

Other than that, constant comparison in the data analysis process is also being done by comparing each of the interpretations and findings with the existing findings that emerged from the data analysis. The data collected through interviews and the document for the handover could ensure the credibility of the findings. Finally, there was transferability, in which the results of qualitative research can be transferred to other contexts or settings with other respondents.

In this study, the researchers provided a rich account of descriptive data, such as the context in which the research was carried out, its setting, sample, sample size, sample strategy, inclusion and exclusion criteria, interview procedure and topics, changes in interview questions based on the iterative research process, and excerpts from the interview guide.

**RESULTS**

Six themes emerged after the researchers reviewed the transcripts as summarised below.

**Table 1:** Themes and categories identified from the interviews

Themes	Categories
Learning methods of clinical handover	<ul style="list-style-type: none"> <li>• During study years</li> <li>• Learned while at work</li> <li>• Learning from experienced seniors and tagging</li> <li>• Formal learning through seminars and training</li> </ul>
Information passed to the next shift	<ul style="list-style-type: none"> <li>• Patients' related information</li> <li>• Equipment and technology used</li> <li>• Information on medical plans</li> <li>• Management provided to the patient</li> </ul>
Information expected to receive	<ul style="list-style-type: none"> <li>• Patients' condition in detail</li> <li>• Pending procedures</li> </ul>

	<ul style="list-style-type: none"> <li>• Interpretation of investigation results</li> <li>• Status of equipment used</li> <li>• Complete and precise information</li> </ul>
Opinions on the current handover	<ul style="list-style-type: none"> <li>• Complete information provided</li> <li>• The use of mnemonics and systematic tools</li> <li>• Various ways of communication</li> </ul>
Handover effectiveness	<ul style="list-style-type: none"> <li>• Perceived barriers</li> <li>• Facilitating factors</li> <li>• Lacking in current handover practices</li> </ul>
Suggestions for improvement	<ul style="list-style-type: none"> <li>• Self-initiative</li> <li>• Group handover</li> <li>• Addition of staff</li> <li>• Bedside handover implementation</li> <li>• Training and documentation</li> <li>• Device and technology use</li> </ul>

**Theme 1: Learning methods of clinical handover**

**i. During study years**

The vast majority of the participants stated that during their study years, they were taught the clinical handover approach informally.

*"During my study years, I had learnt the method of handover, but it was not under one special curriculum." (MO7)*

**ii. Learned while at work**

Some participants stated that they learned the method of clinical handover from their observations while working.

*"... Sometimes we observe first the way the experienced workers handle. And by the time we knew some important points, and the least*

*important points, we then sorted them out in our way while passing over." (MO 9)*

**iii. Learning from experienced seniors and tagging**

Most of the participants stated that they learned from their seniors and colleagues during their working days.

*"...learnt from the seniors only informally and practice passing over in front of the patients" (AMO 1)*

**iv. Formal learning through seminars and training**

A few of them also stated that they learned clinical handover formally during continuous medical education (CME).

*"...I guess in continuous medical education (CME), the morning passes over so it most likely around every year. Within one to two months or three months, there will be pass over training formally." (SN 10)*

**Theme 2: Information passed to the next shift**

**i. Patient' related information**

Most of the participants mentioned they included the patients' background details in the report.

*".... information that we used to obtain from the staff in charge of the patient. depending on the patient that they manage during their specific shift. if there are a lot of patients then there will be a lot of cases. We even passed who will oversee the patients according to specific zones." (SN 1)*

**ii. Equipment and technology used**

Some of the staff also stated that, other than patient status, they will also include equipment status and clinical item shortages in their report for the next shift.

*"...Hmm if there is no patient-related pass over, we will pass information on the equipment. if there is any problem or ventilator failure the next shift will not be surprised by them. So, we need to pass over the report either already conveyed to PENMEDIC or not since all equipment failure will be sent to PENMEDIC for their further actions..." (AMO 7)*

**iii. Information on medical plans**

Some of the participants pointed out that they also include medical plans in their reports for the next shift to be well prepared.

*"...not only that, but we also include the patients' registered number (RN), comorbidity if any, underlying diseases, chief complaint, the reason the patient came in etc. management of the doctors, plans and all we have to include so that the next shift know what to expect..." (SN 5)*

**iv. Management provided to the patient**

The participants agreed that they pass on the management they have done to the patients in the report.

*"...We have to pass on the criteria indications that are needed to be admitted in yellow or any zones in ETD. And then of course the biodata which include the name, age high-risk disease or underlying diseases and also the history of previous illness. If the shift, we just pass on what are the ongoing and pending procedures that require next shift to continue..." (AMO 2)*

**Theme 3: Information expected to be received**

**i. Patients' condition in detail**

The participants stated that they usually expect to receive complete information about the patient's current condition.

*"...we need to pass in detail. Because I think sometimes something is missing. What have they done maybe they forgot to tell us right? then we need to find it again in the report or maybe we need to call them. If in radio yes, also the same for example the equipment failure or misplaced they do not write in the report. So that shows they have not informed the in charge..." (AMO 1)*

**ii. Pending procedures**

The participants stated that they expected to receive all pending procedures that had not been done in the previous shift.

*"...If it's me usually the general overview only and the issues that need to be solved or any pending procedures overall..." (SN 13)*

**iii. Interpretation of investigation results**

The participants stated that they would need accurate information provided by the staff from the previous shift.

*"...hmm if there is an abnormal procedure such as blood investigation result, or physical examination or unstable patient. We need to be cautious. That is the info that we need to know..." (MO 2)*

**iv. Status of equipment used**

They also mentioned that they will need information on the equipment as well, in addition to the patients' information.

*"...for me such as the medical equipment in the department like PHC whatever equipment failure or malfunction or technical problems all must be reported. And also, must report the exact place of the equipment used and put in back once used..." (AMO 2)*

**v. Complete and precise information**

Some added that they expect to receive complete information from the previous shift.

*"...sometimes there was also incomplete information passed such as the patient's belongings that had been given to the patient. That one I think is important to know who the patient was dealt with that sometimes staff used to miss..." (AMO 3)*

**Theme 4: Opinions on the current handover practices**

**i. Complete information provided**

Few data were collected showing that the clinical handover is considered sufficient since it is standardised and aligned with the Ministry of Health (MOH).

*"...for me, everything is fine here since we are practising the same method as other hospitals, especially in ETD where we will handover report in front of the patient and pass the details..." (MO 3)*

**ii. The use of mnemonics and systematic tools**

The majority of the participants agreed that ISBAR mnemonics are very helpful in their clinical handover process.

*"...But more than 50% of ETD staff implement ISBAR I can confirm that. It's a good thing since we don't want to have any missing information that's the reason. Also, other than handover methods through phone, we will write in ISBAR in papers. The ISBAR form will be checked and signed by the ward staff as our copy to prevent any problems in future." (AMO 6)*

**iii. Various ways of communication**

Few participants who have previously worked in different settings stated that the environment and flow of ETD are quite different from wards or clinics.

*"...based on my previous working experience in the paediatric ward, the handover method is a bit different. The content of the report. In ETD it's like "Touch N Go" where it is very brief, so it is different here..." (SN 12)*

**Theme 5: Handover effectiveness**

**i. Perceived barriers**

From the study data, it is said that human factors contribute to the ineffectiveness of clinical handover.

*"...factors that hinder the effectiveness maybe the team leader (TL) for the shift plays the main role in handover report. Sometimes those who work in specific zones miss out on something, so I guess it is the role of TL to remind. If there is no TL or TL is not responsible, then it will affect handover..." (AMO 1)*

Most of the participants agreed that the process of handover will be interrupted if there are a lot of admissions at the same time.

*".... the factors would be if suddenly patient came in while passing over. But this may be a bit personal since everyone can hand over a report anywhere so it depends on the individual if they can be focused. If a staff is not being focused while passing over then it will be a waste..." (AMO 3)*

The participants also shared those interruptions can be minimised if all staff are punctual and disciplined.

*".... hmm if the staff arrived late and maybe if there is a shortage of staff. Because sometimes we need more people to in charge radio and PHC since both areas require different works..." (AMO 6)*

**ii. Facilitating factors**

A few participants agreed that providing accurate and precise information enabled the handover to be smooth.

*".... check the patient's details including the name, doctors' plan, any pending procedures and other things related to that..." (SN 2)*

Most of them stated that the handover is best delivered in front of the patient.

*"...for pass over, I think it is better to be done face to face since we can directly observe the patient. Oh!And I think technology also plays an important role in this yes both are important..." (SN 5)*

Some stated that with good individual discipline, the handover process can be effective.

*".... I think the important part is the interactions between us and the one who receives both must have the initiative to pass and receive accurately because this involved teamwork so both must be focused." (AMO 2)*

**iii. Lacking in current handover practices**

A few participants shared that they only knew about the patients they were in charge of, not all patients in detail.

*"... the lack here is we don't know about other cases. Some staff have the initiative to read and know about other cases, but some are not. It is better if we know all cases during that time, so I think currently we only pass the cases that we oversee and do not know about other cases..." (SN 2)*

One participant expressed that it is hard to measure the effectiveness of clinical handover.

*".... for me everything is under control it's just we don't have any proper or clear guidelines for an*

effective report. So, to measure the effectiveness is very hard I guess but anyway, everything is fine not much or major problems occurred..." (MO 1)

**Theme 6: Suggestions for improvement**

**i. Self-initiative**

One staff member stated that it is their initiative to learn more about the abbreviations and medical terms that will be used frequently during the clinical handover.

"... I think everything is fine all information received for us to increase our knowledge, especially the medical short forms such as hospital-acquired pneumonia (HAP), and community-acquired pneumonia (CAP) so we need to know the medical abbreviation, so we need to have the initiative to learn more..." (AMO 3)

**ii. Group handover**

Some participants suggested that the handover could be more effective if carried out in groups.

"The improvement I think the handover system must involve a group so that the information won't be mixed up, so we need one time where everyone gathers, and the report is delivered at that time. But sometimes the method cannot be done due to the workload of the staff, but I think the formal workshop can be done for the handover to be more efficient..." (AMO 1)

**iii. Addition of staff**

Most of the healthcare personnel agreed that ETD needs to have more staff for the handover to be carried out smoothly.

"...It is better if more staff can be taken in because sometimes one staff oversees four to five patients alone. So, if possible, for us to have more staff so that the process will become more efficient..." (AMO 5)

**iv. Bedside handover implementation**

From the study data, most of the participants mentioned the importance of bedside handover so they could directly involve the patient during clinical handover.

"...for pass over report must be conducted in front of the patient so that we can confirm the condition of

the patient. So, for me, we need to pass in front of the patient..." (AMO 7)

**v. Training and documentation**

The participants added that the training is important for the staff to accurately prepare the report and standardise the content of the clinical handover.

"...another suggestion would be continuous training regarding clinical handover. Not just a speech but a quick practical session maybe in 5 minutes, twice a week. So, the trainer or superior will demonstrate the important points that need to be included as simple as that. I think this will be effective while working we practise it..." (MO 3)

From the study data, it was revealed that the systematic documentation process can be one of the ways to improve the flow of clinical handover.

"... I think the delivery of the report needs to go step by step so the delivery will be structured, and nothing will be missed out. And need to be recorded as well since we can forget sometimes especially if we have a lot of work..." (AMO 6)

**vi. Device and technology use**

A few participants suggested that they would need a more advanced system for the clinical handover process.

"... We are still using the manual method even though we have the computer. So, in the pass over sometimes we tended to miss out on the manual such as the blood form which we needed to fill in. ... Due to that, we won't have to fill in a lot of forms manually and we just need to order them through a system where the details of patients are all included there..." (MO 7)

The participants wish to have an advanced system for documentation that enables the handover to be more efficient in the future.

"...if possible, for us to have one advanced system that we do not need to use the board anymore. Because sometimes the board we need to erase the and wait for the board to dry before we can use it again or maybe any technology that can make it faster in writing, so I think we need advanced technology..." (AMO 5)

## DISCUSSION

This qualitative study concentrates on the participants' experiences, opinions, and expectations in the Emergency and Trauma Department of SASMEC@IIUM. From this study, we summarised our findings into six themes: learning methods of clinical handover, information passed to the next shift, information expected to be received, opinions on current handover, handover effectiveness, and suggestions for improvement.

### Learning methods of clinical handover

The first theme focused on how the healthcare personnel of the Emergency and Trauma Department (ETD) of the SASMEC@IIUM learned the methods of clinical handover. This includes various methods shared by the participants, such as learning formally during clinical years of study, informal learning during the working period, and a few others.

Under this theme, the study discovered that most of the participants learned clinical handover practices informally during their clinical years of study and their working period. This shows that the clinical handover practices were not being emphasised, even though the clinical handover practices in ETD play an especially crucial role in providing first-hand management for the patient.

Poor clinical handover causes major incidents that will affect patient conditions overall; thus, the clinical handover practices are important for providing accurate and precise information among emergency healthcare personnel.<sup>1</sup> Based on the responses received from the participants, it can be concluded that there are limited sources from which the participants can learn the handover practices since most of them learned them informally or only from their own experiences handling patients.

There were two studies that mentioned that despite being one of the most essential patient-focused processes, there is limited formal education in preparing healthcare personnel for clinical handover practices.<sup>6,7</sup> This will raise concerns about the effectiveness of clinical handover practices among the staff, especially in ETD, as it is known as a fast-paced department that provides urgent care with an unpredictable nature, which might lead to

miscommunication and mismanagement for the patient.<sup>1</sup>

However, few participants have attended official seminars and training at least once during their study years or working period. They mentioned that by attending the formal training and seminars, they gained information that is very useful in their practices and increased their confidence level during patient management. Bigham et al. mentioned that the clinical handover was learned before the graduation of healthcare personnel and further developed through their practices later.<sup>8</sup> Each staff member then depends on their judgement and training while practicing clinical handover. It was said that clinical judgement and training were found to be the most significant risks to patient safety. It can be demonstrated that formal training is equally important as learning through experience, with both learning methods leading to efficient clinical handover practices.

### Information passed to the next shift

It is important to identify the information provided by healthcare personnel to their colleagues during the change of shift. This is to ensure the information delivered is reliable, precise, and accurate since the information provided will influence the management of the patient. Clinical handover functions as responsibility and accountability for care continuity from one healthcare personnel to the next.<sup>9</sup> This is why the information contained in the clinical handover needs to be as precise as possible, since it is the responsibility of all staff working as healthcare providers.

In this theme, the participants explained the information they used to convey during their daily clinical handover to the next shift. From the results presented, the participants mostly described how they delivered similar points in their handover reports, such as patients' related information, the status and conditions of the equipment and technology used during their shift, medical plans, and the management they provided for the patient throughout the shift. The information included in the clinical handover is usually brief, related to the patient, and required for healthcare personnel to provide suitable interventions for the patient. Jenkin et al. described that healthcare personnel



collect information such as age, chief complaints, presenting illness, social background, and more from patients that come into ETD.<sup>10</sup>

From the study data, the participants expressed the importance of clinical handover through the information contained in the handover report, as mentioned. They agreed that the clinical handover plays a crucial role not only in saving lives but also important for them as a continuity of management and treatment for the patients. It was said by Weston et al. that handover is a living document that emerges from the information obtained not only during the exchange of shifts but also throughout the patient's management overall.<sup>11</sup>

### **Information expected to receive**

The theme that emerged is related to the expectations of the participants who were to receive information from the staff during the previous shift. Based on the study data, most of the participants agreed that aside from the basic background of the patients, they would expect as much detail as possible from the patient that might be useful to the management provided by the healthcare personnel. It is also explained by the healthcare personnel the importance of delivering precise and complete information for every handover since the information provided will affect the continuity of care for the patients later. Delivering accurate information can not only prevent treatment errors but also prevent delays in patient management.<sup>11</sup>

In addition to the patients' conditions, most of the participants agreed that the pending procedures were crucial to be included in the handover report for the next shift. Any procedures or plans that were unable to be completed during the shift due to several reasons must be informed and passed to the next shift for the continuity of the patient's management. The information transfer can be summarised by using an outline of the events that happened to the patient, the management given, and the current state, but some consider the information transfer to include the patient's needs prospectively.<sup>12</sup>

The investigation results may take some time before being completed in one shift. However,

if the investigation results were out within the same shift, the healthcare personnel agreed that the interpretation of the results was important to be included in the handover report as well. This action is believed to ease the continuity of care and minimise the time needed for healthcare personnel to provide management as soon as possible for the patient. The participants in a study by Fealy et al. believed that the handover report is an important document that acts as a medium of communication between healthcare personnel to maintain continuity of care.<sup>12</sup>

Although the patient's related information is crucial for healthcare personnel in providing care for the patients, the status and conditions of the equipment used for management are no less important. Healthcare personnel need to report any malfunction, insufficient number of or faulty equipment or facilities they used while providing care. This is to ensure the care process is not interrupted and that the wellbeing of both the patient and the staff is well taken care of.

### **Opinions on the current handover**

The participants expressed their opinions on the current handover in ETD SASMEC@IIUM from three main aspects. For the first part, the majority shared their views that all healthcare personnel provide complete and sufficient information needed for patients' management to be carried out. Most of the participants even mentioned that they did not have any more comments regarding the content of the clinical handover, as they assumed they had already received all the information required for the proper interventions.

Most of the participants agreed that the use of mnemonics and other tools has eased the process of clinical handover during an exchange of shifts. ISBAR is a tool that stands for identity, situation, background, assessment, and recommendation and has been widely used by healthcare personnel, especially in ETD during handover reports. Most healthcare personnel worldwide agreed that the use of ISBAR helped a lot in making clinical handovers more structured and precise.<sup>12</sup> However, some of the participants stated that not all staff have been complying with ISBAR during handover, and some shared that they

sometimes did not comply with ISBAR due to the time constraint, as it needs to be written accordingly and may not be applicable in a hectic environment.

Finally, the participants mentioned that they are mostly satisfied with the communication between all healthcare personnel in ETD, including the communications with healthcare personnel throughout the hospital from other departments. A study by Chien et al. revealed that the staff can benefit a lot where the training will enhance the communication skills among staff while improving their skills in clinical handover.<sup>13</sup> They agreed that the relationship and good environment of the workplace influence the communication process between healthcare personnel. However, some participants suggested that the communication skills be polished through training or improved individually for the clinical handover to be passed accurately and received precisely at the same time.

#### **Handover effectiveness**

In this study, the factors that influence the effectiveness of clinical handover are covered in this theme. Emergency departments are highly dynamic and stressful care environments that may affect healthcare providers and patient outcomes. ETD has special and unique challenges compared to other departments as the staff works under pressure and length of stay that may result in a rush for care transitions and handover, high patient turnover, and overcrowding. Last but not least, the patients in ETD experience frequent occurrences of movement where they need to be transferred to different departments within a short time.<sup>14</sup> Thus, many factors can influence the effectiveness of clinical handover, whether they are barriers or facilitate the process of report handover.

The healthcare personnel in ETD SASMEC identified the common barriers they faced during the clinical handover daily; however, they stated that those barriers are not severely affecting the process of clinical handover as they are already used to them, and some of the barriers are unpredictable and unavoidable. However, they stated that it is best if only those barriers can be minimised so that the clinical handover can be carried out more efficiently.

Contradicting to the facilitating factors, the factors compiled in this theme were perceived as very useful for them while carrying out handover, and some of them expressed that it is best if the helpful aids can be multiplied or just sufficient for them to ease their process of handling and handover reports amongst healthcare personnel.

The participants also shared what they think is lacking in the current handover process. There are only two main aspects, for which they mentioned: the current handover, which causing one staff member to only know about the patients they are responsible for and not all patients in detail. They were concerned on this matter that if there is any occurrence where the staff in charge is not present, other staff will not be able to replace the staff in charge of the patient. Another aspect is that one participant mentioned that we can never have accurate measurements to measure the effectiveness of clinical handover. Therefore, it is very hard to tackle this issue and improve it for future use. It was also said in a study by Cross et al. that the most effective method for clinical handover remains uncertain in maintaining the continuity of patient care since there will always be barriers at every emergency department with different environments and places.<sup>14</sup>

#### **Suggestions for improvement**

For this theme, a compilation of suggestions was shared by the participants that they envisioned to enhance improvement in clinical handover overall in ETD SASMEC. The suggestions cover various aspects with the hope that they will be beneficial for the improvement of clinical handover soon. For the first part, the participants shared their thoughts on the self-initiative that all staff must have for their work to be efficient. Most participants agreed that attitude plays an important role in executing tasks, especially among healthcare personnel since they are dealing with patients' lives.

In addition, the staff attitudes will very much influence the working environment and the attitude of the junior staff in terms of the development of clinical confidence in their practices.<sup>11</sup> There were some initiatives where the participants highlighted that the staff

should have the initiative to learn more on their own, especially the medical terms and abbreviations that are commonly used among healthcare providers to ease communication among them. This can also be associated with the staff having some expectations and knowledge before the clinical handover session, which will reduce interrupting questions during the clinical handover.<sup>15</sup>

In between those, some participants expressed that a good system may be beneficial to ease the clinical handover; however, it is still dependent on the staff themselves whether they will comply with the system while executing their tasks. Thus, compliance with the good system will improve the process of clinical handover and other tasks as well. In a study by Chung et al. healthcare personnel seldom used the systematic approach due to inadequate training and a lack of practice.<sup>16</sup>

Based on a few studies, it is agreed that through group handover, the clinical handover process can be completed efficiently while minimising the tendency to cause clinical errors and inaccurate information during clinical handover. According to Javidan et al., during the handover report, it was identified that a lack of active listening causes a loss of 30% of information passed from healthcare personnel in ETD; thus, active listening is proven to enhance the effectiveness of clinical handover.<sup>15</sup> Since the healthcare personnel in the hospital need to face a lot of workloads daily within a hectic and unpredictable environment in ETD, most of the participants emphasised that it would be better if there were more staff allocated in every shift. The addition of staff they requested not only eases all tasks and the current workloads, but more manpower can also prevent medical and human errors from occurring, especially in passing accurate information and details for the patients' management.

A lot of studies have proven the effectiveness of bedside handovers in healthcare settings. A study by Campbell and Dontje stated that bedside handover effectiveness should not be underestimated when a good relationship between patients and healthcare personnel can be enhanced through this method while promoting safety in patient care.<sup>17</sup> This way of handover improved the accuracy of the

information passed among the staff while building a good bond between the healthcare personnel and the patients during the handover process. The patients can get involved in the treatment provided for them and thus enhance their trust in the healthcare personnel when they are aware of and understand the treatments and management provided for them. The nurses also believed that bedside handover helped a lot in reducing poor patient outcomes due to incomplete reporting.<sup>17</sup>

Together with bedside handover, communication skills will be polished along the way since healthcare personnel need to communicate with the patients while handling reports to their colleagues. A participant in a study by Campbell and Dontje believed that bedside handover can improve communication skills among staff while reducing errors related to the handover process.<sup>17</sup>

From the data collected, most of the participants suggested that training specifically for clinical handover needs to be provided continuously so that the healthcare personnel are all alert and aware of the updated, modified, and improved clinical handover methods for the effectiveness of the patient's management. According to Golling et al., trained staff will have a higher ability to differentiate between different aspects of handover communication and utilise the systematic approach better compared to staff without special training.<sup>18</sup> Through training, the participants believed that when all staff attended the training provided, standardised terms and methods would be established among the staff, thus facilitating the process of clinical handover, and saving time during the exchange of shifts.

The study data also revealed that the participants agreed the staff will learn the best method for documentation and will be encouraged to apply the latest method learned that suits the environment of the emergency department since documentation is the main key element of all aspects of patient care within the health system.<sup>19</sup> A few participants also expressed the benefits of a tagging system among the new and senior staff that will give out the results and benefits of learning as training does. According to Weston et al., the

junior nurses in their study are aware of the importance of observing and attachment to the seniors in ensuring effectiveness while conducting the clinical handover.<sup>11</sup> Therefore, the senior nurses play important roles by demonstrating the conduct of handover.

In the last part of this theme, the participants shared their suggestions regarding the technology and devices used. Most of the participants suggested the addition of devices to be assigned specifically for nurses and doctors since these two professionals used to record and refer to the medical records and reports from the devices provided. They mentioned that providing more devices could have a smoothen flow of clinical handover and minimise interruptions during handover.

From the data collected, it was also revealed that healthcare personnel need more advanced electronic systems to be applied in ETD SASMEC@IIUM, not only for the improvement of clinical handover but all medical tasks overall. They said that this advanced technology will save more time and result in better and faster management for the patients. A few participants also suggested that a new system be implemented to ease the registration and billing process by providing a programmed checklist for a smooth registration process and handover in ETD SASMEC@IIUM.

## CONCLUSION

This study revealed that the healthcare providers in ETD have various experiences during clinical handover, and a majority of the participants shared that they had never attended any training or seminar specifically for clinical handover before. Most of the participants stated that they have learned the method of clinical handover through their practical years, tagging system, and previous working experiences informally. In addition, most of the participants expressed that the factors interrupting the clinical handover are mostly inevitable due to the nature of ETD, which is chaotic and fast-paced, so they have gotten used to the interruptions.

The participants had come up with suggestions to improve the clinical handover along the way. The study data exposed the resources and

supports that the participants thought would be useful for the improvement of clinical handover. The ideas of the participants ranged from the self-initiative of the staff themselves, going through the system and technology of the hospital, the addition of staff for each profession per shift, and the official seminars and training that should be provided specifically with the topic of clinical handover for all staff, especially in ETD. They believed their suggestions would be very beneficial for the improvement of clinical handover overall, which would then enable the staff to provide the best patient care and enhance the quality of services for the betterment of health for the patient.

## CONFLICT OF INTEREST

The Author(s) declares(s) that there is no conflict of interest.

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## AUTHOR CONTRIBUTIONS

**NAA:** drafted the manuscript and contributed to the concept development and design of the article through data collection, analysis and data interpretation for the article and approved the final version of the manuscript.

**HMN:** revised the manuscript critically with intellectual contents and assisted in the submission of the manuscript.

**ANSMS:** revised the manuscript critically with intellectual content.

**NZZN:** assist in data collection.

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