

## Evaluating the quality of nursing handover process and its Obstacles

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### **Abstract**

#### **Background**

An exact handover has great importance for the continuity and safety of patients care in the health field. If handover information is not shared accurately and promptly it may lead to worse effect, delays patients' treatment, diagnosis, and care. During the last decade, the call for interventions to improve handover has increased to decrease the risk of misunderstanding, miscommunication and the exclusion of critical information. This study aimed to evaluate the quality and obstacles of the handover process in nursing shifts.

#### **Subject and Methods**

A descriptive exploratory research design used in this study. The study was conducted in intensive care units (ICUs) at Mansoura Emergency Hospital and Surgical units at Mansoura University Hospital. A convenience sample of 80 nurses participated in this study. Two tools were used, quality of handed over information and Nurses' practice Observational checklist for the handover process.

#### **Results**

Ninety-five percent of the studied sample were female, 70% of them had a diploma degree of nursing and more than two-thirds (70%) of nurses had years of experience between 5 to 15 years. More than two-thirds (70%) of nurses conducted handover process verbally via face to face method at the bedside. Comorbidities and allergies are not conducted during the handover process while patient name, age, and investigations received are conducted in 20% only. Plans for the next shift, information about the problem anticipated is not included in all handover processes. Three-fourths of nurses didn't discuss the possible risks and complications during their handover process. All of the handover processes (100%) did not follow a logical structure.

#### **Recommendations**

Nursing staff needs interventional programs to improve their oral handover process in addition, to learn them about the various style of handover.

**Keywords;** Handover, Styles, Benefit, Nursing, shift work.



## Introduction

A nursing handover occurs when the nurse of any department hands over the important patients' information to another nurse at the end of a nursing shift. Usually, nursing handover occurs three times a day.<sup>(1)</sup>

Smeulers et al., 2014<sup>(1)</sup> mentioned that there are three types of nurses' handovers. Some handover has done through nurses talking to each other which called verbal handovers. Other handover is done through reading the physician notes. Another has done through a combination of reading and talking to each other. In some cases, they have done at the patient's bedside so that the patient can give if desired.

The nurse-to-nurse handover is not taught formally during training, yet it is one of the most important rituals of the nursing shift.<sup>(2)</sup> Clinical handover is the most significant issue to consider when ensuring the connection of patient care. Every hospital needs to develop its own handover policy.<sup>(3)</sup>

Ineffective handover can lead to multiple threatening effects as adverse events, incorrect treatment, medication errors, delays in diagnosis, patient complaints, increased health care expenditure and cost increased length of stay, and a range of other bad effects.<sup>(3,4,5,6,7)</sup> The poor handover also associated with uncertain decision-making. It can lead to increased patient morbidity and mortality, and can carry significant risks for each clinician, their organizations and for their patients.<sup>(8,9)</sup>

So that, hospitals should make sure that the facilitation of high-quality handover is seen as a clinical governance issue at all levels within the organization.<sup>(3)</sup> Nursing aims to offer patients the best care. To offer such care, effective, accurate, and timely handoff communication is essential. However, the care setting itself presents challenges and barriers to effective communication. The increased complexity of patient care needs and the increased complexity of healthcare processes and healthcare systems contribute to the barriers to the ideal handoff communication. Nursing had a long correlation with the handover. Its roots lie deep in the nursing tradition. It is not so much what handover is but more why it exists, why is it maintained and how does it affect current healthcare?<sup>(10)</sup>

Nursing handover aimed to make sure health professionals involved in the care of patients which have the same understanding and set of clinical priorities, also the continuity of information is vital for the safety of all patients. On the other hand, ineffective nursing handover between shifts has been found to result in poor patient outcomes and high-risk activity for patient safety. As a result, the critical information of each patient should be transferred effectively and correctly to maintain continuity of care. Therefore, nursing staff has the responsibility of effective nursing handover of their patients.<sup>(11)</sup> Sultan and Jigajinni, 2010<sup>(12)</sup> mentioned that there is no clear national



guidance specifically to the critical units' handover where handover is so stressful and transferred between nurses daily. Training in clinical handover skills is not widely given either to undergraduates or postgraduates in Egypt.

### **Aim of the study**

This study was carried out to evaluate the quality and obstacles of handover process in nursing shifts.

### **Subject and Method**

#### **Design:**

A descriptive exploratory research design was used in this study.

#### **Setting:**

This study carried out into two different hospitals;

1- Mansoura Emergency Hospital in intensive care units (ICUs).

2- Mansoura University Hospital in Surgical units.

#### **Study sample:**

A convenience sample of 80 nurses from both hospitals were agree to participate in our study.

#### **Tools of the study:**

The present study used three tools for data collection:

1- **Tool (1):** Socio-demographic characteristics of the studied sample. It includes age, gender, nursing qualifications and years of experience.

2- **Tools (2):** Quality of handed over information. This tool was adopted from the study of Siriwardena and Mudalige, 2017.<sup>(13)</sup> It uses to evaluate the quality of information transmitted during nurse's handover shifts. This tool is divided into two parts:

\* **Part (1):** Assessing characteristics of the handover process. It includes method of conducting handover, the average time for conducting handover, the place where handover was conducted, and obstacles for handover process.

\* **Part (2):** Assessing information transmitted during the handover process. It consisted of three partitions; a- general information, b- information about important events that occurred in the past shift, c- information of handed over about plans for the next shift. The researcher checked yes or no where yes takes one point and no takes zero.

3- **Tool (3):** Observational checklist for handover process. This tool was adapted from Delrue, 2013.<sup>(14)</sup> It aimed to assess nurses' performance of the handover. This section



required to check "yes" or "no" in the four partitions namely Conduct of the handover, Teamwork, Handover quality and Circumstances of the handover. where yes takes one point and no takes zero.

## **Method**

### **Protection of Human rights**

Official permission to conduct the proposed study was obtained from both the hospital directors. Participation in a study was voluntary: each potential nurse was informed about the purpose, procedure, benefits, and nature of the study. Nurses were assured that they have the right to withdraw from the study at any time without any rationale then written consent were obtained. Participants were informed that the obtained data will not be included in any further researches without second consent. Confidentiality and anonymity of each participant were assured through coding of all data and all information has taken was protected and did not affect their annual appraisal.

### **The research process include the following phases:**

#### **1- Preparation phase**

In the beginning, the study's tools were prepared. Then a pilot study was carried out before starting data collection on 10% of the nurses to test clarity, feasibility, and the applicability of the tools so modifications were done accordingly, those nurses were excluded from the study.

#### **2- Implementation phase**

Assessment and evaluation of the handover process and obstacles were done through direct observation of nurses handover process between shifts in ICU and surgical units. Then the researcher record the nurses transmitted information during the handover process. The average time for completing the tools ranged from 25-30 minutes. This study was done during the period from 1<sup>st</sup> July 2018 to 30<sup>th</sup> September 2018.

#### **Statistical analysis:**

The collected data were coded, organized, categorized, and then transferred into specially designed formats, the statistical analysis of data was done by using SPSS program version 16. Clearing of data was done then data analysis was started by descriptive statistics such as frequencies, percentage, mean and standard deviation. After that cross-tabulation and application of P-value by using Chi-Square test used to test as a significant test. If the result of P-value was less than or equal to 0.05.

#### **Scoring system:**

Correct nurses' handover information takes one grade while incorrect one takes zero.



## Results

**Table (1): Socio-demographic characteristics of the studied sample.**

Variables	No.	%
<b>1- Age (years)</b>		
a- less than 30	16	20.0
b- 30-40	56	70.0
c- More than 40	8	10.0
Mean±SD = 34.25±5.28		
<b>2- Gender</b>		
a- Female	76	95.0
b- Male	4	5.0
<b>3-Level of education</b>		
a- Diploma degree	56	70.0
b- Bachelor degree	24	30.0
<b>4- Years of experience</b>		
a- Less than 5 years	12	15.0
b- 5 to 15 years	56	70.0
d- Above 15 years	12	15.0

Table (1) shows the socio-demographic characteristics of the studied sample. The mean age of the studied sample was 34.25 years. Ninety-five percent of the studied sample were female nurses represents 95% and 70% of them had a diploma of nursing degree. More than two-thirds (70%) of nurses had years of experience between 5 to 15 years.

**Table (2): Characteristics of nurses' handover process.**

Variables	No.	%
<b>1- Methods of handover</b>		
a- Verbally by phone calling	24	30.0
b- Verbal by face to face communication	56	70.0
<b>2- Places of handover conduction</b>		
a- Staff room	4	5.0
b- Nurse station	20	25.0
c- Bedside	56	70.0
<b>3- Time of handover conduction</b>		
a- Up to 10 min	10	12.5
b- Up to 20 min	22	24.5
c- Up to 30 min	48	60.0

Table (2) illustrates the clinical characteristics of the handover process conducted by the studied sample. It can be seen that 70% of the studied nurses conduct handover



processes verbally via face to face communication at patients' bedsides. Moreover, 60% of the studied nurses conduct the handover process for up to 30 minutes.

**Table (3): Quality of handed over information**

Items	conducted		Not conducted	
	No.	%	No.	%
<b>General information</b>				
Patient name	16	20.0	64	80.0
Patient age	16	20.0	64	80.0
Date of admission	44	55.0	36	45.0
Past history	44	55.0	36	45.0
Reason of ICU admission	68	85.0	12	15.0
Comorbidities	0	0.0	80	100.0
Previous intervention and treatment	20	25.0	60	75.0
Diagnosis	56	70.0	24	30.0
Allergies	0	0.0	80	100.0
<b>Information regarding important events that occurred in the past shift</b>				
Active interventions undertaken	44	55.08	36	45.0
Information from specialists	68	85.0	12	15.0
Results of investigations received	16	20.0	64	80.0
<b>Information handed over regarding plans for the next shift</b>				
Specialists to be contacted	68	85.0	12	15.0
Planned therapy/surgery	68	85.0	12	15.0
Investigations required	68	85.0	12	15.0
Problems anticipated	0	0.0	80	100.0

Table (3): shows the quality of handed over information. It can be noticed that on general information; comorbidities and allergies are not conducted during the handover process while patient name and age are conducted in 20% of handover processes. As regards to important events that occurred in the past shift, it can be noticed that results of investigations received are not conducted in 80% of handover processes. Furthermore, about plans for the next shift, information on the problem anticipated is not included in all handover processes.

**Table (4): Evaluation of nurses' handover process.**

Items	Yes		No		P-value
	No.	%	No.	%	
<b>1- Conduct of the handover</b>					
a- The handover followed a logical structure	0	0.0	80	100.0	0.000*
b- The person handing over the patient continuously used the available documentation	32	40.0	48	60.0	
c- Not enough time was allowed for the handover	16	20.0	64	80.0	
d- All relevant information was selected and communicated	12	15.0	68	85.0	
e- Priorities for further treatment were addressed	20	25.0	60	75.0	
f- The person handing over the patient communicated assessment of the patient clearly	32	40.0	48	60.0	
g- Possible risks and complications were discussed	20	25.0	60	75.0	



<b>2- Teamwork</b>					
a- It was easy to establish contact at the beginning of the handover	72	90.0	8	10.0	0.535
b- There were tensions with the team during the handover	20	25.0	60	75.0	
c- Too much information was asked for	16	20.0	64	80.0	
<b>3- Handover quality</b>					
a- Documentation was complete	28	35.0	52	65.0	0.000*
b- There was too much information given	16	20.0	64	80.0	
c- The patient's experience was considered carefully during the handover	16	20.0	64	80.0	
<b>4- Circumstances of the handover</b>					
a- The person handing over the patient was under time pressure	16	20.0	64	80.0	0.000*
b- The person taking on the responsibility for the patient was under time pressure	16	20.0	64	80.0	

\*Significant P-value  $\leq 0.05$

Table (4): Illustrates the distribution of nurses' practice on the handover process. It can be noticed that 100% of handover processes did not follow a logical structure. Possible risks and complications were not discussed in 75% of handover processes. Eighty percent (80%) of handover processes were under time pressure and too much information was asked for. There are statistically significant differences between items related to conducting of the handover, items of handover quality and items of circumstances of the handover (P-value  $\leq 0.05$ ).

**Table (5): Relationship between time of oral handover and number of obstacles.**

Obstacles Handover time	Phone calls		Other staff		Alarms		Mean $\pm$ SD	P-value
	No.	%	No.	%	No.	%		
Up to 10 min	2	40	1	20	2	40	1.67 $\pm$ 0.57	0.004*
Up to 20 min	6	54.5	2	18.2	3	27.3	3.67 $\pm$ 2.08	
Up to 30 min	8	33.3	11	45.8	5	20.8	8.0 $\pm$ 3.0	

r squared = 0.766\*Significant P-value  $\leq 0.05$

Table (5) illustrates the relationship between time spent in handover and the number of obstacles occurring during the handover process. There are statistically significant differences with positive relation found between the number of obstacles and time spent in the handover process (P-value  $\leq 0.05$ ).

## Discussion

Handover is an essential step in the process of a nurse's day. It is vital to know what the patient has done in the previous shift. Handover is time-consuming, lack consistency and are varied in style.

Regarding method of conducting handover; Anderson and Mangino, 2006<sup>(15)</sup> studied implementation of a bedside shift report where nurses shared handoff





communication at the bedside reviewing key documentation and seeing the patient together. More traditional methods of shift report occur face-to-face in an office or conference room on the patient care unit (McFetridge, et al., 2007).<sup>(16)</sup> While Messam and Pettifer 2009,<sup>(17)</sup> identifies more styles of nursing handover as bedside, verbal, nonverbal and taped. Concerning the current study, the nurses used two styles of verbal handover by phone and by face to face communication.

On the other hand, Ann, 2009<sup>(18)</sup> mention that handoff usually occurs among other caregivers or at other points of transfer of care, such as emergency department to the intensive care unit or intensive care unit to the general unit, are commonly delivered via telephone or written report. It disagrees with our study results.

Ann, 2009<sup>(18)</sup> mentioned that face-to-face handover was often described as a component of the ideal transfer process. It disagrees with current study results which statistic 70% of nurses used face to face handover. Although this currently occurs after the phone handoff for cardiac-monitored patient transfers from the ICU setting to the medical-surgical unit, the nurses view face-to-face handoff communication ideally used as the primary communication vehicle during transfer. The nurses stated that this ideal communication process would include a review of the patient status with the patient and medical chart present.

Currie, 2002<sup>(19)</sup> in a study undertaken within an accident and emergency department identified the following problem areas of handover. Patients' names missed out, low nurse communication and handover did not include the nurse's name. This agrees with the study results concerning forgetting the patients' name which estimated into 80% of handover.

Additionally, Currie, 2002<sup>(19)</sup> estimated distractions of handover including noise, interruptions, and inattention of staff.

It can be noticed that all handover processes did not follow a logical structure. Possible risks and complications were not discussed in the majority of handover processes. Most of the handover processes were under time pressure and too much information was asked for. This is in the same line with Nagpal, et al., 2013<sup>(20)</sup> who reported that 9 out of 21 information omissions before intervention and did not follow a logical structure

Berkenstadt, et al., 2008<sup>(21)</sup> reported that noisy, active nursing units; pressure perceived by staff for timely interaction; language and cultural barriers; organizational hierarchy and limitations of communication via telephone, email, paper or computerized records are complex environmental factors common in healthcare settings that create challenges and barriers to effective communication.





## Recommendations

Nursing staff needs interventional programs to improve their oral handover process in addition to learn them about the various style of handover.

## Ethical clearance

Official permission to conduct the proposed study was obtained from directors of Mansoura Emergency Hospital and Mansoura University Hospital.

## Source of funding

Self.

## Conflict of Interest

Nil.

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