DOI: https://doi.org/10.4038/sljma.v24i2.5432

Assessment to improve the Knowledge, Attitude and Practices of Nursing Officers on Shift Handover at Neonatal Intensive Care Unit, Teaching Hospital, Karapitiya

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Abstract

Background: The handing over and taking over process is the transfer of professional responsibility and accountability for some or all aspects of care for new person or team at the change of shift from the outgoing worker/s to the incoming worker/s. It is a vital and effective communication essential to maintain patient safety and quality of care.

Objective: To assess and improve the knowledge, attitudes and practices on shift handover of nursing officers at Neonatal Intensive Care Unit (NICU), Teaching Hospital Karapitiya.

Methods: Descriptive cross-sectional study was conducted among all registered Nursing officers at NICU, TH Karapitiya, using a self-administered questionnaire, an observational checklist and key informant interviews from 03rd to 31st of January 2022. Awareness enhancing discussions and a self-assessment check list of shift handover of nursing officers were introduced and implemented to streamline the process.

Results: The level of the knowledge on shift handover/ taking over is below the expected value (58%). Mistakes/errors in some aspects of patient handover practices were observed by a checklist. Improvements were observed.

Conclusion: Level of the knowledge on shift handover/ taking over is below the expected standard. Mistakes/errors in some aspects of patient handover practices were observed. A Self-assessment check list of shift handover of nursing officers could be utilized to mitigate handing-over errors and to provide quality and safe health care service.

Keywords: shift handover, nursing officers, patient handover practices

Introduction

Handover is the transfer of professional responsibility and accountability for some or all aspects of care of a service user, or group of service users, to another person or professional group on a temporary or permanent basis at the change of shift from the outgoing worker/s to the incoming worker/s.

The handover procedure is vital, as it properly transfers patient information. It promotes and ensures continuity of care and the professional status of the hospital. It also enhances awareness with staff of all the relevant events to ensure service user safety and appropriate risk management approaches.

It refers to the transfer of professional responsibility and accountability for the care and support for a person, or group of people.

Justification

As healthcare is a continuous service to provide care, shift changeovers are

inevitable. The new nurse may not be able to properly pick up where the previous person left off. They may spend more time chasing up patient information than delivering care.

Evidence shows that ineffective shift handover increases the risk of medication error and sentinel events, delays the course of treatment, decreases patient satisfaction, and prolongs the length of hospital stay. Poor information communication is the main risk factor for 65% and the contextual risk factor for 90% of sentinel events [1].

NICU, Teaching Hospital Karapitiya is an eminent tertiary care unit which provides premature baby care, post-surgical, cardiac care and while serving for nursing, medical students in teaching and also facilitate training & research.

Therefore, an effective handover procedure is vital, as it properly transfer information of the patient, responsibility, and accountability to a new person or team. Evaluation of causes for errors in handover, designing remedies and implementation and reassessment would be useful approaches for effective shift handover in NICU, THK.

Objective

To assess and improve knowledge, attitudes and practices on shift handover of nursing officers at NICU, Teaching Hospital Karapitiya.

Methodology

A descriptive cross-sectional study design was conducted from 03rd to 31st of January 2022 at Neonatal Intensive Care Unit (NICU), Teaching Hospital Karapitiya (THK) which has a bed capacity for 10 neonates served by a Neonatologist and consultant paediatrician and medical officers, nursing personnel and healthcare assistants. All registered nursing officers at NICU, THK, excluding who were on leave had Participated. Self-administered questionnaire, an observational checklist before and after intervention and key informant interviews with stakeholders were conducted to assess the knowledge, attitude, and practices of the sample.

Data were collected after the permission from the Director of TH Karapitiya. Data analysis was done using SPSS software.

Results

The level of the knowledge of nurses' shift to shift handover were measured by following dimensions: Communication, Hand over process, Patient safety.

Scoring System:

Each question was assigned a score of (one) if it was the correct answer and (zero) if it was incorrect answer, the maximum possible total score was fifteen, Mean was calculated and then converted into percent, and then level was determined. Satisfactory knowledge if the total score was 60% or more, unsatisfactory knowledge if the total score was less than 60%.

Sixty-one percent of nursing officers (NO) at NICU expressed that, handing over process should be done 3 times per day. 36% said the frequency of handover depends on the shift. Duration of handover is <15mins for 71% of NOs. It is 25-35mins for 3.2% of them. 13% of them said it is changed with the situation. Almost all of them accept hand over at the bed side of patient. 40% of NOs said shift handover information of patients can be conveyed by the BHT.

Table 1: Knowledge of Nursing officers on handing over/taking over process

Item	Correct		Incorrect	
	No:	%	No:	%
Handing/ taking over process occurs every day at the time of the shift change-over.	30	100	0	0%
Frequency of Handing over process per day?	18	60%	12	40%
Duration of Handover/ taking over process	6	20%	24	80%
Site of Handing/ taking over process	30	100%	0	0%
Handover information of patients can be conveyed	9	30%	21	70%
Checklist should be available	30	100%		
Use of Electronic record or paper-based record	18	60%	12	40%
Should be adhered to a standard guideline	23	77%	7	23%
Standardized approach (SBAR) lead to a decrease in adverse patient incidents and improve nursing engagement	23	77%	7	23%
The process should be led by NO- in-charge.	8	27%	22	73%
All the staff in the shift should participate	9	30%	21	70%
Register handed over with signature to the leader of the next shift	10	33%	20	67%
The sequence for handing over/ taking over patients include clinically unstable children first	7	23%	23	77%
Key Information is being conveyed properly?	17	56%	13	44%
Sufficient interaction occurs by reading back?	24	80%	6	20%

56.6% said it can be done by face to face/Verbally. 99% agreed on using checklist. Only 42% of NOs said the process should be led by Nursing officer in-charge.

Only 53.3% of them were satisfied with the way the shift handover/ taking over performed in their unit. 56.7% of them always give the right importance to the shift handover/ taking over. 66.7% were aware that there is no handing/ taking over register is available at the unit and 66.7% said no need of handing over the register with signature to the leader of the next shift. 23% disagree and 53% are uncertain on the sequence for handing/ taking over patients including clinically unstable children. Only 53% said the key Information is being conveyed properly during current method.

Limited time (80%) accounted as the major barrier for proper shift handing / taking over practice of NOs at NICU. 53% said that the heavy workload, 33% sai

d inadequate resources and 20% said no feedback/evaluation.

The level the knowledge of nursing officers on communication and hand over process were unsatisfactory (55 & 52.8% respectively) while, Satisfactory level of

Table 2: Dimensions of the level of the knowledge of nurses' shift to shift handover

Dimension	Number of correct responses	Mean
Communication	50	55%
Hand over process	111	52.8%
Patient safety	101	67.8%
Total	**722**	**58.3%**

Table 3: Attitude of NOs of shift handing / taking over process

	Questions	Response		
12	Is it an essential component in health care practice?	Agree 86%	Disagree 14 %	
13	Some medical errors in healthcare are due to lack in the flow of information?	Agree 67.67%	Neutral 26.33%	Disagree 0%
14	Satisfied with the way of shift handover/ taking over in your unit?	Satisfied 53.33%	Moderately satisfied 46.7%	Dissatisfied 0%
15	Right importance to the shift handing/ taking over?	Always 56.67%	sometimes 26.6%	Uncertain 16.67%
22	Is it useful to improve the shift handover/ taking over process?	Agree 100%	Disagree 0%	

knowledge was observed in the knowledge on patient safety (67.8%). The overall level of knowledge was 58.3% which was below the satisfactory level (60%).

Majority of nursing officers had positive attitudes towards the shift hand over process (61%).

Observational checklist on Nursing officers shift-to- shift handover:

It was developed by the standards of handover practices [SBAR] and then modified by the researcher after reviewing the literature to assess nurses' practice and attitude regarding shift-to-shift handover in Intensive care unit. it consists of following categories: Time, Duration, Venue/ location, Methods, Process, Key information needs to be shared during handover, Interaction, Patient communication.

Scoring System:

The items had two levels of answers: "done", "not done". These were respectively scored 1 and zero. The scores of the items of each part were summed up and the total divided by the number of items, giving a mean score for the part. These scores were converted to a percent score and computed as adequate practices/performance or inadequate performance. Total score of nurse's performance during shift handover considered "high" if the total score was 75% or more, "moderate" if the total score was from 60% to less than 75% and "low" if less than 60%.

Category	Parameter	Element
Time	Specificity	Whether the handover occurs at a specific predetermined time
	Duration	Is the duration of handover sufficient according to standard norm?
Place	Physical presence	Whether handover is occurring face-to-face
	Bedside handover	Is significant part of handover occurring at the bedside, in the presence of patient where appropriate?
Process (SBAR)	Situation	What is the patient's diagnosis or reason for admission?
	Background	What is the clinical background or context?
	Assessment	What is the current situation and what do I think is the problem?
	Recommendation	What action do I recommend or what do I want you to do?
Interaction	Read back	Whether sufficient interaction between the nurse has occurred
Patient communication	Information	Whether information is being conveyed to the patient

SBAR – Situation, background, assessment, recommendation

Figure 1: Categories, parameters and elements used to develop the checklist

The total score of nurse's practices/performance during shift handover was less than 60% (41.7%). Therefore, it was considered as low/ inadequate practices/performance on shift handover process.

Discussion

Percentage of the level knowledge of nursing officers on shift handing/ taking over is slightly below the average (58.3%). Mistakes /errors in some aspects of patient handover practices were observed in the several aspects of shift hand over and take over.

Duration of handover was less than 30 minutes most of the time and the location was at the bed side of the patient except few done without meeting. Most of the times the method of communication was face to face and the hand over details were documented in the nurses note. There was no standard checklist/ template used to document the shift hand over details of NOs. There was no shift leader or NO-in-charge involved in hand over process as well as other staff members other than shift incoming and outgoing NO.

Key information needs to be shared during handover were conveyed but not in organized manner. Read-back of details by NOs during shift hand over were observed sometimes and the information need to be transferred to the patient (parent) simultaneously during hand over was not observed.

While the knowledge of shift hand over was below the average, the performance/the practices during shift handover were also low (41.77%). Different time durations, ways of communication, documentation (no proper template), absence of a shift leader, unavailability of a handing/ taking over register and a standard checklist of shift hand over were observed. Those aspects of the handover practices need to be improved.

Through several discussions with the consultant paediatrician, in-charge NO and other senior NOs at NICU and other standards of handover practices [SBAR], a self- assessment checklist of shift hand over was developed by the PI. By way of

Table 4: Practices of NOs of shift handing over/ taking over process

Category	Element	Parameter	Yes	No	D: Done ND: Not Done
1.Time	Handing over process occurs at a specific predetermined time	Specificity	2	13	D: 13% ND: 87%
2.Duration of handover	• < 30 mins • >30 mins	Duration	15 0		D: 0% ND:100%
3.Venue/ location handover	• A Separate room • Matron's Office • Rest room • bed side of patient. • Corridor/on the way	Bedside handover	9 6		D :60% ND:40%
4. Methods of handover	• Over the phone • Message • Communication book • Nurse's note • Face to face	Physical presence	4 2 9		D:60% ND:40%
5.Process	Key people to attend handover • Doctor • In charge nursing officer • Nursing officers in the shift • Assistant staff • Others		0 0 15 0 0		D:20% ND:80%
	Who has to lead the handover? • In charge Nursing officer • Senior NO		0		D:0% ND:100%
	Where the handover is documented • Communication book • BHT/ Nurses note • Template		15 0		D:0% ND:100%
6. Key information needs to be shared during handover	• reason for admission, • active problems • concerns	Situation	12	3	D:80% ND:20%
	• relevant points in medical history, before& since admission • progress, procedures	Background	10	5	D:67% ND:33%
	• Assessment of clinical progress/deterioration, • assessment of blood analyses/tests	Assessment	12	3	D:80% ND:20%
	• outstanding tasks • further care planning	Recommendation	10	5	D:67% ND:33%
7.Interaction	• Sufficient interaction between Nos occurred	Readback	8	7	D:53% ND:47%
8.Patient communication category	• Information being conveyed to patient	Information	2	13	D:13% ND:67%

Table 5: Frequency of handover /day

Frequency of handover	Frequency	Percent	Valid Percent	Cumulative Percent
3/day	19	61.3	63.3	63.3
depend on the shift	11	35.5	36.7	100.0
Total	30	96.8	100.0	

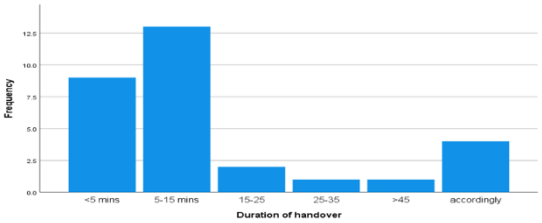

Figure 2: Duration of handover

Table 6: Method of handover

Method of handover	Frequency	Percent
phone	6	19.4
Message	4	12.9
Nurses note	4	12.9
communication book	3	9.7
BHT	3	9.7
Template	2	6.5
Face to face	8	25.8
Total	30	96.8

Table 7: Availability of handover

Availability	Frequency	Percentage (%)
Yes	09	30
No	21	70
Total	30	100.0

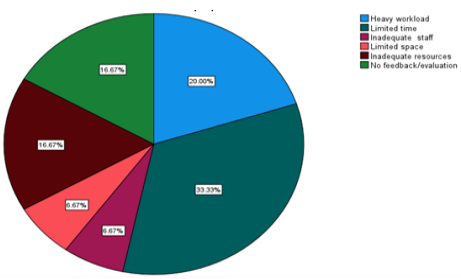

Figure 3: Barriers on handover process

awareness enhancing discussions and meetings with NOs at NICU and promoting them to get use to the developed shift hand over checklist the knowledge, attitude and practices of shift hand over could be improved respectively.

Conclusions and Recommendations

The knowledge on shift handover/ taking over was below the expected level. Mistakes/errors in some aspects of patient handover practices were observed. With the awareness enhancing discussions and meetings and allowing them to get used to the developed shift hand over checklist their knowledge, attitude and practices of shift hand over could be improved. Thereby, the errors occurring in handover process which endanger the patient safety could be minimized and nursing officers can provide better quality and safe healthcare.

Limitations

Due to the prevailing covid-19 pandemic situation there were some obstacles in gathering data and arranging programs. The post-test couldn't be completed due to the constraints of pandemic.

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