

Nurses' Preferences of Single or Double Checking of Drug Administration: A Focus Group Study

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ABSTRACT

Lack of double-checking habit considers being one of the contributing factors of medication errors. That was why this study explored the nurses' preference on single or double checking of drug administration. Six nurses were selected to be interviewed using a focus group. Nurses interviewed came from the intensive care unit, general ward, medical-surgical unit, and paediatric wards. The purposive sampling technique helped select the 6 nurses. Audio recordings were transcribed verbatim. Double checking drugs before administering it were mostly preferred by the 6 participants. However, their preferences were affected by education and training, patient safety, documentation, and manpower during single- or double-checking drug administrations.

Keywords: Drug Administration; Focus Group; Medication; Medication Nurse; Nursing

Short Communication

Checking medication is essential before any medication administration. It is believed to reduce medication error [1]. Single checking of medication is defined by a sole health care personnel performing 10 rights checking and administering medication autonomously [2]. Double checking requires 2 healthcare personnel to perform 10 rights checking prior to drugs administration also known as dependent double checking, while independent only requires a single healthcare personnel [2,3]. Performing checking and administration of medication by 2 nurses is an issue that needs to be studied because medication safety can compromise patients' lives if administered wrongly [3]. The study focused on the nurses' preference looking at the lack of double-checking habits or independently checking the drugs before administering that is considered being one of the contributing factors to medication errors [4-6]. This study therefore deems to explore the nurses' preference on single or double checking of drug administration.

Research Methods

The method used in this study was a focus group interview. Participants were gathered in a private and quiet room. The moderators began to welcome and start the interview by asking five questions, one at a time and were given enough time for each participant to express and share their perceptions. A moderator assistant helped in the timing for the interview and notes down the information.

Sampling Strategy

Six nurses were selected to be interviewed using a focus group. Nurses interviewed came from the intensive care unit, general ward, medical-surgical unit, and paediatric wards. The nurses were licensed and responsible for drug administrations. The purposive sampling technique helped select the 6 participants. Purposive sampling was the most appropriate sampling technique used [7,8].

Finally, a good command of the spoken English among nurses participating in this study was necessary.

Ethical Considerations

Participants from Sime Darby Hospital at Subang Jaya, Petaling Jaya, Malaysia were sought for informed consent and were given the autonomy to withdraw anytime from the study; as they were also ensured that anonymity and confidentiality will be respected. We also checked our methods of data collection and general approach against the University of Hertfordshire's ethics protocol and approval was given by the University of Hertfordshire ethics committee with a protocol number of ac HSK0081-SDU03002.

Data Collection Tool

Audio recordings were transcribed verbatim and the written transcriptions were shown back to the participants before finalizing it. The content of the transcript was analyzed by the research team to identify which themes it can be categorized. The unstructured questions for data collection using interview were:

- a) Would you like to tell me about your experience of medication administration?
- b) Do you have a preference when administering medication - single checking or double-checking medication administration?
- c) What do you think the impact is on patient safety?
- d) What do you think the impact is on medication error?

Data Analysis

The explored preferences on drug administration were analyzed thematically using manual coding. The interviews were transcribed word per word and were transferred to a document right after the interview session. The transcription was agreed upon by each member after seen by each of the participants. It is important to transcribe an unstructured interview session in order to categorize and organize commonalities, patterns and differences. Manual coding is also necessary for the researchers to know all the data and help minimize errors [9]. Within a group there was a wealth of tacit and experiential knowledge from the outset as in the course of most of respondents' experiences [7]. Four themes were found using inter-rater reliability testing.

Findings and Discussion

The four themes are: Education and training, patient safety, documentation, and manpower, that affected the experiences of the participants in order to conclude on their preference for single or double checking of drugs that they administered.

Education and Training

Primarily education and training as a theme affected their knowledge and practice on their preference for single or double checking of drugs to be administered. Knowledge factor addresses

the theme education/training [10] (Penner & McClement, 2008). They all agreed that "a junior nurse make mistake even senior nurse if they lack the knowledge on the drugs to be administered". This means that regardless of the length of training in drug administration, double checking drugs before administration is still preferred [10] (Penner & McClement, 2008) especially in the intensive care unit [2]. They also said that "the 10 rights of drug administration, is applied even if you prefer to double check the medications before administration". They added "but if you are checking the drugs alone, even if those are non-high alert drugs the knowledge on the rights for drug administration is still expected of a nurse". That is why knowledge should be enhanced through education and training on the five rights of drug administration because to err is human even if the drugs were already double checked [11,12]. They argued however and said that "we have seen nurses with the training experience of ten years but still making a mistake". That is why administering dangerous drugs should be done with caution especially in the intensive care units [2]. One of them argued on the contrary and said that "It depends on the patient's overall status". Because some patients require immediate drug administration so in a fast-paced environment such as the emergency room single checking is preferred [13].

All of them however agreed and said that the practice today is different from the practice before, and therefore updated training is necessary [10]. One of them added and said, "twelve to fifteen years ago when I first started, there was only single checking, whether high alert or non-high alert, it is just single checking". That is why education/training are necessary annually to improve the practice of delivering nursing care [11,12]. They all agreed that during those 30 years ago, "we are using the same syringe even though like we gave injection or whatever it is, it is also the same syringe we use for giving oral medications". That is why in education and training, competency on the practice of administering medication is deemed necessary [11,13]. All of the participants said that nowadays, all intravenous drugs in medical-surgical unit such as "Tramadol is double checked". This is because "junior nurses are giving the wrong medications". They explained that the knowledge of most newly graduate nurses nowadays are unreliable as they do not have much training during their student days [14,15]. After exploring education and training, patient safety is also necessary to be explored.

Patient Safety

Impact on patient safety is a factor [4,5]. "Mainly nurses' reputation" impacts patient safety as one of the participants said. All of them agreed and said that patient safety is "directly towards our profession as well, our reputation as overall represents the overall nursing community, so double checking of drugs is preferred". That is why double-checking drugs before administering it impacts patients' safety [6]. However, they also argued and said that "it also depends on the medications, and it depends on how severe the effects of the drugs are". Overall medication errors impact patients' safety

[10]. So, they said that “the most important is when we are going on rounds; you must see the patient after giving the medications, even though it was already double checked”. One of the respondents further explained that “I have given beta blockers wrongly to some patient because I use numbers on four bedded cubicles. I was a bit confused and sleepy and groggy”. That is why going to the patients on rounds in the medical-surgical unit must be with partners especially before administering drugs to prevent medication errors [6,14]. They also added that “regardless of whatever preference, be it single or double checking, we aim for no errors at all”. However, there would be so called near misses addressing patient safety [13,14]. All the respondents agreed that “even a near missed is considered serious, that is why in the pediatric wards, a near miss should be reported”. In order to maintain patient safety, double checking medication includes reporting a near miss [4,13,14]. Patient safety should also be properly documented [10].

Documentation

Under the topic reporting a near miss, documenting was a factor [1]. In order to double check the medications administered, it must be reported in a documentation form [11]. All the respondents said that “after administering the medications, such as morphine, the team leader will just simply pass the key for the dangerous drug cart or trolley and it is documented”. They added that “bringing the laptop was actually a priority solution so that we are reinforcing to all the staffs in the pediatric wards to document medications individually, but you have to do it smart and safe”. They explained that “if someone makes a mistake in medication, we have to do our own report using our own private laptop and email it on the spot to the nurse managers”. However, all of them also argued that they have encountered some nurses not reporting a medication error that was not double checked because it was a low alert drug [12]. They all said that if high alert medications are found to have compromised patients’ safety, “there is no option but to document an incident report”.

This means that behavior of the nurses on documenting medication errors must also be double checked [4,12]. Some said that behaviour of nurses in Malaysia on documenting medication errors was poor. However, if medication error occurred because it was not double-checked, a non-blaming attitude should be a behavior as well by the one double checking it [4,13,14]. Blaming each other can lead to fear of having medication errors documented [2]. Some of the respondents said that “double checking should be done in a no-blame attitude. This is because the confidence level of the medication nurses goes down”. They further added that “regardless of single- or double-checking medication, errors are an error” and therefore they must document it without fear of being blamed.

Manpower

High workload of nurses working in the hospital addresses the theme manpower [13]. However, all agreed that nurses who are

over worked “still prefer to double check drugs before and after it is administered”. They further explained that “because if two nurses each take three beds in the pediatric ward, not all the time a nurse should be doing something to the patient”. This means that regardless of high workload, double checking medications should still be done [12,13]. On the contrary to double checking, some added that if high amount of workload is experienced in the pediatric department, single checking is allowable [14] “so just double check it yourself especially if it is just a normal suppository”. Sometimes understaffing is experienced by the nurses in the emergency departments [2]. They added that “even if the nurse is busy in the emergency room, they can assign someone as medicating nurse while the charge nurse will be in charge of double checking the medications prepared by the medicating nurse”.

Understaffing is always experienced by hospital nurses [2,4]. On the contrary some of them argued and said that “we came from an era 30 years ago that we didn’t have these human resources, plus we don’t have clinical resource nurse, so we don’t have anyone to double check”. That is why sometimes single checking drugs are necessary in case of emergency [12]. However, in an intensive care setting, they agreed that “regardless whether you have enough nurse or not, you still need someone to double check it for you”. All of them agreed that double checking drugs to be administered are the best practice regardless of the lack of manpower [11,14,15].

Conclusion

Double checking drugs before administering it were mostly preferred by the 6 participants. Double checking drugs should not only be done before administering it, but also monitoring the patients is necessary to double check any side effects or adverse reactions potential to occur. It is also concluded that single checking drugs before administering is preferable only on emergency provided with the knowledge of the 10 rights of drug administration. Finally, it is also concluded that education and training, patient safety, documentation and manpower should be considered when preferring single- or double-checking drug administrations.

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