Improving Medication Errors in the Kuwaiti Government Hospitals through Training and Clinical Vigilance: Objectives of the Study

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Overall, the aim of this study is outlined below.

"To determine the impact of training and clinical vigilance on medication errors in a government hospital in Kuwait"

The objectives that will be met at the end of the study are the following:

1. To explore effective ways of reporting medication errors in Kuwaiti public hospitals
2. To better integrate information technology tools in the management of medication errors in Kuwaiti public hospitals
3. To explore the effectiveness of improved training practices on the reduction of medication errors
4. To find out the extent that clinical vigilance could minimise medication errors in Kuwaiti public hospitals

Hypothesis: Recording medication errors in a no-name-no-blame system will provide insights on possible causes of medications errors, which will inform health professionals' training programs to improve clinical vigilance and reduce the frequency of medication errors in Kuwaiti government hospitals.

In addition, it is anticipated that the study will develop:

1. National no-name-no-blame quality management reporting system to record medication errors and near messes nationally
2. National training programme on the use of the developed system and the importance of capturing all errors to feedback into the training system as a lesson learned

3. Compare the number of medication errors incidence before and after in six hospitals as a pilot project before presenting a report to the department of health for consideration to roll in other government hospitals.

Broadly, this thesis will be composed of five key chapters. The first one will be the introduction section, which will provide the background to the study and describe the key direction that will be followed in it. The second chapter will be the literature review section. In this part, a review of previous studies will be done to understand what other researchers have said about the topic. In this section of the study, any relevant theories or models that could help to answer the research questions or that are relevant to the research topic will also be highlighted. The third chapter of the paper will explain the methods used to answer the research questions. Some key parts of the methodology, which will be highlighted in the chapter, include the methods used for collecting data and the research design employed. The fourth chapter will review the information gathered from the respondents and relate it to the key research objectives to have a broader understanding of the findings. The last section will highlight the main findings of the paper in the conclusion section.

The scope of this study is limited to Kuwait. Therefore, data that will be collected will be sourced from respondents who are practicing medical practitioners in the country. The implication of this strategy is that the information that will be gathered in the study will be exclusive to the medical practices adopted in the Middle East nation. The scope of this study will also be limited to public hospitals. In other words, information will only be sourced from respondents who work in Kuwaiti public health facilities. Therefore, the medical practices adopted in private hospitals in the country would have no bearing on the research findings.

The mixed methodology will provide the framework for carrying out this study. This research design contains qualitative and quantitative aspects of research, thereby accommodating the collection of two types of data (qualitative and quantitative). Data will be collected from three types of professions in the healthcare sector: doctors, nurses and pharmacists. The respondents will be recruited from a Kuwaiti public hospital and will form the bulk of the participants because they are knowledgeable about systemic problems influencing the occurrence of medication errors in their places of work. Therefore, their knowledge and experience as healthcare professionals will be invaluable to the researcher.

All the participants must have at least two years of work experience to be recruited in the study. The justification for stipulating this duration of work is to have research participants who are knowledgeable about medication errors and the importance of safe practices to patient safety. Their views regarding the research topic will be collected using interviews. Data will be collected using interviews because they are the most preferred mode of collecting information in qualitative studies.

Qualitative information will be useful to the researcher because part of the investigation will involve an analysis of subjective factors affecting human actions in the healthcare setting, such as beliefs and attitudes about medication errors. The interviews will be open-ended because the respondents will have the freedom to frame their answers to the research questions. The interview will be categorised into different sections. The first one will review the respondents' demographic information, such as age, educational background and gender. This part of data collection will also include details relating to the respondents' professions and the duration they have worked in these careers to have a fair assessment of their experience of medication errors. The knowledge held by the research participants regarding medication errors will be assessed in

the second section of the interview. Here, the research participants will state whether they have witnessed or contributed to the occurrence of a medication error. The last part of the interview will probe the respondents' views regarding potential solutions that could be adopted to manage medication errors.

The interviews will happen in three phases to establish the level of saturation for recruiting the respondents. If the saturation level is not achieved in the first phase, the second one will commence and in that order, saturation will be reached in the third phase. Using this strategy, the sample size could increase up to 150 respondents. However, there will be a minimum of 30 participants in the study because each respondent group (pharmacists, nurses and doctors) will have ten respondents. The interviews will form the basis for the development of an online database prototype that will include all parties involved in the dispensation of medicine (storage, prescribing and administration). This prototype will be introduced to the employees of six government hospitals and their feedback assessed for purposes of product improvement. The feedback will also be used to develop a curriculum for educating medical personnel about how to minimise medication errors. The educational curriculum will then be introduced to the three groups of health practitioners (doctors, nurses and pharmacists).

After developing and implementing the curriculum, the professionals will be asked to give their views on it and their feedback will form the basis for making further improvements on it. These processes will aid in the development of a business case model for managing medication errors in Kuwaiti public hospitals. The fine-tuned model will later be submitted to the Ministry of Health in Kuwait for consideration.

Respondents' attitudes can be a limitation in this study because a poor attitude would lead to suboptimal responses. Particularly, some respondents may think that giving their views about

medication errors would be akin to “telling on” each other. Similarly, they may also feel like discussions about medical errors could attract judgments about their work. Such fears are associated with high withdrawal rates (Buabbas et al., 2018). To mitigate this risk, the respondents would be informed about the goal of undertaking the research, which is to fulfil academic purposes only. In other words, they will be notified that the views they will provide in the study will not attract any professional judgment. The level of sincerity in responding to the research questions could also be another limitation of the study because it is difficult for the researcher to gauge the level of sincerity of the participants.

Data will be analysed qualitatively in four distinct phases. The first one will be the identification of themes, whereby information will be assessed based on how it addresses the main points of the study. The second stage is representational in nature because the data gathered here will be contextualised and represented graphically using multiple analytical tools, such as graphs, bar charts and tables. The third phase of analysis will include an explanation of the data obtained because the information, which will be presented in graphs and tables, will be discussed in this part of the analysis. The last stage of data analysis will form the basis for making conclusions about the study. In this part of the review, data will be matched with the research objectives and presented as answers to the research questions.

Key terms that will be used in this paper are explained below.

Adverse Drug Events (ADE) - An injury that a patient suffers because of a medication error

Computerised systems – Use of information technology tools to undertake health functions

Computerised provider order entry (CPOE) – Providers sending or editing treatment instructions via computer-aided techniques as opposed to traditional means of communications such as fax or telephone

Medication error – A preventable adverse effect caused by the wrongful administration of medicine

US – United States

UK - United Kingdom

Reference

Buabbas, A. J., Alsaleh, F. M., Al-Shawaf, H. M., Abdullah, A., & Almajran, A. (2018). The readiness of hospital pharmacists in Kuwait to practise evidence-based medicine: A cross-sectional study. *BMC Medical Informatics and Decision Making*, *18*(1), 4. https://doi.org/10.1186/s12911-018-0585-y