

EXECUTIVE SUMMARY

Healthcare providers should always ensure delivery of an efficient health service with high quality and safety to their patients. Nowadays, with the continuous advancement in health technologies, different types of medical equipment are being used in the prevention, diagnosis, and treatment of diseases, as well as patient rehabilitation. Therefore, it is vital that the healthcare providers pay adequate attention on efficient and appropriate utilization of biomedical equipment and it is their responsibility to manage medical equipment in an efficient manner in all stages which include planning, acquisition, maintenance, repair and disposal.

However, it has been observed and experienced that there were issues in management of biomedical equipment in District General Hospital (DGH), Gampaha. Therefore, this research project was undertaken to address these issues and was designed to be carried out in three phases as an interventional research project conducted in randomly selected three units; Medical Intensive Care Unit, Operating Theatre A&B and Ward 1. The preinterventional phase aimed at identifying the processes and also, the gaps in the system for management of biomedical equipment through qualitative and quantitative techniques, namely Key Informant Interviews, desk review of documents and surveys. It was evident that there was no proper systematic mechanism to record and quickly access information required for efficient management of equipment. Also, incompleteness of information at the central and unit levels was found.

Considering the above gaps, interventions were designed and implemented to improve the system for management of biomedical equipment in selected units. A central level computer based Biomedical Equipment Inventory Management System (BEIMS) was developed with information related to general identification, service/ maintenance and the availability of

equipment. Also, a mechanism to maintain Personal Record Files was introduced at the unit level.

The post-interventional evaluation was conducted using same techniques in the pre-interventional phase to assess the effectiveness of the interventions. It was revealed that the interventions made the vital information available and were effective in improving quick accessibility to necessary accurate information about particular biomedical equipment ($p < 0.05$) and in turn, help efficient management of biomedical equipment. Furthermore, in contrast to pre-interventional assessment there was a significant improvement in level of convenience ($p < 0.05$) and satisfaction ($p < 0.05$) of the stakeholders about the newly established mechanism to improve management of biomedical equipment. It is recommended to link the BEIMS online with the respective units through pass codes to improve accessibility to information and also, to replicate this project in other units of the hospital as well.