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Title : A Study on the Efficient Support of Medical Equipment for ODA

Support of medical equipment for ODA can help decrease health care disparity and improve accessibility to health care of developing country which is deficient in healthcare infrastructure. It is said that 80 percent of medical equipment in developing country are provided from international organization and foreign countries. However, it is estimated only 10 to 30 percent are operated in a recipient countries. The research started to find a way to improve the reality that medical equipment is not working helpfully for healthcare condition improvement of local residents.

Through literature investigation and field survey, considerations for the support of medical equipment for ODA are analyzed and suggested.

Big problem of the support of medical equipment for ODA is supporting medical equipment without proper preparation for maintenance. For operating medical equipment, manpower that can operate and engineers who can repair medical equipment should be secured and medical equipment consumables should be consistently supplied. However those are not met, so there is a limit to support healthcare services for local residents using medical equipment.

It was needed to analyze a process of healthcare project for ODA and a procedure for the supply of medical equipment for efficient support.

Requirements for supporting of medical equipment at stage of project planning, BDS, PMC, and process of healthcare project for ODA are analyzed and development plan is suggested.

In healthcare project planning stage, it needs research to find out whether requested from a recipient country is optimal healthcare program for local residents, and suggestion of medical equipment items and specifications suitable for conducting health care program in an area. For that the medical equipment expert is involved in the early stages of the healthcare project formation, and

found out that there is need to review supporting medical equipment together with employees of healthcare facilities, health experts, and architects.

In case there is BDS stage, it is desirable to create plan to build healthcare facility. BDS has the medical equipment plan accord closely with medical plan and this should cooperate to reflect to the architecture plan, manpower plan, etc. It needs enough time for planning building healthcare facility to utilize medical equipment in healthcare facility. Building management plan is not only establishing basic plan, but also variously establishing detailed plan for managing healthcare facility.

At the stage of PMC, it is needed to induce healthcare facility employees to utilize medical equipment effectively. Supply of medical equipment has to be provided in time for being shaped management conditions. For this, operation maintenance education and training, systematic construction of medical logistics, maintenance support construction and improvement of capability of maintenance should be done.

At the stage of evaluation, evaluation results from detailed assessment about supply of medical equipment are expected to be feedback for next project.

Supporting process of medical equipment should be examined with requirement institution, requirement decision, compilation of a budget, procurement, supply, installation, operation and maintenance.

Instituting required medical equipment is the first step for healthcare project to support necessary medical equipment as ODA, and it provides a foundation for the efficient utilization of the devices as well. As a result from case analysis of the process of medical equipment requests, follow countermeasures are recommended below. The basis of demand for medical equipment should propose with a healthcare program that needs in the business area, type of treatment services, treatment levels, and laboratory items which correspond to circumstance of local residents.

In addition, the proposition of medical equipment request should consider following management conditions. Firstly, it is significant to ensure the capacity

of human resources to utilize medical equipment and the possibility to operate training system for the manpower; secondly, to consider the capability of estimation and procurement of annual requirement of management supplies for medical equipment; thirdly, to check medical equipment operation environment such as electricity, water supply, etc.; fourthly, to ascertain that the medical equipment operation environment can be set timing the supply of medical equipment; lastly, to consider the capacity of medical equipment maintenance support system. It is required to organize a team for the proposition of medical equipment request as soon as possible to check and suggest medical demands taking account of those conditions.

The determination of medical equipment request is the process of verify whether the required medical equipment can operate compatibly in healthcare program in the project area. Also, each donor and recipient country related personnel should form a council for the process.

It is necessary to draw up and execute a budget for medical equipment proceeding the healthcare project in accordance with the local circumstance of medical equipment management. Also, it is a challenge to provide the medical equipment in different operational context considering the public procurement related law and the characteristics of medical equipment market. Therefore, sufficient research on the market and the capability of medical equipment maintenance is required to deliver quality medical equipment accompanied with constant maintenance service within the scope of procurement regulation.

Moreover, when it comes to the supply of medical equipment, it is important to pack and transport so as not to damage the equipment. Logistics service provider experienced with medical equipment should undertake its supply process. Also, there should be training for preparation and utilizing unloading equipment and supervision on the staffs during loading and unloading.

Furthermore, the condition of medical equipment installation should be reflected in architectural design for substantial medical equipment operation. The condition includes a stable supply of electricity, supply of clean water, etc.

It is urgently necessary to secure existing human resources in management and maintenance and cultivate them to provide local residents with proper healthcare services utilizing the equipment. Along with this, maintenance support system should forge preventive maintenance as well.

Non-governmental Organizations and donor institutions that support developing countries with healthcare service struggle with utilizing the medical equipment and providing treatment due to a lack of human resources in maintenance to operate and manage the medical equipment, even after they have provided the medical equipment. Therefore, it is necessary to found medical equipment maintenance support center by regions and share the human resources between the regions as well as to cultivate competent individuals in the maintenance field.

In addition, there should be training and regulation for medical equipment management. They include drawing up and utilization of property book and record card on medical equipment.

Also, it is needed to procure experts in donor institutions who can counsel and control over the medical equipment. They should inspect medical equipment operation status periodically and provide improvement measures. The accumulated data in the donor institutions should be utilized to plan and push ahead new health and medical care business.

It is impractical for ODA project to find a measure for efficient supply of medical equipment in a short period of time. Thus, there should be constant examination regarding medical equipment support, application of improvement measure, and feedback on the subsequent project.

If medical equipment support plan is established referring to this research, there would be more reliable and efficient support. Lastly, it is expected to invigorate studies on the medical equipment support in ODA healthcare project through this research.

Key word : ODA, Medical equipment, Medical device, Healthcare, Maintenance