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Prosthetics Services for Lower-Limb Amputation: Public versus Private Healthcare in Malaysia

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Abstract

This article is intended to give comparisons between prosthetics services for lower limb amputation in public and private companies in Malaysia. The objective of the study is to compare the prosthetics services for lower limb amputation in public and private companies in the country. The study uses qualitative methods throughout the interviews from the public and private health care providers in Malaysia. The data is sought from the staff that is responsible for treating patients in public and private healthcare. Both hospitals are experiencing a lack of skilled and experienced staff in prosthetic and orthotic care. They also emphasized the need to have a standard policy or guidelines regarding the treatments.

Keywords: Amputation, lower limb, prosthetics, public, private.

Introduction

Lower limb amputation happens for many reasons. Some patients receive it right from birth while others receive it after accidents and health issues. An amputation or loss of limb results in limited function or permanent impairment among adults. Amputation results in limited or partial function of the limb which will significantly impact some people depending on the nature of the job and quality of life they are hoping for. Amputation negatively impacts physical function, physical role performance, social function, vitality and general health compared to the normal population (Eiser, Stride, Grimer, 2001). Therefore, providing effective prosthetics services is vital to ensure that the amputees can gain independence, regain mobility and resume life as

normal people. This way, amputees can get the education that they need, find jobs, and lead their life as usual.

Providing effective prosthetics services is vital because in some populations, amputees have limited access to health services. This is because they have no knowledge, limited purchasing power and lack of awareness of health issues. If the patients knew about the early signs, they could prevent them from being worse (Gordon, Magee, Frazer, Evans & Mccosker, 2010). Nonetheless, amputation can be treated by a prosthetic that may be made especially for amputees and help them to become more independent. Amputation can be the treatment of choice for birth defects, vascular disease, tumors, and accidents. Lower limb amputations make up 84% of total amputations

compared to upper limb amputations which only makes up about 16% (WHO, 2004). According to the previous research, a diabetic is 10-30 times more likely to undergo lower limb amputation compared to other scenarios. It is estimated that around 20-50% of diabetic amputees will require second leg amputation within one to three years, and more than 50% of the amputees will need another amputation within five years. Therefore, it is vital for the patients and family members to know all the options available for them in order to make informed decisions regarding correct amputation (Vamos et al., 2010).

Public sector

In a public sector setting, there may have a more dedicated prosthetist working on treating a larger number of patients. The prosthetist is able to provide certain services such as amputee education sessions, and pre-amputation consultations. Additionally, they are able to spend more time with each patient and build good rapport (Gordon et al., 2010). The services provided to the patients are located in the hospital building which is normally very close to the rehabilitation center (Bhattacharyya et al., 2010). This facility is very convenient to the patients because they do not need to travel a long distance from the hospitals to the rehabilitation centers.

In certain scenarios, a study showed that some patients tried to seek treatment from traditional healers before coming to the hospitals. This is because the distance from their house to the hospitals is quite far and they have no reliable transport (Ekere, 2003). Most patients choose to seek treatment at public hospitals because it is more affordable (Robinson et al., 2010). The patients who seek treatment at the healthcare are typically poor, have less education or have little or no knowledge about the treatments. The distance between their house and the hospitals is also another main issue for the patients and the reason why they sometimes come late to the hospitals to get the needed treatments. Some patients feel that it is not a big issue in getting replacement limbs. It is imperative for the patients to seek treatments at an early stage in order to save their life, thus reducing the level of morbidity and mortality (Mafauzy, 2005).

Private sector

In recent years, awareness is growing about the need of the private sector to play a more active role in achieving health care objectives. Research indicated that private health care providers have showed their efforts in making a positive impact in providing health care services (Harding & Preker, 2003). Thus, more hospitals have stepped up to offer the options needed by the amputees. On the same note, private sector hospitals for lower limb prosthetics have grown to offer better, more affordable, and more appropriate services (World Health Organization, 2006). Some of the private sectors are tailoring their services to help the poor. Health providers have created new ways to make health care services more affordable and available to impoverished areas (Bhattacharyya et al., 2010).

Health providers such as The Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS) have developed artificial lower limb prosthetics just to meet the needs of poor amputees in India. They go way beyond the usual call of duty by letting the patients check-in during the day or at night at the clinic. Additionally, they provide the patients with free room and meals if the patient has to spend the night. On top of that, they also try to keep the sessions to a minimum to help patients with limited means and mobility (Onil Bhattacharyya, Sara Khor, McGahan, A., Dunne, D., Abdallah S Daar & Singer, P. A., 2010).

The private health care providers are determined to further improve and provide health care services in order to better serve the amputees especially within developing countries. Their aims are to create innovative, effective and inclusive environments to make their role more significant in providing health care delivery in limited resource settings. They did this by simplifying and reducing the operating costs. One of it is by training the rural community members. In simplifying and reducing the operating costs, they do it by using digital X-rays instead of depending on expensive films, reducing inventory and processing times by using comprehensive software. In some private sectors, they are using a system that is called a cross subsidization where they are charging wealthier patients to subsidize the services rendered by the lower income patients. Regardless, all patients whether they are poor or wealthy will receive the same level of health care (Bhattacharyya et al., 2010).

In Malaysia, there are few private sectors that are providing prosthetics for lower limb amputees such as Gleneagles Hospital. In the private sector services, lower income patients received financial assistance from the company that they have been working with, the Social Security Organization (Socso), Zakat, the Social Welfare Department, the Public Service Department, the Ministry of Defense, veteran organizations, non-profit organizations such as Limb for Life and others in paying for the services.

Public versus Private Health Care

In comparison to public hospitals, in private hospitals, most of the patients are more educated, knowledgeable, and have the money to pay for the services. This helps for early recognition of problems and improving the condition of foot care. The hospital also has the opportunity to salvage limbs that ordinarily may end up in amputation due to late presentation in other settings. Early amputation services are vital in order to ensure the wellbeing of the patients and to regain mobility function. The technological tools and facilities in the hospitals have huge impacts in managing severe injuries to the extremities successfully which reduces the rate of amputation due to trauma such as peripheral vascular disease, diabetic foot gangrene, infections, neoplasms, and congenital deformities (Obalum & Okeke, 2009). In comparison, both private and public health care have similar equipment needed in treating the patients for lower limb amputations. In terms of staff and prosthetists, both health cares usually have the same qualities, qualifications and experience (Gordon et al., 2010). In terms of patients who seek treatment, the research found out that patients with lower income; household earning around RM2000 a month are the ones that mostly seek treatments from public healthcare providers. Patients that earned higher income normally seek treatment from the private healthcare as their first option before turning to public healthcare as a second choice. This is because, in the private healthcare, there are fewer patients and less waiting time in getting the needed prosthetic limbs. Nonetheless, research showed that close to 60% of the higher income patients are using public healthcare in seeking the treatments (Letchuman et al., 2006).

In both of the hospital settings, the prosthetists tried to give the best performance in helping the

amputees by creating and designing prostheses that are very close in shape to the missing limbs. The employees will make sure that they design prostheses that are comfortable and fit the needs of the patients (Zidarov, Swaine, Gauthier-Gagnon, 2009). The hospitals have equivalent of staff qualifications and facilities needed in treating lower limb amputees (Robinson, Sansam, Hirst & Neumann, 2010). In comparison, public hospitals normally are larger than private hospitals and are able to tend to a larger group of patients. Public hospitals also received more funding compared to private hospitals. Public hospitals received funding from federal or state funds.

There were relatively low figures in mortality rate and infection ratio in private hospitals. This may be due to the private hospital setting where patient care is more detailed. The higher case-mortality and complication rates found in patients with diabetes/peripheral vascular disease may be due to the well known morbidity and complications associated with these conditions (Obalum & Okeke, 2009). A study showed that the unsatisfactory results were due to poor prosthetic services and the absence of a well-coordinated amputee clinic. The advanced tools and facilities will greatly improve the situation (Yinusa & Ugbeye, 2003). The study showed that patients with longer stumps have more mobility, have better job opportunities and a higher level of quality of life (Penn-Barwell, 2011).

Methodology

The study was conducted using qualitative method during interviews. In this research, the researchers were using structured questionnaires to make the process of comparing the data between public and private hospitals easier to observe. It is also because it is more efficient and reliable. The interviews were carried in March until July 2017 involving the employees in five healthcare providers that provide lower limb amputation services for the amputees. Researchers interviewed the physicians, technicians and staff at respective hospitals in Malaysia to get the information needed in comparison between the lower limbs prosthetic services at private and public health care providers. The researchers interviewed the employees from three public hospitals, which are Universiti Sains Malaysia Hospital, Pusat Perubatan Universiti Malaya (University of Malaya Medical Center), and

Cheras Rehabilitation Hospital. As for the private health care, the researchers had interviewed Gleneagles Kuala Lumpur and Gleneagles Kota Kinabalu.

Study Population

The population for the study included the employees from all age groups, races and genders that treat amputee patients at the hospitals.

Data Collection

Data was collected based on structured interviews, which are face-to-face interviews among the staff involved in treating the amputees. Data collected was demographic data (gender, location of the hospital, public/private hospital, position and department) and clinical data (frequency of sessions, waiting time, dressing types, funding, future planning and others).

Results

For the cost of the treatments in the public companies, 70-90% is funded by the government and the rest is self-funded compared to private companies, treatments were mostly funded by the patients themselves (70-100%). In terms of the frequency of clinic sessions, private companies do not have specific time to determine it. It depends on the need of the patients themselves. In public companies, the treatments are based on the weekly basis for close monitoring. In terms of waiting time for the patients to receive prosthesis, both public and private companies have waiting times between 2-4 weeks. The price range for prostheses services offered for private companies are \$4,000-80,000 and for public companies are \$2,500-25,000. In terms of the challenges in public services, they are having financial and resource issues (qualified staff).

Both public and private companies offered services largely on below knee prosthesis. They also provided 70-100 post-operative dressings with soft gauze dressings with an elastic wrap. Both of them have standard or international clinical scales that they are using in assessing patients outcomes with prosthesis. The scales that the hospitals are using are quite similar such as TUG, Ampro, MBI and others.

In public healthcare, prosthetic and orthotic workshops are run by the technicians who had on job training. There is a need to upgrade the knowledge, experience and skills of these technicians. Budget and resource are other issues faced in this area. While in private settings, the workshops are not cost-effective due to less

demand from amputee patients. They are also experiencing a lack of expertise.

In improving the prosthetic service provision within the hospital, the staff in public hospitals suggested to increase number of trained technicians, to have more experienced and certified prosthetists and orthotists, to have a joint venture or team work from the financial sponsor in providing better services and resources. They also suggested for the prosthetists and orthotists to have regular training. There is no national policy for prosthetist and orthotist for deliverance and standards. As for the private hospitals, in terms of improving the prosthetic service provision within the hospital, the staff suggested to have an on-site workshop or their own center even though it may be not be profitable for the hospitals. They also proposed to train and hire technicians locally within government settings to make it more affordable to the patients.

Both hospital employees emphasize having more financial assistance in helping to provide better care to the patients. They also suggested to have standard policy and procedures regarding prosthetics. The suggested standard and procedure should have certain guidelines, in order to improve the quality of the prosthetic devices and services.

Discussion

Most amputees who came to both hospitals were elderly patients who suffered from dysvascular disease. Most of them were diabetic patients. Pre-amputation consultation gave the patients an understanding of certain pain or complications derived from prosthetic limbs. Thus, it is important for them to go through this process before the amputation and to attend rehabilitation after the amputation to help them increase mobility function. Therefore, the rehabilitation center should be build on-site for easier access, which is not currently available at the private hospitals. Early awareness and information that is given to the patients will help tremendously in managing the process of amputation.

Conclusion

In both public and private healthcare providers, the employees basically have a similar level of qualifications and experience. The patients that came to the hospitals received the same level of treatment in both of the hospitals. The aim of the

prosthetists when treating the patients is to give the best treatment according to the needs of the patients and for the patients to achieve maximum independence and regain mobility function in getting their life back to normal. However, both hospitals are having problems regarding getting experience and skilled technicians. Most patients received financial aid in getting lower limb amputations from both hospitals. It is imperative for hospitals in Malaysia to implement certain procedures and standards regarding prosthetic and orthotic care.

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