Barriers in Using Assistive Devices among a Group of Community-dwelling Persons with Lower Limb Disabilities in Sri Lanka

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ABSTRACT

Purpose: *Rehabilitation with assistive devices is of great benefit to people with limb disabilities, enabling them to lead independent and productive lives. While assistive devices improve the quality of life of persons with lower limb disabilities by facilitating activities of daily living, there are also many barriers to their use. This study aims to describe these barriers among community-dwelling persons with lower limb disabilitiesin central Sri Lanka.*

Methods: *A community survey was conducted among adults between 18 and 59 years of age, to find persons with lower limb disabilities in Kandy Municipal Council area, in the central province of Sri Lanka. This was followed by purposive sampling to select a sub-sample of 12 individuals with unilateral lower limb disabilities for a qualitative study using in-depth interviews. Unilateral lower limb disabilities were identified using a clinical examination and World Health Organisation Disability Assessment Schedule 2.0 (WHODAS 2.0). A qualitative thematic content analysis was used to evaluate the interview text.*

Results: *Participants described several barriers in using assistive devices, such as unaffordable assistive technology like wheelchairs and artificial limbs, unavailability of appropriate assistive technology, difficulties associated with repair and maintenance, and problems in accessibility. Limited knowledge of*

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modern technology also restricted their choice of better devices. Psychological barriers and stigma in using assistive devices directly affected their social lives and day-to-day activities as well.

Conclusion and Implications: *People with lower limb disabilities face multiple barriers in using assistive devices. These barriers need to be addressed by improving local infrastructure and accessibility facilities, public awareness and funding, and ensuring continuous supply and maintenance services.*

Key words: *disability, qualitative inquiry, accessibility, assistive technology*

INTRODUCTION

Living with limb disability is challenging. Many studies reveal that the quality of life of people with disabilities is lower than people without disabilities (Hosain et al, 2002; Edwards et al, 2003). Lower limb disabilities challenge the affected individual in many ways due to problems in mobility and stature. Fortunately, assistive device technology helps to overcome many challenges faced by people with lower limb disabilities (Bryen and DiCasimirro, 1997). Assistive technology is an umbrella term used for a wide assortment of devices and services that support people with disabilities (Bailey, 2000). Furthermore, it is an international priority to produce barrier-free societies for people living with disability (WHO, 2011a). However, there are numerous barriers in using assistive technology by individuals with lower limb disabilities worldwide, and they appear to be of high intensity in low income countries (WHO, 2011a, 2011b).

One of the main barriers in accessing assistive technology in less resourced settings is the lack of funds. Limited financial resources in many countries has a major impact on availability and accessibility of assistive technology (WHO, 2011a; 2011b). In some countries, lack of leadership and governance are also barriers to the provision of assistive technology. In addition, service delivery including referral, assessment, funding, ordering, product preparation, fitting, adjusting, user training, follow-up, maintenance and repairs, hinder the use of assistive technology (WHO, 2008). Lack of personnel with proper training in appropriate mobility device services is also a major barrier (Pearlman et al, 2008). In many developing countries, production of mobility devices is done only on a small scale, or perhaps not at all, due to limited access to materials, machinery and expertise.

At the same time, there are physical and environmental barriers like accessibility problems, as well as cultural and social stigma in using assistive technology in

low-income countries (WHO, 2011b). Introduction of assistive devices such as wheelchairs into people's lives may bring about intense emotional responses (Bates et al, 1993). It calls for pragmatic, emotional adaptation as the person involved looks and feels different. An assistive device will only be adopted if he/she really thinks that it is useful. Assistive technology can have a major positive impact on the lives of persons with lower limb disabilities, improving their independence via improved mobility and balance (Bateni and Maki, 2005). Assistive devices reduce stress and improve quality of life, reducing the workload of caregivers (Scherer, 1996). Therefore, in order to increase the use of assistive technology, there is a great need for those who prescribe it, including surgeons and occupational therapists, to understand the feelings and experiences of persons with disabilities.

Although in recent times assistive devices have been extensively prescribed, there are few evaluations of the barriers to their utilisation. Persons with lower limb disabilities have to adjust psychologically at the point of their first instance of using assistive devices (Bates et al, 1993), but the significance of their emotional adjustment and their attitudes to technology have not been discussed.

According to Magnusson et al (2013), pain associated with the use of assistive devices and difficulties in ambulating on challenging surfaces were the main barriers faced by a population with disabilities in Malawi, who were using lower limb prosthetic or orthotic devices. Baker and Bass (2003) have pointed to the mismatch between the person and the assistive device as a major barrier in using assistive technology. However, in Sri Lanka, there are no reported studies which explore barriers to the use of assistive technology by persons with unilateral lower limb disabilities.

Objective

The present study was conducted with the aim of describing barriers in using assistive technology among community-dwelling residents with unilateral lower limb disabilities, aged between 18 and 59 years, in the Kandy Municipal Council (KMC) area of Sri Lanka.

METHOD

Study Setting

Located at the heart of Kandy city, KMC is an administrative area with a population of 110,049 (0.6% of the Sri Lankan population) headed by the Mayor. People

between 18 and 59 years of age made up about 55.8% of the total KMC population. Among them, 30,817 were males and 30,598 were females (Department of Census and Statistics, Sri Lanka, 2005). Curative, preventive,and welfare programmes for people with lower limb disabilities are operating within the KMC area, as well as beyond it.

Study Participants

The results of a physical examination and the WHODAS 2.0 (WHO, 1999) were used to select 35 persons with unilateral lower limb disabilities. Among them, a sub-sample of twelve (n=12) was selected for the qualitative enquiry, based on participants consenting to in-depth interviews and on their ability to understand and converse in Sinhala language. In the absence of published studies in Sri Lanka, it was decided to employ a qualitative enquiry to reveal the barriers to the use of assistive devices in the community. The sub-sample included 5 males and 7 females. Eight participants were married, 3 were unmarried and 1 was divorced. All of them lived with either their family or their partners. One participant was a student, 3 were self-employed, 4 were employed, and 4 were unemployed.

They were grouped according to the following criteria:

Group 1 - people with lower limb disabilities who were using an assistive device (n=7);

Group 2 - people with lower limb disabilities who wanted to use an assistive device but did not have one (n=5).

All the participants were conversant in their native language (Sinhala).

The mean age of the participants was 43 years (age range 18 –59 years). Two participants had diabetes mellitus (n=2) and 1 had Buerger's disease (n=1). There were 2 participants with congenital disabilities (Table1). Road traffic crashes (n=4) and occupational accidents (n=3) were responsible for the disabilities among the majority of the participants. In Group 1 of the study, 3 participants used manual wheelchairs, 2 used crutches and another 2 used both artificial limbs and crutches. Participants in Group 2 wanted to use assistive devices but did not have them due to varying reasons.

Table 1: Diseases/conditions responsible for Lower Limb Disability among the Study Participants (n=12)

No.	Disease /condition	Number of participants
i	Congenital disability	2
ii	Diabetes mellitus	2
iii	Buerger's disease	1
iv	Road traffic crashes	4
v	Occupational accidents	3

Procedure

In-depth interviews were conducted using an interviewer guide prepared in English, based on extensive literature reviews and with inputs from experts in the field of disability. A medical professional who is a research expert, translated the interviewer guide into Sinhala and a bilingual expert translated it back into English. The original version was compared with the back-translation, and necessary modifications were made.

All interviews were conducted at the participants' dwellings after making prior appointments. Anonymity of the participants and confidentiality of results were guaranteed. Informed written consent was obtained from the participants and they were free to withdraw from the study at any time they chose. Ethical clearance was obtained from the Research and Ethical Committee of the Faculty of Medicine, University of Peradeniya, Sri Lanka.

Interviews

Interviews were conducted with a narrative approach. The following questions were used to guide the interviews -"Please tell me how do you feel living with leg disability?", "Please tell me about what assistive devices you use and how do you feel about them?", "Please can you tell me about the problems in using assistive devices?", "Please tell me what the problems you have in finding assistive devices are?".

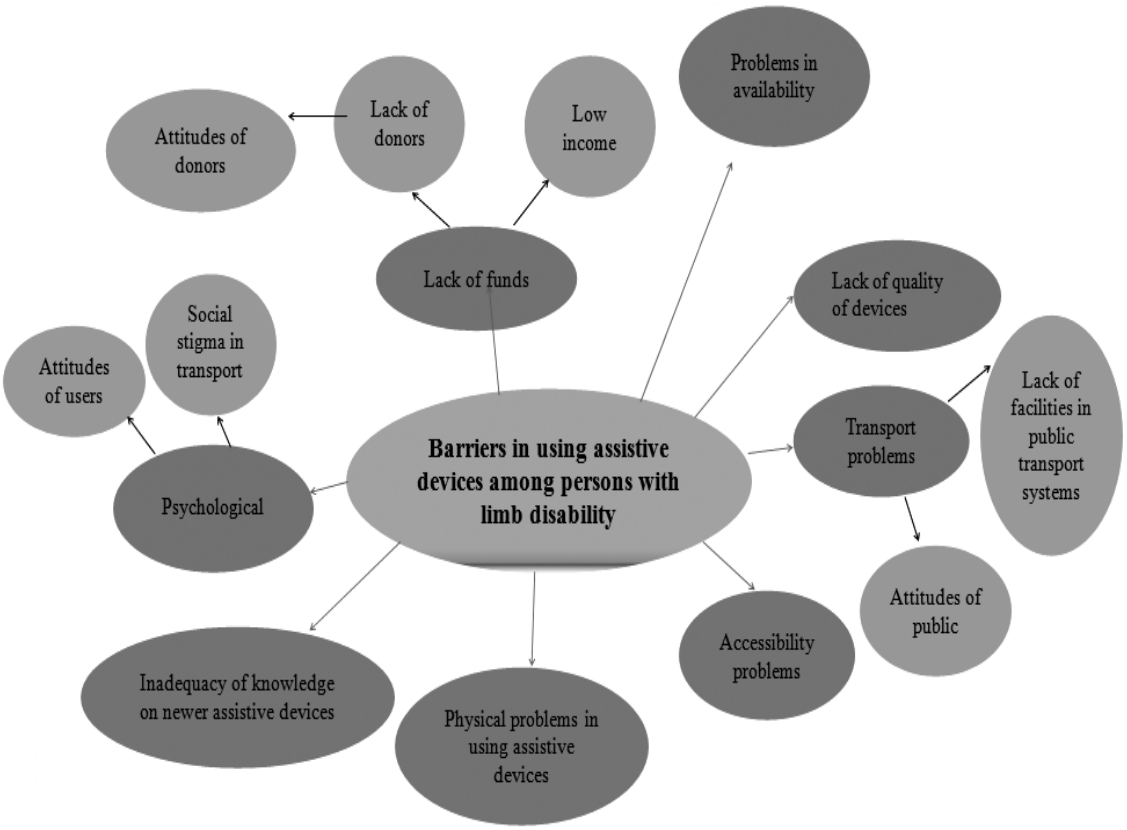
The participants were asked to narrate how the environment (parents, spouses, children, friends and healthcare workers) reacted to their use or non-use of assistive devices when they were really needed. The duration of the interviews ranged from 1 ½ to 2 hours. Only one interview was conducted per day. All

interviews were audio-taped using a digital voice recorder, after getting the interviewee's consent. Notes were written down whenever necessary and the interview records were transcribed verbatim.

Three 'mock' interviews were carried out with individuals who had characteristics similar to the research participants but who resided outside the study settings and were therefore not eligible for inclusion in the qualitative study. These in-depth interviews were conducted to pre-test the interviewer guide and to modify questions if necessary. This also provided an opportunity to find out logistic issues associated with interviewing and to arrange the subsequent sessions appropriately.

Conceptual Framework for Qualitative Inquiry

The conceptual framework for qualitative inquiry was formulated using an extensive literature survey and expert opinion (Figure 1). It was also useful in formulating the in-depth interview guide before the data collection.



Analysis of Interviews

A qualitative thematic content analysis was used to analyse the interviews. Thematic analysis is a complex method and it is based on a holistic analysis (Baxter, 1994). The present study followed the method of analysis of interview transcripts (documents with interview results written down in thematic form) by Burnard (1991). To start with, the transcripts were read several times and notes were taken throughout the readings to gain insights into the thoughts and life of the respondent. Another round of reading followed and themes, based as much as possible on the interview text, were written down to describe all the aspects of the content: 'open coding'. The codes with similar content were sorted into another list of categories. The list of categories was then surveyed and grouped together to reduce the numbers. Following detailed scrutiny, categories were organised into themes and sub-themes on the basis of similarities and differences in content. For each broad question, the pattern of answer was identified and similar answers were grouped under the same category. Verbatim comments were summarised and presented in narrative form. Three investigators carried out the initial analysis independently, and the themes were worked out according to the above criteria. Together the investigators produced the final list of themes, integrating the individual themes and viewpoints. Finally, the interview texts were re-read to check whether the themes and sub-themes were correct.

RESULTS

Findings of thematic analyses that resulted in 6 themes and 17 sub-themes are presented in Table 2.

Table 2: Themes and Sub-themes derived from the analysis of the Interviews (n=12)

No.	Theme	Sub-theme
i	Economic	Lack of funds/poverty among study participants
		Lack of donors/ sponsors
		Attitudes of donors/ sponsors
ii	Availability	Unavailability of assistive technology
		Lack of production and supply of services
		Lack of newer and quality devices
iii	Repair & Maintenance	Lack of repair services/ maintenance services

iv	Awareness	Lack of awareness about the advantages of assistive technology
		Misunderstandings about the benefits of assistive technology
		Lack of knowledge on modern assistive devices
		Lack of information given by the prescriber
v	Accessibility	Difficulty in getting to public and private places with assistive devices due to lack of suitable infrastructure
		Transport problems due to lack of user-friendly environment and attitudes of the public
vi	Psychological	Fear of getting injured due to use of assistive devices
		Difficulties in accepting the use of devices
		Problems about the need in the future
		Different treatment in the society

Financial constraints were a major barrier to the use of assistive technology. All the participants had to buy assistive devices from their own pockets. The majority were distressed that they could not earn enough on their own to buy these devices. Two further categories of people were identified, namely, those who were using the assistive device because their family could afford it (n=5) or had got it from a donor (n=2), and those who did not have any assistive device although they were in need of it because neither they themselves nor their family could afford it, or they did not get help from a donor (n=5). A 51-year-old man, who had undergone amputation of his leg and, because of poverty, had waited for a long time to get an artificial limb, said,

"I have lost part of my leg. I had to wait for a long time to get an artificial limb as I have not enough money to spend on it. Afterwards, one generous donor helped me to get one."

Shortage of donors was another problem. Only on very rare occasions did donors provide support in procuring assistive devices for poor people. Finding a donor was a very difficult task. A man with amputation of his left leg said,

"I want a wheelchair as I cannot walk too far with my leg. It will help me to engage in a self-employment like selling sweep tickets. But so far I could not get one; I could not find any donor as well."

Even if donors such as non-governmental organisations, charity organisations and welfare foundations are found, they have varying attitudes and can help only a limited number of individuals. Therefore, it all depends on the attitude of the donors or donor organisations.

A 55- year-old lady complained,

"I went to a place where assistive devices were given free. It is a non-governmental organisation but they did not want to give me assistive devices saying my disability is not that severe and that there were plenty of people to be given. I felt very sorry for myself."

In the current study, problems associated with the availability of assistive technology were identified as a barrier. Participants also revealed that the available items were very expensive. One young male participant said,

"If I had an artificial limb I would have looked better, like a person without disabilities but the required type of artificial limb is not available in this area. I have to buy it from Colombo, the main city in the country and it's too far for me to travel. I have no money to do such things."

Lack of newer and quality devices were also reported in the present study. A middle-aged lady said,

"My children are still schooling. Because of my disabled condition I am unable to get their routine work done by myself. It is a great help if I can get new crutches as my old one is already repaired many times by me and I am using it with difficulty for a long time. Besides, it's of low quality and I could not find a place to repair it. It's good if I can have a new one."

Sometimes there appeared to be difficulty in finding a place to repair assistive devices. Even if maintenance services were found locally, they seemed to be costly. Thus, for the current study group, unavailability of repair/maintenance services was a barrier in using assistive technology. This was expressed by several participants:

"I got a wheelchair from the government. But it is now broken. There is no place to repair it nearby."

"Once I went to get my wheelchair repaired, it cost me a lot. I had to find money by pawning my wife's jewellery."

The study participants also reported physical problems associated with the use of assistive devices. Some of them had complications either at the initial stage of use or after using assistive devices for a long time. These complications were sometimes even caused by using the proper device or by using a device ill-suited to the participant's body. For example, one participant explained,

"I got an aching pain when I used my artificial limb for the first time."

"My artificial limb did not fit me very well. There was pain and wounds in the sites where it touches my skin."

Lack of awareness about new assistive technology was a major hindrance. All the participants mentioned that they had no way of getting information about devices that were currently available or about modern devices that they were keen to use. They said that even those who prescribed their assistive devices did not give them enough information. Some participants had attempted to get information from various other sources, such as friends and the media. Said a young man, whose right lower leg was amputated after a traffic accident,

"An uncle told me that there were new artificial limbs with which you could do many other works similar to our natural limbs. But I have never seen them in Sri Lanka. They may be available in other countries."

Evidently, information about new assistive technology is rarely disseminated. It is possible that people think others are not interested in the information they have, or that even if they pass on information, people with disabilities cannot afford the new devices. One man who used an artificial limb complained,

"The doctor who prescribed me askedme to get an artificial limb. I got very less information from the hospital regarding its use. I had no place to get more information. Also, I felt reluctant to ask about more information while I was in the hospital."

Problems in accessing public and private places with assistive devices were also identified. These problems were caused by lack of suitable infrastructure in the transport system and public or private institutions to support the use of assistive technology. One participant explained,

"I hardly reach a public place using this wheelchair as there is no access pathway."

Persons with disability are eager to get things done on their own, using assistive technology, but the environment has become a barrier for them. Another participant pointed out,

"Even if I have a wheelchair I cannot access most of the government or private places as there are no pathways or railings for me. Most of the places have steps.Therefore, even if I have a wheelchair, I cannot get most of my things done by myself. I have to depend on somebody when I go out."

There are problems in using transport as the environment is not user-friendly, infrastructure is poor and public attitude is unhelpful.One participant commented,

"Even if I like to travel, I cannot do it. It becomes very expensive for me as I have to go in a private vehicle. There are no facilities in a public transport to carry the wheelchair.

Therefore, I always restrict travelling. Even if I carry it in a bus, I have to have another person accompanying me. Sometimes, other people frown at me as well. Maybe because they get late to proceed."

Psychological barriers also existed. Initially all the participants felt very unhappy about using assistive devices. It made them feel they were different from the rest. They were also afraid that the rest of the community would look down on them. One man could still remember how he felt when he first started using an assistive device,

"I thought initially that if I started to use crutches I would become a disabled person in the society. I did not want to be looked at by others as disabled. Therefore, I was not in a position to accept the crutches even after the doctor prescribed them to me."

A man whose war injury led to amputation of the right lower limb below the knee, expressed his initial feelings about the use of an artificial limb,

"I always repent why I had to use an assistive device, but I can't help. It's my fate. But sometimes, I make up my mind thinking this artificial limb has somehow made my work easy".

"I have been suffering a lot due to this condition. I silently repent and cry alone. I know others laugh at me when I limp on the road. If I had a modern artificial limb I would have looked better."

Some participants felt that they evoked negative reactions from society when they used assistive devices. This could have been due in part to their physical appearance. The majority had faced stigma and social problems which they attributed to the use of assistive devices, in addition to their disability status. Most of these barriers were rooted in their inner feelings. According to one participant,

"Some do not like encountering me first when they go out for important work or early in the morning with my crutches."

Another participant said,

"I do not like to go for weddings or other social gatherings as all other people look at me as if I am a new animal. They look at my artificial limb as if it is peculiar."

"When people see my artificial limb part out of my trousers they are looking eagerly at it and they say, 'see, that one is wearing an artificial limb.' I do not like others talking about my artificial limb."

Another person came out with,

"My neighbours who were visiting me regularly, suddenly stopped after I started using crutches."

Some participants were afraid of getting injured while using assistive devices. Three of them had initially had accidental falls. Resting their crutches at the edge of the pavement, sliding on the wet floor and trying to bend down with the assistive device had resulted in accidents and injuries.

"I had a fall while using the crutches. After that, I am afraid of walking quickly with crutches. In fact I temporarily stopped using it. But as I have no other option I somehow started using it again."

Occasionally, injuries which had occurred at an early stage made people fearful of using assistive devices thereafter. One person had discontinued use of the assistive device,

"I am reluctant to use a wheelchair as it always comes to my mind that I may fall when I use it as I actually had a fall sometime back."

After an injury, fear of using the device could become a mental obstacle. Injuries were often caused by inexperience, lack of awareness or negligence in handling the device. One participant stated,

"I was looking for one with a good stability and fitting as I fear getting injured due to use of crutches."

Hence, it shows that if persons with disability suffer injury due to the use of an assistive device, they temporarily stop using that particular device and look for something better. At the same time, it is interesting to note that no participant in the current study sample had stopped using assistive devices permanently after being injured.

Some participants foresaw problems they would have to deal with to ensure continuous use of assistive devices. Due to financial constraints, they were uncertain whether they could manage to repair or replace their devices in the future. As one person put it,

"Now I have used this wheelchair for a long time. It may need repairs with time. I do not know how I can get them done. I have no money to spend on them and there is no one to help me."

DISCUSSION

The current study demonstrated that lower limb disabilities are a serious concern for people with disability since it directly affects mobility and accessibility. This was particularly true of all the participants in the study. They were in the age group of 18 - 59 years, the economically productive phase of life, and were distressed because their daily lives and income were affected by lower limb disabilities. Psychological suffering was the result of their inability to do day-to-day work or get suitable jobs. While those with assistive devices were able to cope with the challenges to a certain extent, those without assistive devices were helpless and unhappy. Both groups of people mentioned a number of barriers that came in the way of using assistive devices. Poverty and economic constraints, above all, severely limited their access to, and use of, assistive technology.

Selection of the participants for the study was based on the purposive sampling method. According to Morse (1994), a major disadvantage of purposive sampling is bias in the selection process. However, the process of purposive sampling permits the selection of participants with a certain type of knowledge; in this case, persons who could communicate well in the Sinhala language. In qualitative research this is a positive factor because maximum information can be obtained from those with the most relevant experience in the matter. Further, analysis of the interviews was done according to the themes and sub-themes generated collectively by 3 of the authors. Their differing viewpoints were all included in the list of final themes, giving more credibility to the findings. According to Lincoln and Guba (1985), the concept of trustworthiness is necessary to estimate the accuracy of qualitative studies. The trustworthiness of this study is enhanced by the exact description of the procedure, by motivated participants and by important quotations from the interviews. Both groups of participants, those using assistive technology and those awaiting use of assistive technology, were included in the present study, but further studies with both groups, separately, are needed in order to describe their problems in detail.

Even though limb disability which affects locomotor function is a major debilitating condition for human beings, it has received very little attention from the public health policy-makers, especially in developing countries. One of the reasons is that in this part of the world the extent of disability associated with lower limb disabilities, is largely unreported or underreported. Further, the use of assistive devices and barriers in their use are hardly researched in Sri Lanka. Therefore, the primary intention of this study was to explore the barriers

associated with the use of assistive devices as experienced by a selected group of people with lower limb disabilities in the KMC area.The study has shown clearly that there are multiple barriers when this population uses assistive devices.

Of these, finance was the biggest obstacle, partly because they reside in a developing country with very few services for the supply of assistive devices, free of charge. These are mainly given by non-governmental organisations, although the government tries to provide some assistance for persons with disabilities through healthcare and the social services departments.The selection of recipients becomes highly competitive and subjective, and only a few benefit from the free supply of assistive devices from either governmental or nongovernmental sources annually. A large proportion of persons with disabilities are left without access to assistive technology. As a result, people with disabilities face the burden of finding donors or well-wishers to give them assistive devices. This observation was confirmed by the study results because almost 40% of the participants (n=5) did not have assistive devices even though they wanted them.

Unavailability of these devices in the local market was another limiting factor for the people in this study group. Very few places manufacture or sell these devices in Sri Lanka, and they are confined to the capital city. Consequently, people in remote areas find it difficult to avail of these facilities. At the same time, dealers are unwilling to open outlets in distant areas because of low demand among people with disabilities residing there, again due to poverty and lack of awareness of assistive technology. Those who use assistive devices revealed that they had to face many problems when the devices needed repair. Reliable services are not available, and available services are both costly and unsatisfactory. Technically competent people who could provide services were also scarce, particularly in areas away from the capital city. Information about modern high-quality assistive devices, such as electric wheelchairs, was also not widespread in the country, to the detriment of people with disabilities in the remote areas.

Even people with assistive devices face various problems in their environment, most often associated with mobility and accessibility. Till today, many private and public facilities in Sri Lanka are not fully accessible to people with disabilities. Most of the participants in this study had problems in getting their day-to-day work done unless assisted by a caregiver. With the right facilities to access services in the country, they could have done their own work using their assistive devices. It was found that despite having assistive devices the study participants had not improved their quality of life because of poor accessibility. Similarly, a

study done in India (Devi et al, 2013) on wheelchair-users has reported that 52% of them faced accessibility problems on a daily basis. Therefore, understanding environmental and infrastructural barriers faced by assistive device users can provide guidance in mapping and strengthening laws which can improve their quality of life.

Psychological problems were another barrier associated with the use of assistive devices. Most of the participants were not ready to accept the use of an assistive device because it made them feel they really had a disability. They felt embarrassed and inferior, and feared that the rest of society would consider them different. Also, they thought that the use of assistive devices would be a disgrace to them and their family members. There were various social and emotional dilemmas with regard to the use of assistive devices in public.

Some of the participants were afraid of getting injured if they used assistive devices, especially if they had already had that experience. In addition, most of them were worried about repair and maintenance costs of their assistive devices in the future. Magnusson et al (2013) reported pain associated with the use of assistive devices among persons fitted with lower limb prosthetic and orthotic devices in Malawi, and also described their difficulties in mobilisation on challenging surfaces. The participants in the present study mentioned fear of using the assistive devices rather than the pain. Further, some participants expressed their difficulties in mobilisation on certain surfaces like uneven pavements which had led to accidental falls. Importantly, the present study reveals not only individual problems but also socio-economic and environmental problems associated with the use of assistive devices. People living with a disability have to cope with major changes in their lives and therefore need a lot of support. To make it easier, they should be given counselling, effective information when being prescribed assistive devices, and should have a good relationship with the prescriber throughout the entire process. In this context, their major expectation from the use of assistive devices is the ability to do things independently.

In the present study sample, there were persons already using assistive devices and those who were in need of assistive devices. The barriers faced by both groups were almost similar. Among those waiting for assistive technology, there were participants who had used it previously and been forced to discontinue because their device had broken. They did not have enough money to buy a new device on their own. The first-time users faced economic barriers, availability barriers, awareness barriers and psychological barriers, whereas persons already

using assistive technology faced repair and maintenance barriers, accessibility barriers and psychological barriers in addition to the barriers encountered by the first-time users. Those who were waiting for a new assistive device to replace the one used previously faced the barriers encountered by both the aforementioned groups.

To sum up, the results show that multiple barriers exist for the use of assistive devices for the study population in central Sri Lanka. These include economic barriers, availability barriers, repair and maintenance barriers, awareness barriers, accessibility barriers and psychological barriers. These barriers may have a major impact on the lives and livelihoods of clients and their families in general, and may reduce the quality of life of the population with disabilities.

Limitations

The results of this study may not be generalised to other populations due to the use of qualitative research technique and the limited sample size.

CONCLUSION and RECOMMENDATIONS

Multiple barriers in using assistive technology by people with lower limb disabilities do exist. These need to be addressed by improving local infrastructure and accessibility facilities, heightening public awareness, ensuring funding and a continuous supply of assistive devices supported by maintenance services. Those who prescribe these devices should communicate and convey information properly to the recipients. Persons with physical disabilities should be helped to gain more knowledge about assistive devices, especially about the availability of more modern ones. They should be given support to modify their physical and social environments. Their physical symptoms should be treated to improve physical functioning, and their psychological health should be monitored to improve mental well-being when using assistive devices.

ACKNOWLEDGEMENT

The work was partially funded by the National Health Research Committee (NHRC) of the Ministry of Health, Sri Lanka.

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