Introduction

In 2020, the Centers for Disease Control (CDC) found that one in four Americans in the United States have some sort of disability. Whether the disability is classified as mobility, cognition, independent living, hearing, vision, or self-care, 20% of adults have some type (CDC, 2020). According to the World Health Organization (WHO) one billion people need at least one assistive device globally. By 2050 it is estimated that at least two billion people will use an assistive device, while older populations will need two or more. Today, only one in ten people are able to gain access to needed assistive technologies (WHO, 2018). There is a large need for assistive equipment globally that is not being met. WHO estimates that only 10% of those people who need these devices are able to gain access to it (WHO, 2018). This gap is due to high-quality assistive technology being financially expensive, limited state funding, and a lack of trained professionals with the use of assistive technology. New advances are being made to help decrease the gap that includes digital technology (Abdi, et al, 2021).

Assistive devices are meant to aid those who will benefit from them and is something that should be easily available to those that need it. The purpose of this project was to develop and operate a lending library program that evaluates the efficacy of adapted technology for people with physical disabilities. In the program, individuals were able to test out adapted equipment to see if they found it useful when completing their daily occupations. As a part of the completion trial, they had the chance to buy the equipment for long-term use after testing it out for their own requirements. Occupational therapists (OT) value participation and engagement for their clients when completing their occupations. This means helping the individual have the necessary means to participate in activities that they desire to complete (AOTA, 2020). Below are images of commonly seen assistive devices that were in the lending library.

Methods

This research was reviewed and approved in accordance with the University of Alabama at Birmingham’s IRB procedures for research involving human subjects. Initially, a list of desired adaptive equipment for the durable medical equipment (DME) bank was provided by a site mentor. This includes any type of adaptive equipment that the site mentor would like to have for the participants to use during their hand therapy. Once the iDME bank was created, the sites were informed of what equipment is readily available for clients to access. If a client is interested in purchasing the equipment, a contract was provided to the client that the client will return the piece of equipment within a specific time limit provided by the site mentor. Once the item was received, a completed survey was conducted by the student. This study used a qualitative, investigative developed, semi-structured interview. A semi-structured interview allows for open-ended questions for the interviewer to ask probing questions when necessary.

The first portion of the interview gathered demographic information that included the participants first name, age and condition/diagnosis. The next section gathered information about the environment the participant used the DME in. The last section gathered information about the participants’ opinions on the equipment, including perceived pros and cons, likelihood of purchasing the device for long-term use, and any other opinions they would like to give.

The sites that participated in the project are multiple Therapy South locations in Trussville, AL and Birmingham, AL. The population for inclusion in this study were individuals currently in occupational therapy at the Therapy South locations. The sites that participated in the capstone project are multiple Therapy South locations in Trussville, AL and Birmingham, AL.

Discussion

It was sought to create a lending library of adaptive equipment for those receiving hand therapy. This library decreased the financial burden for client’s who could benefit from durable medical equipment (DME) to complete their daily occupations outside of the clinical setting. It is essential to provide access to these services so that those with disabilities can take advantage of the lending library (Rayni, 2017).

Of the three participants, one participant chose to purchase the equipment that would have long-term use. This was due to the loaning equipment being adaptable to multiple tools used throughout their home to include cooking items, self-care tools, and items used to complete domestic chores such as sewing. Participant two treated the weighted and built-up handle utensils with an essential tremor, but the tools did not allow the participant to complete self-care tasks in the easier than with normal utensils. It was noted in the initial visit that the patient was able to do most tasks, but the tremors increased as the utensils neared the mouth, food was unable to maintain position on utensils. Participant two, radial nerve palsy, had difficulty completing daily activities such as cooking, carrying objects when cooking and cleaning.

The project’s outcome differed from the original design, but still maintained the purpose for which it was created. After completion of the concluding interviews, it can still be stated that the library was implemented successfully due to participants being able to trial devices at no cost. This project can be used as a stepping stone for future researchers to continue creating accessible DME for people without monetary costs. All devices in the lending library were donated to Therapy South at the conclusion of the project duration to allow for future clients to have continued access to the items.

Conclusion

This research was reviewed and approved in accordance with the University of Alabama at Birmingham’s IRB procedures for research involving human subjects. Initially, a list of desired adaptive equipment for the durable medical equipment (DME) bank was provided by the site mentor. This includes any type of adaptive equipment that the site mentor would like to have for the participants to use during their hand therapy. Once the iDME bank was created, the sites were informed of what equipment is readily available for clients to access. If a client is interested in purchasing the equipment, a contract was provided to the client that the client will return the piece of equipment within a specific time limit provided by the site mentor. Once the item was received, a completed survey was conducted by the student. This study used a qualitative, investigative developed, semi-structured interview. A semi-structured interview allows for open-ended questions for the interviewer to ask probing questions when necessary.

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Discussion continued

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References


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