

CASE STUDY OF THE MYOELECTRIC CONTROLLED TRANSRADIAL PROSTHESES IN THE COMPREHENSIVE COMMUNITY BASED REHABILITATION CENTRE IN TANZANIA.

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BACKGROUND

Upper limb amputees generally experience greater challenges with functional independence and cosmesis. Thus, a myoelectric prosthesis offering appearance without having to sacrifice functionality or vice versa, may be ideal for an upper limb amputee in Tanzania.

No literature is seen to support the use and acceptance of myoelectric upper limb prostheses in Tanzania, although by the 1980s, myoelectric upper limb prostheses were being used in rehabilitation centres around the world and today, they are a common option for the amputees.¹

AIM

This study was an attempt to assess the use and acceptance of the myoelectric controlled transradial prosthesis of four transradial amputees at the Comprehensive Community Based Rehabilitation Centre in Dar-es-salaam.

METHOD

Four trans-radial amputees who fit into the study criteria were recruited through purposive sampling at CCBRT, Dar-es-salaam.

Ethical clearance was obtained from KCMU College research committee and each participant signed a consent form before the study was conducted.

Data was obtained through interview, pictures and videos. A qualitative questionnaire guided the interview six months after the participants obtained their new prosthesis.

Training on how to use the muscles to open and close the terminal device was provided. The finished prosthesis was then fitted to the individual participants and more training was given before they took their prosthesis home for use in their daily living activities.

RESULTS

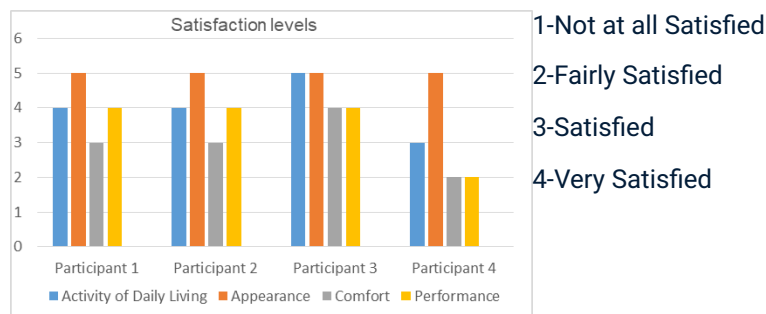


Figure 1: Graph shows the rate of satisfaction level from 1-4.

The higher the satisfaction rate, the higher the acceptance rate of the myoelectric prosthesis. The acceptance rate was much higher in participants whose dominant arm was amputated than the participant whose dominant arm was still intact (Participant 4).

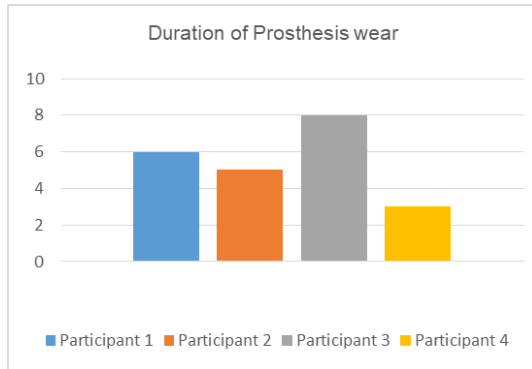


Figure 2: Graph showing the duration of prosthesis wear from 0-8hours

Participants' successful use of the prostheses was defined as the mean daily wearing time of more than two hours, of which was 100% achievement. The participants were seen to wear their prosthesis mostly during the daytime during their work areas and public/social gatherings.

Training and prolonged use of the prosthesis over time encouraged the increase of control and feedback hence an increase in comfort and more acceptance of the prosthesis.

DISCUSSION AND CONCLUSION

This study correlates to the study done by Biddis and Chau,² where acceptance of the myoelectric prosthesis was higher among the amputees. This is because, cosmetic appearance appears to play as great a role in psychological sequelae of amputation as does the return of physical function.³ This study's preliminary findings should spur further research considering other factors such as the comparison of the myoelectric to the passive and body-powered prosthesis or acceptance level in other upper limb levels in Tanzania.

REFERENCES

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ACKNOWLEDGEMENTS

My sincere gratitude to my research sponsors, SFD; participants; supervisors; research committee; my husband; family and colleagues.