

# Enabling local provision of assistive technology in rural South India: A survey of needs, barriers, and facilitators

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# Background

- Access to assistive technology (AT) is essential to maximizing function, participation and inclusion of persons with disabilities.
- Challenges to provision and use of AT in low-and-middle-income countries include stigma, physical and social barriers, cost and availability of AT and limitations in local clinical expertise.
- Determining local needs, barriers and facilitators to AT access are essential to addressing gaps and providing supports.





# Objectives

1. To identify the met and unmet assistive product (AP) needs and provision.
2. To explore barriers and facilitators to provision of priority APs according to rehabilitation professionals in rural South India.



# Methods

## Study Design

A descriptive study using an online survey methodology.

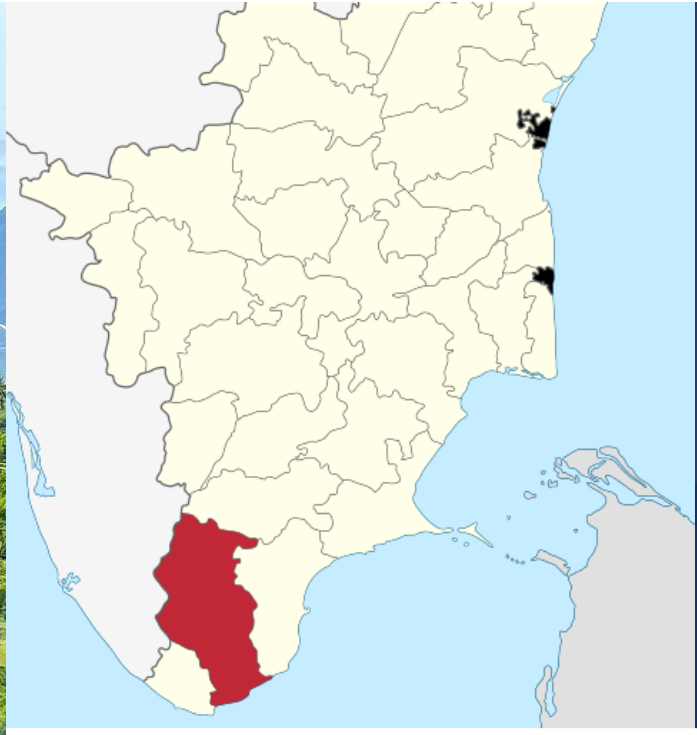
## Study Setting

Amar Seva Sangam, an NGO serving children and adults with disabilities in 3 rural districts of South Tamil Nadu , India.

## Participants

A volunteer sample of the NGO's rehabilitation professionals providing both centre- and village-based services; PTs, OTs, speech trainers and special educators.





**Amar Seva Sangam  
Village-Based Rehabilitation Initiative  
Tenkasi, Tirunelveli, Tuticorin Districts, Tamil Nadu**





# Survey Development

The survey was developed based on the World's Health Organization's (WHO) Assistive Product List (APL).

**Assistive products (APs) were grouped into the following categories:**

- Mobility devices (wheelchairs and walking aids)
- Standing and sitting postural aids
- Orthotics and prosthetics
- Communication devices and learning aids
- Visual and hearing aids
- Personal living aids, and environmental modifications.



# Survey Administration and Analysis

- Respondents completed surveys based on discipline-specific AP groupings by ranking their top 3 responses for each question.
- Met and unmet AP needs were ranked by top 3 APs most/least provided.
- Barriers and facilitators were classified based on the **5As**' - availability, accessibility, affordability, adaptability, acceptability .
- Response statements were developed and associated to the theme of each 5A category.





# Results



- A total of 62 online questionnaires were received; physiotherapists (n=24), occupational therapists (n=2), special educators (n=25) and speech trainers (n=11).
- Met and unmet needs/provision were identified based on APs within discipline-specific AP categories.
- Service providers' perceptions of barriers and facilitators showed discipline-specific variability.
- **Top three barrier categories** across disciplines: acceptability, availability, affordability
- **Top three facilitator categories** across disciplines: acceptability, accessibility, affordability

# Met and Unmet Assistive Product Needs

Met AP Needs	Unmet AP Needs
Walking Frames Crutches: elbow, axillary Lower limb orthoses C.P. chairs Adult manual wheelchairs Pressure relief mattress Therapeutic footwear (clubfoot) Sliding board, universal cuff	Pediatric rollators Standing frames Spinal orthoses Pediatric manual wheelchairs Tilting wheelchair Motorized wheelchair
Hearing aids Communication boards/books	Laptop with daisy Communication software Gesture-to-voice technology Text-to-voice technology



# Most Common **Barriers** across Disciplines

- **Acceptability (37%)**

‘Not accepted by the service user and/or family due to 1) appearance, and 2) stigma’

‘Not able to mobilize the service user/family for measurements or difficulties with travel’

- **Availability (26%)**

‘Long waitlist for government-provided and/or not able to order from an external source’

- **Affordability (19%)**

‘Not affordable for service user/family’



# Most Common Facilitators across Disciplines

- **Accessibility (23%)**

- 'Training and education for professionals to prescribe/assess/modify APs'

- 'Client education for the service users and their families'

- 'Access to device repair facility'

- **Acceptability (36%)**

- 'Community education and awareness'

- 'Improving appearance, comfort or usability of AP' (quality)

- **Affordability (27%)**

- 'Availability of funds for the AT'



# Take Home Messages

## Clinical

- Capacity-building of service providers on assessment, prescription, fit, training, use of AP
- Implementation of AP assessment camps and AP service provision in rural areas
- Provide educational programs for service-users and families

## Community

- Community awareness programs to address AP-related stigma
- Fund raising campaign for AP, enable affordability
- Identify local supplier for provision, adaptation, repairs of APs



# Conclusion

- An institutional level survey based on the WHO 's APL identified met and unmet needs, and barriers and facilitators to catalyse change in local/regional provision of AP.
- Strategies to enhance access to prioritized AT need to consider the principles of **5As**: availability, accessibility, affordability, adaptability, acceptability.
- Our study has proven to be a valuable approach to inquiry, reproducible in various LMIC and low-resource contexts globally.



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