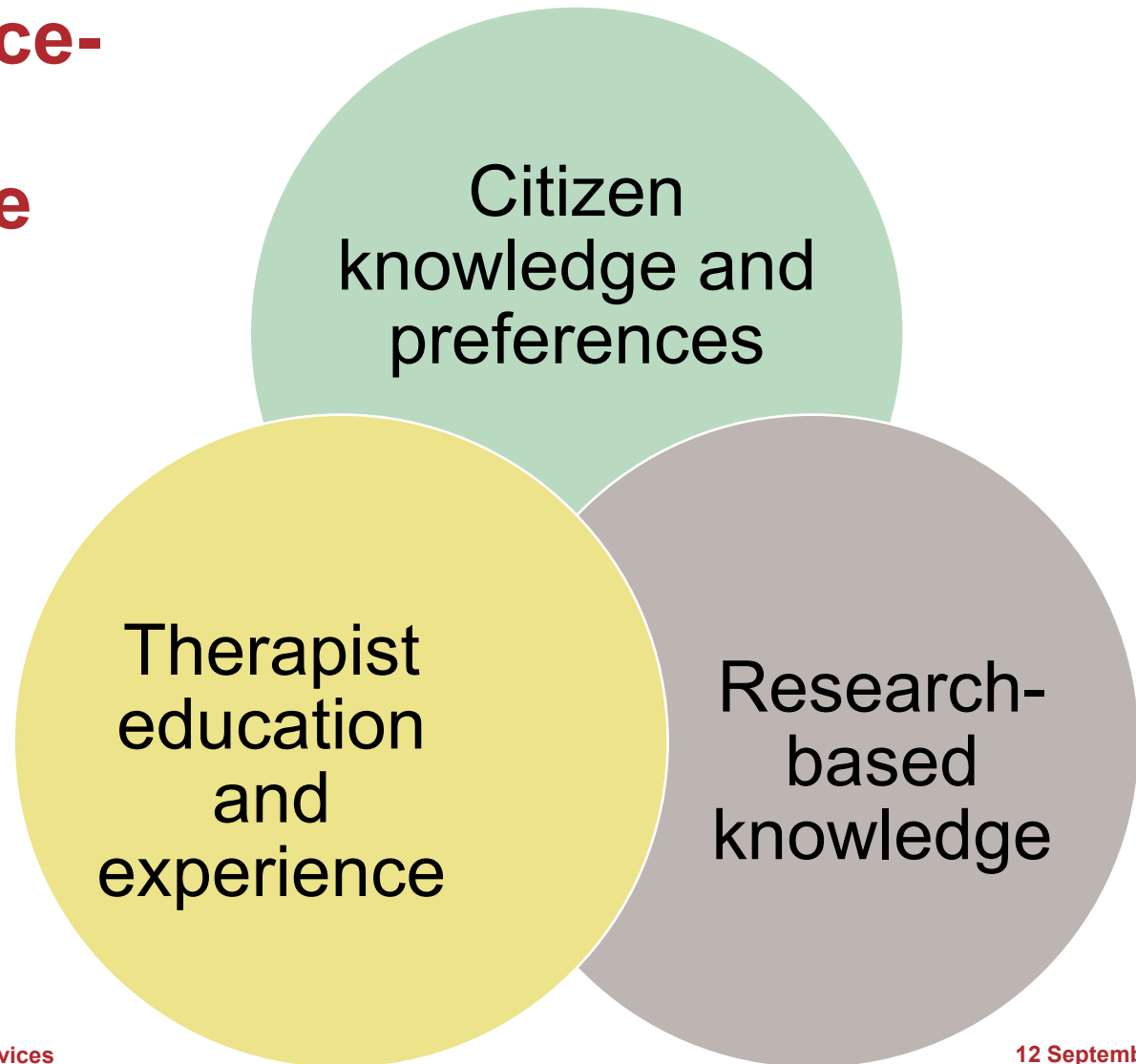


What is important in the assistive technology service delivery process? - A systematic review

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Evidence-based practice



Obtaining research based knowledge

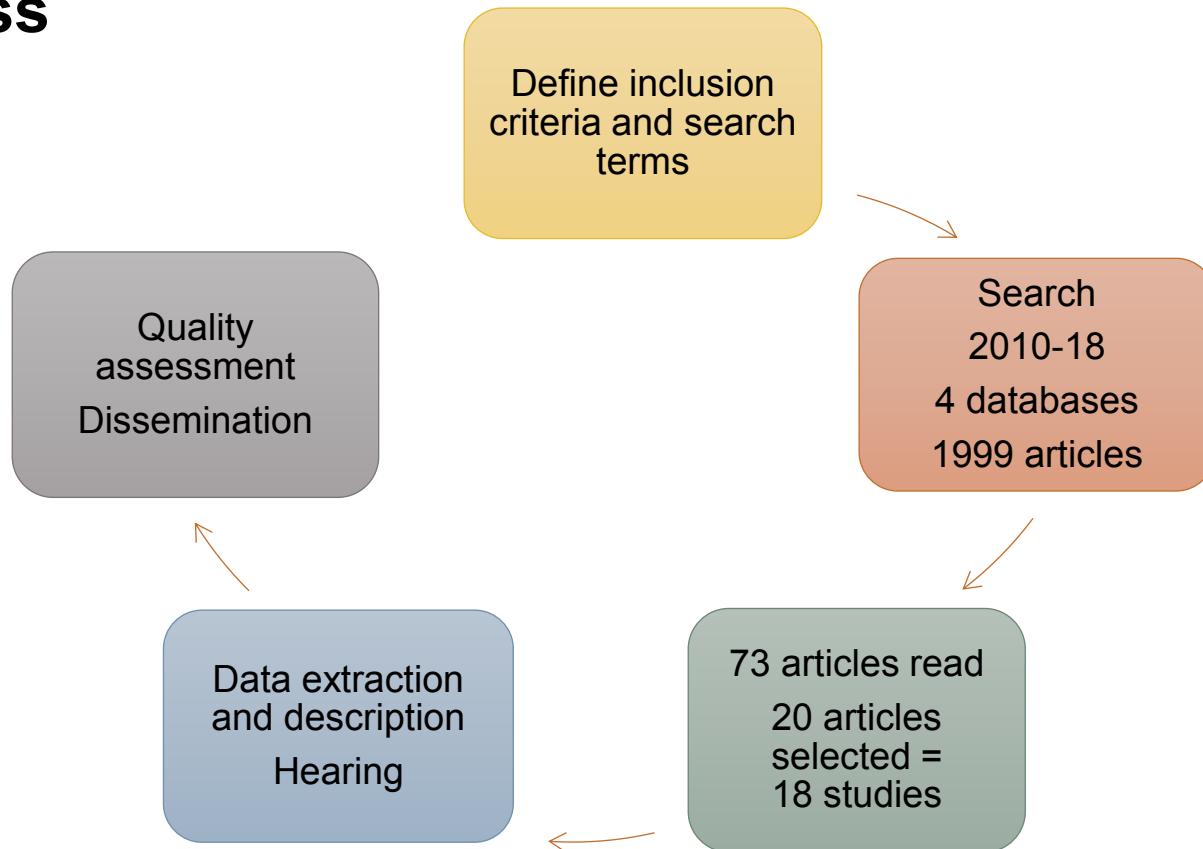
Focused question

- How should the assistive technology service delivery process be accomplished
- for community living people with functional limitations
- in order to achieve better outcomes, mainly to
 - *decrease abandonment*
 - *increase activity and participation*
 - *increase quality of life*
 - *increase user satisfaction*
 - *decrease public costs*

We looked
for
quantitative
effect
studies

Obtaining research based knowledge

Process



Findings

Types of assistive devices, number of studies:

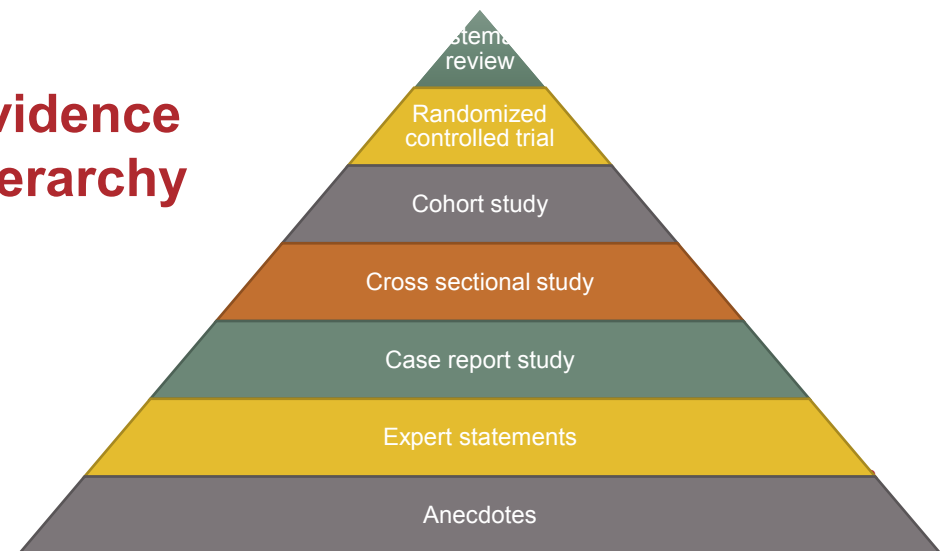
- Most/several types: 7
- Bathing: 1
- Mobility: 3
- Manual wheelchairs: 4
- Powered wheelchairs: 1
- Powered scooter: 2



Study design and quality*

Study design	High quality	Middle quality	Low quality	Total number articles
RCT	2	2	1	5
Control group			2	2
Cohort	2	1		3
Cross-sectional	4	2	4	10

Evidence hierarchy



* Joanna Briggs Institute

The National Board of Social Services
Assistive technology service delivery process

Main findings

Involvement of the user

is a basic requirement for getting positive outcomes

- *Less device abandonment*
- *Users more satisfied with device and process*

How?

- User involvement and problem solving as organizational approach (Frederici, 2014)
- When users are informed about possible assistive devices (Kling, 2010; Martin, 2011)
- Selection of device in cooperation between professional and user (Johnston, 2014; Philips, 1993; Riemer Reiss, 2000)



Main findings

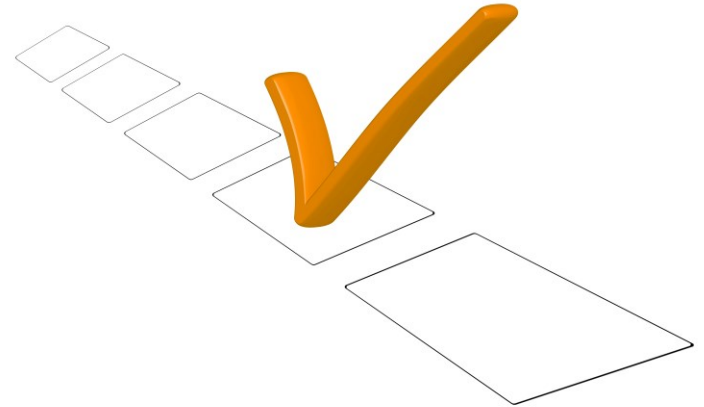
Structured processes

increases the probability of positive outcomes

- *Less device abandonment*
- *Devices are used more often*
- *Fewer wheelchair-related accidents*

How?

- By using described procedures and methods for assessment, individual adaptation, training in use of device, and follow-up (Danial-Sad, 2015; Hansen, 2004; Hoening, 2005)



Main findings

Training in device use

Results differ among studies

- When the user had got training in manual wheelchair use they had higher probability for increased activity and participation, being more satisfied with the wheelchair, increased quality of life (Borg, 2012)
- When experienced wheelchair users had got wheelchair skills training by means of the Wheelchair Skills Program (WSP)
 - *there was no effect over time when measured by WSP instrument (Kirby, 2015)*
 - *but individually selected wheelchair skills were improved when measured by Goal Attainment Scale (MacGillivray, 2017)*
- When the users had got training at home in use of bathing devices they became independent in bathing compared to those who did not get training (Cindy, 2004)



Other interesting findings

Tele assessment and virtual reality training

have similar outcomes as face-to-face methods in wheelchair and powered scooter assessment and training concerning

- *activity performance*
- *ability to drive wheelchair and experience of of ability and comfort*

(Jannink, 2008; Schein 2010a, 2010b)



What we did not find

For example effect studies on

- Which specific methods are effective in assessment of user needs?
- Which methods for selection of devices, including methods for matching user need and device, are effective for which groups of users?
- Does follow-up have an effect – and which methods are effective?
- Cost-effectiveness studies – does a comprehensive service delivery process pay in the long run?
- Implementation of Information and Communication Technology-based devices – which methods to apply for which groups of users?
- And we did not find many high-quality studies

Conclusion and discussion

- The best evidence is for user involvement in the service delivery process and for using a structured approach
- Tele assessment and virtual reality training are promising new methods
- Most findings confirmed by review of qualitative studies on assistive technology service provision (Ranada, 2017)
- How to implement the study findings?
- Barriers for implementation?

Study limitations

- Our search may not have identified all relevant studies
- Several studies were identified by snowballing
- Some studies are rather old



Thank you for listening 😊

