


# **Which is the more suitable tool to identify fall risk in elderly with intellectual disabilities?**

**A comparison of two regular tools**



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**7th European Congress of Mental Health in Intellectual Disability**

# Overview

- **Insight on falls in people with ID**
- **Regular assessment tools**
- **Suitability for people with ID?**
- **Comparison and conclusion**
- **Preventative measures**

## Falls in people with ID

- **Estimated equal prevalence of falls to elderly**
- **Similar circumstances**
- **Young women fall the most**
- **> 50 years fall more often**
- **Higher prevalence and risk on fractures**

## Consequences

- **Physiological and social deprivation**
  - **Physical function 33%**
  - **Social activities 17%**

**Fear – less confidence – independence ↓**  
**– loss of functions – incident – fear ↑**

- **Isolation and deprivation QOL**

## Risk factors for falls people with ID

- Functional or cognitive impairment
- Balance or gait disorders
- Visual deficits
- Age (~~>80y~~) → (> 70y)
- Polypharmacy → anticonvulsants
- Fear of / history of falling
- Low ADL level
- Environmental factors
- Having seizures (monthly)
- Paretic conditions

# Fall risk assessment for PT

- **Prime risk factors:**
  - **Balance and gait**

## **Tools:**

- **Tinetti's Performance Oriented Mobility Assessment (POMA)**
- **Berg Balance Scale (BBS)**



**Suitable for people with ID??**

## POMA (Tinetti, 1986)

- **Observation balance and gait (15 min.)**
  - **POMA-B: 9 items (16 points)**  
i.e. sitting, rise, standing, turning.
  - **POMA-G: 8 items (12 points)**  
➤ i.e. step length, continuum, deviation.
- **Use for people with ID?**
  - **Reliability?**
  - **Discrimination fallers**
  - **Observations**

## **BBS (Berg, 1992)**

- **Static and dynamic balance**
  - **14 tasks (20 min.)**
  - **Quality and/or time**
  - **i.e. sitting, standing, turning, transfers, reaching, stand on one leg.**
  
- **Useful for people with ID?**
  - **Reliable and discrimination fallers**
  - **Specific tasks are difficult to execute**
  - **Drop-out rate (behavior and comprehension)**

# Clinically suitable tools are...



Ipse  
de Bruggen

**Reliable  
Valid  
Feasible**

**Time to  
complete**

**Suitable**

## Pilot population (balance)

### 31 clients (institutionalized):

- 59,9y (SD: 9,6 ; range 50-86)
- 48% female
- 32% had history of falls (fallers)
  
- Mild ID: 7% (2)
- Moderate ID: 71% (22)
- Severe ID: 23% (7)

3 PT's conducted measurements

# POMA-B and people with ID



Ipse  
de Bruggen

- Good interrater reliability (ICC: 0,78)
- Independent for level of ID
- Fallers have a lower score
  - mean: 10,7 vs 11,4<sup>n</sup>
- Time to complete: 6 min. 4 sec.
- Fallers need more time: 7 min. 42 sec\*

<sup>n</sup> p=0,05

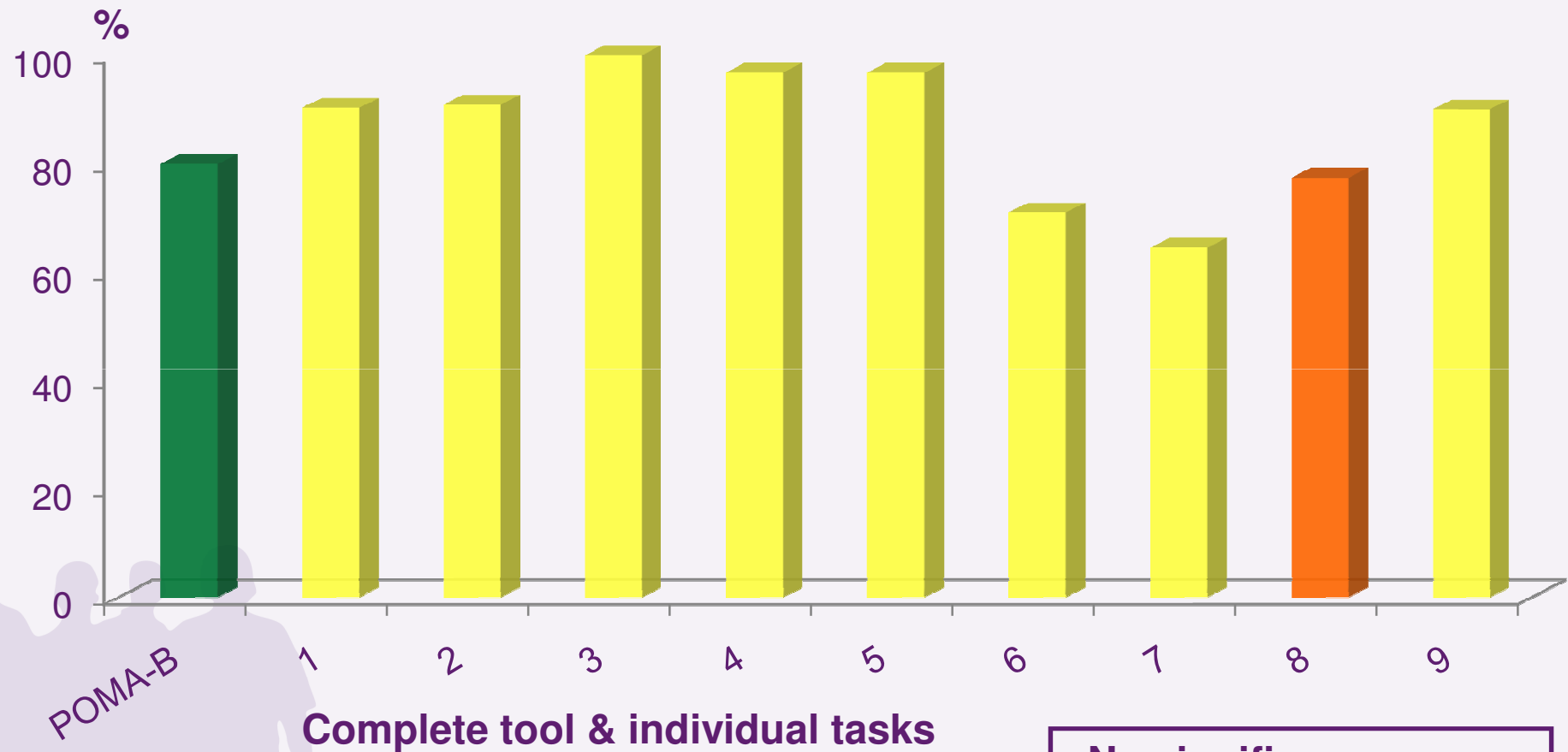
\* p<0,05

## BBS and people with ID

- Excellent interrater reliability (ICC: 0,96)
- Independent for level of ID
- Fallers have a lower score
  - mean: 27,4 vs 37,8 \*
- Time to complete 25 min. 25 sec.

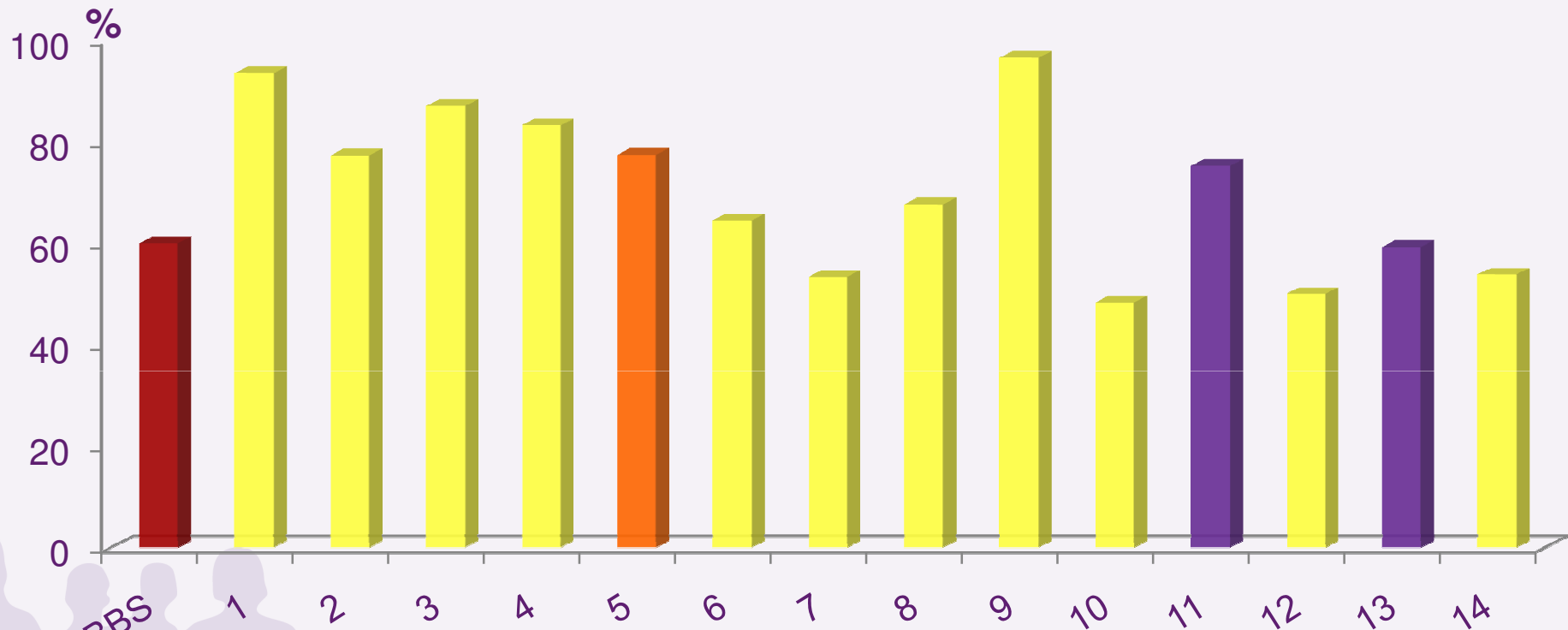
\*  $p < 0,05$

# Feasibility POMA-B



- No significance
- History of falls (p<0,05)

# Feasibility BBS



Complete tool & individual tasks

- History of falls ( $p < 0,05$ )
- Level of ID ( $p < 0,05$ )
- both ( $p < 0,05$ )

## Comparison

- Both tools are reliable to administer
- History of falls better detected with BBS
- POMA-B is feasible within 80%
- BBS is sign. less feasible for fallers
- Comprehension is most limiting element BBS
- Fear and behavioral problems during BBS
- POMA-B is much quicker to complete

## Conclusion

- POMA-B appears the more suitable tool to assess balance for people with ID
- Original POMA-B could be implemented in clinical practice

## Prevention of falls

- **Multifactorial multidisciplinary approach is evidently necessary for prevention of falls**
  - **Check medication and environmental hazard and (re)training of function.**
  - **Specific instructions individual/caretakers**

**Clinical practice in care (for people with ID):**

- **Interventions after injuries or disabilities**
- **Poor registration and minimal use of counsel**

**Primary prevention is significant  
to decrease incidence**

## And now?!

- **Further investigations on suitable tools for people with ID**
- **Composition of multidisciplinary diagnostic protocol for prevention of falls specifically for people with ID**

# Thank you for your attention!

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## Special thanks to:

Eline Kuijpers, PT

Anemone Linthorst, MD

Marcel Schellart, MBA

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## Prime reasons less feasible POMA-B (<80% or sign.)

- Task 6: nudges to sternum (F= 71%)  
comprehension (7), fear (2), physical (2)
- Task 7: Stand with eyes closed (F= 65%)  
comprehension (7), fear (6), physical (3)
- Task 8: Turning 360° = sign. history of falls  
physical (3), fear (2), behavior (2)

# Prime reasons less feasible BBS (1) (<60% or sign.)

- Total BBS (F= 60%) = sign. history of falls & level of ID comprehension (11), concentration (6), behavior (5), fear (3), disstress (3), physical (2)
- Task 5: Transfers = sign. history of falls comprehension (4), physical (2)
- Task 7: Standing with feet together (F= 53%) physical (8), comprehension (2)
- Task 10: Turning to look behind (F= 48%) comprehension (12), physical (2), behavior (2), fear (2)

## Prime reasons less feasible BBS (2) (<60% or sign.)

- Task 11: Turning 360° = sign. level of ID  
comprehension (4)
- Task 12: Placing alternate foot (F= 50%)  
fear (4), physical (4), comprehension (3), behavior (2)
- Task 13: Standing with 1 foot in front = sign. level of ID  
comprehension (5), physical (5), fatigue (2), fear (2),  
behavior (2)
- Task 14: Standing on 1 foot (F= 54%)  
comprehension (5), physical (5), fatigue (3), fear (3),  
behavior (2)