

"Thank you for bringing back my dad"

The importance of proper fluid intake for the functional ability of seniors living in their own homes.

From May 2023 to March 2024, Aarhus Municipality in Denmark carried out a publicly funded project with senior citizens affiliated with Care & Rehabilitation. The project was called "Prevention and treatment of dehydration"¹ and trialed the intelligent drinking glass AQUATIME.

Purpose of the project:

For seniors to achieve better health, improved well-being, and quality of life through prevention and treatment of dehydration, leading to fewer hospitalizations and a reduction in staff working hours.



Streamlining the municipality's operations

- Time saved on fluid recording practices (measured via time tracking: paper baseline and test with glass)
- The employees are relieved of documentation and administrative tasks and can perform other tasks
- Improvement in quality of basic nursing care (measured via drinking data from glass and compared to baseline)

Effect measure and data collection method for the project

Providing good service to the city's citizens:

- Greater well-being and quality of life as a result of prevention of dehydration (measured via The World Health Organization's - Five Well-Being Index (WHO-5) + qualitative interviews)
- Increase in functional ability due to faster and more valid treatment of dehydration (measured via Functional Independence Measure (FIM) + qualitative interviews)

Background of the project

- Studies show that as many as 20% of seniors receiving home care are dehydrated².
- Due to a lack of standardized tools and methods for identifying dehydration, the actual occurrence is unknown and probably underestimated³.
- Dehydration in the elderly can lead to a number of serious sequelae such as delirium, the tendency to fall, constipation, kidney failure, increased risk of infections, and poor regulation of diabetes, which lead to potential hospitalizations, increased morbidity, and mortality⁴.
- Particularly, individuals over the age of 65 are at risk of dehydration, as the natural feeling of thirst weakens as you age, and the body finds it more difficult to maintain fluid balance⁵.

Project evaluation

The results showed that 63% of participants in the project, had an improved functional ability.

The project also showed that the seniors' functioning ability is linked to their fluid intake.

59% of the citizens also experienced an increase in well-being. Some seniors experienced up to 176% increase in well-being.

A correlation was also observed between the percentage change in FIM and in WHO-5, so the seniors whose functional ability increased during the project also had a higher level of well-being.

The project showed that using AQUATIME saved 30% of time compared with recording data on a paper-based fluid chart.



Examples of seniors in Aarhus Municipality who have achieved increased functional ability and quality of life by using AQUATIME

Improved well-being for citizens

A 77-year-old woman has generally felt better by using AQUATIME:

"Yes, my lips were SO dry before. They aren't anymore after I drink more. I thought of that the other day. I must have been dehydrated. I didn't feel thirsty (...) I have generally felt better because I am not so dehydrated".

Learning new routines

An 82-year-old woman has found new routines regarding fluid intake when using AQUATIME:

"I have a jug where I know I have to fill it twice now before I go to bed. I didn't know that until I used the glass".



Increased health for seniors

An 89-year-old man had a fluid restriction of 1600ml daily and was very worried about drinking too much, so he had to be hospitalized. He, therefore, drank too little compared to his needs. His fluid intake increased from 907ml to 1431ml. During the interview, he described how stressed he had been in relation to whether he was going to consume too much fluid and, therefore, preferred to stay a little under. With the glass, he got both more liquid and an increased sense of security in relation to his liquid intake, and this positively affected his well-being.

Senior no longer sleeps in a wet bed

An 83-year-old man urinates heavily at night and often needs to have his incontinence product and bed sheets changed at night or in the morning. Data from AQUATIME shows an inappropriate fluid intake in the evening, and by distributing the amount of fluid more appropriately throughout the day, it is no longer necessary to change the sheets. The increase in functional ability is presumably not related to a dehydration problem, but rather a result of the senior sleeping better without having the bed sheets changed. The problem with the inappropriate fluid intake would not have been uncovered without the effort provided by the data from the glass, in combination with a strong analysis from the nurse.

I got my dad back

An 84-year-old man has had a declining functional ability for a long time, both physically and cognitively. During the first week when he uses AQUATIME with the nudging function, he clears up so much that, according to his daughter, he can now again: draw, tie his shoelaces, participate actively in conversations, and he takes an interest in his family and asks about a grandson in Copenhagen, which the daughter thought he had forgotten he had.

His walking function became significantly more stable and his face looked different, e.g. clear eyes instead of dull and the skin had changed color. When the citizen stopped the project, he became apathetic and absent again and it was therefore agreed with the daughter that he became a long-term case and he continues to enjoy the glass.

The daughter states; "I got my dad back".



References

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