

Smart watches and apps can make life easier for ADHD children

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Children and young people with ADHD can find it difficult to keep appointments and easy to forget what they have to bring with them in different situations. Credit: Morguefile

Researchers believe that children with autism or ADHD can benefit

from technologies originally developed for the elderly.

Welfare technology has long been associated with helping the elderly cope at home for as much of their lives as possible. SINTEF researchers are now investigating whether technologies such as digital calendars and smart watches can also help [children](#) with autism and/or ADHD in their daily lives.

This last year they have tested a variety of systems with the help of three families, involving a total of four children.

"Our experience is that it takes time to set the systems up and that using them can sometimes be difficult", says researcher Øystein Dale. "But we can also claim that these are aids that can be of benefit to these groups", he says. Dale, together with Lisbet Grut, his colleague at SINTEF, has been looking into how smartphones, tablets, smart watches and shared calendar systems can provide support for children and their families in their everyday lives.

Wake-up lights and shared calendars

Children and young people with ADHD can find it difficult to keep appointments and easy to forget what they have to bring with them in different situations. Their lives can be made easier if they use a [smart watch](#) or a calendar displayed on a mobile phone or tablet. Such aids may use a combination of pictures, sounds or text to remind them about where they have to be and when, and the things they have to do.

Fourteen year-old Lisa is one of the ADHD children taking part in the study. She finds it difficult to get going in the mornings and organise her day-to-day activities.

In order to help her first get to sleep and then get up in the mornings,

Lisa tried using a wake-up light linked to an iPhone app. The system simulated sunlight and played music that gave her a gentle start to the day. She only used the wake-up light for a few weeks up until the school summer holidays, but was pleased with how it worked. Her mother agreed that the morning routine went easier when Lisa used the light.

Lisa tried out a shared calendar app to help her in her everyday activities. She got reminders about things she had to do both on her iPhone and on a smart watch connected to the phone. Her mother also got a message on her phone as soon as Lisa checked off that she had completed an activity.

However, some of the services provided by the technical aids proved to be unstable. Moreover, Lisa didn't like the smart watch which she found was too big for her wrist and stopped using it.

The original set-up using a shared Google calendar was swapped for an Apple product involving a built-in task list with reminders.

"This was better suited to Lisa's and her mother's needs", says Grut. "Mother entered the things that had to be done, and Lisa checked them off on the phone when she had finished them", she says.

A lot of choice

There is a huge number of technologies on the market. On the positive side, there is a lot of choice. However, the wide variety of technologies available makes it difficult to navigate the market and identify the system that works best in individual cases.

It is important that systems intended to support children are not made up of too many different components. It is difficult to have to carry lots of devices around – all of which have to be operated differently. During the

testing process, the researchers also found that set-ups consisting of many interconnected components are vulnerable to technical problems. A good example is when a [calendar](#) is shared between many people involving multiple appointment reminders on both mobile phones and smart watches. It proved difficult to get such systems to function consistently well over time.

Quality of life for a vulnerable group

"We believe that our knowledge about how technology can be applied may enable children to function better in their day-to-day lives, both at school and in other social situations", says Dale. "This will contribute towards enhancing their quality of life, and that of their families", he says. "To achieve this the children and their families need effective guidance and facilitation, and close supervision by professionals over time. The positive aspect here is that these days children probably own and use tablets and similar technologies all the time, and are curious and eager to try new ones out", says Dale.

Provided by SINTEF

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