

More Stamina

New Study Shows Promise for Gamified mHealth App in Managing MS-Related Fatigue

OULU, FINLAND – March 10, 2025 – A new study published in *Multiple Sclerosis and Related Disorders* highlights the potential of **More Stamina**, a gamified mobile health (mHealth) app designed to help people with Multiple Sclerosis (MS) manage fatigue, one of the most common and debilitating symptoms of the disease. The research, led by Dr. Guido Giunti and neurologists Dr. Mervi Ryytty and Ass. Prof. Johanna Krüger from the University of Oulu and Oulu University Hospital, evaluated the feasibility, usability, and impact of More Stamina over a 60-day period.

“Fatigue is an invisible but life-altering symptom of MS,” said Dr. Guido Giunti, digital health expert at the University of Oulu and leader of the More Stamina project. “Managing it requires more than just medication. More Stamina gives people the tools to understand their energy levels, take control of their day, and communicate their needs more effectively.”

The study followed 20 participants from Oulu University Hospital, who used the app daily for two months. Findings revealed that:

- Users became more aware of their fatigue patterns, enabling them to plan their days more effectively.
- Higher engagement correlated with increased self-awareness, particularly among those with more severe fatigue.
- The app helped facilitate discussions with family members and healthcare providers, improving mutual understanding of fatigue’s impact.
- Usability improved over time, though some users found data entry cognitively demanding, indicating areas for refinement.

An Evidence-Driven Digital Health Solution

More Stamina helps users track their daily activities and energy expenditure using “Stamina Credits”, a gamified approach that visualizes energy use and helps users make informed decisions about their daily plans. Unlike many digital health solutions, More Stamina stands out for its research-driven approach at every stage, from identifying patient needs to design, prototyping, development, and testing. Each phase has been accompanied by peer-reviewed research, creating a transparent scientific trail for a mobile health solution.

“Digital health solutions are only as good as their foundation,” said Prof. Minna Isomursu, expert in user-centered design and co-author of the study. “We worked with real patients and healthcare professionals from the start to build something truly useful. That is key to creating tools that people actually find useful in their daily lives.”

Bringing Digital Health Into MS Care

Fatigue affects up to 80% of MS patients and has a profound impact on their quality of life. Managing fatigue is challenging, as it involves physical, cognitive, and emotional factors, often leaving patients feeling exhausted, misunderstood, and unsupported. While digital health solutions have been

increasingly proposed to help manage chronic conditions like MS, few have been rigorously evaluated to ensure their effectiveness and real-world impact. Neurologists at Oulu University Hospital emphasize the potential of such solutions in complementing traditional MS care.

"Managing MS fatigue has always been a challenge, as it varies from person to person," said Dr. Mervi Ryytty, neurologist at Oulu University Hospital. "Having a tool that helps patients visualize and plan their energy levels can make a real difference in how they manage their symptoms."

While the study confirmed that More Stamina is a feasible and acceptable tool, researchers emphasize that larger and longer-term studies are needed to evaluate its full clinical impact. The team is now exploring ways to integrate More Stamina into broader MS care strategies:

"This study reinforces the role of digital health solutions in MS care," added Dr. Johanna Krüger, neurologist at Oulu University Hospital "Now we need to refine it, expand access, and ensure that digital tools like this one can become an effective and seamless part MS care."

Empowering Patients and Strengthening Family Dialogue

One of the unexpected yet powerful outcomes of the study was the role More Stamina played in facilitating conversations between MS patients and their families. Many participants reported that sharing their fatigue patterns with loved ones helped them feel understood and supported.

"Invisible fatigue is hard to explain to those who don't experience it, especially since I do not always understand it myself," said Tonja Molin-Juustila, a patient representative involved in the project. "More Stamina gives you a concrete tool to look at fatigue and discuss it with the family. Instead of repeating 'I'm so tired now', it becomes 'It seems you need to rest more often'. This makes a huge difference, turning the interaction from perceived guilt into mutual understanding."

More Stamina's development was not just about technology, it was about people. Active participation from patient representatives was key to ensuring that the app addressed real-life challenges.

A Blueprint for Future Digital Health Solutions

Beyond its success in MS fatigue management, by combining scientific rigor, user-centered design, and real-world testing, this project has created a blueprint for how digital solutions should be developed and integrated into healthcare.

"We need to move beyond gimmicks and ensure digital health solutions are truly beneficial," said Dr. Guido Giunti. "The way we've worked with More Stamina is proof that when we bring together science, technology, and patient voices, we can create tools that actually improve lives. We hope this approach sets a new standard for future digital health solutions."

About the Study

The study was funded by Business Finland, the Finnish Innovation Fund (Sitra), the Riitta ja Jorma J. Takanen Foundation, and Marie Skłodowska-Curie Actions.

Link to the study: <https://www.sciencedirect.com/science/article/pii/S221103482500121X>

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