

For young patients with spina bifida, smartphone app improves self-management

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A system incorporating a smartphone app may help adolescents and young adults with spina bifida to improve their daily self-management skills, suggests a paper in the *American Journal of Physical Medicine & Rehabilitation*, the official journal of the Association of Academic Physiatrists.

With features including mobile reminders and messaging with healthcare providers, the "iMHere" (interactive Mobile Health & Rehabilitation) system is feasible for use by young [patients](#) with [spina bifida](#), according to the new research by Dr. Brad E. Dicianno of University of Pittsburgh Medical Center and colleagues. They write, "This system holds promise for use in many diverse chronic care models to support and increase self-management skills."

iMHere System Is Feasible, and May Improve Self-Management in Spina Bifida

The randomized pilot study evaluated the iMHere system in 23 patients, aged 18 to 40, with spina bifida: a disabling congenital condition affecting the spine. The patients in the study had myelomeningocele—the most severe type of spina bifida.

One group of patients received the experimental [iMHere system](#), which combined a suite of smartphone modules and a web-based portal for healthcare providers, linked by a two-way communication system. The modules were tailored to the key issues of spina bifida self-management, including information on medications, reminders to perform important daily self-care activities, and monitoring of mood and depression symptoms.

The other group of patients received routine spina bifida care and follow-up. After one year, use of the iMHere system and self-management skills were compared between groups, along with other key outcomes.

Patients met or exceeded expected levels of use of the iMHere system. They were most likely to use modules that reminded them to perform self-care steps that occurred less than every day; and to remind them to take medications, which changed frequently. iMHere users "were also more likely to communicate new information or symptoms to a wellness coordinator by secure message, survey, or photograph," according to the authors.

Surprisingly, higher use of reminders did not decrease the rate of events requiring medical attention. However, patients who were high users of the iMHere system gained new independence in certain spina bifida self-management skills. All types of medical events tended to be less common for patients using iMHere, although the differences were not significant.

Over 166,000 Americans are living with spina bifida, most of them adults. This condition carries very high rates of complications related to bladder problems, skin wounds, and infections. Studies estimate that more than one-third of hospital admissions of adults with spina bifida are preventable.

Smartphones and other mobile health tools have the potential to improve self-management and health outcomes for patients with a wide range of chronic health conditions. The new study is one of the first to show the feasibility of using mobile tools to promote self-management skills and communication with health care providers for patients with chronic, disabling conditions like spina bifida.

The preliminary results suggest that the iMHere system may enable young patients become more independent in managing their spina bifida—especially those who use the system frequently. Dr. Dicianno and colleagues write, "Additional refinements of the system are currently undergoing development in order to improve

outcomes by increasing usage of each of the modules."

More information: "Feasibility of Using Mobile Health to Promote Self-Management in Spina Bifida" [DOI: 10.1097/PHM.0000000000000400](https://doi.org/10.1097/PHM.0000000000000400))

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