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# A patient's journey is likely to include surfing the web: how can we help?

## Internet and people with mental disorders

A “whole patient” can be a person with schizophrenia, who is also an internet user and searches for mental health information online.

Between 2000–2018 the internet has grown by 1,052%, with about 4.2 billion people surfing the Web (Internet World Stats 2018). In Europe, about 81% of citizens use the internet at least once per week (Eurostat 2018). The number of internet users who search for health and mental health information online has been growing. About 89% of Americans (Pew Research Center 2018) and approximately 51% of European internet users (Eurostat 2017) search for health information online. It is apparent that the internet has influenced how we search and gather health information and how we generally conduct our day-to-day lives.

People with mental or substance use disorder comprise between 13 to 22% of the global population (Ritchie and Roser 2018), which is approximately 1.1 billion people. Among this population, 21 million are diagnosed with schizophrenia. As a consequence of the global trends, people with mental disorders, including those with schizophrenia, use the internet similarly to the general population (Schrank et al. 2010; Kalckreuth et al. 2014; Miller et al. 2015; Athanasopoulou et al. 2017). About 80% of people with psychiatric conditions are internet users (Kalckreuth et al. 2014). They use the internet for health information seeking, email exchange, social media, web 2.0 use (Miller et al. 2015; Athanasopoulou et al. 2017), and to communicate with peers and health professionals (Miller et al. 2014; Schrank et al. 2010). However, does this population easily find and understand the health information retrieved online?

Studies focusing on mental health and internet use are important, since there is a literature gap in exploring internet use by various populations of

mental health patients. We face a period of economic crisis, and since schizophrenia is a costly disease, affecting people of working age, there is an urgent need for governments to effectively meet their citizens' health needs, while at the same time to minimise direct and indirect health-related costs (Tajima-Pozo et al. 2015). The ‘whole patient’ approach focuses on understanding the patient holistically—as a patient, as an internet user who searches for health information in order to feel empowered, as a friend who wants to connect online, etc. By understanding patients' needs, skills and attitudes, for example, towards the internet, healthcare professionals can use this knowledge to support their patients better and more affordably, as internet connection has minimal cost. One of the main components of the ‘whole patient’ approach is the exploration of the patient's information and communication preferences. For example, how someone is seeking for information or how someone prefers to exchange online information with a peer or health professional.

### Lessons learned from people with schizophrenia spectrum disorders

In a study performed in two distant European countries (Greece and Finland) (Athanasopoulou et al. 2017), we aimed to explore internet use patterns, attitudes and eHealth literacy among adults with schizophrenia spectrum disorders (SSD). We found that:

1. About one third were never internet users, a few were previous internet users, and more than half were current internet users. More than half of the internet users in each country group used the



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internet for health-related purposes, such as to search for health-related information, communicate with health professionals about health-related issues, and communicate with other users about health-related issues

2. Previous and current internet users had moderate scores in ehealth literacy. This could mean that it is very likely they could not find, access and evaluate online health information accurately
3. The majority of internet users accessed the internet from home, had an email address, used it at least once per day, and used it for web 2.0 activities (ie watching videos, social networking and/or dating websites)
4. More than half of internet users accessed the internet for health-related purposes (ie to research health-related information, communicate with health professionals about health-related issues, communicate with other users about health-related issues)
5. More than half searched for online health information; most consider it always or most of the times easy to locate the website they wanted and the most prevalent problem that complicated their internet use was their difficulty concentrating for long periods
6. For the Finnish group, top health information sources were face-to-face contact with medical professionals and the internet. On the other hand, for the Greek participants face-to-face contact with medical professionals and pharmacies were perceived to be the most important sources of health information.

### Conclusion and future initiatives

In order to support the “whole patient”, who happens to be an internet user, various sectors and stakeholders need to cooperate, eg organisations, ICT experts, administrators, educators, even the average internet user. However, the most important role is that of the healthcare professional who comes in contact with the patient (found to be the most important

source of health information in both groups), then pharmacists and the internet. First, mental health professionals should realise their important role in educating their patients about their diagnosis and providing them with reliable health information. Second, health professionals (and pharmacists) could be trained and then show their patients how to judge which online (mental) health information is reliable, in order to assess the reliability and trustworthiness of the information they find online. Luckily, the significance of health literacy is growing as it has received prompt attention by the World Health Organization Region of Europe (M-POHL Network 2018). In addition, strengthening integrated care and multidisciplinary work, especially in primary and community health care (primary health care professionals and pharmacists) is very important, especially for countries with fewer resources and weak primary care systems, including Greece (Tsiachristas et al. 2015). Third, (mental) health organisations could organise continuing education ehealth programmes, since people with SSD need education and training in order to acquire the essential skills to find, read, and understand online (mental) health information. Last, online campaigns to raise awareness about the importance of sharing accurate mental health information could be useful. ■

### KEY POINTS



- ✓ The internet has changed the way we search for (mental) health information
- ✓ People with mental disorders search for (mental) health information online
- ✓ ehealth literacy is the important skill to search, find and understand the health information you can find online
- ✓ High levels of eHealth literacy can support patients to find and understand the online health information they access
- ✓ Health professionals can support patients in finding reliable health information online



### REFERENCES

Athanasopoulou C et al. (2017). Internet use, ehealth literacy and attitudes toward computer/internet among people with schizophrenia spectrum disorders: a cross-sectional study in two distant European regions. *BMC Med Inform Decis Mak* 17:136.

Eurostat (2017) Individuals using the

internet for seeking health-related information. Available from [ec.europa.eu/eurostat/web/products-datasets/-/tin00101](http://ec.europa.eu/eurostat/web/products-datasets/-/tin00101)

Eurostat (2018) Internet use and activities. Available from [ec.europa.eu/eurostat/web/products-datasets/-/isoc\\_bde15cua](http://ec.europa.eu/eurostat/web/products-datasets/-/isoc_bde15cua)

Internet World Stats (2018) World internet usage and population statistics. Available from [internetworldstats.com/stats.htm](http://internetworldstats.com/stats.htm)

Kalkkreuth S et al. (2014) Mental health related internet use among psychiatric patients: a cross-sectional analysis. *BMC Psychiatry* 14: 368.

Miller BJ et al. (2015) How connected are people with schizophrenia? Cell phone, computer, email, and social media use. *Psychiatry Res* 225: 458–63.

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