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Digital Solutions to Support Patient Care at Home: Is Mobile Health a Reality?

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Introduction

Mobile health (m-health) is one of the recently introduced tools for patient education and disease management. M-health was first introduced and defined in 2003 as "mobile computing, medical sensor, and communications technologies for healthcare [1]." Since then, the uptake of m-health solutions has been fast. Arecent WHO report 'M-health-new horizons for health through mobile technologies' [2], published in 2011, outlined the results of a worldwide survey of m-health uptake revealing that 83% of all member states offer at least one type of m-health service [2]. Amongst the most common services was mobile telemedicine. The latter has been proven to improve patient outcomes in many diseases such as diabetes, HIV, CHF and COPD [2].

There have been many studies evaluating the use of mobile health interventions in diabetes care. Positive reported outcomes included improved glucose control (as measured by glycosylated heamoglobin (HBA1C)), self efficacy and behavioural change [3,4]. In HIV patients, a trial conducted in Kenya which used a motivational strategy based on the mobile phone short message service (SMS) statistically improved compliance to anti-HIV treatment. Patients who were reminded of the need to take their antiviral medication at the correct time had shown a 12% rise in adherence, when compared with the control group (p-value=0.006), both at 6 and 12 months after the trial [5]. A year later, this resulted in a 9% increase in the number of patients in the intervention group achieving sufficient plasma HIV-1 RNA load inhibition compared to the control group (p-value=0.04) [5].

In cancer, to date, mobile health has not been used extensively.

Research conducted by this group revealed that cancer patients need support while at home to organise medicines' taking and to answer drug related queries as they arise. The use of smartphone applications can help address these issues whereby all the information is provided in one resource in a patient friendly format that is available anytime and anywhere. Such digital interventions can provide notification reminders for taking the anti-cancer drugs; provide decision-taking support to assist patients in managing adverse events safely with the added possibility of communication with a healthcare professional in real time thus offering the patient with virtual support. All these features were desirable by patients based on the themes identified in our study [6-8].

Based on these findings, our group has designed an 'app' accordingly to cater to patient needs. This app will be piloted this year on patients receiving oral anti cancer agents.

Another potential benefit of using smartphone applications for patient care is the possibility of integrating social networking to allow inter-patient-interaction. Our study along with other trials have shown that patients find this important since it can bestow care and support for patients by sharing information about their illness [9].

Limitations and Barriers

According to our findings, one of the identified barriers to adoption of mobile health solutions was age and resistance to technology. It is commonly known, that the older the person's age, the more hesitant they may be towards new technology devices and digital solutions, for example due to lack of knowledge of what they can offer, anxieties regarding inability to operate them or their potentially high cost [10]. This statement has found its reflection in our study and others such as where the researchers evaluated the uptake of a web based health promotion intervention for bowel cancer. They found that age was the only variable that differentiated users from non-users (p=0.03) [11]. However, with time, age will no longer be an issue as 'the patients of the future' are all current users of digital solutions.

Another barrier identified was the perceived lack of security when using smartphones. This could be addressed by raising awareness among potential users about the various methods of maintaining security through encryption, password protection etc [12].

Conclusion

Patient support via digital technologies such as mobile health can help improve adherence and side effect and disease self management. Deployment of such services requires collaboration between academic research and healthcare centres in order to design digital solutions that are individualised for patients and care providers' needs.

References

1. Istepanian R, Jovanov E, Zhang YT (2004) Introduction to the special section on M-Health: beyond seamless mobility and global wireless health-care connectivity. IEEE Trans Inf Technol Biomed 8: 405-414.
2. World health organization (2011) mHealth -New horizons for health through mobile technologies.
3. Krishna S, Boren SA (2008) Diabetes self-management care via cell phone: a systematic review. J Diabetes Sci Technol 2: 509-517.
4. Liang X, Wang Q, Yang X, Cao J, Chen J, et al. (2011) Effect of mobile phone intervention for diabetes on glycaemic control: a meta-analysis. Diabet Med 28: 455-463.
5. Lester RT, Ritvo P, Mills EJ, Kariri A, Karanja S, et al. (2010) Effects of a mobile phone short message service on antiretroviral treatment adherence in Kenya (WelTel Kenya1): a randomised trial. Lancet 376: 1838-1845.
6. Kayyali R, Nabhani S, Olszweska A, Adeniyi M (2012) Investigation of bowel and breast cancer patients' perception of counselling and written information provided regarding the oral chemotherapy agent capecitabine. IJPP 2: 85.
7. Nabhani-Gebara S, Kayyali R, Olszewska A (2012) Patient Perception of Educational Materiel Surrounding their Cancer treatment. European Journal of Oncology Nursing 16: S30.
8. Ghafour S, Kayyali R, Nabhani-Gebara S, Sobnath D, Philip N (2013)

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Evaluating patients' acceptability of alternative means of support for oral chemotherapy counselling and side effect management using a smartphone application. IJPP 21: 27.

9. Birkelund R, Larsen LS. Patient-patient interaction-caring and sharing. Scand J Caring Sci 27: 608-615.

10. Independent age. Older people, technology and community-the potential of technology to help older people renew or develop social contacts and to actively engage in their communities.

11. Fleisher L, Kandadai V, Keenan E, Miller SM, Devarajan K, et al. (2012) Build it, and will they come? Unexpected findings from a study on a Web-based intervention to improve colorectal cancer screening. J Health Commun 17: 41-53.

12. Caffery LJ, Smith AC (2010) A transmission security framework for email-based telemedicine. Stud Health Technol Inform 161: 35-48.

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