

# FROM COUCH TO SMART PHONE – THE USE OF MOBILE TECHNOLOGY FOR PROMOTING MENTAL HEALTH IN DEVELOPING COUNTRIES

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Adequate use of mobile and wireless technologies has the potential to transform health care. The present day mobile phone is not just a dialing device. In fact, increasingly primary function of the phone i.e. communicating wirelessly is much less used compared to other functions. Even basic mobile phones are now used for variety of functions ranging from use as MP Player to the camera. The advent and widespread use of personal digital assistant (PDA) that allows users to utilize software applications but is not connected to a network, or a “smart” phone which integrates features of cellular phones and PDAs into a single device<sup>1</sup> means that the mobile technology has much to offer to health care.

According to the International Telecommunication Union (ITU), there are over 5 billion wireless subscribers worldwide. Over 70% of them reside in low- and middle income countries<sup>2</sup>. A World Health Organization report on m-Health noted that the penetration of mobile phone networks in many low- and middle-income countries surpasses other infrastructure such as roads and electricity and offers great potential to overcome many barriers in effective health care provision<sup>3</sup>. Despite the widespread use of the mobile technology, its use in health care is limited mostly to pilot projects in low and middle income countries<sup>4</sup>.

Pakistan has 105.15 million active mobile phone connections and estimated 58 - 61 SIM cards per 100 people. Studies also show that just as many women as men have access to a mobile phone<sup>5</sup>. Amongst phone owners in the poorest 60 percent of Pakistan’s population, 51 percent of men and 33 percent of women used SMS, according to LIRNEasia’s 2009 survey<sup>6</sup>. It is interesting to note that although literacy rates in Pakistan is low, illiterate phone users also benefit from the SMS by asking literate relatives and friends to read text messages to them, and sometimes to write for them<sup>5</sup>. That phones are very commonly used by multiple individuals makes such ‘shared literacy’ practices a fact of everyday life. This ‘shared literacy’ provides further advantage in using mobile technology for fighting stigma, promoting shared care and helping mental health literacy.

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The mobile interventions are commonly reported in research but are still not used commonly in clinical practice. Broadly, mobile interventions can be categorized by the level of human interaction possible with the mobile device<sup>7</sup>. At the highest level of interaction is the live therapist communication in the form of psychotherapy which is delivered using a mobile phone. Less interactive interventions include using communications such as text messages. Another class of interventions includes automated messages such as standard text messages used for medication or appointment reminders. Similarly mobile technology can be used to assess the real time data such as blood pressure or pulse rate and transmit to a health facility for continuous monitoring of health status of the person.

The use of mobile technology can significantly enhance the delivery of psychosocial interventions. In addition to costs, lack of transportation is a significant barrier to accessing and sustaining participation in psychosocial interventions. Mobile devices can also be used to overcome some of the barriers in sustaining and benefiting from clinic-based services after an initial assessment which may be particularly relevant for patients from far flung rural areas. Effectively it may be possible to reduce the intensity of interventions by reducing the number or duration of clinic-based sessions by providing booster sessions or in vivo practice via technology. In some cases this can entirely replace in-person psychosocial intervention altogether lowering the intensity of interventions could translate to reduced costs. Reducing the resource intensity of psychosocial intervention may increase access and sustainability.

Mobile devices can also help to enhance the transfer of skills to real world settings, which is a real challenge in many interventions which require developing certain skills<sup>8</sup>. Patients can, for example, be prompted to engage in healthy behaviours in the environment outside of the clinic and closer in time to critical moments. In traditional clinic-based interventions, patients are asked to translate the strategies learnt in session to their real-world behaviour. This means that patient need to remember to implement strategies or skills at a later time when the motivation may be low or barriers may seem insurmountable. In such situations mobile phones offer greater opportunity to prompt behaviors in real time. This may be used, for example, to improve social interactions in person with chronic schizophrenia who faces problems

in simple task such as changing bus in a journey. Having the opportunity to speak with someone who can guide them through the process offers opportunity to develop confidence in problem solving. The greater flexibility in the duration, timing, and setting of interventions offered by mobile devices enables the patient to have greater control over the therapeutic experience leading to better autonomy. Both android and iPhone offer numerous health related apps for the patients as well and the professionals. There are a number of applications which are available for smart phones, for example, eCBT Mood<sup>9</sup> which take the self help to a new level. Currently a project in the UK is assessing the use of smart phones to help users with mental health problems to live independently by incorporating activities, problems and solutions in a daily schedule using SmartPhone<sup>10</sup>.

Psychiatry has traditionally been immune to use of technology. In other fields of Medicine the technology has played highly significant role. Robotic surgery is becoming a routine even in developing countries but we are still struggling to come to terms with technology. We feel that the mobile device may interfere with the quality of human interaction which is vital for a good therapeutic relationship. In doing so, we forget that the individual today has more intimate relationship with the mobile device, which may perhaps be considered as an extension the self. For a younger generation growing up in the age of face book, twitter and MMS, the smart phones may be an integral part of their self image.

While we may be oblivious to the effective use of these technologies in mental health, the evidence for the adverse use of these is emerging. There is now growing evidence, for example that, the use of social media is being increasingly implicated in substance abuse. The challenge for mental health professionals, therefore, is to integrate these realities in therapeutic relationship at individual level and in service innovations at public health level.

## REFERENCES

1. Fjeldsoe BS, Marshall AL, Miller YD. Behavior Change Interventions Delivered by Mobile Telephone Short-Message Service. *Am J Prev Med* 2009; 36:165–73.
2. The International Telecommunications Union. The world in 2010: ICT facts and figures [Online] 2010. [Cited on September 25, 2012]. Available from URL: <http://www.itu.int/ITU-D/ict/material/FactsFigures2010.pdf>.
3. World Health Organization. mHealth new horizons for health through mobile technologies: second global survey on eHealth. *Healthc Inform Res* 2012;18:231–3.
4. Mechael P, Batavia H, Kaonga H, Searle S, Kwan A, Goldberger At al. Barriers and gaps affecting mHealth in low and middle income countries. Policy white paper. New York, Columbia University; 2010.
5. Williams JL, Gilchrist A. SMS engagement in Pakistan. A Practical Guide for Civil Society, the Humanitarian Sector, and Government. [Online] 2011. [Cited on September 28, 2012]. Available from URL: <http://mobileactive.org/research/sms-engagement-pakistan-practical-guide-civil-society-humanitarian-sector-and-government>.
6. Teleuse at the Bottom of the Pyramid 3. LIINREasia. [Online] 2010. [Cited on September 15, 2012]. Available from URL:<http://lirneasia.net/projects/2008-2010/bop-teleuse-3/>
7. Simon GE, Ludman EJ. It's time for disruptive innovation in psychotherapy. *Lancet* 2009;374:594–5.
8. Intille SS. Ubiquitous computing technology for just-in-time motivation of behaviour change. *Stud Health Technol Inform* 2004;107:1434–7.
9. eCBT Mood. [Online] 2012. [Cited on November 20, 2012]. Available from: <https://itunes.apple.com/gb/app/id324060472?mt=8>.
10. Welcome to brain in hand. [Online] 2012. [Cited on November 20, 2012]. Available from: <http://www.braininhand.co.uk/>.