



VOCAL HEALTH AND MHEALTH: NOVEL ALTERNATIVES FOR OLD SCENARIOS

Saúde vocal e *mHealth*: novas alternativas para antigos cenários

Christina Cesar Praça Brasil

University of Fortaleza (*Universidade de Fortaleza - UNIFOR*) - Fortaleza (CE) - Brazil

Daniele de Araújo Oliveira Carlos

University of Fortaleza (*Universidade de Fortaleza - UNIFOR*) - Fortaleza (CE) - Brazil

José Eurico Vasconcelos Filho

University of Fortaleza (*Universidade de Fortaleza - UNIFOR*) - Fortaleza (CE) - Brazil

The world is experiencing the communication age, and health is among the areas that reap benefits from the insertion of new resources into people's lives. In this context, Information and Communication Technologies (ICTs) hold a prominent place, being applied to information processing, storage, search and transmission in digital format, providing increased agility and reliability to information exchange^(1,2). In the health area, ICTs play a progressively more important role, being present in the areas of clinical, managerial and assistance practices, as well as in support to decision-making on the part of professionals and managers.

In this scenario, technology can influence and modify people's way of living and acting, even when these issues are related to the health promotion and care context. The relevance of incorporating technologies into health care is thus reassured^(3,4). With regard to vocal health, it implies a re-dimensioning of self-care, once the disorders of the vocal apparatus are part of the universe of professionals who use their voice, with emphasis on the teachers, this being a reality that requires confrontation through political and technological measures that offer resolution for such a recurrent problem as this.

A study⁽⁵⁾ carried out with 351 female teachers working at municipal elementary schools of Fortaleza, Ceará, Brazil, has shown that more than half of them presented more than six vocal symptoms and that, despite perceiving themselves exposed to more than six vocal risk factors, they had never participated in a vocal health program, which corroborates other Brazilian studies^(6,7).

It should be emphasized that, in addition to the shortage of educational actions in vocal health, Brazilian public policies and legislation aimed at teachers' health are flawed and restricted⁽⁸⁾. Therefore, attention is drawn to the importance of developing communication campaigns addressing health and the technological resources aimed at vocal health, in order to reinforce the need for continuously taking care of the voice.

Given this data, it is believed that the expansion of voice knowledge and the use of novel communication strategies may favor the development of an advantageous work that contributes to the learning process and to the well-being of each voice-centered professional. With this aim, several technologies can be employed, among which mobile health technologies (mHealth) stand out.

The area of mobile health research (mHealth), a branch of electronic health (eHealth) defined as "the use of computing and mobile communication technologies in health care and public health", has been steadily expanding. Mobile health applications serve a heterogeneous public - doctors, nurses, patients, caregivers and healthy people⁽⁹⁾ - and suit a range of purposes⁽¹⁰⁾, such as information in a number of health areas, adherence to treatment(s) and disease management.

In Brazil, there are a few studies addressing the topic of vocal health and technology. Nevertheless, it is possible to observe the insertion of several tools in the daily life of speech therapists, which support them and are recognized as types of technology. Booklets, softwares, informative applications and distance education platforms, all aimed at vocal health, can be cited as examples of facilitation strategies in speech therapy practices, which do not offer interactivity, though.

Based on the aforementioned resources, it is believed that mHealth technology, given its dynamism and the facilitations it offers, such as the possibility to carry out actions at any time and anywhere, can contribute to the promotion of teachers' vocal health, since their multiple assignments and lack of time often lead the teacher to overlook their problems, only seeking help after the onset of vocal change(s)⁽¹¹⁾.

In view of the shortage of applications favoring vocal health care, and by means of a partnership between the Graduate Program in Public Health of the University of Fortaleza and the Laboratory of Innovation and New Businesses of the



Information Technology Application Nucleus (*Núcleo de Aplicação em Tecnologia da Informação - NATI*) it was developed, at this institution, the VoiceGuard application, a tool that provides individualized support for the management of voice usage. This application presents as distinguishing features the offer of a variety of resources for extensive and comprehensive management and monitoring of vocal health, even on a real-time basis, thus favoring the teachers' autonomy and the reduction of vocal disorders. This technology is recognized as an important tool for vocal health promotion and care, constituting a modern resource for dealing with an old problem: the vocal disorders affecting teachers.

The Brazilian Journal on Health Promotion believes in the dissemination of this and other innovative technological products applied to health and well-being, given the speed of scientific interactions, in favor of the unlimited access to health.

REFERENCES

1. Carr NG. Does it matter? Information technology and the corrosion of competitive advantage. Boston: Harvard Business Press; 2004.
2. Costa SRS, Duqueviz BC, Pedroza RLS. Tecnologias digitais como instrumentos mediadores da aprendizagem dos nativos digitais. *Psicol Esc Educ*. 2015;19(3):603-10.
3. Silva RC, Ferreira MA. A tecnologia em saúde: uma perspectiva psicossociológica aplicada ao cuidado de Enfermagem. *Esc Anna Nery Rev Enferm*. 2009;13(1):169-73.
4. Pereira RB, Coelho MA, Bachion MM. Tecnologias de informação e registro do processo de enfermagem: estudo de caso em UTI neonatal. *Rev Eletrônica Enferm [Internet]*. 2016 [accessed on 2016 Nov 20];18:1-13. Available from: <https://www.revistas.ufg.br/fen/article/view/35135>
5. Brasil CCP. A voz da professora não pode calar: sentidos, ações e interpretações no contexto da integralidade em saúde [tese]. Fortaleza: Universidade Estadual do Ceará, Universidade Federal do Ceará e Universidade de Fortaleza – Associação Ampla; 2015.
6. Behlau M, Zambon F, Guerrieri AC, Roy N. Epidemiology of voice disorders in teachers and nonteachers in Brazil: prevalence and adverse effects. *J Voice*. 2012;26(5):665.e9-18.
7. Pascotini FS, Ribeiro VV, Cielo CA. Voz de professoras do ensino fundamental com queixas vocais de diferentes redes de ensino. *Distúrbios Comun*. 2015;27(1):138-50.
8. Ferreira LP, Servilha EAM, Masson MLV, Reinaldi MBFM. Políticas públicas e voz do professor: caracterização das leis brasileiras. *Rev Soc Bras Fonoaudiol*. 2009;14(1):1-7.
9. Free C, Phillips G, Felix L, Galli L, Patel V, Edwards P. The effectiveness of M-health technologies for improving health and health services: a systematic review protocol. *BMC Res Notes*. 2010;14(5):2-7.
10. Riley WT, Rivera DE, Atienza AA, Nielsen W, Allison SM, Mermelstein R. Health behavior models in the age of mobile interventions: are our theories up to the task? *Transl Behav Med*. 2011;1(1):5371.
11. Cielo CA, Portalete CR, Bastilha GR, Ribeiro VV. Perfil vocal, ocupacional e de saúde geral de docentes de Santa Maria/RS. *Rev CEFAC*. 2016;18(3):635-48.

Mailing address:

Christina Cesar Praça Brasil
Universidade de Fortaleza - UNIFOR
Programa de Pós-graduação em Saúde Coletiva
Avenida Washington Soares, 1321
Bairro: Edson Queiroz
CEP: 60811-905 - Fortaleza - CE - Brasil
E-mail: cpraca@unifor.br