

OP-THU-031 USING INTERNET- AND TELECOMMUNICATION TECHNOLOGIES IN NUTRITIONAL PREVENTION AND PROMOTION: FEASIBILITY OF APPROACHES

A. Illner^{*1}, C. Winkler², S. Feller¹, H. Boeing¹

¹Department of Epidemiology, German Institute of Human Nutrition, Nuthetal, ²-, Nutritional counselling center, Berlin, Germany

Background: Nutritional prevention and promotion play an important role in an overall strategy for improving the eating behaviour of adults. Due to the growing prominence of internet- and telecommunication technologies during the last decade several approaches have been designed and applied as web-based tools or based on computer or mobile phone technology. Compared to traditional methods, these technical new modes of administration are considered to provide a higher data quality due to an immediate and automatic control for missing and implausible answers and to result in a higher adherence considering that subjects can receive personalized feed-backs or are supported by interactive or audio help features or photographs. Latter seems to be particularly important for older subjects or subjects with less literacy skills.

Objectives: The objective of this literature search was to identify and describe advanced technologies used in nutritional prevention and promotion. It is the aim to give a comprehensive overview about the feasibility of the various technologies and highlight their strengths and weaknesses.

Underlying values and principles: Nutritional education is an essential major component in health promotion and disease prevention strategies. Different educational principles are needed to transmit nutrition and other nutrition-related information to the various settings of individuals, families, or the public. These are based on the nature of learning (cognitive, affective and psychomotor domains of learning), and other guidelines for an effective education.

Knowledge base/ Evidence base: The present work has been performed on the basis of knowledge.

Context of intervention/project/work: This research was performed within a Ph.D program of AKI, funded by a grant issued by the European Union (No. 2006315 "IDAMES") to explore new avenues for dietary assessment in epidemiological studies and public health (www.IDAMES.eu).

Methods: This overview examines studies conducted in industrialized countries and published in English between 2002 and 2009. The focus was on studies with adults under diet or nutritional prevention or promotion programs or in clinical settings as target populations. Studies determined to use internet- and telecommunication technologies to achieve the respective nutritional prevention or promotion goals. Electronic searches were undertaken using the databases of the U.S. National Library of Medicine (PubMed), in particular MEDLINE, PubMed Central and MeSH database (MeSH, Medical Subject Heading) and the databases of ISI Web of science. Searches were also performed in databases of selected Cochrane review groups of the Cochrane library and Internet search engines (e.g. Google). The following terms were used separately or in combination: Food/nutrient/dietary intake, food consumption, nutritional/dietary/eating behaviour/habits, method/tool/instrument, improve/prevent/promote, technically new, innovative, computer-/web-based, internet, online, digital and electronic.

Results and Conclusions: 32 studies that applied technical advanced methods were identified through searches. 9 (28.1%) utilized personal digital assistants (PDAs) including photographs or audio files as replacement for written food records. Mobil phone technology-based systems provided nutritional information within 3 studies (9.4%). 9 studies referred to computer tools, e.g. educational programs programmed to be self-administered using a computer with a touch screen (28.1%). Web-based self-administered tools were further technical approaches investigated in 11 studies (34.4%).

Overall, technical advanced methods were feasible and advantageous in terms of facilitated data transfer, data coding and data checking. Further, handheld computer technologies like PDAs and computerized tools showed effectiveness to improve nutritional behaviour and knowledge but had high staff requirements for training and implementation. Mobile phone technology appeared to be a promising easy-to-use approach in chronic disease management and patient care, but was limited to provide personalized feed-back. Web-based tools seemed to be very promising but require computer literacy. Overall, a potential perspective for an enlarged application in nutritional prevention and promotion is given that needs further in-depth investigation.

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OP-THU-032 NEW TECHNOLOGIES FOR HEALTH LITERACY EDUCATION: PERSPECTIVES ON DISTANCE LEARNING

B. K. Janot*¹

¹Department of Educational Technology, Boise State University, Boise, Idaho, United States

Background: Many recent studies have focused on media tools to transmit health care information. Knowledge of video conferencing, mobile device technology, and Web 2.0 applications show great importance for improving health literacy. A central issue in health care communications is the lack of access to quality health information.

The expansion of distance education has generated wide interest in new technologies. The study of information technology has become an important aspect to distribute health care information at the World Health Organization (WHO) (Lintonen, Konu, & Seedhouse, 2008). According to the WHO, information technology has grown exponentially over the past few years (Lintonen et al., 2008).

Objectives: The purpose of this abstract is to address the impact of new technology on health literacy education. The increasing interest in new technologies for distance learning has heightened awareness among health professionals. Of particular interest and complexity are new media tools for delivering online health promotion education. Some of the new technology platforms for online course delivery include educational courseware, satellite training and distance education.

Underlying values and principles: The role of new technology is to lessen the digital divide and increase access to health education and information. The expansion of Information Communication Technology (ICT) is a low cost solution for impacting health in communities.

Knowledge base/ Evidence base: The Bloomberg School of Public Health network provides free open access to university courses which include university lectures on: health, culture, politics and economic development. The use of OCW influences the advancement of health information, collaboration and public health (Kanchanarakse, Gooding, Klaas & Yager, 2009). The rationale for allowing open access to course content is to advance science and disease prevention around the world (Kanchanaraksa, 2009, p. 40). The OCW project is transmitted into developing countries with limited accessibility to public health information. In developing countries urgent access to health information is essential to save lives. Health educators have turned to mobile devices to connect health information with remote areas in developing countries. The development of mobile learning increases access to quality health information meeting the needs of underserved populations.

The new media generation of technology is Web 2.0 applications. The socially connective environment of interactive technology is an opportunity to promote health education (Chaney, Chaney, & Stellefson, 2009). Social networking platforms are an effective online tool in disease prevention. Most advocates agree that social networking sites, rss feeds, wikis, blogs and pod-casts have the capacity to influence health lifestyles (Hansen, Thackeray, Barnes, Neiger, & McIntyre, 2008).

Context of intervention/project/work: The review of the literature suggests that new technology increases health literacy by targeting both health professionals and health consumers.

Methods-Real time settings of ICT utilizing telemedicine methods to transmit health information to end users.

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Results and Conclusions: The main purpose of this abstract has been to critically analyze the impact of new technology on health literacy education. It should be noted that technology influences health literacy across cultures and generations. The review of the literature suggests that distance learning has no boundaries in health education. For this reason content development of quality health information must be designed to attract health consumers who utilize social media. The vehicle for delivering quality health education is distance education.

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OP-THU-033 I'M ALLERGIC TO STUPID DECISIONS: A SOCIAL MARKETING CAMPAIGN USING SMS TO HELP YOUTH CHOOSE TO NOT DRINK ALCOHOL

L. Suggs^{*1}, G. Rots², J. Jacques³, H. Vong⁴, J. Mui⁴, B. Reardon⁴, T. TADD⁴

¹Institute of Communication and Health, Università della Svizzera italiana, Lugano, Switzerland, ²Prevention Programming, City of Cambridge, Cambridge, ³Student, Northeastern University, Boston, ⁴Student, Medford High School, Medford, United States

Background: In the city of Medford Massachusetts, a suburb of Boston, there is a high rate of under-aged alcohol consumption. Approximately 42% of students in grades 9-12 report having consumed alcohol during the past 30 days. Underage alcohol use is correlated with increased risk behaviors. Public health officials and teens in the community recognize the problem and established a youth coalition to address it.

Objectives: To develop, implement and evaluate a social marketing campaign designed by youth advocates for their peers. The campaign aimed to: 1) help youth abstain from using alcohol by changing perceptions around alcohol use and 2) provide youth with a virtual support system that promotes healthy lifestyle decisions.

Underlying values and principles: A group of teens, committed to being alcohol-free, promote the social norm of not drinking and provide alcohol free alternatives for their peers. The intervention was developed for youth by youth. The youth know better than their adult collaborators about how to reach the population.

Knowledge base/ Evidence base: Social marketing is an effective approach to health behavior change. It uses principles from commercial marketing to influence individual and society change. The use of technology, specifically Short Message Service (SMS/texting), is gaining attention of researchers and practitioners. Best practices have not yet been established.

Context of intervention/project/work: A social marketing intervention was developed for youth, by youth. Adult experts were consulted on the processes of marketing, implementation and evaluation. The primary delivery channel for the campaign was SMS, and supported by social media outlets, including Facebook, Twitter and YouTube.

The SMS system had 4 keywords that provide participants with various messages regarding alcohol use and resisting peer pressure:

- 1)Choice: Words of empowerment to make the right decision, and alternatives to drinking
- 2)Excuse: Reasons not to drink
- 3)Fact: Facts on underage alcohol use
- 4)TADD: For above three options and more information

Methods: Surveys and focus groups were held prior to implementation to assimilate information about youth social competency and awareness of policies around underage alcohol use. Post-test surveys and focus groups were conducted after the 3-month intervention period.

The campaign was promoted in the community and in the local high school using posters, stickers, t-shirts, pencils and a public service announcement (PSA). Youth promoted the campaign on a weekly basis, including initiatives that were interactive in nature. A PSA was shown on the local cable network, and YouTube, teens wore self-designed t-shirts at school events and attended a conference to help promote their campaign statewide.

Results and Conclusions: During the 3-month intervention, over 1000 texts were sent. Excuse was the most frequently used keyword, with over 100 users. TADD was the second most common, with 85 users. The SMS-intervention shows promise for changing attitudes, however, strong promotion is vital to its success. Results of the surveys and focus groups will be presented and discussed.

An SMS social marketing initiative aimed at increasing youth resistance to peer pressure provides a valuable opportunity for interventions among youth. Updating and creating new promotion and place strategies has helped to maintain the community's awareness of and interest in the campaign.

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OP-THU-034 THE FACESPACE PROJECT: DEVELOPING AND EVALUATING SEXUAL HEALTH PROMOTION ON ONLINE SOCIAL NETWORKING SITES

J. Gold^{*1}, A. Pedrana¹, M. Stoope¹, S. Howard², S. Chang², P. Benda², O. Crang³, L. Keogh⁴, J. Hocking⁴, M. Hellard¹

¹Centre for Population Health and Department of Epidemiology and Preventive Medicine, Burnet Institute and Monash University, ²Department of Information Systems, University of Melbourne, ³Director, X:MACHINE Productions, ⁴Key Centre for Women's Health in Society, University of Melbourne, Melbourne, Australia

Background: Over recent years the use of social networking sites has increased dramatically, particularly among young people.

Objectives: The FaceSpace Project is designed to engage young people in sexual health promotion through online interactions with fictional characters.

Underlying values and principles: Two way communication has been shown to be more effective and engaging than traditional one way methods of health promotion.

Knowledge base/ Evidence base: Online social networking sites offer a novel environment for health promotion, particularly due to their interactive and community building nature.

Context of intervention/project/work: To date few health promotion interventions have been trialled in online social networking sites, and there is little evidence to draw on for how to best evaluate these interventions.

Methods: Four characters, aged 16-22 years, were developed in collaborative workshops with young people. The characters and narrative were further developed by a production company, including filming video blogs. Each character has a page on Facebook and a presence on another social networking site (MySpace, Twitter and Flickr). The characters will interact online over a six month period, delivering a narrative that will discuss their social activities and current events. Health promotion messages, such as consistent condom use, testing for sexually transmitted infections and consequences of alcohol and other drug consumption, will be embedded in their online activities. Users will be able to follow and also interact with the characters.

Results and Conclusions: The project was launched in mid November 2009 and promoted widely through on and offline via media and social networks. Currently the characters have almost 100 fans each on their Facebook pages. Evaluation will be ongoing throughout the life of the project, including IT laboratory tests with users, online knowledge and behavioural surveys, focus group discussions and online quizzes.

Challenges in evaluation include measuring level of engagement with the characters, and assessing and attributing changes in knowledge and sexual behaviour over time to the intervention.

The FaceSpace Project offers a new model for delivering and evaluating health promotion interventions via online social networking sites.

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OP-THU-035 ENVIRONMENTAL EHEALTH – WHAT ARE WE DOING?

R. E. Scott*¹, C. Saunders², D. T. Nguyen¹, S. Ali¹, M. Palacios¹

¹Department of Community Health Sciences, ²Haskayne School of Business, University of Calgary, Calgary, Canada

Background: Ironically, in delivery of modern medicine we contribute to adverse conditions that are detrimental to the environment, and thereby the health of our patients, particularly with application of ehealth (information and communications technologies (ICT) for health and healthcare). All components (hardware or software) have environmental impact. To study this new field we have established the Environmental eHealth Research and Training Program (EeRTP) (1).

Objectives: EeRTP is researching the potential breadth and depth of this new field of study termed Environmental eHealth (Env eH).

Underlying values and principles: As we implement ehealth solutions, we must understand the potential Env eH consequences of our actions, so that the initiatives are truly sustainable - technologically AND environmentally. This aligns with MDG 7 (Ensure Environmental Sustainability) and recognition of current climate change concerns.

Knowledge base/ Evidence base: Evidence exists for both Env eH 'costs' and 'benefits' (2), but the scale and full spectrum of possible impact is currently unknown and requires systematic research.

Context of intervention/project/work: Healthcare providers, managers, and policy-makers must become aware of the potential environmental impact of ehealth applications. This requires an evidence-base. The EeRTP is systematically researching the evidence, as well as requirements for Knowledge Transfer, an Env eH research agenda, and life-cycle assessments of example ehealth interventions.

Methods: Given the nascent state of Env eH, a working definition was developed and a scoping review of the literature undertaken (to provide a preliminary assessment of the potential size and scope of the available research literature, and identify the nature and extent of available research evidence).

Results and Conclusions: Thematic analysis of the literature confirmed the application of a preliminary categorisation scheme, and has established an evidence-base for Env eH. Potential environmental impacts of ehealth (costs and benefits) have been identified in eight categories (materials, manufacturing, energy, recycling, ground environment, water environment, air environment, and practice).

With awareness comes responsibility. We each have at least a moral responsibility to require e-health solutions to be demonstrably environmentally sensitive. That requires us to be aware of, and responsible for, all stages from 'up stream' issues (conception, design, manufacture, and distribution), through 'use' of the technology, to traditional 'down stream' issues (reduce, re-use, recycle).

References: (1) <http://www.ucalgary.ca/hiitec/node/320>

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