Health Innovation Project: A Concept Paper on a Virtual Health Promotion Program for Men

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Abstract

Many causes of mortality and morbidities in men are preventable. Men’s poor engagement in health-promoting activities has been attributed to the socially constructed male gender identity. Hence, health innovations to promote men’s health have to take into the account their social identity and health-seeking behavior. The innovation should be flexible, interactive, discreet, informative, and user-friendly. It should also facilitate self-care. Innovations that deploy information and computer technology (ICT) are promising. MyMan, a future web and mobile application that incorporates self-assessment, individual risk calculation, projection of future health status, and tailored advice, is in the process of prototype development for testing in the community. The main concern about this application is that it may have limited usefulness to an ICT-naive population. However, this may be overcome by having a similar application in health clinics where assistance in using the technology can be provided. A randomized controlled trial will be conducted to examine the effectiveness of this innovation, which takes into account men’s needs for convenience and privacy. Given the widespread use and flexibility of ICT, it has great potential and deserves further evaluation.

Key words: health promotion; health-seeking behavior; information and computer technologies; masculinities; men’s health

Introduction

Men have poorer health profiles than women worldwide. They have shorter life expectancy at birth by an average of 4 years, shorter disability-adjusted life years, higher mortality rates, and higher non-sex-specific disease death rates compared with women.1–3 Many conditions, such as cardiovascular disease, injuries, cancers, and mental illnesses, lead to mortality and morbidities. These conditions are lifestyle-related and are preventable with early interventions.4–6 Certain male-specific morbidities, such as sexual dysfunction and prostate disorders, often go unreported,7–9 and opportunities for appropriate interventions are missed. These observations have also been reported in Malaysia.10–12

Health promotion and preventive care are important strategies to improve men’s health.13 Although men’s engagement in health promotion and preventive services is poor,14,15 men are, nonetheless, interested in health.16,17 The perceived disinterest in health among men was extrapolated from their health-seeking behavior that is socially constructed.14,18,19 In some societies, masculinity is defined as an uncomplaining stoic attitude.20 Men are expected to provide for their families. Financial stability is considered a priority,19,21 with issues related to health and well-being secondary. Men are encouraged to regard their health as relatively
Health Innovation for Men’s Health Promotion

There are existing health promotion programs that target men, such as The ManMOT,25 Men’s Sheds,26 Men’s Educational Group Appointments (MEGA),27 and PIT-STOP.28 However, implementation of these programs has met with many challenges.29,30 One of the challenges is to tailor the programs to resonate with societal gender-role definitions.31 Therefore, for a men’s health innovation to be successful, it has to incorporate an understanding of men’s health-seeking behavior and to reflect the needs of men at different ages.32 (Fig. 1). ICT has such potential as men are frequent ICT users.33 They use various forms of ICT applications for leisure, work, and social networking. There is evidence that men access websites for health promotion activities34–38 and web-based interventions can aid behavior change.39,40 For example, Internet-initiated chlamydia testing has been found to be acceptable among young men.41

These ICT applications offer easy access to health information for men at their convenience and in privacy. This health promotion information may not necessarily require advice from a medical practitioner. It has the potential to provide different health assessment tools for men at different stages of their life as well as a forum with professional input. This innovation promotes self-care, hence maintaining men’s control over their own health.

Indeed, recent statistics42 show that the use of mobile broadband is increasing globally, but in many developing countries, it remains the sole means of accessing the Internet for many users. The same review also showed that by 2011, 85% of mobile phones were Internet-ready.42 In addition, cost per megabyte transfer is falling. The advent of Web 2.0 (explored further below) makes the web experience more interactive for consumers. These factors will further aid men in accessing web-based innovations. Such mobile-based innovations, now termed mHealth, have already been tried in many countries.43 Few would doubt that mHealth has great potential to reach the masses and will most likely continue to evolve and innovate in time with better technology and entrepreneurial support. Labrique et al.44 summarized the different applications that can be used in mHealth innovations—all represent great potential to improve healthcare, either on their own or in combination. mHealth innovations are not without problems. Mechael et al.45 identified some of the challenges with mHealth, including technical problems such as phone support or remote access in rural areas, language issues, privacy, and illiteracy. Elderly men, in particular, may struggle to use mHealth because of physical disability.46 A systematic review of mHealth innovations targeted toward behavior change showed a lack of evidence of significant effect,47 but studies were generally of poor quality and the authors concluded that a more thorough evaluation is required, particularly of healthcare outcomes.

The innovation should provide information on health conditions that have a significant impact on men’s mortality, morbidity, and quality of life. Non-sex-specific diseases, such as cardiovascular and metabolic diseases, are the most common causes of death in men and they should be highlighted. Diseases specific to men, such as lower urinary tract symptoms, benign prostatic hyperplasia, erectile dysfunction, premature ejaculation, prostate cancer, and testicular cancer, are of special interest and concern to men. Erectile dysfunction, in particular, has been found to be the sentinel marker for cardiovascular disease in men,48 and this might serve as an impetus to engage men in using the innovation. In addition, the innovation should also provide information on lifestyle such as diets and exercise programs; risk behaviors such as smoking, alcohol, violence, and drug addiction; self-care; and local health services and resources.

FIG. 1. Conceptual framework for virtual health promotion program.
The innovation should also provide a risk calculator to stratify men’s cardiovascular and cancer risks and men should then be provided with information on the diseases, actions to be taken, and local health services available to assist them in modifying their risks. Therefore, during the design of the health innovation, a good understanding of local healthcare needs is crucial. This can be achieved by engaging the local community in the design of the health innovation, including how the intervention could best be delivered to men. All this information would be accessible via websites or mobile phone applications or decision support tools such as patient decision aids.

The Innovation: “MyMan”

The goal of this innovation, “MyMan,” is to improve men’s health through the development of an accessible ICT product that targets men’s health needs. It focuses on enhancing health and functionality rather than illness. MyMan will target men aged 18 years and above. It will be set at a suitable technical and language level.

The model underpinning MyMan is a self-directed information system whereby relevant information, tailored to an individual, is generated according to the input provided by the user. The model was conceived by a men’s health group in a 2-day innovation workshop. The group comprises family physicians, a urologist, and a director of a commercial health innovation company. This information should, arguably, be of interest to the user because MyMan is customized according to an individual health profile. The program uses artificial intelligence to deduce information from the input provided and to display the information in a comprehensible format.

The website design will focus on ease-of-use, will be free of banners and advertisements, and will use colors and patterns that are welcoming and are minimally distracting. It will also display endorsement from academic institutions to demonstrate credibility to visitors. Apart from the official homepage, the website will be linked to social media such as Facebook and Twitter to increase visibility. The homepage of MyMan will be designed in such a way to raise men’s curiosity about their health. For website visitors who are men, the following questions will appear: “Do you have concerns about your sex life?” and; “Do you want to stay healthy and keep earning?” For women visiting the website, one of the questions that will appear will be, “Do you want your man to stay in a tip-top condition?” Also, on the homepage, a simple message from a male role model, acting as an ambassador of men’s health, will be used to enhance the level of men’s engagement in this application. Visitors are prompted to provide details such as their age, country of origin, smoking and alcohol use, exercise levels, family history, medical history, and current symptoms (e.g., erectile dysfunction, lower urinary tract symptoms, cardiorespiratory symptoms, and gastrointestinal symptoms) (Fig. 2A). Identifiers, such as name, address, e-mail, or telephone numbers, will not be required, and security features will be installed to reinforce users’ confidentiality. Based on the information, a visual image of the man in 10 years’ or 20 years’ time will be displayed (Fig. 2B). The risk of various medical conditions, such as heart disease, cancer, erectile dysfunction, and mental health, will be calculated for the patient using the information provided. Links to relevant resources will be available. Finally, a personalized action plan can be generated, and it may range from advice on lifestyle measures to recommendations on seeking help from a healthcare professional.

A community-based, randomized controlled trial will be conducted to evaluate MyMan in a defined urban area for men aged 18 years and above. Randomization will be done using cluster or block sampling. Under the trial condition, men who agree to participate will be given a unique identifier. They will be assessed at baseline, at 3 months, and at 1 year after randomization using a structured questionnaire. The intended outcome of the program is to improve men’s health-seeking behavior and ultimately their health status. Therefore, the structured questionnaires will include questions on surrogate markers of healthy lifestyles (smoking, alcohol consumption, and exercise), self-reported morbidities, and healthcare utilization. Validated questionnaires will be used to measure the quality of life, attitudes toward psychological help-seeking behavior and health-seeking behavior, and

![FIG. 2. The prototype: (A) Input of health profile and (B) personalized health information.](image-url)
Discussion

Although ICT use as a health promotion tool is not new, it has not been expanded to its full potential. The aim of an ICT application for men is to provide a platform for interaction that is tailored to men’s individual needs.

There are certainly challenges anticipated in implementing MyMan. The main challenge is to make it appealing to the target user. This new ICT application will face competition from websites, sometimes called the “traditional ICT,” which provide similar health information. However, those health-related websites may lack quality control, and the credibility of the source is a definite challenge for men seeking health information. Some traditional ICTs that focus on hegemonic male interests have been criticized for isolating men who do not share the same interests.

There is also competition from many men’s health apps that are available. Thus, to increase use, MyMan must offer interactive opportunities and provide men with an individually calculated health risk based on men’s input that can be easily visualized. The information must be simple and clear so that men are not overwhelmed. As the tailored information will reflect the men’s individual health status, it is hoped that it will provide them with a sense of reality and relevance.

Using ICT requires technology and computer literacy. Therefore, the use of ICT for health promotion is more likely to be accessed by the middle to high socioeconomic groups. For men who are unable to afford such technology, it is possible to make such technologies accessible through health resource centers in public places where assistance in using such technologies can be provided.

Newer forms of ICT based on the Web 2.0 platform provide new avenues to promote men’s health. Web 2.0 provides an opportunity to promote men’s health through social media, networking, chat-rooms, microblogging, social bookmarking, instant messaging, synchronized content-sharing platforms, wikis, podcasts, and online mobile phone technologies. These approaches offer men more autonomy and facilitate access to health information within contingent social environments. New ICTs also provide linkages between ICTs, allowing the users to choose the preferred ICT modality and, therefore, increasing the chance of men accessing health information. Online lay communities that promote healthy activities than official or governmental resources.

Self-organizing structures such as blogs and wikis may also increase men’s involvement in a “safe environment” among peers and reduce the burden on professionals to moderate such structures. A collaborative approach between lay people and professionals can also be used in these circumstances. However, newer ICTs are open to the risk of inaccurate information being disseminated and discrimination against the minority. Clear regulation, moderation, and nondiscrimination can be a challenge. The other disadvantages of the newer ICTs are that they are more expensive and require higher computer literacy.

Another challenge for MyMan is to ensure that it is culturally sensitive to the minorities. Friedman and Kao reviewed 70 websites targeting minority men with prostate cancer risk and found significant pitfalls in online innovations, including lack of cultural sensitivity, lack of appropriate language level (too difficult), and poor audience targeting (in this case, older men).

McFarlane et al. studied Internet-based public health initiatives in eight cities in the United States that targeted men who have sex with men, using measures such as Internet partner notification, chat room outreaches, online testing, banner advertisements, and interactive targeted interventions. Although the potential use of the Internet is vast, the obstacles include local policies restricting Internet use, unmet training and staffing needs, lack of privacy and security considerations, as well as difficulty in evaluating cost effectiveness of online programs.

Besides the challenges from the user’s perspective, developing the application, either on traditional website ICT or on Web 2.0 platform, requires extensive technical expertise such as computer programmers, graphic designers, and computer scientists. Financial support is needed to maintain and update the applications. Although engaging investors is a potential solution, convincing the investors is yet another challenge as financial return is expected by the investors.

Investors may want space for advertisement, which may be seen as discrediting the authoritative information provided. Therefore, collaborative work between different experts and investors is necessary in order to ensure the successful development of the MyMan project.

Another challenge of MyMan is the marketing of this innovation to target groups. Men’s health-seeking behaviors are heterogeneous; hence, health promotion should include proven effective marketing strategies using multipronged approaches such as various forms of social media, workplace, health plans, and peer support groups. Social marketing that utilizes advertising health incentives is a potential strategy for promoting this innovation. It increases voluntary acceptance of health promotion activities. Commercial partnerships can add value to the marketing strategies. The advertisement can focus on the potential health benefits of lifestyle changes.

Conclusion

Conventional health promotion strategies have limited success. Health innovations are needed that incorporate end users’ ideas, concerns, and expectations. ICT is already a norm in most work places. Hence, health promotion through ICT may be a solution to improve men’s health. However, further research is required to develop and test the effectiveness of these health innovations.

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