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Innovative methods in teaching college health education course: A systematic review

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Abstract:

BACKGROUND: According to the importance of health education and low capabilities and competencies of health workers related to health education, designing and providing innovative methods for teaching health education is necessary, so the study was designed and done with the aim of reviewing articles related to innovative methods in teaching college health education course.

METHODS: A review of published articles was done to included innovative methods on college health education course. The study was done by systematically searching appropriate database including Google Scholar, PubMed, and Science Direct by using keywords.

RESULTS: Five article present innovative methods for teaching college health education course and similar course, these studies were including usage of YouTube, simulation, smart mobile device in social-network-based health education practice and patient feedback by using patient perception questionnaire.

CONCLUSIONS: There are a few innovative studies related to college health education course, and surprisingly there is only one study that used health education models/theories for designing college health education course. Hence, we recommend the development of a comprehensive, systematic, evidence-based college health education course including mentioned methods for providing health education and similar courses.

Keywords:

College health education course, health education, innovative, teaching

Introduction

Due to epidemiological transition and high prevalence of chronic disease as leading cause of death as well as emerging and reemerging infectious disease, it seems that health education programs may be most effective ways to prevent these causes of death.^[1-3] Perhaps never before there was not so many demands on those in health education and health behavior to facilitate behavior changes.^[4]

According to the WHO health promotion glossary that describes health education as “not limited to the dissemination of health-related

information but also fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve health.” Health education focuses on building individuals’ capacities through educational, motivational, skill-building, and consciousness-raising techniques.^[5]

According to the importance of the subject, during the past two decades, researches have grown rapidly related to health education as well as health education and promotion are recognized increasingly as ways to meet public health objectives and improve the success of public health and medical interventions around the world.^[4]

On the other hand, many health educators have limited specialized training^[5] and

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they have many problems and challenges such as minimal educational preparation, inadequate or nonexistent job descriptions, lack of proper management training, unclear job expectancies, and a vague role definition.^[6] A study showed when comparing aggregate training needs, public health workers with greater day-to-day contact such as nurses and health educators, indicated a greater need for training than their peers,^[7] as well as various studies^[8-12] were done with the aim of assessment capabilities of graduate and health workers as well as health workers' perspective on the appropriateness of educational content with actual needs in the field, have showed capabilities in high percentage of participants in relation to health education competencies are not in a desirable level and based on the viewpoint of participants, educational content of health education course is not appropriate.

Another review study showed that some issues in related to education for health professionals in the emerging market economies were the mismatch between the health needs of the population and education curricula; outdated curricula and teaching methods; growing numbers of medical schools; the quality of education, and inadequate career guidance for students to help them make decisions about choosing a health profession as a career and later, about choosing a field of specialization.^[13]

It seems, there is a lack of adequate capabilities and competencies related to health education among health workers which partly because of developing traditional and historical techniques, for training health workers instead of applying scientific and new methods.^[14] Therefore, using innovative methods and evidence-based methods for training them is necessary.

Moreover, educating high-quality professionals for teaching and training in health care should be regarded as a necessary factor for improving teaching and effectiveness and academic vitality. Also increasing interest and motivations of faculty expertise is crucial. Therefore, faculty development has a fundamental role to play in promoting academic excellence and innovation.^[15-17]

According to the importance of the issue, emphasizing on identifying evidence-based interventions and disseminating them is increasing widely.^[4] Evidence-based health education interventions are most likely to be based on theory and have been shown through empirical study to be effective. Using theory-based interventions, evaluated through appropriate designs, contributes to the understanding of why interventions do or do not "work" under particular conditions.^[5]

Evidence-based health education practice defines as "process of systematically finding, appraising and using qualitative and quantitative research findings as the basis for decisions in the practice of health education."^[5]

Various studies were reviewed methods of health education.^[2,18] Several studies have used health education and promotion models/theories for designing university courses, curriculum development, and medical education^[19-32] as well as one study used health education and promotion models for teaching health education course^[14] but on the basis of our findings, any study does not pay attention to review of innovative methods that were tailored for teaching college health education course.

According to the importance of the issue and important role of innovative, creative, and evidence-based educational methods, this study was carried out with the aim of reviewing and assessment of innovative methods in teaching college health education course.

Methods

Search strategy

Computerized literature research was done on Google Scholar, PubMed, and Science Direct. Studies were selected according to the following keywords: "teaching," "training," "innovation," and "health education." Because of limited number of studies, researchers did not consider the time limitation in search strategy.

Selecting the study

At the first round, studies were selected based on their title and abstract. At the second round, studies were selected based on their full text, and then initial list of included studies was developed. Finally 10 key article entered the present review study. These steps are illustrated in Figure 1.

Inclusion criteria

For selecting studies following criteria was considered.

- Studies that were published in English
- Studies with focus on the educational method
- Studies with innovative methods.

Exclusion criteria

- Studies that their full text was not available
- Studies that their methodology was not clearly explained
- Studies that did not meet the requirement of the current study.

It should be noted that one of the problems of a review of this sort is delineating its scope vis-a-vis topics related to health education that are taught in medical

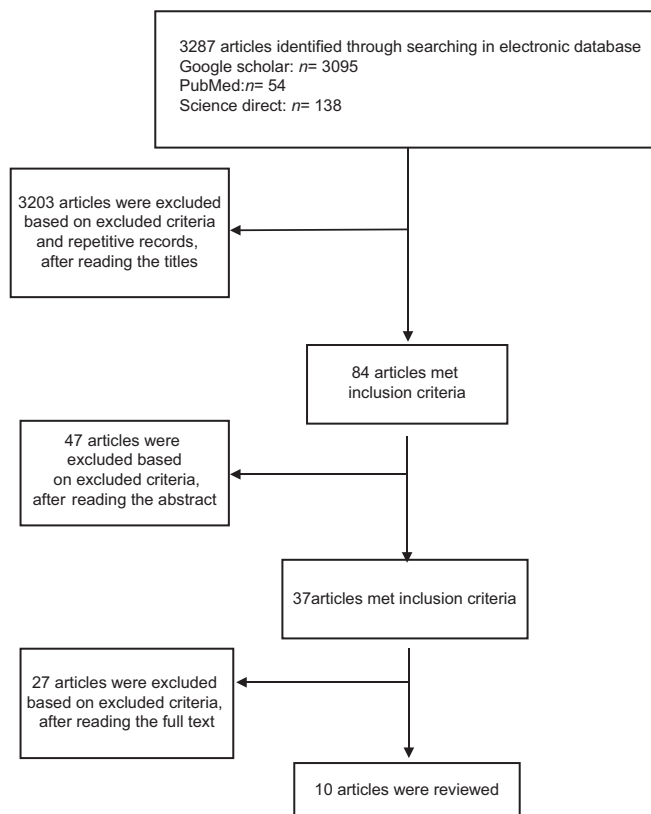


Figure 1: The flowchart for selecting and enrolling the articles in the study

education,^[2] therefore, the reviewers did not adopt absolute systematical.

Results

Five articles presented innovative methods for teaching college health education course and similar course, these studies were including usage of YouTube, simulation, smart mobile device in social-network-based health education practice and patient feedback by using patient perception questionnaire [Table 1].

Discussion

The current review investigated innovative methods for teaching college health education course. Although the assessment of routine methods such as problem-based learning and meaningful learning was not our aim, we used a review article related to the above subject to enrich the study. Furthermore, the assessment of other college courses was not our aim, but we used similar courses for enriching the study. Few studies related to teaching health education course represented gap of literature in this regard, so designing and implementation of new studies is necessary.

Main results

Despite high potential of health education for designing innovative methods for college health education course,

there is a few studies related to innovative methods in health education, and surprisingly there was only one study^[14] that indicated using health education models and/or theories for designing college health education course. In our opinion, the second revolution in health education and promotion will occur by using appropriate health education models and/or theories in college health education course and medical education. Health education models/theories use for behavioral change, so we can use mentioned models/theories for enabling students and change their educational behaviors.

Summary of lessons learned from this review

Despite the existence of many models/theory in health education and promotion and high potential of them in creating appropriate knowledge, attitude, practice, and other health education and promotion competencies, we could find only one record^[14] that designed and done with the mentioned models/theories.

Some studies^[13,33-35] were done on medical educators. It seems one of the most important methods for promoting quality of college health education course is training and equipping health education faculty members with necessary teaching skills.

Several countries have adopted and implemented cross-cultural exchange programs with the aim of developing teaching and training skills, leadership and professional bonding among medical educators worldwide.^[13,36] Hence, we recommended educating health education faculty members related to teaching and training methods based on health education models/theories at the first step and then asked them to educate others faculty.

An important point that we should consider about it, is that in the great majority of cases, teaching college health education and patient education was done by physician,^[2] nurses, and other faculty members other than faculty member of health education, so although health education was commonly taught, the subject may have been somewhat cursory, because of the fact that few of medical educators appeared to have received formal training in patient and health education concepts and methods.^[2] It seems importance of health education course for university stakeholders is not clear or probably there are not enough health education specialists in the universities, so we recommend teaching health education and patient education by health education specialists or training faculty members that teach health and patient education courses.

Some studies^[2,18,37-40] were done on college students and health professionals. It seems that after educating faculty

Table 1: Innovative studies in teaching college health education and similar courses

| Author(s) | The aim of the study | Target group | The type of the study | The method of education/ recommended methods | Results |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nair M and Webster P. (2010) | Identifying some of the issues faced by health education systems and to offer possible solutions | Medical and nursing educators | A literature review | Outcome-based education; community-oriented medical education; problem-based learning | Identified issues: Mismatch between the health needs of the population and education curricula, outdated curricula and teaching methods, growing numbers of medical schools, the quality of education |
| Kai <i>et al.</i> (2001) | To identify current experience and challenges perceived by educators of different health professionals, and to facilitate and debate the development of teaching in this field | Clinician teachers of medical undergraduates and postgraduates and educators of nurses, primary care and hospital physicians, physiotherapists, occupational therapists and paramedical staff | Qualitative | Workshop, discussion | Participants had received little relevant training themselves Educators lacked specific training to facilitate the learning of others in this field. They wrestled with a wide range of issues: from critical dilemmas about the philosophy of teaching, through to the practicalities and personal challenges of face to face teaching. Strategies to address these were generated that may merit consideration |
| Mello <i>et al.</i> (2015) | Analyze the national and international production in the last 5 years in issues as scientific health education, problem-based learning and meaningful learning | All health professionals | Literature review | Problem-based learning, meaningful learning, scientific health education | Most studies evidence positive effects of new teaching strategies and support the need for changes in higher health education |
| Burke <i>et al.</i> (2008) | Presenting a general description of YouTube, its relevance to the field of higher education, examples of how it can be effectively applied and integrated into college health education courses, and some limitations and challenges of this new technology | Health students | Descriptive | Using YouTube | The instructor must evaluate each video for its reliability, accurate, acceptability for use in the instructional environment. The potential power and utility of this new technology in both in-class and online classrooms is promising, when managed by an involved instructor who is sufficiently skilled in its application |
| Burke <i>et al.</i> (2009) | Determine faculty's current and potential utilization of YouTube in their classes Identify faculty perceptions of benefits of YouTube as health education resource for in-class and online resource | Faculty members | Online survey | Using YouTube | Faculties who use YouTube in their courses consider it to be an effective teaching resource for enhancing their health education course material. The nonuser faculty expressed interest in learning more about the potential application of YouTube as an instructional tool for their classes |
| Taibi <i>et al.</i> (2014) | The purpose of this article is to present our survey findings, which corroborate other recent reports of the persistent and pressing need for simulation training | Educators of nursing and other health professionals | Survey | Simulation | The training topics rated most helpful were teaching inter professional communication, leading a postsimulation debriefing, and integrating simulation into course curricula. Based on this survey, we developed and publicly disseminated four basic and three advanced online simulation courses that can be taken by educators of nursing and other health professionals at no cost |

Contd...

Table 1: Contd...

| Author (s) | The aim of the study | Target group | The type of the study | The method of education/ recommended methods | Results |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scheffer <i>et al.</i> (2012) | The development and preliminary evaluation of a new medical program aimed at educating students in patient-centered integrative care and developing appropriate educational strategies | Medical students | Interventional/ integrative approach | Combining exploratory learning, supported participation, patient-based learning, reflective practice, integrated learning, an integrative approach and team-based learning | An integrative medical curriculum with a student-centered educational strategy seems to be of interest to most medical students |
| Wu (2014) | The study was conducted to elucidate the student perspective, acceptance of the proposed learning module, and specific behaviors exhibited during the social-network-based learning process | Nursing students | Interventional | Using smart mobile devices in social-network-based health education practice/tablet PC and Google+ | Social networks can improve interaction among peers and between educators and students, particularly when these networks are used to search for data, postarticles, engage in discussions, and communicate. In addition, most nursing students and nursing educators expressed a positive attitude and satisfaction toward these innovative teaching methods, and looked forward to continuing the use of this learning approach |
| Schlundt <i>et al.</i> (1994) | Identify and define the skills, to develop a workshop curriculum, a participants' manual, and a method for assessing health professionals' adherence counseling skills, and to evaluate the impact of this workshop on adherence counseling skills | Medical students, nursing students, dietetic interns, and practicing nurses and dietitians | Uncontrolled evaluation | Workshop (faculty demonstration, participant rehearsal, and group and individual feedback) | Significant short-term improvements were observed in all four core skills. This uncontrolled evaluation suggests that the adherence promotion training program is a promising way to enhance the ability of health professionals to care for nonadherent patients |
| Bartlett (1984) | The purpose of this paper is three-fold: To highlight the historical background of health education in medical education To present a review of the literature and To describe the results of a survey of health education programs in US | Medical students | Literature review | Didactic instruction, case presentations, role playing (sometimes using simulated patients), supervision of students and residents while they see patients (often supplemented by reviews of videotapes of visits), role modeling of skills by faculty and staff, chart reviews, empirical research projects to test effects of patient education approaches | The future of health education in health care appears to be both exciting and promising |

members, faculty members should educate the students with standard and high-quality methods.

All methods that used for the education in the articles that were reviewed in the current study

Outcome-based education, community-oriented medical education, problem-based learning, workshop, discussion, problem-based learning, meaningful learning, scientific health education, using YouTube, simulation, combining exploratory learning, supported participation, patient-based learning, reflective practice, integrated learning, an integrative approach and

team-based learning, using smart mobile devices in social-network-based health education practice/tablet PC and Google+, Workshop (faculty demonstration, participant rehearsal, and group and individual feedback), didactic instruction, case presentations, role-playing (sometimes using simulated patients), supervision of students and residents while they see patients (often supplemented by reviews of videotapes of visits), role modeling of skills by faculty and staff, chart reviews, and empirical research projects to test effects of patient education approaches.^[2,13,18,33-35,37-40] On the basis of evidence, these methods are attractive and

effective, so using of them can improve the quality of health education course.

Innovative methods for teaching college health education course

Five articles presented innovative methods for teaching college health education course and similar course, these studies were including usage of YouTube,^[33,40] simulation,^[35] smart mobile device in social-network-based health education practice^[38] and patient feedback by using patient perception questionnaire that was reported by Bartlett.^[2]

YouTube

Using innovative video technology resources such as YouTube can provide relevant information for supplement college course content, create a sense of “classroom community” and enrich the learning environment.^[40] Preparing future health educators requires faculty to adapt new teaching strategies that motivate and engage students in new technologies. Also on the basis of a study,^[33] faculty who use YouTube for teaching in their course, consider YouTube as an effective teaching methods to enhance their health education course materials. According to disadvantages of traditional classroom training as well as emerging new technologies as new educational channels, using these technologies in education is most effective and attractive for students.

Simulation

Simulation is becoming common in education, but many educators do not have appropriate training and skills for using simulation effectively,^[35] but in our opinion, the use of simulations in health education is not common. Moreover, there are many restrictions in traditional college health education course, because health education is the sum of skills that we cannot teach it by using didactic methods such as lecture and its skills should teach by using practical methods in the field whereas there is increasing restrictions for the presence of professors and students in clinical sites and fields. Hence, we recommend using simulation for teaching college health education course.

Smart mobile device in social network-based health education practice

In a study,^[38] a tablet PC and Google + were introduced to a health education practice course for elucidating capacity and conditions and analyzing the sequence and frequency of learning behaviors during the social network-based learning process. On the basis of its results, the social network can promote and improve interaction among peers and between professors and students. In addition, all participants in the study

including students and educators expressed a positive attitude and satisfaction related to these innovative teaching methods. Nowadays, most of the people have smart mobile devices and spent many times for using smart mobile device, According to the importance of using smart mobile devices in nowadays as well as the importance of social networks, we recommend using this innovative method for teaching college health education course.

Patient feedback by using patient perception questionnaire

In this method, a patient perception questionnaire was distributed among patients immediately after their visits by the residents after 588 questionnaires were distributed over a 10-month period and the findings conveyed to the educators; they said that the patient feedback was interesting and helpful.^[2,41] In spite of the simplicity of this method, it is very effective and is useful method for promoting skills and competencies of students related to health education, so we recommend this method as a complementary method in college health education course.

Strengths of the study

The strengths of this study were the first systematic review that reviewed innovative methods in teaching health education course. It also opens a new way for researchers to institutionalize the science of health education at the university courses and consequently institutionalize science of health education in the health system.

Weakness of the study

In our opinion, faculty members use many innovative methods for teaching health education course, but as they did not publish these novels, we could not reach to them so, there is a possibility of missing unpublished innovative methods.

Conclusions

Most of the studies were done with routine methods such as problem-based learning and there are a few innovative studies related to teaching college health education course including the usage of YouTube, simulation, smart mobile device in social-network-based health education practice and patient feedback by using patient perception questionnaire; and surprisingly, there is only one study that use health education models and/or theories for designing college health education course. It seems that different studies have addressed a number of aspects of the issue, so for addressing all aspects of the issue, having a holistic approach to the issue is necessary, therefore, we recommend development of a comprehensive, systematic, evidence-based college

health education course including combination of YouTube, simulation, smart mobile device, patient feedback as well as health education models/theories for providing health education and similar courses.

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Conflicts of interest

There are no conflicts of interest.

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