

ICT4HEALTH: THE CASE FOR E-LEARNING AS A PLATFORM FOR CONTINUING MENTAL HEALTH EDUCATION

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Abstract

There exists a need to train healthcare workers on key issues in mental health, including substance use, which is on the rise in sub-Saharan Africa. Education approaches to be used must be cost-effective and innovative enough to secure buy-in from all stakeholders. E-learning is one such approach. It has been used to successfully improve knowledge and skills of healthcare providers in the USA and Europe. A mentor-supported web-based training course on Substance Use Disorder prevention and treatment was piloted in 15 health facilities. Of 206 healthcare workers who signed up, only half completed. There was higher uptake of the e-learning content and platform among community health workers compared to nurses and clinical officers, as they performed better in the evaluations. After the training, the healthcare providers were able to include screening for substance use disorders into routine primary care services. The success of this initiative makes e-learning an important strategy for continuing mental health education (CME) in Kenya, which suffers a shortage not only of mental health practitioners but also healthcare workers competent to assess and treat mental health disorders.

Keywords: e-learning, mental health, training, continuing education, healthcare providers

Introduction

The past few years has seen a rise in the global burden of mental disorders such as Depression, substance use disorders and post-traumatic stress disorder (Alonso, Chatterji, & He, 2013). Globally, the prevalence of substance use disorders, increased by 40% in the 20 years between 1990 and 2010 (Whiteford et al., 2013). On the African continent, the burden of substance use in sub-Saharan Africa a leading contributor to this upsurge in global prevalence (Jamison, 2006). Indeed, various estimates show that by the year 2030, just about 15% of Africa's adult population is expected to suffer from mental disorder (Wekesah, 2013). Kenya is not left behind in this as recent studies show that up to one-quarter or more of patients attending healthcare facilities in Kenya suffer some sort of mental disorder (Ndetei, Khasakhala, Mutiso, & Mbwanyo, 2011; Ndetei et al., 2009).

Traditionally, it has fallen to psychiatrists and psychologists to intervene to manage the burden of mental and substance use disorders. However, the ever increasing burden posed by these disorders to the health system means that even as things stand, not only are the existing mental health personnel are not sufficient but the level of financial resources committed to mental health leave a lot to be desired. Only 0.5% of

Kenya's health budget is geared towards provision of mental health services, compared to about 12% in the United Kingdom - whose allocation is still considered insufficient (ARI, 2013). According to a recent study done in Kenya, just more than half of the estimated 80 psychiatrists in Kenya are in private practice, leaving a good majority of the population - who cannot afford private services - without access to mental healthcare (de Menil, Knapp, McDaid, & Njenga, 2014). And this is in spite of the development of both clinical and psychosocial therapies that are demonstrated to be effective in the management of mental disorders (McGinty, Goldman, Pescosolido, & Barry, 2015; Seligman & Csikszentmihalyi, 2014).

Whereas the masses have access to the health system at the primary healthcare level, through contact with community health volunteers, the psychiatrists in public service are often located in urban areas out of reach of the populace (ARI, 2013). Indeed, many individuals in need of mental healthcare can only come into contact with the health system at the primary care level (Fulton et al., 2011). This speaks to the need of task shifting i.e. redistributing basic functions for provision of mental health services at primary care level (Fulton et al., 2011) - through the provision of additional training for health care workers at this level (Gore et al., 2011; Othieno, Kathuku, & Ndetei, 2000).



Indeed, health workers in primary care are the first line of contact that most individuals have with the health system, this means that training this cadre of workers stands the highest chance of translating into immediate benefit for the communities they serve. This need for training of large numbers of health workers may pose a challenge to the existing medical education system (Jenkins et al., 2010). In this case, there exists an opportunity of integrating this required training into continuing medical education (CME) programs.

Traditionally, CME programs have been the capstone of professional or on-the-job medical training (Mann, 2002). CME often takes the form of classroom or seminar-type presentations with either with a Q & A session thereafter. In several cases, there is no way of evaluating the impact of CME on learners' knowledge and practice. Studies have shown that this format of CME is - more often than not - ineffective and unable to keep health workers abreast of the latest developments in their respective fields (Richards, 1998). Additionally, the cost of organizing and attending these CME sessions both in terms of time lost and money spent, is high. While the pharmaceutical and medical device industries often carry the costs of CME, it has been shown that the sponsor's interest will often supersede that of the patient or hospital i.e. a physician trained in CME supported by a pharmaceutical company is more likely to promote or prescribe drugs from that company (King, Essick, Bearman, & Ross, 2013; Korn & Carlat, 2013).

In a world of diminishing resources, there is a need for innovative and cost-effective approaches that can bring much needed help to those who need it the most (Patel, 2009). Studies show that it is more cost effective to train larger numbers of primary health care workers than to train specialists (Petersen et al., 2012). As such, web based training is emerging as an effective educational strategy in the health sector (Ballew et al., 2013). For this study, the training consisted of reading assignments (learning activities) and peer to peer interactions in discussion forums and role plays. Studies show that peer interactions enhance skill acquisition in medical settings (Waddell & Dunn, 2005; Goldsmith, Stewart, & Ferguson, 2006). Each trainee was assigned a mentor - a trained psychologist or psychiatrist - to support their learning, after previous studies showed that mentor-supported e-learning was more effective in training primary healthcare workers in Kenya (Nyarango, 1991), than its alternative.

Methods

Primary health facilities were selected on the basis of having access to electricity and mobile telephone network (for internet modems), as well as willing health workers. A total of 11 public and 4 private facilities in three counties in the eastern and central regions of Kenya were selected. At least one desktop computer and modem was provided per facility. The aim was to train both clinical and non-clinical staff in each facility. For the purpose of this study, clinical officers and nurses were designated as clinical staff, while all other cadres were designated as non-clinical staff - ranging from community health volunteers, peer educators and casual staff among others. To achieve a passing grade each staff member needed a minimum 60% in the final exam and practical evaluations. A specially developed online course on Substance Use Prevention and Treatment was used to deliver the training.

All facility staff members were invited to participate in the training. Scientific and Ethical approval for the study was granted by the Scientific and Ethics Research Unit of Kenya Medical Research Institute Ethics Review Committee (SERU).

Results

Of the 206 health workers who enrolled, 45.1% were clinical staff and 54.9% were non-clinical staff. The age of participants ranged from 20 to 58 years ($M=35.3$, $SD=10.1$), with females accounting for 62.6% of participants. Only half (49.5%) of all participants were able to satisfactorily complete all the training modules, peer and mentor activities, and evaluations (Table 1).

High staff attrition and lack of management support at sites B and C, degraded mobile network at site D and heavy workload at site K hampered training completion. The clinical trainees took approximately 64.7 hours to complete the training, while the non-clinical trainees took an average of 64.45 hours compared to the expected 39 and 30 hours respectively. Considering that 66.2% of them indicated that they had never participated in web-based training, it was interesting that 84.6% of all trainees indicated that they found web-based training easy. All the trainees who finished the course core modules and evaluations performed well in the mentored activities.

Discussion

This study showed that mentor supported web-based training is an effective model for delivering CME in resource-poor settings. All the trainees who completed the core training modules and participated in peer to peer and mentored activities, including role plays, satisfactorily passed their evaluations. On average, the trainees took almost twice the time allocated to complete the training. This, however, is par for the course because learners spend a lot of time on supplementary resources during web-based learning (Garrison, Schardt, & Kochi, 2000) and this may sometimes give the perception that the training is longer than it actually is. Additionally, the fact that two-thirds of the trainees were unfamiliar with

web-based training, may explain the length of time taken to complete the training activities.

The initial cost of setting up the infrastructure and providing hands on technical support for this web-based model of training was relatively higher than what it would ordinarily cost to host a conference or seminar-style CME session. Longer term, however, the operating cost of this model is cheaper since content can always be changed to allow national or regional medical boards to set the CME agenda. Additionally, as part of the feedback mechanisms, the use of discussion forums and other interactive platforms can allow the healthcare workers (trainees) to identify their educational needs to the relevant authorities. A meta-analysis of CME studies from

Table 1

Training Completion Rate by Study Site

Study Site	Ownership	Type	Enrolled	Completed	% Completion
Site A	Private	Outpatient clinic	10	8	80%
Site B	Private	Outpatient clinic	11	0	0
Site C	Private	Outpatient clinic	9	0	0
Site D	Public	Dispensary	8	0	0
Site E	Public	Hospital	27	15	55.6%
Site F	Public	Hospital	33	19	57.6%
Site G	Public	Dispensary	4	4	100%
Site H	Public	Health Centre	5	5	100%
Site I	Public	Health Centre	4	4	100%
Site J	Public	Health Centre	16	12	75%
Site K	Public	Health Centre	12	0	0
Site L	Public	Hospital	30	13	43.3%
Site M	Public	Health Centre	11	9	81.8%
Site N	Public	Dispensary	6	3	50%
Site O	Private	Hospital	20	10	50%
TOTAL			206	102	49.5%



1993 to 1999 revealed that didactic-only CME sessions i.e. seminar style teaching, do not have an impact on physician behaviour. Interactive sessions, on the other hand, improve not only the professional practice of physicians but also - in a few cases - the health outcomes for patients and clients (Davis et al., 1999). Other studies also support the finding that web-based training may be a better strategy for skill-acquisition and increased practice confidence compared to didactic learning (Harris, Salasche, & Harris, 2001; Cunningham, 2004).

Conclusion

It is clear to see that a paradigm shift in the approach to CME training in Kenya and many developing nations is needed. Indeed, as newer developments occur in the sphere of medical science, it is imperative that healthcare workers in the developing world keep abreast of them. Web-based training provides a means of delivering reliable and up to date content to ensure that healthcare workers acquire the latest knowledge and skills that will aid them and improve health outcomes for the vulnerable populations whom they serve. This is especially true for mental health, where the health sector requires further training to properly intervene and improve outcomes for people suffering mental ill health.

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