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Review Article

A scoping review on barriers to implementation of health education programs in low to middle income countries

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ABSTRACT

We aimed to map literature on the barriers to effective implementation of health education programs (HEPs) in low to middle income countries (LMICs) to guide future implementation research. We employed a rigorous scoping review design. Our review was guided by the Arksey and O'Malley framework, 2005, further enhanced by Levac et al. The keyword search was comprehensive for relevant studies presenting evidence on barriers to implementation of HEPs in LMICs from Google Scholar, PubMed, EBSCOHost (CINAHL and Academic Search Complete) databases and grey literature. The first search identified 3,092 articles, of which 1,412 duplicates were eliminated. An additional 1,632, 34 and 7 articles did not meet the inclusion criteria based on sequential title screen, abstract review and full text review respectively. Seven studies met the inclusion criteria for the actual scoping review. Findings of the review revealed three categories of barriers to effective implementation of HEPs in LMICs grouped as individual or patient level, community level and population level barriers. A key barrier to effective implementation of HEPs in LMICs revealed from the review was socio-economic challenges, which result from resource constraints. This calls for adequate allocation of the limited resources toward health education to ensure effective implementation of HEPs in LMICs and improve health outcomes.

Keywords: Health education programs, Barriers, Low to middle income countries

INTRODUCTION

Henry E. Sigerist coined the term 'Health Promotion' in the year 1945.[1] The great medical historian indicated that the four main tasks of medicine include promoting health, preventing illnesses, restoring the sick as well as rehabilitation. Health education entails the provision of health information and knowledge to people and to communities. It also aims to ensure provision of skills to make individuals to be in a good position to embrace healthy behaviors voluntarily.[1] It is a mix of learning experiences, which aims to help people and communities to improve their health through increasing their knowledge or influencing their attitudes.

Health education is a vital element of any strategy aimed at enhancing the health of the individuals within the developing nations.[2,3] Health education is a foundation of the concept of primary health care.[4] A number of the developing nations have commenced channeling their scarce resources for the development of highly effective health education services. Additionally, they have put in place a number of measures, which are aimed at ensuring that specialist health education personnel, are properly trained.[3] Health promotion programs aims to ensure that there are various interventions to offer optimal health and also for the prevention of illness across the life span, at the provincial, national, as well as at the community levels.[5] Successful health promotion programs depend on highly qualified professionals, who are also specialized in different areas, like legislation, policy analysis, social

psychology, social and behavior change communication, sociology, health journalism and economics.[5]

It has globally been accepted that social and health wellbeing are influenced by numerous factors, some of which are outside the health system that encompass patterns of consumption linked to food and communication, socioeconomic conditions, demographic patterns, family patterns, learning environments, the social and cultural fabric of the societies; sociopolitical and economic changes, which includes global environmental change and commercialization and trade. In a case like that, health issues may be addressed in a highly effective manner through the adoption of a holistic approach through empowering people and communities to take action for their health and also nurturing leadership for public health and encouraging inter-sectoral action to develop healthy public policies in every sector. Despite the fact that health promotion is not a new concept, it has received an impetus after the Alma Ata declaration. In the recent past, it has significantly evolved via a series of international conferences.[6]

The benefits of health education programs (HEPs) are numerous. HEPs build individuals' skills, knowledge, and positive attitudes concerning health.[6-8] At the same time, health education plays a highly significant role in teaching individuals about mental, physical, emotional, as well as social health. It ensures that individuals are motivated to not only improve but also to maintain their health, to prevent disease, and reduce engagement in risky behaviors.[8] Available evidence shows health education generally affects a number of areas of wellness in a community, which generally include chronic disease awareness, as well as prevention, tobacco use and substance abuse, maternal and infant health, prevention of injury and violence, mental and behavioral health and nutrition, exercise and obesity prevention.[9-11]

While there are a number of benefits, which are linked to HEPs, implementation in low to middle income countries LMICs faces challenges. The aim of this scoping review is therefore to explore reported main barriers to implementation of HEPs in LMICs to guide future implementation research.

METHODS

Study design

We employed a rigorous scoping review design. The review followed the scoping methodology, which was provided by Arksey and O'Malley theoretical framework.[12] This review was consistent with this methodology. It followed the five steps. The first step involved the development of the research questions. The second step involved the identification of the relevant studies; the third step involved the selection of the studies to be included in the review while the fourth step involved the charting of data. The last step involved collating, summarizing and reporting the research results. A scoping review protocol was developed priori but was not registered on PROSPERO as PROSPERO currently does not accept scoping review protocols. Our protocol was and this report will be guided by preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 guidelines.

Search strategy

The search terms included a mix of "barriers to health promotion" or "barriers to health education" and "challenges". Searches were carried out in March 2019 in Google Scholar, and EBSCO Host. Grey literature from Mount Kenya University library was also searched. We retrieved 3,092 publications from the keyword search. Table 1 shows the keyword search implored for each electronic databases and the number of publications retrieved.

Inclusion criteria for study selection

For an article to be included in the study, it had to provide information concerning barriers or challenges with implementation of HEPs. The context of the studies also had to be LMICs. Additionally, the studies, which were included in the review had to have been published out between the years 2009 to February 2019. Only studies published in English were considered.

Exclusion criteria

Evidence reported from high-income countries, were excluded from the study. Studies conducted before 2009 were excluded from this study. Studies, which were not published in English were also excluded from the study.

Charting data

Two researchers extracted data. Details of the research population, research context, research aims and methods and the research findings were recorded. Formal quality assessment was not carried out in line with the scoping review methodology and due to the fact that there was a small number of papers reviewed and also because of the heterogeneity of the topics and study types. Table 2 details characteristics of the included studies.

We extracted data linked to the research question through the use of content thematic analysis approach. We employed NVivo version 12 for thematic content analysis.

RESULTS

The first search identified 3,092 articles. We imported all 3,092 articles into EndNote X9 library. Thereafter, 1, 412 duplicates were eliminated. This left 1,680 articles for title screening. An additional 1,632 were excluded. This left 48 articles for abstract screening. Two independent

reviewers screened the abstracts for eligibility. Discrepancies between reviewers were resolved by discussion. An additional 34 articles were excluded based on screening of abstracts. This left 14 papers, which were subject to full article screening. Two independent reviewers screened the full text articles for eligibility. There were no discrepancies between the two reviewers.

Supplemental file 1 provides details on the 14 full text articles screened for eligibility. Seven studies met the inclusion criteria and were included in the actual review. Table 2 details the characteristics of the included studies. Supplemental file 2 details tools used for abstract and full screen reviews. At abstract screening stage, in cases were classification of study setting (LMICs or high income country), we assumed it was LMIC and proceeded for full text review. A detailed PRISMA flow chat is available on Figure 1.

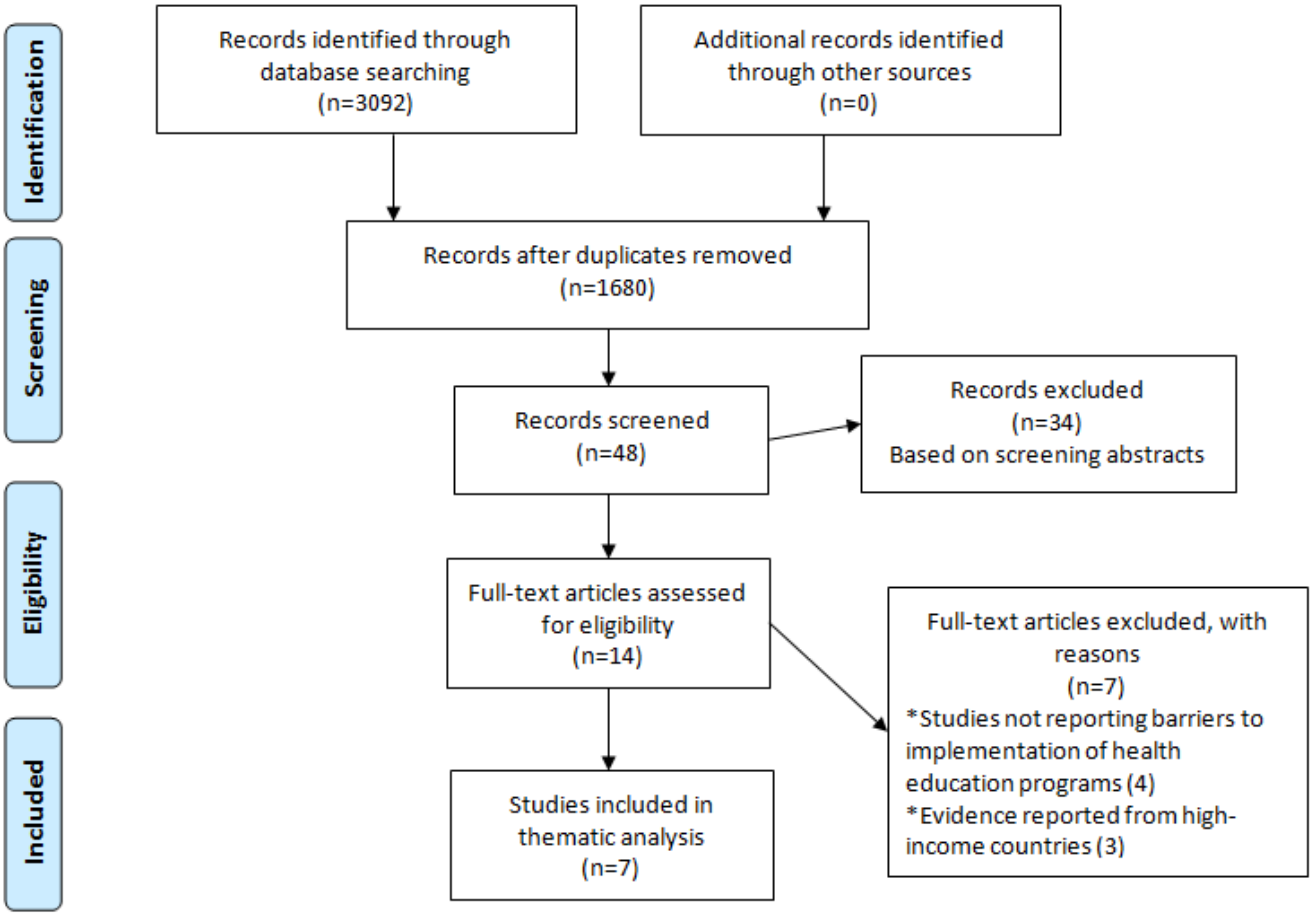

Figure 1: PRISMA flow chart.

Findings

The main aim of the review was to explore reported evidence of barriers to implementation of HEPs in LMICs. Here we present our findings grouped into three main categories; individual or patient level, community level and population level barriers.

Individual level barriers to implementation of health education programs in low to middle income countries

Evidence reported a number of individual level barriers to effective implementation of health education programs in low to middle income nations. The findings of a study carried out by Varming et al noted that some patients do not take up health education programs directed for them due to reasons related to literacy, disease burden, as well as socioeconomic challenges.[13] Similarly, Rohleder et al reported discomfort about issues of sexuality and disability as a barrier to effective implementation of HIV HEPs among people with disabilities in South Africa.[14]

Community level barriers to implementation of health education programs in low to middle income countries

Two studies reported evidence of community level barriers to implementation of HEPs in LMICs. Evidence from Wierenga et al indicated that the main barrier is the fact that process evaluations are not carried out in a manner that is highly systematic.[15] Poor quality of the process evaluations is mostly resulting in a lack of systematically measured barriers/facilitators to

implementation of HEPs.[15] This in turn leads to poor implementation of HEPs.

Additional evidence from Semira et al revealed that lack of time and training were major barriers, which hindered the involvement in HEPs.[16]

Table 1: Results from keyword search in electronic databases.

Keywords Search	Date of search	Search engine used	Number of publications retrieved
((low[All Fields] AND middle[All Fields] AND ("income"[MeSH Terms] OR "income"[All Fields]) AND countries[All Fields]) AND ("barriers"[MeSH Terms] OR "challenges"[All Fields])) AND (("health education"[MeSH Terms] OR ("health"[All Fields] AND "education"[All Fields]) OR "health education"[All Fields]) AND programs[All Fields])	20/03/19	Google scholar	1,890
Keywords search	Date of search	Search engine used	Number of publications retrieved
low AND middle AND "income" AND countries AND "barriers" OR "challenges" AND health education OR "health" AND "education" OR health education AND programs	25/3/2019	PubMed	733
Keywords search	Date of search	Search engine used	Number of publications retrieved
low AND middle AND "income" AND countries AND "barriers" OR "challenges" AND health education OR "health" AND "education" OR health education AND programs	25/3/2019	EBSCOHost CINAHL Academic Search Complete	469
Total publications			3,092

Population level barriers to implementation of health education programs in low to middle income countries

We coded three studies that reported evidence on population level barriers to effective implementation of HEPs in LMICs.

Silva et al revealed that some of the major challenges to implementation of HEPs include financing challenges as well as the general lack of inter-sectoral partnerships.[17]

Another perspective from Borghini et al from some middle income countries indicated that despite the fact that numerous institutions are very active in the field of workplace health promotion for elderly (WHP4E), their efforts are still isolated and randomly distributed.[18] The scholars hence recommended a strengthened cooperation between various governmental institutions and the enterprise industry. The scholars indicated that this could be highly beneficial in facilitating and endorsing the use of WHP4E programs and policies.[18]

Based on the findings of Charan et al any program's inadequacy in attaining its goal is brought about by factors, which include: technical insufficiency, administrative inanity as well as operational incapacity.[19] Poor communication concerning the health benefits as a result of the general lack of awareness, poor usage of healthcare informatics, inadequate management training, inadequate financial resources as well as limited collaboration with the other healthcare organizations are some of the leading barriers to the failure of HEPs.[19]

Table 2: Characteristics of included studies.

No.	Author (publication year)	Study title	Aim	Study design	Main findings	Conclusions
1	Varming et al (2015)	Addressing challenges and needs in patient education targeting hardly reached patients with chronic diseases.	Explore challenges, wishes, and needs of hardly reached people with diabetes for patient education program format and content.	Cross sectional, qualitative	Patients do not take up health education programs directed for them due to reasons related to literacy, disease burden, as well as socioeconomic challenges.	It thus strived to address more specifically both the challenges that these hardly reached patients face in relation to patient education programs and the challenges educators face when conducting patient education with hardly reached patients.
2	Silva et al (2015)	Health promotion: challenges revealed in successful practices.	To examine successful practices of health promotion in health, education, culture, welfare and sport, leisure and to identify the elements of success and challenges in the field.	Cross sectional, qualitative.	Major challenges to implementation of health education programs include financing challenges as well as the general lack of inter-sectoral partnerships.	The results of the study indicate a conceptual and methodological uncertainty about health promotion as evidenced by conflicting objects and contradictory purposes.
3	Wierenga et al (2013)	What is actually measured in process evaluations for worksite health promotion programs: A systematic review	to: (1) further our understanding of the quality of process evaluations alongside effect evaluations for worksite health promotion programs, (2) identify barriers/facilitators affecting implementation, and (3) explore the relationship between effectiveness and the implementation process.	Systematic review of randomized control trials	Poor quality of the process evaluations is mostly resulting in a lack of systematically measured barriers/facilitators to implementation of health education programs	Process evaluations are not systematically performed alongside effectiveness studies for worksite health promotion program.
4	Borghini et al (2016)	Institutional analysis of workplace health promotion for elderly in 10 Countries: Pro-Health65+ Umberto Moscato.	To review the programs of workplace health promotion for elderly (WHP4E) and analyze the institutions involved in them.	Systematic review	Despite the fact that numerous institutions within are very active in the field of workplace health promotion for elderly (WHP4E), their efforts are still isolated and randomly distributed.	The scholars therefore recommend a strengthened cooperation between Governmental institutions and enterprise sector.

Continued.

No.	Author (publication year)	Study title	Aim	Study design	Main findings	Conclusions
5	Charan et al (2016)	Health Programs in a Developing Country- why do we Fail?	The study sought to explore some of the main barriers to HEP in India. It established that some of the main barriers include technical insufficiency, administrative inanity as well as operational incapacity.	Systematic review.	Poor communication concerning the health benefits as a result of the general lack of awareness, poor usage of healthcare informatics, inadequate management training, inadequate financial resources as well as limited collaboration with the other healthcare organizations are some of the leading barriers to the failure of the programs.	The study concluded that mitigation of poverty, minimization of inequalities, proper financing of the health care, supporting public health information system, health education and communication and positive life style changes are some of the highly significant domains on which the overall success of the programs depends.
6	Semira et al (2014)	Health promotion and health education: perception, barriers and standard of practices of community pharmacists.	To examine community pharmacists self-reported practice, perception and barriers to take part in health education and promotion services.	Cross sectional survey.	Lack of time (60%) and training (40%) were major barriers, which hindered the involvement in health education programs.	Despite revealed challenges, the community pharmacists believe that their involvement in health-promotion activities could improve the publics' health and the state of their profession.
7	Rohleder et al (2012)	Challenges to providing HIV prevention education to youth with disabilities in South Africa.	To explore the extent to which HIV education is reached to people with disabilities in South Africa, and the challenges faced by educators providing HIV prevention education to learners with disabilities.	Cross sectional survey.	Barriers to communication; discomfort about issues of sexuality and disability; disagreements among staff about what is appropriate content for sexual health education; and fears of promoting sexual activity.	Scholars reveal a need for HIV prevention education to be specifically customized to the needs of the specific population.

Strategies to address barriers to implementation of health education programs in low to middle income countries

For individual or patient related barriers, self-care skill development is one major strategy, which was recommended by the Timmerman et al.[20] The scholar further proposes approaches that entails helping people to be in a position to develop the self-care skills, which are required for behaviour change. People can learn skills like ways of setting measurable, realistic, goals and ways of developing strategies with the aim of attaining the given goals, like planning for barriers as well as effectively addressing social support.

Ory, Jordon and Bazzarre, and Pender, Murdaugh, and Parsons 2006, noted the need for healthcare professionals, researchers, healthcare consumers, as well as health policy experts to ensure that much attention is placed on different strategies of dealing with barriers in order to ensure that multiple and highly innovative solutions are developed as this will play a highly significant role in ensuring that the three kinds of barriers, which include individual level barriers are addressed effectively and efficiently.[21,22] There is need for individualized interventions and collaborative partnerships with the communities and policy changes.[22]

A different study carried out by Martinez et al indicated that identification of the barriers as well as the enablers is highly useful during the design of implementation strategies for health promotion within the primary health care centers.[23] They noted that in order to ensure effective implementation of the health programs, some of the main measures, which can be put in place include having adequate resources, and making sure that internal implementation leaders are formally appointed.[23] A study by Gayle, aimed to effectively address some of the main barriers to health promotion in underserved women.[24] The researcher noted that in order to develop highly effective health-promotion interventions for the underserved women, individual barriers ought to be addressed in a manner that is highly effective and efficient. There is need to address individual level barriers in order to ensure effective implementation of HEPs and improve health outcomes.

For community level barriers, the findings of noted that the need for health-promotion interventions to be culturally relevant.[25,26] They further note that this has the ability to avoid the drawback of overgeneralizing and assuming that same barriers are applicable to every member of a cultural group, thereby reducing the diversity in the given cultural groups.

Finally, goal setting in the context of health promotion has been recommended as the most important intervention effect as a strategy to effectively address barriers to implementation of HEPs. These goals need a plan with the relevant strategies to promote goal achievement, which includes dealing with the barriers.[27] This highly flexible approach can be adapted to various health-promotion program formats and in almost all contexts including LMICs.

DISCUSSION

The main aim of this study was to explore evidence on barriers to effective implementation of HEPs in LMICs. We were able to identify relevant literature to answer the research question. A similar study from a high income country by Harris et al grouped the challenges into contextual challenges, readiness challenges and capacity challenges.[28] In tandem, Rongen et al, revealed challenges that include privacy-related barriers and beliefs concerning health at work, social-cognitive factors, as well as poor self-perceived health status.[28]

At healthcare provider level, the findings of a research done by revealed that primary care professionals generally show resistance to implementation citing barriers in clinical practice like workload, lack of knowledge and problems, which are connected to professional-patient relationship.[29] At the same level, revealed that health promotion practices are affected by numerous institutional barriers, which includes inadequate funding for the programs, restrictive institutional policies, as well as the general lack of linguistically and culturally appropriate health resources.[30]

The aim of was to explore barriers and facilitators in the implementation of a health course for adults with mild or moderate intellectual disabilities.[31] The findings of the research indicate that one of the main challenges being faced is the general lack of support in the physical and social environment, to adequately support the application of new skills. The researchers also noted empowerment issues.[31]

We report national level barriers to effective implementation of HEPs in LMICs. Earlier work by Jacob, also indicated that the administrative and political leadership, financial commitments, increased human resources, supervision as well as monitoring were crucial for successful implementation of national health education programs.[32] Though the study was focused on psychiatric conditions in LMICs, reported barriers of professional apathy, financial barriers, as well as delivery barriers can be extrapolated to our findings.

Limitations

A limitation of the review is the potential to miss relevant articles given that the findings will be limited to articles published in English.

CONCLUSION

Different barriers to effective implementation of HEPs in LMICs have been discussed in this paper. Based on the findings, barriers to implementation of HEPs in LMICs

range from individual or patient barriers to population level. Socio-economic challenges, which result from resource constraints remain a key barrier to effective implementation of HEPs in LMICs. This calls for adequate allocation of resources toward health education to ensure effective implementation of HEPs in LMICs to improve health outcomes.

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