

The Role of Social Marketing in Preventing Non-Communicable Diseases: A Scoping Review Learning from the COVID-19 Pandemic

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Abstract

Introduction: The most common cause of worry for health in modern culture is non-communicable diseases (NCDs). Effective management of risk factors is essential when dealing with NCDs. Addressing NCDs requires a multifaceted approach, involving a range of solutions from different perspectives and at various levels, encompassing both individual and national dimensions.

Methods: Five databases were searched: JBI, Embase, Emcare, Medline, and Cochrane Systematic Reviews. The papers included reviews of social marketing in any form or empirical information about how social marketing affects the prevention of non-communicable illnesses.

Results: Five papers were chosen from a pool of 36 titles and abstracts. Among the papers, 11 (45.8%) were observational studies conducted in various settings such as communities, hospitals, and clinics, while the remaining articles were from different healthcare facilities. The collected study designs encompassed systematic reviews, narrative reviews, brief communications, scientific reviews, non-randomized control trials, and randomized control trials. Five publications supported their strategies with empirical evidence.

Conclusion: Social marketing approaches intended to prevent and handle NCDs need to be based on a deep comprehension of the intended audience and customized to fit the particular circumstances. Furthermore, they should promptly involve the public and establish connections with stakeholders. The elements of the intervention mix should work together harmoniously and complement each other. Furthermore, it's vital to include health education and capacity building and ensure cultural relevance.

Keywords: COVID-19 pandemic, Healthcare consumer, Hospital consumer, Hospital marketing strategies, Scoping review

**Peran Pemasaran Sosial dalam Pencegahan Penyakit Tidak Menular:
Tinjauan Lingkup Pembelajaran dari Masa Pandemi COVID-19**

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Abstrak

Pendahuluan: Penyakit Tidak Menular (PTM) menjadi isu kesehatan yang signifikan dalam era perkembangan peradaban modern. Pengendalian faktor-faktor risiko menjadi kunci penting dalam upaya mengelola PTM ini. Penanganan PTM memerlukan beragam solusi yang melibatkan berbagai aspek, baik dari sudut pandang individu hingga tingkat nasional. Tujuan dari tinjauan ini adalah untuk menyusun gambaran ringkas namun komprehensif tentang bagaimana pemasaran sosial berkontribusi dalam mencegah penyakit tidak menular.

Metode: Pencarian literatur dilakukan melalui lima database - Ulasan Sistematis Cochrane, Embase, Emcare, Medline, dan JBI. Ini adalah studi yang mencakup informasi mengenai efek pemasaran sosial dalam mencegah penyakit tidak menular dan dapat termasuk data-data empiris atau ulasan yang berkaitan dengan praktik pemasaran sosial.

Hasil: Dari 36 judul dan abstrak yang disaring, lima artikel dimasukkan. Sebelas (45,8%) artikel dilakukan sebagai studi observasional di rumah sakit, klinik, dan komunitas; sisanya dilakukan di fasilitas kesehatan lain. Rancangan penelitian yang dikumpulkan adalah tinjauan sistematis, tinjauan naratif, artikel komunikasi singkat, tinjauan ilmiah, uji kontrol nonacak, dan uji coba kontrol acak. Lima artikel mempresentasikan data empiris tentang strategi mereka.

Kesimpulan: Pendekatan pemasaran sosial dalam upaya pencegahan dan pengelolaan PTM sebaiknya mengedepankan pemahaman mendalam tentang audiens dan situasi khusus, serta melibatkan partisipasi masyarakat dan pemangku kepentingan. Upaya intervensi perlu menyatukan semua elemen secara holistik, dengan integrasi dan sinergi yang kuat. Tidak kalah pentingnya adalah menyatukan aspek pendidikan kesehatan dan penguatan kapasitas, sejalan dengan nilai-nilai budaya yang relevan.

Kata kunci: Konsumen, fasilitas pelayanan kesehatan, Pandemi COVID-19, Perilaku konsumen, Strategi pemasaran rumah sakit, Tinjauan lingkup.

Introduction

About 41 million people die from non-communicable diseases (NCDs) yearly, accounting for 71 percent of all fatalities. The most common NCDs are cancer, diabetes, chronic respiratory diseases, and cardiovascular diseases. Cardiovascular diseases such as heart attacks and strokes are responsible for NCD deaths (17.9 million people annually). Over 75 percent of the world's 31.4 million NCD deaths occur in low- and middle-income countries.¹ Not only on a global scale,

but NCDs also dominate as the leading cause of mortality in Indonesia. Stroke, heart conditions, diabetes mellitus, tuberculosis, complications of high blood pressure, chronic lung disease, liver disease, traffic accidents, pneumonia, and gastroenteritis-diarrhea infection ranked from first to tenth in the Indonesian Sample Registration System for 2014. Compared to the previous report in 2013, the Indonesia Basic Health Research in 2018 found that NCDs were on the rise.² These data provide evidence that NCDs are silent killers that have long been emerging within our society.

Rationale

Reducing major risk factors such as smoking, poor dietary habits, physical inactivity, and alcohol abuse is the primary objective in lowering the mortality rate from NCD.³ Previously, early identification and prompt treatment of risk factors, as well as the promotion of a healthy lifestyle (e.g., programs for smoking cessation, a healthy diet, physical activity, and strengthening case treatment) were the focus. These programs were mainly based in healthcare facilities, with an emphasis on primary healthcare services.⁴ During the COVID-19 pandemic, the healthcare system has been constantly adapting its strategies to create the most effective approach to encourage healthy behavior while reducing community transmission. Social media marketing is one method that may be helpful.

Social marketing refers to the application of marketing tactics to tackle societal problems. It involves various disciplines, such as health education, economics, advertising, scientific research, business management, system analysis, psychology, epidemiology, and community organization. It aims to motivate people to endorse actions or behavior generally accepted as beneficial. The main principle of social marketing is product (e.g., educational pamphlet, healthy lifestyle courses), place, price (e.g., product cost, convenience cost, response costs), and promotion (e.g., mass media utilization, public meeting). Various techniques could be done to benefit social marketing for health promotion.⁵

The pandemic has awakened us to numerous possibilities for taking action to prevent our deadliest killer: non-communicable diseases. However, information about social marketing and NCD prevention is still scattered. This scoping review aimed to establish the current evidence-based for social marketing in preventing NCDs.

We specified the following objectives, i.e., to gather and give examples of social marketing techniques or strategies and assess their effectiveness in preventing NCDs.

Method

Study Design

The aim of this scoping review was to craft a concise yet comprehensive overview of how social marketing contributes to preventing noncommunicable diseases. Without taking into account the country or year of publica-

tion, this review collected a wide variety of published content.

Literature Search

In May 2022, an extensive search was conducted across five databases (Cochrane Systematic Reviews, Embase, Emcare, Medline, and JBI) to identify social marketing strategies aimed at preventing noncommunicable diseases within healthcare systems, including hospital preventive programs and social marketing efforts. The search involved the use of Boolean and truncation operators. An identical search approach has been applied to other relevant assessments. When available, full references, abstracts, and citations were downloaded into the database referencing program Mendeley software (v.1.19.4) for further review during the investigation.

Study Selection

To prevent redundant information, studies found via an electronic database search were directly inputted into reference management software. Each study was evaluated based on its title and abstract, adhering to the outlined qualifying criteria. Studies whose eligibility could not be verified just by their title and abstract were searched for their full-text publications. All studies that satisfied the inclusion criteria had their full-text publications obtained.

Eligibility Criteria

Articles must provide information concerning the impact of social marketing on the prevention of noncommunicable diseases. Articles were limited to those published in English or *Bahasa*. The articles could present factual data or any type of review related to social marketing.

Result

Study Selection

After conducting a literature search, 36 studies were found. Five studies were eligible for the review (Figure 1). Five studies included empirical data on health promotion strategies.

Study Designs

The initial article collected dates back to 2005, with the most recent one published in 2018. These publications originate from various nations, spanning from the United States to Russia, African countries, and international corporations. The collection of studies encompasses one systematic review, one narrative review, one brief communication article, two

scientific reviews, one nonrandomized control trial, and one randomized control trial. Five articles presented empirical data on their strategies (Table 1).

Synthesis of Results

Non-communicable diseases have a high mortality rate, which is a growing concern for society, national governments, and the international community. Self-management, genetics, environment, medical conditions, and sociodemographic factors are the main causes of NCD risk. The impact of social marketing is assessed by the level of behavior change achieved in each campaign. The purpose of this study was to evaluate the effectiveness of such interventions in reducing risk-related behavior modifications for NCDs.

NCDs Prevention Strategies Conventional Health Intervention

In one study, a holistic lifestyle intervention that included problem-solving and stress management training, public physical activity, and education on healthy lifestyles was used to encourage weight loss and physical activity in a rural community.¹

Two studies included in-person education or NCD prevention training, roleplays, booklets, lectures, pictorials, etc.^{3,4} And group or interpersonal interventions such as motivational interviews and peer group support.^{3,4} Lastly, a larger-scale intervention by the government to promote a healthier movement was also found in one study.⁵

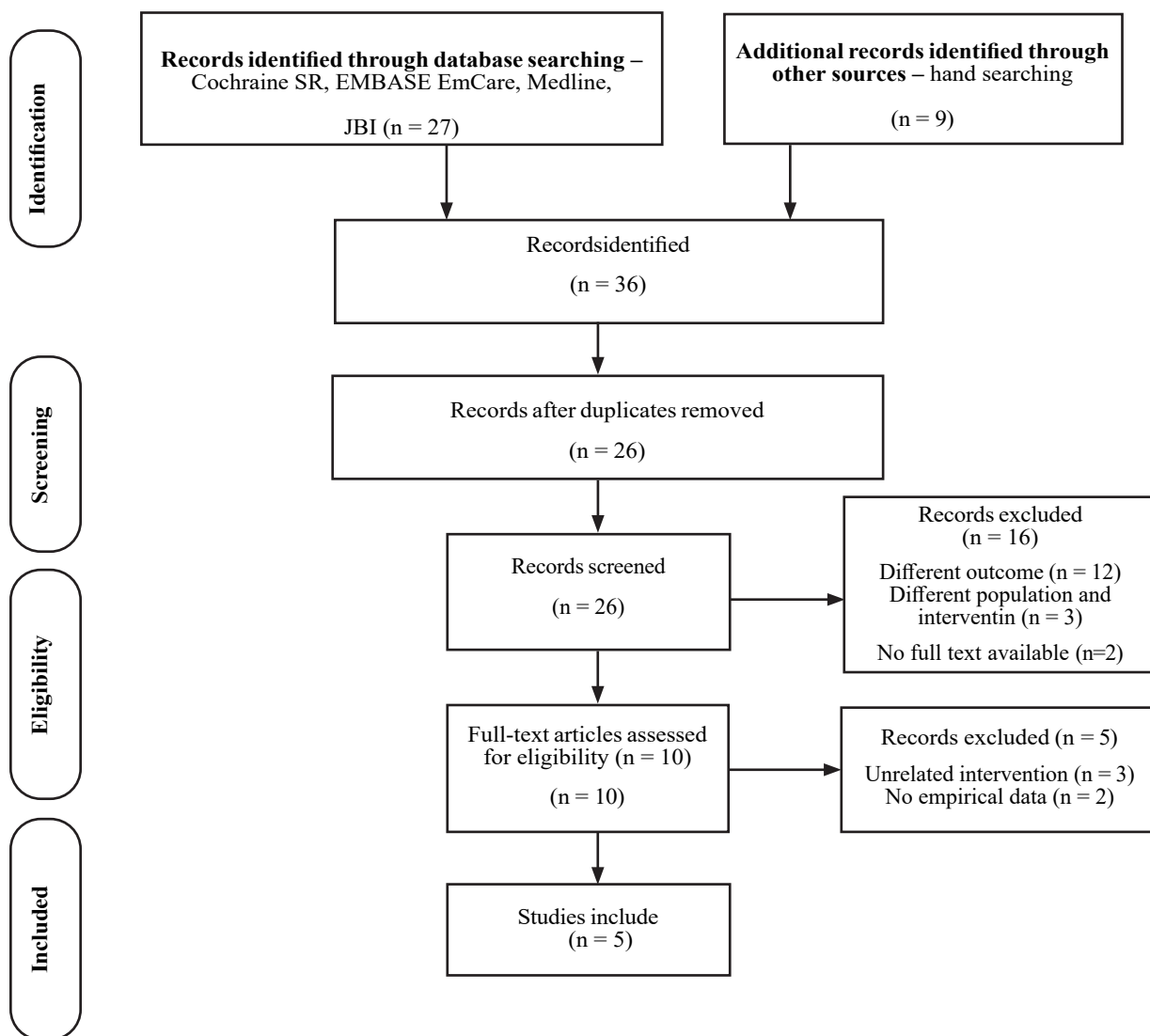


Figure 1. PRISMA Flow Diagram of Selection of Scoping Reviews

Social Marketing Intervention

Two studies utilize mass media to promote a healthy lifestyle and disease screening, from working with a community representative to empowering the local press.^{3,4} Social marketing also includes using technology and a mobile app to ease access to healthcare (e.g., telemedicine, m-learning).³

Health Related Outcomes

All of the studies that presented data showed health-related outcomes ranging from better physical activity, obesity, food labeling,

improved use of testing and vaccinations, retention in care, medication adherence, better linkage to care, and awareness and understanding of NCDs.¹⁻⁵ Various health promotion marketing strategies related to NCD prevention are carried out through various social media with the objectives of each program. A summary and description of health promotion strategies that have been carried out related to NCD prevention are briefly shown in Table 1. By knowing the description of how social media plays a role in various marketing movements as well as health promotion for NCD prevention, it can be used to new adaptation conditions during the COVID-19 pandemic.

Table 1. Descriptions of Health Promotion Strategies

Health promotion strategies	Descriptions	Target users	Country	Key findings
Adapted Diabetes Prevention Program (DPP) lifestyle intervention (Vadheim et al., 2010) ⁶	A cardiometabolic risk reduction program was developed based on the DPP's lifestyle program. There are 16 sessions per week of the main program and six sessions monthly after the program, each lasting approximately 1 hour. These sessions include a healthy diet and nutrients, physical activity, problem-solving, and stress management.	Rural community	USA	65 percent of participants in the baseline program met their exercise goal, and 62 percent met their weight loss target of 7 percent. 52 percent of participants in the post-core program met their target weight loss of 7 percent.
In-home cardiovascular education intervention (Francis and Taylor, 2009) ⁷	Dietitians did four visits in 90 days, and education materials were prepared. Topics that were discussed are diet and nutrition to prevent CVD. The intervention group received in-home sessions led by dietitians, while the control group received education materials via mail.	Women age 53–83 years old.	USA	Improved Mini Nutritional Assessment scores (p=0.001). The intervention group consumed more fiber and less sodium (p=0.013, p=0.02) than the control group.
Health education and training for NCD (Juma et al., 2018) ⁸	The intervention was done through mass education, role plays, lectures, booklets, pictorial and written warnings in homes, community, and faith-based settings (e.g., churches)	- Church leaders and members - Community members - Patients with diabetes - Adults with HIV or NCD	- Ghana - Nigeria - Sudan - Kenya - South Africa	Improved uptake of testing and HPV vaccination, retention in care, and adherence to medication

Table 1. Descriptions of Health Promotion Strategies

Health promotion strategies	Descriptions	Target users	Country	Key findings
Social marketing (Juma et al., 2018) ⁸	Social marketing strategies utilizing mass media with the school representative to prevent obesity	School representative	South Africa	Feasibility of using media, attitude beliefs, health knowledge, beliefs, and behavior as a tool to support obesity prevention
mHealth (Juma et al., 2018) ⁸	The intervention was done with mobile phones applications, m-learning, mobile telemedicine, and electronic health records in the health facility, community, and medical school	Health care workers and diabetic patients.	Botswana and Kenya	Improved delivery and uptake of screening, adherence, and care to treatment
Motivational interviews (Juma et al., 2018) ⁸	A motivational interview intervention by a health-care worker to promote smoking cessation	TB Patients who smoke	South Africa	Adherence to prevention advice
Peer group support (Juma et al., 2018) ⁸	In addition to weekly phone or in-person contact for four months, patients attended a one-day diabetes education seminar.	Adults with type 2 diabetes	Uganda	Improved linkage to care, retention in care, and adherence to treatment
Multi Disease screening campaign (Juma et al., 2018) ⁸	Health fairs and community outreach meetings were done in a community setting or in-home	Community	Uganda	Improved testing and linkage to care
Social Marketing (Alderson, 2005) ⁹	Social marketing campaign accompanying the conventional campaign (public screening, lectures, etc.).	General public	Russia	Increase awareness and understanding of the prevention of CVD, but no significant improvement in weight management, tobacco, and nutrition.
Population-level intervention to reduce dietary sodium consumption (Mclaren et al., 2017) ¹⁰	<ul style="list-style-type: none"> - Food product reformulation - Pricing interventions - Food procurement policy - Restriction on marketing to children - On-package nutrition information Information campaigns	General public	Worldwide	Government initiatives are the potential to achieve a population or even nationwide reduction in salt intake, especially by employing more than one strategy.

Discussions

This scoping review found evidence that social marketing interventions can positively impact non-communicable disease-related health. A global public health emergency

was sparked by the COVID-19 pandemic.¹¹ The COVID-19 illness has hampered social gatherings, business transactions, international relations, and the global economy.¹² However, the national education system faces a sizable challenge due to the spread of COVID-19.¹³

Social marketing is essential in preventing NCDs and chronic diseases caused by lifestyle, environmental, and genetic factors. These include cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases. It promotes social goals like public health through marketing concepts and strategies.¹⁴ One of the critical social marketing strategies for preventing NCDs is to create awareness among the general public concerning the dangers posed by unhealthy habits like smoking, poor eating behaviour, being inactive, and drinking too much alcohol. Social marketing campaigns can be designed to target specific behaviors that are associated with NCDs.¹⁵ A social marketing campaign, for instance, can encourage children to eat their fruits and vegetables and steer clear of foods high in sugar and fat while also promoting healthy eating habits. The value of physical activity can be highlighted through such campaigns, motivating individuals to lead more active lifestyles.¹⁶

Social marketing comes in different types and forms. Three studies presented empirical data showing the healthcare system could benefit significantly from social marketing. By utilizing mass media, both locally and nationwide, increased awareness and understanding of people regarding preventing NCDs could be achieved. In the urgent COVID-19 outbreak for societal welfare, the media contributes positively and responsibly and offers up-to-date information.¹⁷ The media used in the studies mentioned were TV, radio, and print. The mass media type should also be tailored to the population's characteristics. For example, young Indonesian adults may benefit more from social media such as Instagram, YouTube, Twitter, or web-based marketing. Steps taken were working with local media in TV, radio, and print media to convey the messages; collaborating with local VIPs and famous influencers to join the campaign; TV advertisement; and creating a hotline for information and advice.

Meanwhile, an elderly adult may be more familiar with conventional mass media. Other than mass media, creating influences from a community representative, local VIPs, or famous influencers should also be considered as a way to market the product, in this case, health intervention. Three studies mentioned conventional health intervention without utilizing social marketing to prevent NCDs. Intervention includes health education and lifestyle intervention, motivational interview, peer group support, and screening campaign. These interventions demonstrated improved health-related outcomes related to improved

lifestyle and diet, improved screening uptake, retention to care, ease of access to healthcare, and medication adherence. One study also mentioned using mHealth to improve the delivery and uptake of screening, commitment, and care to treatment. It is relevant to talk about digital health technology and its impact today. There are many possibilities for mHealth, starting from m-learning, mobile telemedicine, and electronic health records in health facilities, communities, and medical schools. Although both interventions showed significant impact, conventional health intervention should work with social marketing. Social marketing is about influencing people, raising awareness, and creating understanding about health.

Creating an extraordinary intervention with social marketing to accompany it and expose it to a larger audience is essential. The study by Barberio, et al¹⁰ showed a great example of how marketing could work hand-by-hand with other health interventions to reduce sodium intake nationwide. This could not raise awareness but bring knowledge, attitude, and behavior change to a healthier lifestyle.

Social marketing can also be used to target the community as a whole. For example, a social marketing campaign can be designed to encourage people to quit smoking by addressing the social and cultural factors that lead to smoking. This could include celebrity endorsements, peer pressure, and social norms to create a favorable environment for non-smoking.¹⁰ In addition to creating awareness, social marketing can alter attitudes and conduct. Promoting healthier alternative behaviors can challenge existing social norms contributing to NCDs. For example, a social marketing campaign can be designed to encourage walking or cycling instead of driving by highlighting the health benefits of exercise.¹⁸

On the other side, social marketing can also help to create supportive environments that promote healthy behaviors. For instance, a social marketing campaign can be designed to advertise smoke-free spaces or healthy food options in workplaces and schools.¹⁹ Social marketing campaigns can also improve people's attitudes and knowledge of smoke-free laws, establishing norms that prohibit smoking. The evaluation's findings support that jurisdictions with comprehensive smoke-free laws should launch this media campaign, mainly when the rules are relatively new to a region or population. A clear understanding of why smoke-free legislation is necessary and the development of new smoke-free norms can be facilitated by focusing on the harmful elements of cigarette

smoke as justification for such legislation.²⁰ Campaigns in the media can be short-lived or last a long time, and they can support policy changes while providing easy access to newly released or existing goods and services and clinical or institutional outreach. If health campaigns are a component of more significant social marketing initiatives, various dissemination techniques might be employed.²¹

The health promotion component needs to be strengthened by implementing issue- and setting-based designs, using simple, affordable, innovative, culturally and geographically appropriate models, and ensuring citizen participation. It is necessary to evaluate whether successful health promotion programs and best practices are being replicated within nations and globally. Schools, hospitals, and workplaces are already starting to create healthy environments. We must involve non-health sectors in health promotion efforts and incorporate a health perspective into all policies, not just those that are directly related to health.²²⁻²⁴

Conclusions

Due to numerous political factors, NCDs are now widely recognized. Incorporating health education and capacity building and being culturally relevant is also critical. Social marketing holds promise for advancing NCD goals. This study's findings indicate the effectiveness of social marketing in altering behaviors associated with the majority of public health strategic initiatives targeting non-communicable diseases. In the future, social marketing campaigns aimed at managing and preventing non-communicable diseases (NCDs) must be tailored to the unique situation and must be based on a deep comprehension of the intended audience. Therefore, future studies should endeavor to understand perspectives as well as those of all the organizations in the health sector.

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Author's Contributions

All authors conceived the review; LTM undertook searches; LTM carried out article screening; LTM interpreted data; the manu-

script was drafted by LTM and reviewed by WBBA, WS, and AW.

Ethics Approval

Consent to participate and ethical approval is not required.

Competing Interests

The authors declare that they have no competing interests.

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