



## Role of Health Awareness Campaigns in Improving Public Health: A Systematic Review

Waleed Mohammed Bugshan <sup>1\*</sup>, Saad Jarallah Al Qahtani <sup>2</sup>, Nayel Ayidh Alwagdani <sup>3</sup>, Majed Safar Alharthi <sup>4</sup>, Abdullah Mohammed Alqarni <sup>5</sup>, Hani Muteb Alsuat <sup>5</sup>, Naif Hadi Alqahtani <sup>5</sup>, Mohammed Rabia Alqahtani <sup>6</sup>, Mohammed Thaar Alshammari <sup>7</sup>, Rashed Aqeel Albaqami <sup>8</sup>, Ahmed Hammad Almotairi <sup>9</sup>

<sup>1</sup> Department of Family Dentistry, King Abdulaziz Hospital, Jeddah, Saudi Arabia

<sup>2</sup> General Administration of Medical Services in Public Security, Armed Forces Hospital, Najran, Saudi Arabia

<sup>3</sup> Hospital Administration, Ministry of Defense, Riyadh, Saudi Arabia

<sup>4</sup> Transformation Management, Prince Mansour Military Hospital, Taif, Saudi Arabia

<sup>5</sup> Hospital Administration, Armed Forces Hospital, Najran, Saudi Arabia

<sup>6</sup> Department of Radiology, Armed Forces Hospital, Najran, Saudi Arabia

<sup>7</sup> Hospital Administration, Prince Sultan Armed Forces Hospital, Medina, Saudi Arabia

<sup>8</sup> Medical Services Department, Ministry of Defense, Riyadh, Saudi Arabia

<sup>9</sup> Department of Respiratory Therapy, Armed Forces Hospital, Najran, Saudi Arabia

**Abstract:** Public health is a multidisciplinary field that intervenes at organizational, community, and individual levels to prevent disease, improve quality of life, and create an environment in which people can enjoy good health. Public health campaigns are used worldwide for a variety of purposes and are based largely on psychological theories. Such theories attempt to understand the effect of many elements in human behavior that influence decision-making when it comes to health issues and their solutions. Health awareness campaigns are designed in the way that their role is to promote or protect health or prevent illness in communities or individuals by creating awareness. Health awareness campaigns are an essential part of public health as through health promotion and education, awareness levels of individuals can be increased leading to better adoption of preventive strategies. The aim of this research is to review the available literature about the role of health awareness campaigns in public health. Health awareness programs that include the use of different forms of communication media and the provision of health-related products are effective in changing people's attitudes and behavior. Through behavioral modification, health communication can reduce mortality and morbidity, thus reducing disease burden. During the current digital era, health awareness and communication can be easily conducted on mass media platforms. Health awareness campaigns tend to increase the knowledge and awareness levels of individuals and communities. This is supported by current literature, however, more research in the future can help us better understand the role of health awareness campaigns in the field of public health.

**Keywords:** Health, Awareness, Campaign, Public Health and Health Promotion

### \*Corresponding Author

Waleed Mohammed Bugshan , Department of  
Family Dentistry, King Abdulaziz Hospital, Jeddah,  
Saudi Arabia

Received On 27 June 2022

Revised On 22 August 2022

Accepted On 29 August 2022

Published On 01 November 2022

### Funding

**Citation** Waleed Mohammed Bugshan , Saad Jarallah Al Qahtani , Nayel Ayidh Alwagdani ,Majed Safar Alharthi ,Abdullah Mohammed Alqarni ,Hani Muteb Alsuat ,Naif Hadi Alqahtani,Mohammed Rabia Alqahtani ,Mohammed Thaar Alshammari Rashed Aqeel Albaqami, Ahmed Hammad , Role of Health Awareness Campaigns in Improving Public Health: A Systematic Review.(2022).Int. J. Life Sci. Pharma Res.12(6), L29-35 <http://dx.doi.org/10.22376/ijpbs/lpr.2022.12.6.L29>

This article is under the CC BY- NC-ND Licence (<https://creativecommons.org/licenses/by-nc-nd/4.0>)



Copyright @ International Journal of Life Science and Pharma Research, available at [www.ijlpr.com](http://www.ijlpr.com)

## 1. INTRODUCTION

In dealing with public health issues, health promotion is of utmost importance now more than ever. The global health situation is at a critical juncture, with the world confronting a 'triple burden of disease,' which includes an unmet agenda of eradicating communicable diseases, preventing new emerging and re-emerging diseases and controlling the extraordinary development of non-communicable chronic diseases. Factors that aid progress and development in today's world, such as globalization of trade, urbanization, ease of global travel, advanced technologies, and so on, act as a double-edged sword, increasing people's vulnerability to poor health on one hand, and contributing to sedentary lifestyles and unhealthy dietary patterns on the other. In the present era, there is a high prevalence of poor health behaviors such as tobacco smoking, as well as an increase in unhealthy eating habits and decreased physical activity. The increased exposure to environmental risk factors has significantly contributed to the rise of noncommunicable illnesses<sup>1</sup>. Awareness regarding the disease and risk factors thus plays a critical role in public health due to its involvement in prevention, especially primary prevention. Public health is a multidisciplinary field that intervenes at the organizational, community, and societal levels to prevent disease, improve quality of life, and create environments in which people can be healthy. Campaigns for public health are utilized all around the world for various purposes and are primarily based on psychological ideas. Such theories try to comprehend the impact of many elements on people's decision-making behavior when it comes to health issues and their solutions. Pre- and post-comparative studies are used to determine the success of a campaign. Campaigns for public health are distinct in the way that they are designed to promote or protect the health or prevent illness in communities or populations<sup>2</sup>. In today's times, health awareness campaigns hold great importance. They educate the public by raising awareness, improving knowledge, encouraging a target audience to adopt desired attitudes and practices, and supporting the individual and communal health decision-making. Policymakers, non-governmental organizations, and international organizations such as the United Nations and the World Health Organization frequently sponsor health awareness campaigns. They include guidelines for preventing sexually transmitted illnesses, obesity, alcohol and tobacco addiction, as well as the dangers posed by automobiles, weapons, and pharmaceuticals.<sup>3,4</sup> Public health campaigns primarily try to affect an individual's behavior by recommending a change in habits such as healthy eating, physical activity, and encouraging smokers to quit and encouraging the adoption of preventative behavior such as vaccination or utilization of screening services for sexually transmissible diseases. Health campaigns can also be created to assist professionals, practitioners, and the public in making educated decisions, as well as to promote awareness and knowledge of essential health<sup>5</sup>. Many factors influence the possibility of taking prescribed preventative health measures. Individuals' views about the seriousness of a health problem and how vulnerable they are to it, as well as cues to action such as media campaigns and advice from healthcare professionals impact the total perceived threat of an ailment, according to the health belief model. The model further states that prior knowledge of a condition influences people's perceptions of susceptibility to it; those who are familiar with a condition may regard themselves as more sensitive to it than people who are less familiar with it.<sup>6</sup> Better awareness levels can be achieved through health awareness campaigns which

lead to better implementation of preventive strategies as suggested by public health professionals. The purpose of this research is to review the available information about the role of health awareness campaigns in public health.

## 2. METHODOLOGY

This study is based on a comprehensive literature search conducted on May 11, 2022, in the Medline and Cochrane databases, utilizing the medical topic headings (MeSH) and a combination of all available related terms, according to the database. To prevent missing any possible research, a manual search for publications was conducted through Google Scholar, using the reference lists of the previously listed papers as a starting point. We looked for valuable information in papers that discussed the information about health awareness campaigns in public health. There were no restrictions on date, language, participant, age, or type of publication.

## 3. DISCUSSION

### 3.1 Types of Health Awareness Campaigns

Some campaigns involve locally or regionally bounded activities, while others take the form of international collaborations. Some campaigns primarily assume an advocacy role, while others primarily perform a monitoring role, examining and keeping track of views about their core issue. Some campaigns and groups actively lobby political opinion by operating as pressure groups. The magnitude of politicization of the awareness groups/campaigns differs widely, with some promoting a specific approach or stance while others targeting many issues under the wider umbrella of the health topic. For instance, in the case of end-of-life care, there are campaigns that focus on particular issues, such as the importance of choice, or are more general in their approach, being completely open about death and dying. Several global networks are emerging with common aims, including public awareness. Most campaigns function by bringing networks of individuals and organizations into contact with each other and creating strong links to the press and other forms of media.<sup>7</sup>

### 3.2 Techniques to Raise Health Awareness

The field of health communication has become increasingly important not only in public health but also in clinical practice during the last 25 years because the way patients and professionals communicate in clinical settings influences a variety of health outcomes. The current digital era promotes the use of mass media for health awareness campaigns. Mass communications influence population health in public health contexts by shaping discourse about exposure risk and disease, influencing the adoption or non-adoption of health-promoting social policies, connecting people to health services, and providing education and motivation that influence behaviors.<sup>8</sup> Through behavior modification, health communication programs using mass media and the distribution of health-related products have been utilized to reduce mortality and morbidity. The intervention is defined as having two core components that reflect two social marketing precepts: first is promoting behavior change through multiple communication channels, one of which is mass media, and second is distributing a free or low-cost product that facilitates the adoption and maintenance of health behavior change, sustains the complete withdrawal of harmful behaviors, or protects against behavior-related disease or

injury. Health awareness programs that combine the use of mass media and other forms of communication with the provision of free or low-cost health-related products are effective in changing people's perceptions and behaviors.<sup>7,9</sup>

### 3.3 Materials to Raise Health Awareness

It is essential to tailor approaches to increased awareness and use of public health services to cultural perspectives. Many populations may find engagement totally counter cultural. For instance, a review of the literature on African Americans' perspectives on palliative care issues suggests customizing interventions to make sure they are culturally acceptable via consultation and piloting.<sup>10</sup> Likewise, an elaborate study analyzed the appropriateness of two brochures to provide information about advance care planning. Experts recommend involving community representatives in preparing health education materials.<sup>7,11</sup> In a Canadian review of interventions, Gauvin et al state that particular groups require special focus: frail elderly; first generation immigrants; and minorities, which should be defined extensively.<sup>12</sup> Minority groups may comprise not only ethnic and religious minorities but also people with disabilities, for example. Standardized conversation guides facilitate communication between patients and physicians and may have application in raising public awareness.<sup>7</sup>

### 3.4 Best Ways to Raise Health Awareness

Existing evidence suggests that early engagement improves the quality of life and reduces the need for aggressive medical interventions that are out of step with individuals' wishes and preferences by preventing disease onset and progression.<sup>13</sup> Early engagement implies that individuals can be better prepared to make decisions if or when they are ill. Some key messages come through from the existing body of research on various public health awareness campaigns. The first recommendation is to begin young. Most efforts on health awareness involve people of susceptible age groups. There is

now a shift toward including and educating the younger population, so that they are better armed to deal with various physical, psychological and community health issues. A research study targeting university students in the United States indicates that a vital aim of public health is to provide reliable knowledge about relevant health issues to all young people<sup>13</sup>. Secondly, it is necessary to involve the community members and form coalitions. There are instances of how community members can be taught to engage at a deeper level with endemic health issues and to create plans to raise awareness in their own networks and neighborhoods. These recommendations align with the empowerment model of health promotion and commonly involve various groups uniting for a common purpose.<sup>7,14</sup>

### 3.5 Effectiveness of Health Awareness Campaigns

Early health awareness campaigning experience in industrialized countries was focused on preventing non-communicable diseases by promoting healthy lifestyles. Many of these early initiatives focused on information transmission and were based on a rudimentary understanding of the relationship between communication and behavior change. Over time, it became clear that efforts that concentrated solely on the dissemination of information and ignored people's social and economic situations were not having the desired influence on health behavior. Many health education programs developed were proven to be effective mainly among the community's most educated and successful residents. These groups were thought to have higher levels of education and literacy, as well as the personal skills and financial resources to receive and respond to health messages delivered through traditional media. The creation of a new generation of more complex, theory-informed interventions significantly boosted health education as a disease prevention tool.<sup>15</sup> Health education comes under the domain of health awareness as through health promotion and education, awareness among communities is created. Outcome model for health promotion is illustrated in (Figure 1).<sup>16</sup>

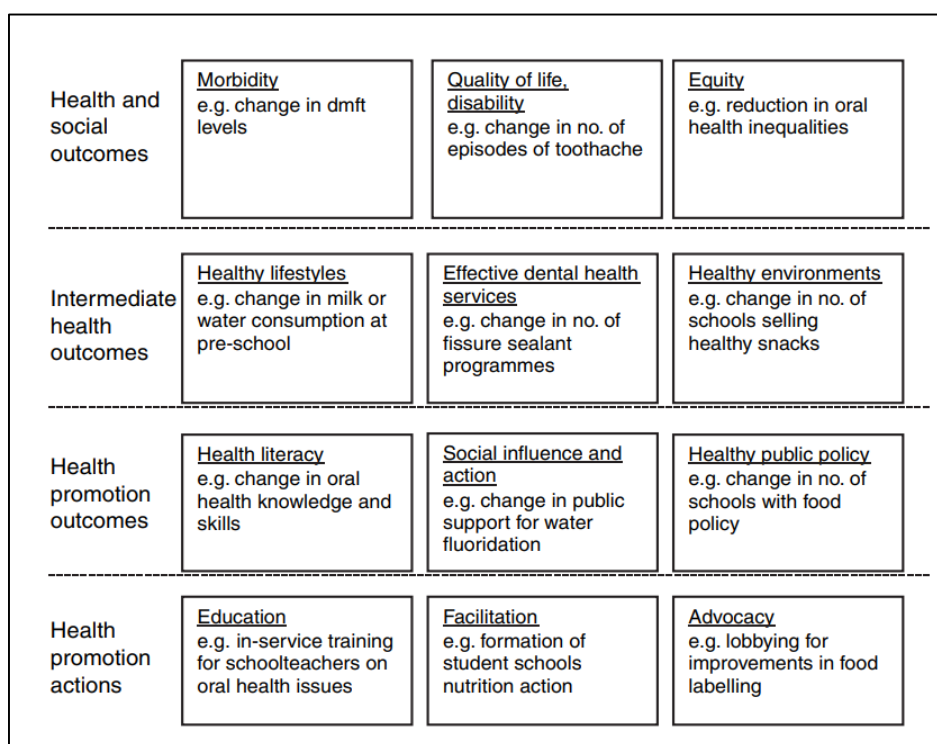


Fig 1: Outcome model for health promotion<sup>17</sup>

Traditional health education approaches that focused on individual health 'risks' and lifestyle choices were swiftly eclipsed by the focus on more extensive policy and environmental interventions. Since then, health education has progressed in terms of content, media use, and communication sophistication to serve a broader range of purposes. The concept of health literacy has helped to keep this transition going. As digital communication has transformed communication tools and the communication marketplace has grown more crowded and complex, health education has evolved to reflect these shifts, allowing people to navigate competing sources of information and engage meaningfully with social and economic determinants of health. The cornerstones of current health promotion remain equitable access to high-quality health education and lifelong learning<sup>16,18</sup>. Public health campaigns are important for raising awareness, enhancing understanding, and encouraging people to adopt positive attitudes and practices. As observed in the literature, its impact must be assessed in several dimensions, including communication which is referred to as engagement in social networks, questionnaires assessing the user's knowledge about the campaign, epidemiology such as disease screening tests, case notification, questionnaires assessing the user's knowledge about the disease and health issues, and policy enforcement such as law strategies on health promotion. This multidimensional analysis provides a comprehensive review of public health initiatives, allowing researchers to better comprehend their breadth, discover relationships between various variables of interest, and broaden analysis possibilities.<sup>19</sup>

### 3.6 Previous Campaign Lessons

Public health professionals should understand the importance of establishing a public health awareness and behavioral health change campaign to appropriately protect their community and nation against diseases, especially diseases like COVID-19 that have led to massive outbreaks. As proven by recent research in the context of the coronavirus pandemic, such educated campaigns are all the more vital since they must balance the misinformation and information from unreliable sources prevalent on social media platforms. Second, in any future promotional health program, they should analyze the link between the health promotional campaign components such as the type of media social platform, the style of message appeal, the sources of the message, and target audiences' media habits and culture. Effective and timely health communication is always necessary, and this is accomplished through public health authorities<sup>20</sup>. It is the responsibility of public health professionals to provide individuals and societies with the authentic knowledge and create evidence-based health awareness among communities<sup>16</sup>. Findings of an Indian pilot community study conducted for the purpose of mental health awareness in 2021 revealed that the campaign impacted 3000 people in 20 new locations across five states. Due to the campaign, 1,176 people sought mental health assistance, with 66% receiving a preliminary diagnosis, and 75% said they learned about mental health concerns for the first time as a result of campaign activities. Participants demonstrated knowledge that mental disorders are treatable, shared common symptoms, and locations of available mental health services, and expressed attitudes supporting people with mental health conditions. The campaign increased mental health service coverage, possibly by improving knowledge, attitude, and treatment-seeking behavior.<sup>21</sup> Results of another campaign study in 2013 concluded that the campaign's

immediate objectives of increasing website awareness and usage were accomplished. However, the campaign's secondary goal of changing people's perceptions toward mental health concerns was not attained. Although the brief social media effort boosted mental health literacy, it had little impact on personal stigma and social distance<sup>22</sup>. Results of a comparative Pakistani study showed in 2021 that public awareness and knowledge of COVID-19 symptoms and prevention methods increased dramatically after the intervention of awareness campaign through media regarding the COVID-19 pandemic.<sup>23</sup> Findings of another public health campaign study from Netherlands in 2020 showed that due to awareness from campaign a self-reported increase in personal hygiene was observed, with the goal of preventing the spread of the coronavirus diseases.<sup>24</sup> Results of another campaign study in 2020 showed that public health knowledge and behavioral changes worked as partial mediators, resulting in a strong favorable impact on public health protection against COVID-19 pandemic. Therefore, for establishing any health promotion strategic plan, the utility of social media interventions as a mediator of public health awareness and behavioral changes should be taken into consideration<sup>25</sup>. In a study assessing the impact of a smoking cessation campaign, Roudiana asserts that health awareness campaigns must be efficient and effective. They must focus on raising awareness of the physiological, psychological, and other effects of smoking, as well as influencing people's motivations and attitudes toward smoking by providing information, showing films, and holding awareness seminars. Such campaigns must be condensed and ongoing, and all relevant authorities must participate, including civil society organizations, educational institutions, health departments, and work on enacting legislation and regulations that encourage and urge people to quit smoking. The focus must be on developing clear-targeted awareness efforts that have an impact on smokers and non-smokers' behavior, while also taking into account the need to raise public understanding of smoking's health, social, and economic hazards<sup>26</sup>. Findings of a Brazilian awareness campaign study regarding syphilis in 2021 depicted that in terms of search engine activity, the first week of campaigns in 2018 saw the largest volume of searches. Nonetheless, a trend plot of this data shows continued expansion through the end of 2019. Since March 2018, the number of syphilis-related e-news pieces indexed by Google in Brazil has increased steadily, reaching a new high in October 2019. In addition, 12 new online courses relating to syphilis disease were accessible to support initiatives to encourage lifelong learning for health professionals, instructors, and students. Between February 2019 and September 2020, around 22,000 students enrolled in these courses. Even after accounting for population increase, the number of serological tests performed in 2019 was 375, which was 18% more than that in 2015. Finally, from the middle of 2018 onwards, the rate of syphilis case notification began to decline.<sup>5</sup> Findings from a Canadian study in 2015 regarding chronic kidney disease and its risk factors awareness showed that the awareness level of the campaign content increased from 7% before the campaign to 25% after the campaign. Around two-thirds of participants correctly identified the campaign's major subject message. With the exception of individuals with lower education and income, most subgroups surveyed had improved awareness levels due to the campaign.<sup>27</sup> The role of health awareness campaigns is quite well discussed in literature under the umbrella of various diseases but regarding the overall impact of health awareness campaigns on public health, the literature is sparse.

### 3.7 Strategies for Health Communication

Campaigns and programs may employ a range of communication methods to attempt to alter the behavior of the target groups, including strategies that try to modify the political and economic context in which individuals are making decisions, those focusing directly at the target groups, and those directed at parties who may possess influence with the subject population.<sup>28</sup> Identifying which strategy or strategies to choose depends on meticulous analysis of the climate surrounding individual decision making, which involves current methods of communication about the behavior and obstacles to behavior change. Formative studies conducted with the subject groups and, if they differ, the decision makers, can help gain crucial data for the analysis.<sup>29</sup> Ensuring the participation of members of the subject population and community groups in campaign design and implementation—via community boards, hiring workers from the target population to be included in campaign design, and performing formative research with the target group—may substantially improve the campaign. Forming ties with community organizations may provide support with institutionalizing a health awareness program within a community<sup>30</sup>. A strategy commonly used is to communicate directly with the subject group to modify their behavior, as is the case of the VERB campaign, the truth campaign,<sup>31</sup> and National Youth Anti-Drug Media Campaign.<sup>16,32</sup> Direct health communication makes the assumption that people have the potential to change their own behavior, which may not be true for many dietary behaviors, as the individual's options rely on availability of food and socio-economically negotiated choices. It may be important to reach out to other people—such as the individual(s) in the household responsible for the diet—in order to impact the target group. If there are environmental factors hindering behavior change, it may be beneficial to take the strategic action of advocating for policy changes with relevant stakeholders such as health policymakers, involved professionals, business entities, and the public at large<sup>33</sup>. The subject populations for advocacy campaigns normally involve decision makers and opinion leaders but may also comprise members of the community in order to exert pressure on the decision makers. For dietary change, advocacy may involve the objective of decreasing access to food items of low nutritional value and enhancing access to healthier food, increasing healthy food choices when dining out, facilitating beneficial choices through strategic price structuring, and providing easy or free access to nutritional supplements. When the environment changes because of advocacy efforts, like when groceries and restaurants attempt to offer or mark better food options, there is a supplementary role for campaigns to popularize the new options and try to create higher demand for the healthful choices for the public. When the goals and strategy are established, the communication efforts, contents of the message, and message presentation can be planned. Throughout this planning stage, it is very useful to test out the message drafts and presentations with the subject population to infer whether the interventions are appropriate and if the messaging need improvement. Pretesting is usually done in focus groups or individual assessments<sup>29</sup>.

### 3.8 Channels of Health Communication

Communication activities need to be decided for each health awareness strategy. For instance, a comprehensive global breastfeeding campaign targeted contextual obstacles to breastfeeding by lobbying for healthcare, national, and

international policy change and consistent use of alternative language (eg, opting for “breast milk substitute” instead of “baby formula”).<sup>7</sup> It addressed the subject population of pregnant and lactating women directly by holding media campaigns and creating support groups for that group. It addressed other influential individuals by starting campaigns for fathers and influential older women. The campaign organized conferences to gather support of healthcare, political, and important organization leaders. To support and educate healthcare providers, the campaign also held national chapters of a global breastfeeding organization, designed reference materials, and provided training. For future medical practitioners, the campaign lobbied to modify the medical and nursing curriculum, conducted in-service training programs, and shared reference materials<sup>7,16</sup>. As the above example demonstrates, communication channels may comprise visual and print media (such as television and pamphlets) and interpersonal informational sources (such as counselors, friends, and health professionals). Although many nutrition-related interventions have relied primarily on individual counseling, they have also employed small discussion groups, mail, newsletters, leaflets, CD-ROMs, TV shows, and public service announcements on TV channels, radio channels, newspaper, magazines and billboards.<sup>34</sup> A total of 19 Channels that are new to the subjects may garner more attention. Promotional strategies such as giving away items like caps or mugs that feature the campaign logo, contests, and collaborations can help popularize the message and maintain its visibility.<sup>28,35</sup> Interpersonal communications via one-on-one or small group counseling allows opportunities for the outreach team to customize messages according to the individual and answer questions promptly<sup>28</sup>. Concise in-person interventions have been successful in modifying a number of health behaviors, even with minimally trained staff<sup>36</sup>. For instance, in one case, fruit and vegetable intake rose on average by 0.6 servings daily based on interventions depending mainly on counseling. It is important to note that campaigns should ensure that the outreach team members are informed in the content area and are effective communicators<sup>35</sup>. Activities and channels must be selected and used in a way so that more members of the target group are reached multiple times in a given period of time.<sup>35</sup> Wide exposures to a campaign or program is linked with greater behavior change.<sup>37</sup> However, exposure levels very often do not meet the desired mark. On an average, health campaigns in the United States reach 40% of their target.<sup>37</sup> Global family planning campaigns do better, at 70% approximately, probably because family planning campaigns tend to use a diverse range of channels (such as electronic and print media, outreach staff, medical professionals, and special events) to reach the subjects, thereby reaching different population clusters who often use different channels. Utilizing different channels increases the probability of exposure and results in greater campaign effects.<sup>38</sup> Mass media are often more economical at reaching people than in-person methods, because they can communicate with a large number of people at once, after an initial investment to produce the message. In contrast, in-person modes of communication have ongoing compensation and other fixed and variable costs<sup>16,38</sup>. The number of times an individual is reached by a campaign or program is termed as frequency, and higher frequency of exposure may facilitate recall and remembrance of the campaign messages more precisely<sup>35</sup>. Using diverse communication channels may also raise frequency of exposure to campaign messages when individuals find the messages across multiple channels.<sup>35</sup> Shorter, intense campaigns may lead to greater short-term

effects than those that last for a year or longer.<sup>37</sup> In the future, more comprehensive research on analysis of the overall role of health awareness campaigns in the context of public health can further highlight its importance, and aid in the better implementation of awareness campaigns.

#### 4. CONCLUSION

The evidence from the literature depicts that health awareness campaigns are an important component of public health due to their role in primordial and primary prevention, and also in early treatment and management of various health problems. Intervention such as campaigns increase the awareness of the community regarding diseases and their risk factors. Further evidence-based research in future on the impact of health

awareness campaigns can contribute to improved implementation of such programs.

#### 5. AUTHOR'S CONTRIBUTIONS

Waleed Mohammed Bugshan, Saad Jarallah Al Qahtani, Nayel Ayidh Alwagdani, Majed Safar Alharthi, Abdullah Mohammed Alqarni, Hani Muteb Alsuat, Naif Hadi Alqahtani, Mohammed Rabia Alqahtani, Mohammed Thaar Alshammari, Rashed Aqeel Albaqami, Ahmed Hammad Almotairi. contributed to the design and implementation of the research, drafting and to the writing of the manuscript.

#### 6. CONFLICT OF INTEREST

Conflict of interest declared none.

#### 7. REFERENCES

- Kumar S, Preetha G. Health promotion: an effective tool for global health. *Indian J Community Med.* 2012;37(1):5-12. doi: 10.4103/0970-0218.94009, PMID 22529532.
- Ranjbar M, Aslanpour Z, Kostrzewski A, Cooke AD. Public health campaigns and medicine use awareness: A systematic literature review. *Health.* 2017;09(12):1689-710. doi: 10.4236/health.2017.912124.
- Dorfman L, Ervice J, Woodruff K. Voices for change: A taxonomy of public communications campaigns and their evaluation challenges. Communications consortium media center. Washington, DC: Media Evaluation Project. 2002.
- Freudenberg N. Public health advocacy to change corporate practices: implications for health education practice and research. *Health Educ Behav.* 2005;32(3):298-319; discussion 355-262. doi: 10.1177/1090198105275044, PMID 15851541.
- de Moraes Pinto R, de Medeiros Valentim RA, Fernandes da Silva L, Góis Farias de Moura Santos Lima T, Kumar V, Pereira de Oliveira CA, et al. Analyzing the reach of public health campaigns based on multidimensional aspects: the case of the syphilis epidemic in Brazil. *BMC Public Health.* 2021;21(1):1632. doi: 10.1186/s12889-021-11588-w, PMID 34488689.
- Rofail D, Colligs A, Abetz L, Lindemann M, Maguire L. Factors contributing to the success of folic acid public health campaigns. *J Public Health (Oxf).* 2012;34(1):90-9. doi: 10.1093/pubmed/fdr048, PMID 21727078.
- Seymour J. The impact of public health awareness campaigns on the awareness and quality of palliative care. *J Palliat Med.* 2018;21(S1);Suppl 1:S30-6. doi: 10.1089/jpm.2017.0391, PMID 29283867.
- Schillinger D, Chittamuru D, Ramírez AS. From "Infodemics" to Health Promotion: A novel framework for the role of social media in public health. *Am J Public Health.* 2020;110(9):1393-6. doi: 10.2105/AJPH.2020.305746, PMID 32552021.
- Robinson MN, Tansil KA, Elder RW, Soler RE, Labre MP, Mercer SL, et al. Mass media health communication campaigns combined with health-related product distribution: A community guide systematic review. *Am J Prev Med.* 2014;47(3):360-71. doi: 10.1016/j.amepre.2014.05.034, PMID 25145620.
- Dillon PJ, Roscoe LA, Jenkins JJ. African Americans and decisions about hospice care: implications for health message design. *Howard J Commun.* 2012;23(2):175-93. doi: 10.1080/10646175.2012.667724.
- Fried TR, Redding CA, Robbins ML, Paiva AL, O'Leary JR, Iannone L. Development of personalized health messages to promote engagement in advance care planning. *J Am Geriatr Soc.* 2016;64(2):359-64. doi: 10.1111/jgs.13934, PMID 26804791.
- Gauvin F-P, Lavis JN. Evidence brief: improving end-of-life communication, decision-making and care in Ontario; 2013.
- Kavalieratos D, Ernecoff NC, Keim-Malpass J, Degenholtz HB. Knowledge, attitudes, and preferences of healthy young adults regarding advance care planning: a focus group study of university students in Pittsburgh, USA. *BMC Public Health.* 2015;15(1):197. doi: 10.1186/s12889-015-1575-y, PMID 25885778.
- Seymour JE, Almack K, Kennedy S, Froggatt K. Peer education for advance care planning: volunteers' perspectives on training and community engagement activities. *Health Expect.* 2013;16(1):43-55. doi: 10.1111/j.1369-7625.2011.00688.x, PMID 21615641.
- Nutbeam D. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promot Int.* 2000;15(3):259-67. doi: 10.1093/heapro/15.3.259.
- Snyder LB. Health communication campaigns and their impact on behavior. *J Nutr Educ Behav.* 2007;39(2);Suppl:S32-40. doi: 10.1016/j.jneb.2006.09.004, PMID 17336803.
- Watt RG, Harnett R, Daly B, Fuller SS, Kay E, Morgan A, et al. Evaluating oral health promotion: need for quality outcome measures. *Community Dent Oral Epidemiol.* 2006;34(1):11-7. doi: 10.1111/j.1600-0528.2006.00257.x, PMID 16423026.
- Nutbeam D. Health education and health promotion revisited. *Health Educ J.* 2019;78(6):705-9. doi: 10.1177/0017896918770215.
- Pinto R, Silva L, Valentim R, Kumar V, Gusmão C, Oliveira CA, et al. Systematic review on information technology approaches to evaluate the impact of public health campaigns: real cases and possible directions. *Front Public Health.* 2021;9:715403. doi: 10.3389/fpubh.2021.715403, PMID 35087780.
- Abuhashesh MY, Al-Dmour H, Masa'deh R, Salman A, Al-Dmour R, Boguszewicz-Kreft M et al. The Role of social Media in Raising public health awareness during



- the pandemic COVID-19: an International Comparative Study. *Informatics*. 2021;8(4):80. doi: 10.3390/informatics8040080.
21. Gaiha SM, Gulfam FR, Siddiqui I, Kishore R, Krishnan S. Pilot community mental health awareness campaign improves service coverage in India. *Community Ment Health J*. 2021;57(5):814-27. doi: 10.1007/s10597-020-00714-4, PMID 33052548.
  22. Livingston JD, Tugwell A, Korf-Uzan K, Cianfrone M, Coniglio C. Evaluation of a campaign to improve awareness and attitudes of young people towards mental health issues. *Soc Psychiatry Psychiatr Epidemiol*. 2013;48(6):965-73. doi: 10.1007/s00127-012-0617-3, PMID 23124481.
  23. Rehman AU, Zakar R, Zakar MZ, Hani U, Wrona KJ, Fischer F. Role of the media in health-related awareness campaigns on perception of COVID-19: A pre-post study in the general population of Pakistan. *Front Public Health*. 2021;9:779090. doi: 10.3389/fpubh.2021.779090, PMID 34869191.
  24. Yousuf H, Corbin J, Sweep G, Hofstra M, Scherder E, van Gorp E, et al. Association of a public health campaign about coronavirus disease 2019 promoted by news media and a social influencer with self-reported personal hygiene and physical distancing in the Netherlands. *JAMA Netw Open*. 2020;3(7):e2014323. doi: 10.1001/jamanetworkopen.2020.14323, PMID 32639569.
  25. Al-Dmour H, Masa'deh R, Salman A, Abuhashesh M, Al-Dmour R. Influence of social media platforms on public health protection against the COVID-19 pandemic via the mediating effects of public health awareness and behavioral changes: integrated model. *J Med Internet Res*. 2020;22(8):e19996. doi: 10.2196/19996, PMID 32750004.
  26. Yousif RO. The impact of Health Awareness campaigns to Quit Smoking (A case study in Amman city). *Ind Jour of Publ Health Rese & Develop*. 2019;10(9). doi: 10.5958/0976-5506.2019.02491.4.
  27. Ryz K, Tangri N, Verrelli M, Schneider J, Lesyk A, Eng A, et al. A before and after cross-sectional analysis of a public health campaign to increase kidney health awareness in a Canadian province. *BMC Res Notes*. 2015;8(1):695. doi: 10.1186/s13104-015-1662-2, PMID 26590133.
  28. Akiyama M, Hirai K, Takebayashi T, Morita T, Miyashita M, Takeuchi A, et al. The effects of community-wide dissemination of information on perceptions of palliative care, knowledge about opioids, and sense of security among cancer patients, their families, and the general public. *Support Care Cancer*. 2016;24(1):347-56. doi: 10.1007/s00520-015-2788-4, PMID 26076961.
  29. Sadah SA, Shahbazi M, Wiley MT, Hristidis V. Demographic-based content analysis of web-based health-related social media. *J Med Internet Res*. 2016;18(6):e148. doi: 10.2196/jmir.5327, PMID 27296242.
  30. Ali N, Chapman S. WA30 The dying well community charter and dying matters: a united kingdom (uk) approach to public health and dying. *British Medical Journal Publishing Group*; 2015.
  31. Muszbek K. Enhancing Hungarian palliative care delivery. *J Pain Symptom Manage*. 2007;33(5):605-9. doi: 10.1016/j.jpainsymman.2007.02.027, PMID 17482055.
  32. Seymour JE, French J, Richardson E. Dying matters: let's talk about it. *BMJ*. 2010;341:c4860. doi: 10.1136/bmj.c4860, PMID 20847020.
  33. Hirai K, Kudo T, Akiyama M, Matoba M, Shiozaki M, Yamaki T, et al. Public awareness, knowledge of availability, and readiness for cancer palliative care services: a population-based survey across four regions in Japan. *J Palliat Med*. 2011;14(8):918-22. doi: 10.1089/jpm.2010.0529, PMID 21767163.
  34. Gordon R, McDermott L, Stead M, Angus K. The effectiveness of social marketing interventions for health improvement: what's the evidence? *Public Health*. 2006;120(12):1133-9. doi: 10.1016/j.puhe.2006.10.008, PMID 17095026.
  35. Sudore RL, Landefeld CS, Pantilat SZ, Noyes KM, Schillinger D. Reach and impact of a mass media event among vulnerable patients: the Terri Schiavo story. *J Gen Intern Med*. 2008;23(11):1854-7. doi: 10.1007/s11606-008-0733-7, PMID 18716849.
  36. Taubert M. Thank you letter to David Bowie from a palliative care doctor. *BMJ Support Palliat Care*. 2016;6(4):500-1. doi: 10.1136/bmjspcare-2016-001242.
  37. Maher CA, Lewis LK, Ferrar K, Marshall S, De Bourdeaudhuij I, Vandelanotte C. Are health behavior change interventions that use online social networks effective? A systematic review. *J Med Internet Res*. 2014;16(2):e40. doi: 10.2196/jmir.2952, PMID 24550083.
  38. Van Genugten L, Dusseldorp E, Webb TL, Van Empelen P. Which combinations of techniques and modes of delivery in internet-based interventions effectively change health behavior? A meta-analysis. *J Med Internet Res*. 2016;18(6):e155. doi: 10.2196/jmir.4218, PMID 27268104.