

What Works? Review of Current Health Communication Strategies for Obesity Control

Kazeem Adefemi,

Department of Health Policy and Management
School of Public Health,
Curtin University, Perth, Australia.
kazeem.adefermi@postgrad.curtin.edu.au

Kiran Raj Awasthi

Department of Epidemiology & Biostatistics
School of Public Health,
Curtin University, Perth, Australia.
Kiranraj.awasthi@postgrad.curtin.edu.au

Abstract

Obesity has become a disease of the twenty-first century, with four out of every ten death, globally, being linked to nutrition and/or insufficient physical activity. Unfortunately, Obesity is set to become a more significant public health epidemic on a global scale as the World Health Organisation projects that the combination of poor diet and poor physical activity may soon overtake tobacco consumption as the leading cause of preventable death, if current trends continue. Given that most predisposing factors to obesity are modifiable, health communication through a combination of mass media campaigns and social marketing have become the gold standard in obesity control, especially in rich developed countries where obesity remain an important national public health concern. Unfortunately, health communications targeted at obesity control have not achieved the desired social and individual behavioural change towards improved diet awareness and physical activity that is required to slow down the rate of obesity in most of these countries. This paper, therefore, reviews the current approach to health communication as it concerns obesity control; it highlights the downsides of the current behavioural change communication and recommends strategies to ensure that the huge resources expended on health communication achieves desired outcomes.

Key Words: obesity, health communication, behavioural change communication, social marketing, physical activity

Introduction

Obesity has established itself as the disease of the 21st century (Mokdad, Marks, Stroup, & Bergerding, 2004). Today, four of the ten leading cause of death globally are strongly linked to nutrition and/or insufficient physical activity (Litchfield, Muldoon, Welk, Hallihan, & Lane, 2005). In the ten years leading to 2005, obesity-related deaths increased by 33% (Lob-Corzilius, 2007), with the World Health Organization (WHO) estimating that poor diet and insufficient physical activity will soon overtake tobacco consumption as the leading cause of preventable death globally (Mokdad et al., 2004). With obesity becoming such a global pandemic, improving physical activity and encouraging healthier diets have become a public health priority for several countries around the world, especially in developed countries where the combination of high fat diets and poor physical activity have created what is fast becoming an obesity epidemic (Aschemann-Witzel, Perez-Cueto, Niedzwiedzka, Verbeke, & Bech-Larsen, 2012; Walls, Peeters, Proietto, & McNeil, 2011). However, with safe, effective and widely accessible options like drugs and

surgery largely unavailable, attentions have had to turn to Behavioural Change Communications essentially through Social Marketing (BCC/SM) approaches with particular focus on community-based and community-focused strategies (Fotu et al., 2011).

Considerable resources have been expended in designing and implementing a multitude of health communication campaigns for obesity control, especially in countries with high prevalence of obesity/overweight e.g. Australia, United States and some parts of Europe. Unfortunately, there is very little evidence to support any substantial effectiveness of these BCC/SM strategies. Most BCC/SM interventions achieve minimal population behavioural change, usually in the range of 5-10% (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2003; Cleland & Ball, 2013; Pollard, Miller, Woodman, Meng, & Binns, 2009), while some interventions are not even evaluated at all.

This review aims to highlight the several factors that militate against the effectiveness of BCC/SM for obesity control; it identifies the shortcomings in current BCC/SM approaches and suggests ways/strategies to

improve the efficiency and effectiveness of future campaigns.

Method

Although a considerable body of academic and research publications on obesity exist and the multitude of factors that can be associated with its increasing prevalence, globally; health communication, particularly behavioural change communications and social marketing, still remains a relatively new, but growing, field of research. Consequently, several different search strategies had to be employed to retrieve sufficient peer reviewed and credible articles on the topic, for this review. The research for this paper was conducted between April and July, 2014. Initially, a search for published, peer reviewed articles was performed using the online databases of Google Scholar, Web of Knowledge and PubMed. Keywords used in this search included various combinations of 'Obesity', 'Health Communication', 'Behavioural Change Communication', 'Social Marketing', 'Physical Activity'. The search was limited to articles published after the year 2000, however, a few articles from the late 1990s were included when deemed very relevant to the topic and to provide a bit of historical background. Only articles published in English, with full-text available online and with focus on health communication as a public health strategy for obesity control, were included in this review. In addition, evaluation reports of key obesity control interventions and publications from credible national/international bodies were also included in the review.

Obesity: a growing concern

For the purpose of definition, the WHO introduced Body Mass Index (BMI) as a measure and indicator of overweight/obesity. BMI score is achieved by dividing the real weight of individuals (in kilograms) by height in meters (squared). A BMI below 25 is considered appropriate (below 20 for adults may be considered underweight), 25-30 is considered overweight, while above 30 is obesity (Lob-Corzilius, 2007).

While genetic and hereditary factors play significant roles in obesity, voluntary lifestyle choices are a major contributor (Santonja, Morales, Villanueva, & Corte, 2012). Essentially, obesity results from an increasing energy imbalance; inadequate energy expenditure relative to energy consumed. With increasing preference for energy-dense-nutrient-poor 'fast food' and reduced opportunities for physical activity in urban communities of most developed countries, the net effect is increasing fat deposits that characterises obesity (Campbell, Waters, O'Meara, & Summerbell, 2001; Carr &

Friedman, 2005; Cleland & Ball, 2013). Though obesity was initially a disease of 'rich, developed countries', the global spread of risk factors such as high consumption of sugar-dense soft drinks, poor consumption of fruits and vegetables and an increasing sedentary lifestyle encouraged by 'white collar' jobs, television and internet have combined to create what is now referred to as an 'epidemiological shift' – the rise of chronic, non-communicable diseases in developing countries (Lyn, 2010). Today, obesity is a problem everywhere in the world. In developed countries like America and Australia the proportion of overweight is over 60% of the population (Leavy et al., 2012; Levitz & McKay, 2013; Litchfield et al., 2005), but in Fiji, a poor, developing country over 80% and 90% of the males and females respectively are either overweight or obese (Fotu et al., 2011).

With obesity becoming such a global problem on a large scale, getting the solutions right is critical. Genetic factors that contribute to obesity are unmodifiable, but lifestyle choices are. Consequently, BCC/SM interventions have become the 'holy-grail' in obesity control through promoting increased physical activity and healthier diets. It is essential that these interventions are designed to achieve sustainable change in attitudes and behaviours.

Health communication for obesity control

Behavioural Change Communication (BCC) is a specialised form of health communication that is largely based on behavioural/social models. The models provide a basis for understanding the various factors that influence or modify individual and collective behaviours and attitudes and how these factors operate. These models provide a framework for understanding how best to design interventions that promote better diets and increased physical activity (Baranowski et al., 2003). Social marketing (SM), in this regard, essentially describes the use of marketing tools and strategies to promote the desirability of healthier lifestyle choices. It involves adapting marketing strategies to promote 'voluntary' behavioural change within a target audience (Glanz, Rimer, & Viswanath, 2008; National Cancer Institute, 2002). In the last decade, BCC and SM have sort of coalesced to refer to the use of a variety of tools and strategies in community-focused communication interventions to achieve positive behavioural changes, in contrast to the generic mass media campaigns that was the norm in the mid to late 20th century (Glanz et al., 2008). BCC/SM interventions could involve any combination of mass media campaigns, community mobilisation, creating and promoting diet guidelines, promoting small community/school garden, increased activity at workplaces, cooking and/or shopping lessons,

changing school/workplace food menus etc. (National Cancer Institute, 2002)

Today, BCC/SM has become the 'gold-standard' in obesity control, with primary focus on getting people to increase physical activity, eat less of energy dense food and more of nutrient-rich fruits and vegetables. The approach to obesity control have often varied, depending on country, available resources and/or cultural/social inclinations; however, the central message of most, if not all obesity control interventions remains diet and physical activity (Bluford, Sherry, & Scanlon, 2007; Campbell et al., 2001; Collins, 1998; Guttman & Guilt, 2004; Katz, 2012; Lyn, 2010).

Australia is, perhaps, one of the leading countries in terms of health promotion. In the last two decades, the country has implemented a number of campaigns to either improve physical activity or promote better diet. The Western Australian Go for 2&5 campaign was one of such campaigns (Pollard et al., 2009; Pollard et al., 2008). While the intervention had a large mass media campaign component, it was based on the 'culturally-relevant national Dietary Guidelines' and contained other components of BCC, like cooking classes and shopping skills for at-risk populations, merchandise production and distribution etc. This was subsequently followed by a state-wide 'Find Thirty' campaign. Though the 'Find Thirty' hardly qualifies as a BCC due to its heavy reliance on mass media only, it did strive to increase population awareness and acceptance of improved physical activities through everyday routines (Leavy et al., 2012).

Examples from other countries include the Boston's 'Lose a Million Pounds' challenge and Iowa's 'Lighten Up' in the United States (Levitz & McKay, 2013; Litchfield et al., 2005). Both campaigns focused on increasing physical activities across the whole population by promoting opportunities for physical activities and/or routine exercises. The Boston's campaign comprised a mass media campaign and 'Fitness on the Plaza', a series of free exercise classes at the city halls to make physical activity sociable and acceptable. The Iowa campaign, however, focused on both physical activity and diet change through a more community-based approach. Community members were encouraged to form teams (of up to 10 people) that had to compete with each other on cooking skills and weight loss. The intervention, thus, aimed to create a social support structure that encouraged and sustained changes in diet and activity levels.

BCC for obesity can also take different shapes relative to different context. Lob-Corzilius (2007) reviews BCC strategies that have been targeted specifically at obesity in children; Santonja et al. (2012) reviews an obesity control BCC strategy built into a nation's Health

Plan. The Ma'alahi Youth Project (MYP) in Tonga, Fiji is an example of BCC in a developing country with high prevalence of Obesity (Fotu et al., 2011), while the 'Step Ahead: A Worksite Obesity Prevention Trial Among Hospital Employees' (Lemon et al., 2010) is an example of a BCC intervention targeted at a specific community. All of these interventions are often well-intentioned and carefully designed, but unfortunately, low on results. Walls et al. (2011) provides a glim review of the general effectiveness of obesity control BCC, while Santonja et al. (2012) concludes that most interventions hardly achieved more than a 5% change in behaviour. Perhaps, Leavy et al. (2012)'s review of West Australia's 'Go For Thirty' campaign is a good indication of the limited results that sometimes characterise BCC efforts in curbing the obesity scourge, despite best efforts.

Problems with current BCC/SM on obesity

As mentioned previously, most BCC/SM interventions to control obesity are often well-intentioned and carefully planned; however, their ability to achieve any significant sustainable change in behaviour has been hampered by a number of factors. Most important of these factors include the often negative portrayal of obesity; the tendency to promote stigmatisation of an already vulnerable population and the population-wide focus of most campaigns (Aschemann-Witzel et al., 2012; Bluford et al., 2007; Campbell et al., 2001; Carr & Friedman, 2005; Crary, 2011; Freeman, 2011; MacLean et al., 2009; Walls et al., 2011).

Obesity control BCC/SM campaigns are often designed to target an entire population/community, rather than specifically targeting the obese or those at risk. While this is understandable, given the social and community dimensions of diet and physical activity - the main modifiable determinants of obesity - and the fact that obesity now cuts across age and demographic groups, the downside of such approach, as has been seen on numerous occasions, is that generic messages or interventions fail to reach-out specifically, to the intended audience (Walls et al., 2011).

However, a far more serious unintended consequences of obesity focussed BCC/SM is the tendency to stigmatise obese people, create stereotypes, blame parents for obese children or over-glorify 'thinness' or a particular body shape (especially when popular celebrities are adopted as models for media campaigns) (Crory, 2011; Guttman & Guilt, 2004; Katz, 2012). Without necessarily intending to, most BCC/SM campaigns on obesity place heavy emphasis on the social desirability of 'thinness', creating a social psyche about what a 'normal' body or weight should be, and in the process, unwittingly, create or reinforce stereotypes about obese/overweight people, ignoring the

age and cultural differences in (perception of) weight. Although the psychological impact of this has not been investigated, the mistreatment of people considered obese/overweight in several communities is well documented (Carr & Friedman, 2005; Puhl & Brownell, 2001; Puhl & Heuer, 2009; Puhl, Luedicke, & Peterson, 2013); so also is the social pressure, especially on adolescent girls, created by such stereotypes (Collins, 1998).

Lastly, BCC/SM campaigns tend to negatively portray obesity and overweight with the strong emphasis on the consequences of excessive weight/fat, rather than emphasising the positive benefits of improved activity and/or better diet (Guttman & Guilt, 2004; Katz, 2012). While such messages are designed to prompt a re-assessment of the body and attempt positive changes, it may also exert the exact opposite effect, reinforcing low self-esteem and self-efficacy in obese people, and reducing their willingness to change, rather than promote change (Walls et al., 2011)

A way forward

Going forward, there are two main approaches necessary to improve the effectiveness of BCC/SM in curbing obesity (Walls et al., 2011). The first approach is to make a shift from the emphasis on obesity, excessive body fats and the consequences to a focus on messages promoting the benefits of physical activity and routine ways to be active as well as healthier diets and cheap ways of accessing such food. Obesity control messages should strive to strongly discourage consumption of sugar-dense soft drinks and fatty snacks and fast-food, while at the same time promoting healthier, cheap and accessible alternatives.

Secondly, obesity is a consequence of a wide array of personal, social and environmental factors; interventions expecting individuals to improve physical activity levels or adopt better dietary choices will always achieve very little results, except a wider socio-environmental approach is taken. For obesity control measures to be effective, a wider environmental and policy strategy is required to reinforce BCC messages. Such strategies may promote the desirability of healthier alternatives and/or provide avenues for physical activity. For example, Frieden, Dietz, and Collins (2010) recommends the following:

- food pricing adjustments such as subsidies on fruit and vegetables and taxation applied to energy-dense nutrient-poor food;
- increasing exposure to healthy food (and decreasing exposure to unhealthy food) via zoning and restrictions on the display of foods

in locations such as supermarkets, for example; and

- improving the image of healthy food (and making unhealthy food less attractive) via restrictions on advertising and the presentation of caloric contents of restaurant meals (p.105 quoted in Wall, et al., 2011).

In sum, even though BCC campaigns are usually poorly evaluated, a growing body of evidence suggests that the present approach is not achieving the desired goals. To curb the growing spread of obesity in this generation and prevent excessive weight gain in future generations, it is critical to adopt a multi-dimensional and multi-sectoral approach to obesity control, before things get worse.

Limitation

As with any review paper, the conclusions reached in this article is a factor of the articles available and accessed for the review. Despite the relatively large body of knowledge on obesity, only a few reports of evaluation of obesity control interventions are published and/or accessible. In addition, behavioural change communication, as a public health strategy, still remains a relatively new field of study. This limited availability of high quality publications is an obvious limitation of this review. However, this review provides a good starting point for further investigations of how health and behavioural change communication can be further refined to become effective tools in the management of the obesity epidemic

Conclusion

Obesity has established itself as the disease of the 21st century. With urbanisation promoting sedentary lifestyles and diets rich in sugar, salt and fats, obesity is steadily becoming the leading cause of preventable death worldwide. However, most countries, especially in the developed world, have taken obesity control as a public priority. In the absence of drugs or surgery, BCC has become the strategy of choice in obesity control. Unfortunately, despite huge resources expended globally, results have been largely unimpressive. While this may be a consequence of the socio-economic, environmental and hereditary nature of obesity, strong arguments can be made for a better BCC/SM approach to obesity control. By adopting a multi-dimensional and multi-sectoral approach to designing obesity interventions, current evidence suggests that the increase in weight gain in this generation can be stopped and obesity in future generation prevented.

References

- Aschemann-Witzel, J., Perez-Cueto, F. J. A., Niedzwiedzka, B., Verbeke, W., & Bech-Larsen, T. (2012). Lessons for public health campaigns from analysing commercial food marketing success factors: a case study. *BMC Public Health*, *12*(1), 139. doi: <http://dx.doi.org/10.1186/1471-2458-12-139>
- Baranowski, T., Cullen, K. W., Nicklas, T., Thompson, D., & Baranowski, J. (2003). Are Current Health Behavioral Change Models Helpful in Guiding Prevention of Weight Gain Efforts? *Obesity Research*, *11*(S10), 23S-43S. doi: 10.1038/oby.2003.222
- Bluford, D., Sherry, B., & Scanlon, K. (2007). Interventions to prevent or treat obesity in preschool children: A review of evaluated programs. *Obesity*, *15*, 1356-1372.
- Campbell, K., Waters, E., O'Meara, S., & Summerbell, C. (2001). Interventions for preventing obesity in childhood. A Systematic Review. *Obesity Reviews*, *2*, 149-157. doi: 10.1046/j.1467-789x.2001.00035.x
- Carr, D., & Friedman, M. (2005). Is obesity stigmatizing? Body weight, perceived discrimination, and psychological well-being in the United States. *Journal of Health and Social Behavior*, *46*, 244-259. doi: 10.1177/002214650504600303
- Cleland, V., & Ball, K. (2013). What might work? Exploring the perceived feasibility of strategies to promote physical activity among women living in socioeconomically disadvantaged neighbourhoods. *Health Education Research*, *28*(2), 205-219. doi: 10.1093/her/cys097
- Collins, M. (1998). Education for healthy body weight: helping adolescents balance the cultural pressure for thinness. *Journal of School Health*, *58*(6), 227-231. doi: 10.1111/j.1746-1561.1988.tb05870.
- Crary, D. (2011). Do Georgia's child obesity ads go too far?, *Huffington Post*. Retrieved on April 13, 2014, from www.huffingtonpost.com/2011/05/02/georgia-child-obesity-ads_n_856255.html
- Fotu, K., Moodie, F., Marj, M. M., Helen, M. P., Siosifa, S., Jimaima, T., & Swinburn, B. A. (2011). Process evaluation of a community-based adolescent obesity prevention project in Tonga. *BMC Public Health*, *11*, 284-295. doi: 10.1186/1471-2458-11-284.
- Freeman, D. W. (2011). Are Georgia's anti-obesity ads unfair to fat kids?, *CBS News*. Retrieved on May 5, 2014, from www.cbsnews.com/8301-504763_162-20059263-10391704.html
- Frieden, T., Dietz, W., & Collins, J. (2010). Reducing childhood obesity through policy change: Acting now to prevent obesity. *Health Affairs*, *29*(3), 357-363. doi: 10.1377/hlthaff.2010.0039.
- Glanz, K., Rimer, B., & Viswanath, K. (Eds.). (2008). *Health Behaviour and Health Education: Theory, Research and Practice* (4th ed.). San Francisco, CA: Jossey-Bass.
- Guttman, N., & Guilt, C. T. (2004). Fear, stigma, and knowledge gaps: ethical issues in public health communication intervention. *Bioethics*, *18*(6), 531-552. doi: 10.1111/j.1467-8519.2004.00415.x.
- Katz, D. L. (2012). Exploring effectiveness of messaging in childhood obesity campaigns. *Childhood Obesity*, *8*(2), 97-105. doi:10.1089/chi.2012.0082.roun.
- Leavy, J. E., Rosenberg, M., Bauman, A. E., Bull, F. C., Giles-Corti, B., Shilton, T., Maitland, C. and Barnes, R. (2012). Effects of Find Thirty every day®: Cross-Sectional Findings From a Western Australian Population-Wide Mass Media Campaign, 2008-2010. *Health Education & Behavior*, *40*(4), 480-492. doi:10.1177/1090198112459515.
- Lemon, S. C., Zapka, J., Li, W., Estabrook, B., Rosal, M., Magner, R., Andersen, V., Borg, A. and Hale, J. (2010). Step Ahead: A Worksite Obesity Prevention Trial Among Hospital Employees. *American Journal of Preventive Medicine*, *38*(1), 27-38. doi: <http://dx.doi.org/10.1016/j.amepre.2009.08.028>.
- Levitz, J., & Mckay, B. (2013, Tuesday, January 22). Can a Whole City Stick to a Diet? Fat Chance, *Wall Street Journal*.
- Litchfield, R., Muldoon, E. J., Welk, G., Hallihan, J., & Lane, T. (2005). Lighten Up Iowa: An Interdisciplinary, Collaborative Health Promotion Campaign. *Journal of Extension*, *43*(2), 2FEA6.
- Lob-Corzilius, T. (2007). Overweight and obesity in childhood – A special challenge for public health. *International Journal of Hygiene and Environmental Health*, *210*(5), 585-589. doi:10.1016/j.ijheh.2007.07.019.
- Lyn, R. (2010). Physical activity research: identifying the synergistic relationships between individual, social and environmental factors to promote active lifestyles. *Health Education Research*, *25*(2), 183-184. doi: 10.1093/her/cyq009.
- MacLean, L., Edwards, N., Gawad, M., Sims-Jones, N., Clinton, K., & Ashley, L. (2009). Obesity, stigma and public health planning. *Health Promotion International*, *24*(1), 88-93. doi:10.1093/heapro/dan041.
- Mokdad, A. H., Marks, J. S., Stroup, D. F., & Bergerding, J. L. (2004). Actual Causes of Death in the United States. *Journal of the American Medical Association*, *291*(10), 1238- 1245. doi:10.1001/jama.291.10.1238.
- National Cancer Institute. (2002). *Making health communication programs work*. Bethesda, Maryland: National Institutes of Health, US Department of Health and Human Services.

- Pollard, C., Miller, M., Woodman, R. J., Meng, R., & Binns, C. (2009). Changes in Knowledge, Beliefs, and Behaviors Related to Fruit and Vegetable Consumption Among Western Australian Adults from 1995 to 2004. *American Journal of Public Health, 99*(2), 355-361. doi: 10.2105/AJPH.2007.131367.
- Pollard, C., Miller, M. R., Daly, A. M., Crouchley, K. E., O'Donoghue, K. J., Lang, A. J., & Binns, C. W. (2008). Increasing fruit and vegetable consumption: success of the Western Australian Go for 2&5® campaign. *Public Health Nutrition, 11*(3), 314-320. doi: <http://dx.doi.org/10.1017/S1368980007000523>.
- Puhl, R., & Brownell, K. (2001). Bias, discrimination, and obesity. *Obesity Research, 9*(12), 788-805.
- Puhl, R., & Heuer, C. (2009). The stigma of obesity: a review and update. *Obesity, 17*(5), 941-964. doi: 10.1038/oby.2008.636.
- Puhl, R., Luedicke, J., & Peterson, J. L. (2013). Public Reactions to Obesity-Related Health Campaigns: A Randomized Controlled Trial. *American Journal of Preventive Medicine, 45*(1), 36-48. doi: <http://dx.doi.org/10.1016/j.amepre.2013.02.010>.
- Santonja, F. J., Morales, A., Villanueva, R. J., & Corte, J. C. (2012). Analysing the effect of public health campaigns on reducing excess weight: A modelling approach for the Spanish Autonomous Region of the Community of Valencia. *Evaluation and Program Planning, 35* (1), 34-39. doi: 10.1016/j.evalprogplan.2011.06.004.
- Walls, H. L., Peeters, A., Proietto, J., & McNeil, J. J. (2011). Public health campaigns and obesity - a critique. *BMC Public Health, 11*(1), 136. doi: <http://dx.doi.org/10.1186/1471-2458-11-136>.