International Journal of Community Medicine and Public Health
George S et al. Int J Community Med Public Health. 2024 Jun;11(6):2500-2503
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20241517

Review Article

Application of models of behavior change communication in various stages of healthcare

Sylvia George*, Anupriya Jha, Anjan Kumar Giri

Department of Community and Family Medicine, AIIMS Raipur, Raipur, Chhattisgarh, India

Received: 25 March 2024
Revised: 02 May 2024
Accepted: 03 May 2024

***Correspondence:**
Dr. Sylvia George,
E-mail: sgchonavilai@gmail.com

ABSTRACT

A resource-limited country like India calls for a deeper focus on preventive health than it is now. So far, behaviour change communication (BCC) has been more or less limited to campaigns and awareness activities. Treating physicians applying BCC interventions in their clinics is particularly rare. This article aims to describe the role of BCC at the primary healthcare level in preventing diseases. The article also attempts to highlight the importance of BCC in helping cure and rehabilitate patients. Evidence-based interventions can be derived from BCC models that help physicians handle their patients better. Health education an already defined domain of health promotion will be the key to achieving the said goal. It promises to be one of the cheap and effective tools in achieving the vision of universal healthcare. It provides room for flexibility and customised care for each patient. After a thorough understanding of various models and theories of BCC, a physician should be able to apply them on a regular basis in their day-to-day interaction with patients in the most scientific manner possible.

Keywords: Behaviour change communication, Health education, Primary health care, Health promotion, Preventive medicine

INTRODUCTION

Across the world, healthcare is mostly centred on a curative rather than a preventive approach. There are various factors to this inverted pyramid system followed everywhere, the most important of which is resource limitation. In a resource-limited setting, a rather easy but effective approach to preventing diseases would be to take up behaviour change communication (BCC) on a regular basis.[1]

One of the earliest forms of non-invasive intervention was health education which transited through information education communication (IEC) to become what is now BCC.[2] It is defined as "an interactive process with communities to develop tailored messages and approaches using a variety of communication channels to develop positive behaviours; promote and sustain individual, community and societal behaviour change; and maintain appropriate behaviours".[3]

BCC has become the crux in containing the pandemic. The principles of BCC guidelines issued by the government of the United Kingdom have emphasised the importance of BCC principles in effective communication in order to bring about and sustain a behavioural change. The Research Triangle Institute of the United States has a dedicated focus area for BCC in non-communicable diseases. They opine that the communication interventions tailor-made for the country, culture and people can effectively modify behaviour to a desirable level.[4]

It is applied wide and long in preventing and controlling communicable and non-communicable diseases everywhere. Generating awareness regarding the disease and its preventive measures, and demonstrating novel

adaptive methods as a response to the condition can all be brought under the wide umbrella of BCC.[6]

Objective

Objective of the study was to describe various models and theories of Bcc and its application in healthcare.

METHODS

Scholarly articles on the past, present and future of BCC was searched across Google Scholar, PubMed and Embase. Various articles on the different models and theories of BCC were adapted into understanding how they can be applied in the day-to-day healthcare practices.

MODELS OF BCC

A model is a tool used to facilitate theory construction, typically a written or graphic representation of a theory or one of its components. Over time BCC has evolved with various models or theories that can be applied to various situations depending on the need. Even when the models or theories overlap with each other and a clear demarcation is difficult, they can be separated based on which situation they fit the best, mostly depending on which level they can be applied as in individual, community or both.[2,7]

The models under discussion here, are Health Belief Model (HBF), Theory of Planned Behaviour (TPB), Trans-Theoretical Model (TTM), Social-Cognitive Theory (SCT), Positive Deviance Approach Model (PDAM), Extended Parallel Process Model (EPPM), Social Norms Theory (SNT), Precaution Adoption Process Model (PAPM), Social Comparison Theory (SComP), Capability Opportunity And Motivation (COM), Diffusion Of Innovation (DOI).[2,3,8-12]

Table 1: Theories or models of behaviour change communication.

Individual level	Community level
Health belief model	Extended parallel process model
Theory of planned behaviour	Positive deviance approach model
Trans-theoretical model	Social norms theory
Social-cognitive theory	Social comparison theory
Capability opportunity and motivation	Diffusion of innovation

Individual level

The models suitable to be applied on an individual level (Table 1) can be highly beneficial in modifying lifestyle, in case of both non-communicable diseases and addictions. In the subsequent paragraphs, the various constructs under the various models will be examined to be applied at different stages of BCC.

One of the six constructs of HBF is to have perceived susceptibility, as evidenced by felt need (Figure 1). Pre-contemplation from TTM also focuses on the individual realising the need for change. Once the individual feels susceptible, they will look for the chance to change the behaviour.[2]

COM model talks about the importance of the capability of individuals to change, in terms of both intellectual and materialistic resources. While HBF assumes cue to action to be prevalent in the individual, TPB empowers the person to take up cue to action. Along with COM emphasising motivation, TPB measures the behavioural intent that the individual has in order to change.[3]

The decision to change will be made with the determination construct of TTM and reciprocal determinism of SCT where the individual is willing to learn and apply the skill essential for the change. Skill will be translated to action (TTM) by self-efficacy (HBF, SCT) and reinforcements (SCT).[2,3]

Sustaining the action as described under the construct of maintenance in TTM is the most difficult stage of BCC interventions. The perceived barriers (HBF), and perceived behavioural control (TPB) are the major constructs under this. It is important to make sure that they don't fall into relapse (TTM) after maintenance for which continuous motivation is a must-have.[2,3]

Achieving felt needs on an individual basis is very difficult in one-on-one physician interaction, especially in a resource-limited setting like that of India. Hence, the more effective way of reaching out to create awareness will be to ponder the possibilities of BCC on a community level.[7]

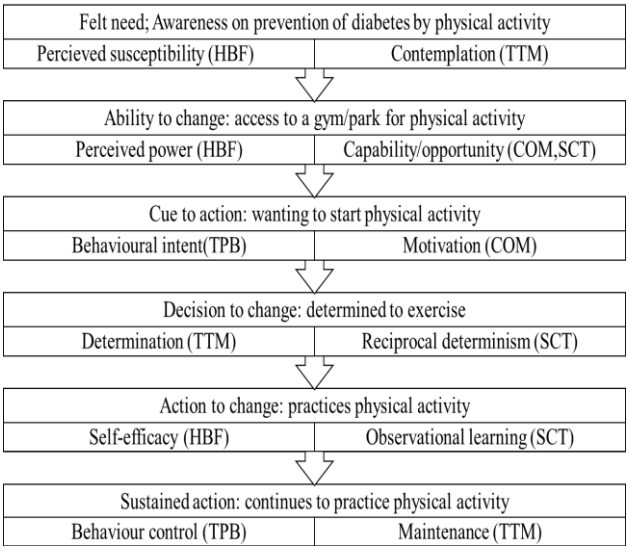

Figure 1: Stages of BCC in adapting physical activity to prevent type 2 diabetes.

To take for an example, a person coming to the OPD with a family history of type 2 diabetes will not find himself at risk unless he is educated about the hereditary nature of the disease. Also, that it can be prevented by engaging in regular physical activity. The felt need for life style modification can be imparted on him by the treating physician of their family member. The next step will be to assess if their daily routine can adapt in favour of the life style modification, which will be the ability to change. After that they need to have the motivation to bring about the change, followed by the determination to change. They start the change in lifestyle at this stage of action to change and sustains the change by continuing to practicing it.

The treating physician can involve in all of these stages effectively if they are aware of the stages of BCC the person is in and communicate in order to practice and sustain the change.

Community level

At the community level, the major task will be to make the unaware aware of the required change. For example, messages about the harmful effects of tobacco are likely to reach more people with mass communication than a physician sitting in his clinic counselling an already sick patient in a limited time. For this purpose, we need to explore the possibilities of the models or theories of BCC applicable on a community level.

As a first step, we need to know what is already known in the community about the change required. SNT will describe the societal norms about the topic which is collected and examined for myths and facts. The idea for change then need to be diffused in the community with the help of DOI model. DOI was not originally developed for healthcare interventions rather was an effective tool in business marketing.[2] Once the idea is inside the community their attention towards it will increase and the perceived threat will eventually motivate them to adapt to the change as evidenced by EPPM. The community observes the change that has happened elsewhere and gets an opportunity to compare them with their current measures (S Com T). Later on, when they are ready to adapt to the change, they learn that from the members inside or outside of the community who are already practicing the changed behaviour (PDAM).

Finally, the change has happened and it becomes a huge responsibility to sustain the change. It is often less difficult to sustain changes on a community level than individual level. The SEM can be helpful in that manner, as it explores the changes from individual to community level in creating public policies to be followed subsequently.[13]

APPLICATION OF BCC: AN EXAMPLE

Considering the habit of smoking as an example. The desired behaviour change would be smoking cessation. Initially when the individual is not aware that smoking is a harmful habit do not perceive the need to stop smoking. They need to be made aware of it using awareness campaigns and one-on-one counselling during a routine health check-up. Once they are aware, they will be required to know the specific concerns about the same like lung cancer, hypertension, and emphysema.

After they have become adequately informed about the same, they need to be enabled to take up the behaviour change measures, such as smoking cessation clinics, and nicotine patches which may require finances. Being equipped for the desired change they can now take up the opportunity to change. Practising cessation gradually over time.

After reaching cessation the most important concern will be about relapses, or in other words maintaining cessation. This demands continuous motivation from all aspects, individuals, family, friends and the policymakers. This can be described based on the community-level BCC by SEM (Figure 2).

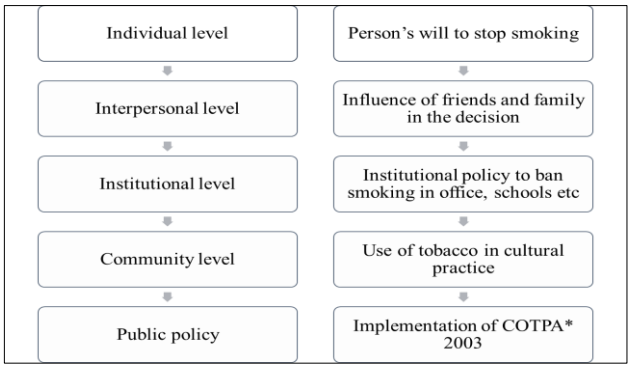

Figure 2: Application of social ecological model in smoking cessation cigarettes and other tobacco products act*.

DISCUSSION

BCC is a cheap and effective tool in preventing and very often curing diseases. When physicians are properly trained and equipped with various BCC models better communication is expected, hence better compliance on the patient's behalf. BCC was effectively applied in preventing COVID-19 infections during the pandemic in propagating proper hand hygiene and cough etiquette in India.[3] BCC was the core of India's game changer cleanliness campaign Swachh Bharat Mission.[14] The government of Kerala has dedicated BCC units in every district to promote positive health behaviour among the people.[6] Similarly, it was effectively implemented in improving malnutrition among children in Egypt.[11] Nepal improved its maternal and child health indices with effective social BCC activities in the community.[15]

There is strong evidence supporting health education as a curative intervention in various chronic therapies. Conn et al in a systematic review and meta-analysis of 771

intervention trials for improving medication adherence found that habit-based and behavioural interventions were most effective in improving medication adherence.[16] Kini et al in their study suggests that improving medication adherence is most efficient when done in clinical setting. They also found that SMS reminders had, a computed 33% more adherence when used as an intervention. Hence, BCC also helps in motivating the patients to stay compliant to treatment.[17]

CONCLUSION

BCC remains a neglected potential in healthcare. While the evolution of health education to social BCC is much appreciated, it remains to be seen how much of this development is being utilised to effectively contribute to a healthy community. Most clinicians are unaware of the various models and their uses in the real-life scenario. Effective communication is a health worker's superpower and BCC models promises to be a fuel to it. Counselling the patients and their caregivers on healthy lifestyle practices is the minimal BCC intervention healthcare workers can practice in their routine. Displaying IEC materials in languages and pictures that are easily comprehensible is in practice at most healthcare centres. It is important to remember that communication needs to be relevant, clear, reliable with scientific backing and simple at the same time. The chances of the patients spreading those messages among their peers are also high, hence the reliability of the messages needs to be verified before propagating. A healthy individual contributes to a healthy community and finally a healthy nation.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Rimal R. Why health communication is important in public health. Bull World Health Org. 2009;87(4):247.
2. Behavioral Change Models. Available at: https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/BehavioralChangeTheories_print.html. Accessed on 12 January 2024.
3. Nancy S, Dongre AR. Behavior Change Communication: Past, Present, and Future. Indian J Community Med. 2021;46(2):186-90.
4. Communication Science and Behavior Change for NCDs. RTI. 2016. Available at: https://www.rti.org/focus-area/communication-science-and-behavior-change-ncds. Accessed on 12 January 2024.
5. Government Communication Service. The Principles of Behaviour Change Communications. Available at: https://gcs.civilservice.gov.uk/publications/theprinciples-of-behaviour-change. Accessed on 12 January 2024.
6. Behaviour Change Communication (BCC) – National Health Mission. Available at: https://arogyakeralam.gov.in/2020/03/27/behaviourchangecommunication-bcc/. Accessed on 12 January 2024.
7. United States Agency for International Development. Behavior Change Communication (BCC) for HIV/AIDS: A Strategic Framework. Available at: https://pdf.usaid.gov/pdf_docs/pnacq536.pdf. Accessed on 12 January 2024.
8. Weinstein ND, Sandman PM, Blalock SJ. The Precaution Adoption Process Model. In: Paul RH, Salminen LE, Heaps J, Cohen LM, editors. The Wiley Encyclopedia of Health Psychology. 1st edition. Wiley; 2020;495-506.
9. Taylor PD, Bury PM, Campling DN, Carter DS, Garfied DS, Newbould DJ, et al. A Review of the use of the Health Belief Model (HBM), the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Trans-Theoretical Model (TTM) to study and predict health related behaviour change. The School of Pharmacy, University of London. 2007;19.
10. Allensworth D, Lawson E, Nicholson L, Wyche J. Models of Health Behavior Change Used in Health Education Programs. Schools & Health: Our Nation's Investment. National Academies Press (US). 1997.
11. Marsh DR, Schroeder DG, Dearden KA, Sternin J, Sternin M. The power of positive deviance. BMJ. 2004;329(7475):1177-9.
12. Barnett DJ, Balicer RD, Thompson CB, Storey JD, Omer SB, Semon NL, et al. Assessment of local public health workers' willingness to respond to pandemic influenza through application of the extended parallel process model. PLoS One. 2009;4(7):e6365.
13. Core Principles of the Ecological Model | Models and Mechanisms of Public Health. Available at: https://courses.lumenlearning.com/suny-buffalo-environmentalhealth/chapter/core-principles-of-the-ecological-model/. Accessed on 12 January 2024.
14. Drishti IAS. BCC Framework under SBM-U 2.0. Available at: https://www.drishtiias.com/daily-updates/daily-news-analysis/bcc-framework-under-sbm-u-2-0. Accessed on 12 January 2024.
15. Nepal – Health Communication Capacity Collaborative – Social and Behavior Change Communication. Available at: https://healthcommcapacity.org/where-we-work/nepal/. Accessed on 12 January 2024.
16. Vs C, Tm R. Medication adherence outcomes of 771 intervention trials: Systematic review and meta-analysis. Preventive Medicine. 2017;99.
17. Kini V, Ho PM. Interventions to Improve Medication Adherence: A Review. JAMA. 2018;320(23):2461-73.

Cite this article as: George S, Jha A, Giri AK. Application of models of behavior change communication in various stages of healthcare. Int J Community Med Public Health 2024;11:2500-3.