

Developing an interpersonal communication material for primary health-care workers for the prevention and control of noncommunicable diseases: experience from a case in Manila, Philippines

Interpersonal
communication
for NCD
prevention

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Abstract

Purpose – The purpose of this study is to describe the systematic process in developing an interpersonal communication material for the prevention and control of noncommunicable diseases (NCDs) in the City of Manila, Philippines.

Design/methodology/approach – The systematic process in the development of an interpersonal communication material is presented. The seven steps in the process included mapping of available health

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communication materials, needs identification, development of the material, pretesting, finalization, printing/production and orientation on the use of the material.

Findings – The process followed an iterative, multistakeholder approach in order to ensure that all important insights are obtained and that the final material is contextualized, easily communicated and culturally appropriate. It is important to consider context and culture on top of the methodology in order to ensure development of appropriate interpersonal communication material. It is also important that the experience of the primary health-care workers on the use of the interpersonal communication material is properly documented for future reference, through both quantitative and qualitative evaluations.

Originality/value – The seven-step systematic process utilized can be used as a model in developing health communication materials in the field of health promotion and education.

Keywords Noncommunicable diseases, Risk factors, Interpersonal communication, Flipchart, Philippines

Paper type General review

Introduction

Noncommunicable diseases (NCDs) prevail as a global health concern claiming at least 41 million lives annually worldwide [1]. NCDs include diabetes, cancer, cardiovascular diseases and chronic respiratory diseases [2]. These diseases are identified to be lifestyle-linked, sharing a common set of risk factors including physical inactivity, unhealthy diet, tobacco use and harmful consumption of alcohol [3].

In the Philippines, about 67% of the total deaths recorded were due to NCDs. Moreover, premature deaths or deaths occurring among Filipinos aged less than 70 years make up a third of said total deaths [2, 4]. The preliminary data from the Expanded National Nutritional Survey (ENSS) 2018–2020 conducted by the Department of Science and Technology – Food and Nutrition Research Institute (DOST-FNRI) among adult Filipinos aged 20 years old and above, revealed that the prevalence of hypertension has reduced from 22.0% in 1993 to 16.0% in 2018 while insufficient physical inactivity remained at 40.6%. Prevalence of adult overweight has significantly increased from 16.6% in 1993 to 28.8% in 2018. The prevalence of diabetes has doubled in the past 25 years from 3.9% in 1993 to 7.9% in 2018 [5].

The challenge now lies in the modification of lifestyle and the creation of supportive environments that will be conducive to both the adaptation of healthy behaviors and management of these diseases. The Philippines, along with other low-to-middle income countries (LMICs), is experiencing a triple burden of disease arising from the increasing trend of NCDs, untreated communicable diseases, as well as the emergence of diseases brought by urbanization. In other words, while communicable diseases need to be addressed, the concomitant rise of NCDs places the health conditions of Filipinos to be under jeopardy [6].

Strategies done in the past to address NCDs have been notably directed toward the curative side. However, if NCDs are addressed early on through its modifiable risk factors and with emphasis on prevention, more lives can be saved [2, 6]. In response to this national public health concern, the Department of Health (DOH) with the support from the World Health Organization (WHO) adopted the WHO Package of Essential Noncommunicable (WHO PEN) Disease Interventions in primary health care for national implementation in 2012. The Philippine Package of Essential Noncommunicable (PhilPEN) Disease Interventions provided information and tools on NCD risk assessment, screening and profiling as well as appropriate management of NCD risks and conditions. A series of capacity building and monitoring activities facilitated the PhilPEN at a national scale [7].

One of the means of providing preventive and promotive health services in the country is through the barangay or village health workers hired by the local government units (LGU) and assigned at barangay or village health stations. This includes services aimed at NCDs including the PhilPEN implementation [8]. In the course of its implementation, primary health-care workers expressed the need for interpersonal communication job aids to implement the program more effectively particularly in training and monitoring visits. Primary health-care workers emphasized the importance and relevance of the said job aids,

considering the volume of patients that they monitor every day. Furthermore, the development of interpersonal communication (IPC) job aid is envisioned to enable them to impart key health messages on healthy lifestyle and NCD prevention and control more effectively. In response to this growing demand from the health-care practitioners and workers, IPC job aid for primary health-care workers for enhanced PhilPEN implementation was then developed, pretested and initially implemented in the City of Manila where WHO and the DOH are currently implementing a subnational initiative in the District VI of the City of Manila. The project was implemented from June 2017 to October 2018.

This study aims to present the systematic process in developing IPC job aid, specifically flipchart, for the prevention and control of NCDs as part of the PhilPEN.

Methodology

A systematic approach to developing the flipchart was utilized which included seven major steps. [Figure 1](#) shows the process flow followed by the team in order to come up with the IPC material. The details of each step are discussed below.

Mapping of available health communication materials on noncommunicable diseases

Available health communication materials in the Philippines including in the City of Manila were scanned using Google search engine. Search words used were terms related to NCDs, health literacy, and the Philippines. For materials that are inaccessible online or are available in printed format only, these were requested and coordinated with the NCD program coordinator of the City of Manila.

Identification of needs of the community health workers

Focus group discussions (FGD) were conducted to identify the needs of the community health workers. Prior to data collection, participants signed the informed consent form which contained the objectives of the needs assessment, risks and benefits of participation and statements on confidentiality and anonymity. Using a topic guide, two sessions were

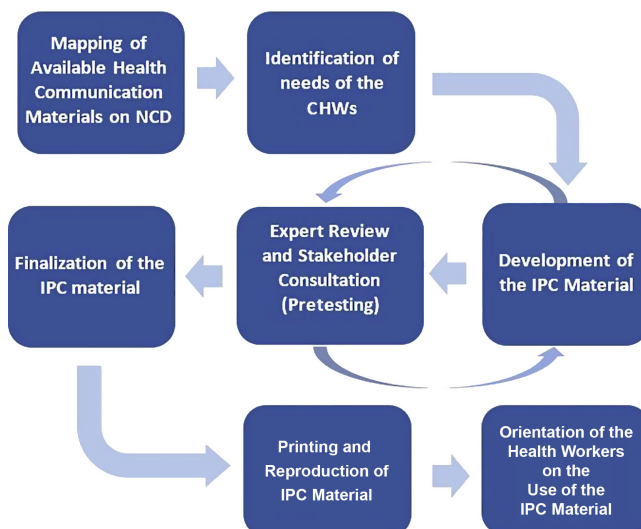


Figure 1.
Systematic process in
the development of an
IPC material

conducted for the barangay health workers (BHWs) or community health workers (CHWs), while one session was conducted for the group of health professionals (physicians and nurses) who supervise the BHWs in the community. The contents of the discussion focused mainly on the ideas about NCDs, common NCDs encountered in the facility/work, activities done when a client consults regarding NCDs, common risk factors encountered in the facility/work, materials about NCDs being used during information, education and communication activities, types of materials that would be helpful in their practice and contents of the material to be developed.

Using the results of the needs assessment done through the FGD, the components of the IPC material were identified by the project team.

Development of the interpersonal communication material

The draft of the material was created using a master plan developed from the synthesized answers obtained during the FGD with the community health workers for identifying needs and components of the material. The master plan contained information on the title of the card, the text content of both the front card (for the clients) and the back card (for the script of the BHWs). In addition, another column included suggested illustrations.

Expert review and stakeholder consultations (pretesting)

Pretesting of the flipchart was conducted in two phases: an iterative vetting process of expert review and stakeholder consultations. For the first part, the panel was composed of experts from the DOH, the WHO, and the Manila Health Department. They were consulted in terms of the content, layout and graphics of the IPC material. This process was repeated multiple times until a consensus or agreement on the content, layout and graphics was achieved. For every time that a round of review returned with comments from the experts, we went back to the development phase to incorporate feedback and revise the material accordingly.

As for the second phase, we conducted two focus group discussions with the BHWs and two focus group discussions with the community residents to obtain their insights and comments on the developed IPC material, specifically on the texts, statements, messages and illustrations. The inputs from the participants were documented and utilized in revising the material.

Finalization of the interpersonal communication material

Upon consolidation of the comments of the community stakeholders, two project team members independently decided whether to approve or reject suggested revision with corresponding justifications. Disagreements in the decisions were resolved through a third member of the team that served as an arbiter. A preprint copy of the flipchart was circulated for final inputs and clearance.

Printing and reproduction of the interpersonal communication material

The IPC material was produced for distribution across different health centers within the local city government of Manila.

Orientation of health workers on the use of the interpersonal communication material

Prior to distribution, orientation among BHWs, which are the primary users, was conducted to ensure proper use of the material. The orientation also served as a platform to address questions from the BHWs. Aside from the BHWs, medical doctors, nurses and health education and promotion officers were also invited during the orientation. All participants were provided with a script on the use of the flipchart.

Results

Mapping of available health communication materials on noncommunicable diseases

In terms of the locally available health communication materials in the Philippines including the City of Manila, common materials found are in the form of brochures, leaflets and posters. In terms of NCDs, the majority of the communication materials focus on the risk factors that may contribute to developing the disease. For instance, one material used before was the smoker's body which was posted in various local health facilities. Furthermore, the DOH launched the Go 4 Health campaign to promote healthy living focusing on healthy diet, smoking cessation, reduction in alcohol consumption and physical activity.

Identification of needs of the community health workers

Ten BHWs (five BHWs per session) and eight health professionals attended the FGD. The contents of the FGD focused on the general concepts and ideas on NCDs, including patient consults, risk factors, available health communication materials and types of materials that would be helpful in the field.

In terms of the general knowledge on NCDs, the two groups of participants had similar concepts about noncommunicable diseases. According to them, NCDs pertain to hypertension, diabetes and cancer, which are not contagious while some of them mentioned bad health habits and lifestyle-related diseases. When asked about the common cases of NCDs encountered in their facility or work, the BHWs mentioned hypertension and diabetes with one participant mentioning cancer and that patients suffering from this disease are usually brought to the hospital. Another participant added asthma as one of the types of NCDs encountered in their community work. For the doctors and nurses, they also mentioned hypertension and diabetes as the most common NCDs being managed in their health facility, adding that they also encountered other cases such as cancer, respiratory diseases and renal diseases. Furthermore, both groups mentioned four common risk factors of NCDs namely smoking, alcohol use, physical inactivity and unhealthy diet. Some participants also mentioned stress and depression as risk factors.

When asked about the health communication materials, the BHWs mentioned many information, education and communication (IEC) materials (such as materials focusing on family planning, HIV/AIDS, breastfeeding); however, these materials do not cover NCDs. Other materials related to NCDs include the smoker's body and a one-page information sheet on diabetes. For the health professional's group, no other materials on NCDs were identified except for those given during a training conducted by the WHO. However, the same group cited problems on the appropriateness of the material in their local setting. As for the preference of the type of material, the BHWs preferred to have a flipchart since they usually go around the community for home visits.

Upon determining the preferred IPC material, we asked the BHWs on the features of the flipchart that they wanted to use in their community activities. They stated that the language of the material should be in their local (Filipino) language, with adequate pictures or illustrations, containing contents that are easy to understand, portable and can fit in their work bags.

Regarding the contents of the material to be developed, most of the BHWs mentioned the need for explanation of NCDs, common types of NCDs, risk factors, complications, ways to prevent NCDs, common management practices, follow-up check-ups, stages of hypertension/diabetes, smoking consequences, characteristics of a balanced diet (including fruits, vegetables, non-oily and less salty food) and promotion of consulting the physician.

Development of the interpersonal communication material

Based on the FGD conducted, the suggested outline and features from the participants were organized and reflected in a master plan table. The master plan contains the title of the page,

the key concepts that will be placed on the front pages of the flipchart as well as the script to be placed on the back pages and the suggested illustrations. While the developed master plan was in English, all contents placed in the flipchart were then translated to the local (Filipino) language by the team.

The first section of the flipchart discussed general information, specifically the definition and four common types of NCDs. The next section of the flipchart focused on the risk factors of NCDs, particularly, smoking, alcohol consumption, unhealthy diet and physical inactivity, as well as some legal bases and local policies. This section also discussed suggestions on what can be done to avoid these risk factors. The last section tackled the two common types of NCDs (i.e. hypertension and diabetes) encountered by the BHWs in the City of Manila.

Furthermore, we also contextualized the contents of the flipchart to ensure its applicability and relevance to the clients in the local setting. For instance, when discussing and illustrating diet that is either healthy or unhealthy, the team identified the food items that are commonly consumed by the clients (e.g. street food instead of beef steak; banana, orange and papaya instead of strawberries). Another example is the use of beer instead of wine in discussing alcohol consumption as beer is more commonly consumed than that of wine in the local setting.

In total, the flipchart that was developed consists of 31 pages (back-to-back including the title page), with the front containing the illustration and bullet points of the main contents of the page, while the back page contained the script or elaborated discussion of the front page for use by the primary health-care workers. General information on the contents of the flipchart are detailed in [Table 1](#) [contents are originally in local (Filipino) language].

Expert review and stakeholder consultations (pretesting)

The flipchart underwent a total of six rounds of expert review before reaching consensus among the panel of experts. Generally, the contents of the flipchart were accepted by the experts upon further revision of the technical contents of certain topics. For example, the earlier versions of the flipchart contained information on how to get the BMI and assess different levels of diabetes. However, the panel deemed these topics too technical, hence, were removed from the contents of the flipchart. Illustrations were also identified and revised in response to the comments of the experts.

The second phase involved focus group discussions with the BHWs (the users) and community residents (the recipients of the educational sessions during home visits). Four

Topic	Contents	Pages (front and back)
What are noncommunicable diseases (NCDs)?	Definition of NCDs	1-2
Risk factors of NCDs	Non-modifiable and modifiable risk factors	3-4
Smoking	Definition, types, effects, prevention, laws and policies, benefits of not smoking	5-11
Harmful use of alcohol	Definition, effects, prevention	12-14
Unhealthy diet	Definition, unhealthy food, strategies to address nutrition problem	15-19
Physical inactivity	Definition, effects, physical activities	20-23
Hypertension	Definition, signs and symptoms, nutrition for people with hypertension	24-26
Diabetes	Definition, signs and symptoms, nutrition for people with diabetes	27-29
Reminders for a healthy lifestyle	Call to action and reminders	30

Table 1. General information on the contents of the flipchart

focus groups discussions were conducted (two FGD for the BHWs with a total of 17 participants) and two FGD for the community residents (a total of 15 participants). In general, the participants commented that the flipchart was “clear, easy to understand, readable, with pictures that depict the texts, beautiful, colorful.” Other participants noted that “the flipchart should have a stand or support” so that they can place it on a table when they discuss the contents during their home visits and to have the material printed using “thick paper or material.” Other suggestions solicited were to include more examples of physical activities, particularly nonvigorous forms of exercise.

Finalization of the interpersonal communication material

Comments and suggestions during the pretesting were incorporated in the final revision and the flipchart was approved for printing in July 2018 by the Disease Prevention and Control Bureau and the Health Promotion and Communication Service of the DOH.

Printing and reproduction of the interpersonal communication material

A total of 2,000 copies of flipchart were printed. The flipchart consisted of 31 back-to-back 8.5 × 11-inch pages supported by a standee or book cloth. All pages of the flipchart were color-printed and double-looped through a wire.

Orientation of health workers on the use of the interpersonal communication material

A total of 68 health professionals (49 BHWs, 17 nurses and health education and promotion officers and two medical doctors) attended the one-day orientation on the use of the IPC material. In the morning, the process utilized in developing the material was presented, the contents of the flipchart were explained, and an open forum on how to best utilize the material in the community was discussed. In addition, a script was provided to serve as a guide for the BHWs when using the flipchart as they discuss NCDs. In the afternoon, the BHWs formed several groups and were instructed to prepare a presentation on the strategies that they will utilize in the field. By using role play as a learning strategy, some groups presented a one-on-one session with a community resident while others used the flipchart in a small group of 3–5 people in a session.

Discussion

With the current burden of NCDs, health literacy is instrumental in addressing the risk factors to further prevent the development and avert the more detrimental effects of NCDs. In the National Capital Region, high basic and functional literacy rates were recorded; however, these do not necessarily translate to high health literacy among Filipinos. The combination of factors such as poverty and quality of education contributes dramatically to the overall health situation in the Philippines.

The problem of low health literacy remains prevalent in the country [9]. The same problem holds true for well-developed countries [10]. This can be evidenced by the fact that despite the presence of laws and programs on risk factors for NCDs, it is hard to control them as some are deeply embedded in culture and lifestyle, as well as the generation’s technological advances. Knowledge and attitude do not always translate to behavior change more so because the prevention and control of noncommunicable diseases involve a change in the lifestyle which must be sustained for the duration of an individual’s lifespan. Backsliding is bound to happen and strong community support and constant reminders will be helpful [11].

One of the strategies recommended by the United States Centers for Disease Control and Prevention (CDC) to address health literacy is targeting and tailoring communication [12]. Most studies highlight the role of community health workers in promoting and sustaining

practices and behavior to improve health and health outcomes. However, they will need resources to carry out their assigned tasks. In the Philippines, several health communication materials were available focusing on specific risk factors that may lead to the development of NCDs; however, in terms of flipcharts which are the preferred communication material of the BHWs, the common focus is infectious diseases and not NCDs.

An important tool in health promotion is a flipchart which is a form of communication aid used by health professionals to educate and train specific patients, families and caregivers. This uses simple illustrations for ease of communication with patients and caregivers [13]. An advantage of this is its portability on the part of the educator, and in the absence of electricity in certain geographical areas, this serves as an effective medium of instruction. Like all other health education materials, flipcharts should be used only if the contents are appropriate locally and are aligned with the cultural norms of the target audience. Strong evidence supports involving members of the target audience in the design and testing of materials like flipcharts. This participatory design process results in improved outcomes, including those for people with limited health literacy [14].

In the Philippines, although flipcharts are commonly used in the barangay/village health centers and other health-care facilities, available materials identified during the assessment target only specific population groups (e.g. patients living with HIV and pregnant women). In addition, the diseases covered by these health communication materials are limited to infectious diseases such as HIV, malaria and tuberculosis. Aside from infectious diseases, flipcharts are also used for disseminating first-aid lessons.

This paper presents a systematic approach to developing an IPC material, specifically a flipchart, which can be used by health workers to convey necessary health information on NCDs. The process followed was quite like that of Hyden *et al.* [15] when they developed an educational flipchart following an eight-step process that involved identifying key concepts and best means of communication, linking concepts with a behavioral theory, designing materials that emphasizes the key concepts, refining materials and assessing the use of materials in the target audience. The five-step methodology (selecting the right target group, target group analysis, development of target group specific communication formats, pretesting, and improvement of communication formats) for developing communication formats in general used by Grothmann *et al.* [16] and the action research of Reberte *et al.* [17] (composed of the steps: on the choice of the content based on the needs, creation of illustrations, content preparation based on scientific literature and validation of the material by experts) also guided our team in developing the IPC material. Likewise, O'Sullivan *et al.* [14] emphasize the elements in a communication strategy which include analysis of the situation, developing the communication strategy which involves audience segmentation, defining behavior change objectives, developing the message and determining appropriate channels and tools. In addition, the guide mentions the need for management considerations such as budget, timeline, and stakeholder roles and responsibilities, and finally, the need for tracking of progress and evaluation of impact.

There are several lessons learned from this local experience of developing health communication material. First, the needs assessment done provided information on the type of material needed by the community health workers and provided insights on the possible contents that should be included in the material. The medium through which messages can be communicated to the target audience is indeed a very important component of any process [18]. In this paper, the channel in the form of a flipchart was also identified by the target audience as the most appropriate, useful and feasible format for the health communication material for use in the field. Second, the different types of pretesting methods used proved to be essential in determining the correct and right amount of information that can be included in the flipchart. The expert review performed by the programs managers in the DOH Philippines, and experts from the WHO Country Office in the Philippines was instrumental in

determining the technical contents. Meanwhile, the experts from the Health Promotion and Communication Service (HPCS) of the DOH provided inputs on the communication aspects (e.g. message, design, layout and language) of the material. The focus group discussions conducted among the community health workers and community residents provided insights on the level of acceptability of the illustrations and texts in the material that are considered easy to understand by the community members. Pretesting is also an important demonstration of understanding the consumers' wants and preferences [19]. Third, the orientation programs also prepared the health workers on how they will utilize the material in the field. In most situations, once materials have been finalized and reproduced, they are usually delivered to the offices and facilities where they will be used. Orientation program on how to properly use the materials is rarely done and the inclusion of this phase in our IPC material development process is a significant contribution in the field of health promotion and education.

Furthermore, the process utilized in this paper ensured that the stakeholders particularly the city health office, the DOH and the users of the communication material (the BHWs) were involved in every step of the process. This was a critical component in the development of the flipchart as bringing in the stakeholders starting at the point of inception helps build a sense of ownership and can help ensure that the material can be used in a meaningful manner [16]. In addition, bringing the stakeholders in the community through a focus group discussion has helped in ensuring that the contents of the flipchart and the illustrations were contextualized to the local setting, can be easily communicated and were culturally appropriate.

It is also important to note that the material gave more emphasis on only two diseases, hypertension and diabetes, which were the most common NCDs recorded at the Manila Health Department at the time of the development of the flipchart and this does not mean that the other types of NCDs are of less importance. The material did not delve deeper into the specifics and details of the individual diseases considering that the material is for use by the primary community health workers. In addition, the process did not capture an evaluation of the actual utilization of the IPC material in the field by the BHWs and documentation of the responses from the community members when the BHWs used the said material is needed. While it is important to incorporate tested concepts and methods from existing evidence to develop effective health communication strategies, it is important to still employ evaluations to measure impact on the intended public health outcomes [20]. Evaluations on the use of different health communication materials have been documented elsewhere [20, 21], and this step must be included in the systematic process of developing any materials that will be used in health promotion and education and public health. It is important to note as well that one of the differences observed is that we did not include assessing the experience of the BHWs in using the flipchart, which is one of the limitations of this paper.

Conclusion

Noncommunicable diseases without a doubt present a considerable burden on any health system. One approach to address this is targeting behavior change through appropriate communication materials to be used by health workers. For this to happen, health workers must be armed with the appropriate health communication materials, such as a flipchart, when conducting information and education campaigns. The seven-step systematic process to develop an IPC material served as a useful guide in coming up with a material that is acceptable to the target end-users. The process followed an iterative, multistakeholder approach in order to ensure that all important insights are obtained and that the final material is contextualized to the local scenario, easily communicated and culturally appropriate. It is important to consider context and culture on top of the methodology in developing an appropriate IPC material. Moreover, it is also important that the health workers' experience of

the use of the IPC material is properly documented for future reference through both quantitative and qualitative evaluations. In the future materials development process and research endeavors, the evaluation phase must be included in the process, making the whole process an “eight-step systematic process in developing health communication materials.” Evaluation may focus on the impact (i.e. change in knowledge, attitudes and practices of the recipients or the community residents) of using the health communication material in addressing NCDs in the Philippines.

Conflict of Interest: None

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