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# Seasonal communication about dengue fever in educational groups in primary healthcare

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## ABSTRACT

**OBJECTIVE:** To analyze how seasonal communication for dengue control and prevention is conveyed in educational peer groups of Family Health teams.

**METHODOLOGICAL PROCEDURES:** An exploratory and descriptive qualitative study was performed with 25 coordinators of peer education groups, distributed among eight basic health units of Belo Horizonte, Southeastern Brazil. Data collection occurred from March to June 2009, by non-participant observation and semi-structured interviews with coordinators. Content analysis and the principal theories in health communication were utilized in data interpretation.

**ANALYSIS OF RESULTS:** Three thematic units were identified: seasonal communication; subjects discussed and information sources about dengue; and information versus communication for action. Dengue prevention and control actions were principally discussed in groups during outbreaks, based on actions previously programmed by the Ministry of Health. The topics addressed focused on epidemiology, life cycle, modes of transmission, symptoms, prevention, domiciliary visits by zoonosis control units and vaccination for dengue.

**CONCLUSIONS:** The predominant communication action is information conveyance by the coordinator, centered on a behaviorist and prescriptive discourse. Communication practices focused on dialogue is recommended, allowing the coordinator and group members freedom in regards to emergent issues in the group, so they learn to recognize and reflexively discuss them in context.

**DESCRIPTORS:** Dengue, prevention & control. Family Health Program. Health Education, manpower. Qualitative Research.

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## INTRODUCTION

Over the past decades, dengue has become one of the primary epidemic diseases in developing countries, with significant economic, social and public health impacts.<sup>a</sup>

Annually an estimated 50 to 100 million new infections of dengue virus occur in the world.<sup>a</sup> In Brazil, in 2009, there were 2,271 confirmed cases of hemorrhagic dengue with 154 deaths.<sup>b</sup>

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<sup>a</sup> Ministério da Saúde, Secretaria de Vigilância em Saúde, Secretaria de Gestão do Trabalho e da Educação na Saúde, Secretaria de Atenção à Saúde. Dengue: decifra-me ou devoro-te. 2. ed. Brasília (DF); 2009.

<sup>b</sup> Ministério da Saúde, Secretaria de Vigilância em Saúde. Informe epidemiológico da dengue: semanas de 1 a 52 de 2009. Brasília (DF); 2009 [cited 2011 Aug 21]. Available from: [http://portal.saude.gov.br/portal/arquivos/pdf/boletim\\_04marco\\_2009\\_1.pdf](http://portal.saude.gov.br/portal/arquivos/pdf/boletim_04marco_2009_1.pdf)

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Community participation in the elimination of dengue is fundamental, since studies<sup>c</sup> indicate that approximately 90% of mosquito breeding sites are inside homes.

Given this situation the government has invested in integrated activities for health, education, communication and social mobilization, starting with primary health care activities,<sup>d</sup> especially Family Health.<sup>20</sup> Peer education groups are emphasized within the actions proposed for Family Health teams, and they promote community participation to improve living conditions.<sup>14,25</sup> Coordinators of peer education groups must consider individual, cultural and social issues through dialogue and face-to-face interaction between participants.<sup>13,19</sup>

Although educational activities are a possibility for promotion of community mobilization to control dengue,<sup>15,22</sup> studies<sup>5,25</sup> show they do not always result in effective actions that reduce disease prevalence. This apparent paradox in health education activities can be explained through the principal theories of the health communication field. For example, part of the inefficiency of these activities can be attributed to the manner people process the information received.<sup>24</sup>

The strategy for prevention and control of infectious parasitic diseases is characterized by seasonal communication, defined as a communication strategy in accordance with the most favorable season for the disease to spread, in order to meet epidemiological priorities.<sup>e</sup>

In Brazil, information about dengue circulates mostly in the summer. After the period of greatest mosquito infestation, control measures have a reduced frequency and coverage, promoting the false idea that dengue only occurs during the summer. Awareness of dengue among the population increases during this period, without a respective decrease in incidence rates from successive dengue epidemics.

Although it cannot always control infectious parasitic diseases, seasonal communication is an important strategy utilized in Brazilian public health efforts over the years. Expanded use of seasonal communication potentially indicates that gradual interventions, which are very different than traditional interventions, are being implemented. For example, the dialogue model seeks participatory learning, promoting an iterative process among multiple producers/receivers of messages.<sup>3</sup>

Continued seasonal communication in these cases can harm other prevention initiatives, which possibly complicates dengue control activities in Brazil. In

addition, topics about communication for the prevention and control of infectious parasitic diseases are still in their initial stages. It is necessary to intensify and refine effectiveness research of these communication activities.

Therefore, the objective of this study was to analyze how seasonal communication occurs in the peer education groups of Family Health teams, to prevent and control dengue.

## METHODOLOGICAL PROCEDURES

A descriptive and exploratory qualitative study was carried out with 25 coordinators of peer groups, active in eight basic health units of Belo Horizonte, Southeastern Brazil.

Inclusion criteria for study informants included: member of a complete Family Health team (composed of a physician, nurse, two nurse assistants); coordinator of a group that performs educational activities; belonging to a group that includes at least one discussion about dengue prevention and control; consent to participate in the study.

Data were collected from March to June of 2009, first by non-participant observation of peer groups, and subsequently by semi-structured interviews with coordinators.

The main themes from the non-participant observation included: content discussed in each meeting; sources for distribution of information; mediation techniques of the group coordinator; important dialogues; and relationships established between the participants, considering symbols, signs and discussions that indicate conversational competency.

Overall 33 meetings were observed and recorded in a field diary with a continuous description of verbal and non-verbal manifestations, and the observations lead to notes on theory, methodology and content. The information was recorded by manual writing, audio recording and data transcription.

Only coordinators were interviewed since they were the group mediators,<sup>1</sup> who organized discussion topics and interfered in group conduct, questioning, analyzing and interpreting group phenomenon. They appear to contribute to more or less participant involvement concerning proposed objectives.

Fourteen people were interviewed: one physician, five nurses, two nurse technicians, five community health

<sup>c</sup> Secretaria da Saúde do Estado de São Paulo, Superintendência de Controle de Endemias, Diretoria de Combate a Vetores. Informativo sobre situação de dengue no Estado de São Paulo e as medidas de prevenção e controle. São Paulo: SUCEN; 2010 [cited 2010 Feb 16]. Available from: [www.ambiente.sp.gov.br/cea/imagens/informe\\_dengue\\_120510.pdf](http://www.ambiente.sp.gov.br/cea/imagens/informe_dengue_120510.pdf)

<sup>d</sup> Starfield B. Atenção primária: equilíbrio entre necessidades de saúde, serviços e tecnologia. Brasília (DF): Unesco/Ministério da Saúde; 2002.

<sup>e</sup> Araújo IS, Cardoso JM, Murtinho R. A comunicação no Sistema Único de Saúde: cenários e tendências. In: Anales de la IX. Congreso Latinoamericano de Investigadores de la Comunicación; 2008. México: Asociación Latinoamericana de Investigadores de la Comunicación; 2008 Oct [cited 2009 Dec 30]. Available from: [http://www.alaic.net/alaic30/ponencias/cartas/Comunicacion\\_y\\_salud/ponencias/GT7\\_12lnesita.pdf](http://www.alaic.net/alaic30/ponencias/cartas/Comunicacion_y_salud/ponencias/GT7_12lnesita.pdf).

workers (CHW) and one social worker. Interviews were performed individually, recorded in MP3 format and transcribed.

The original question was “Tell me how communication occurs during group activities, considering themes about the prevention and control of dengue”. After the informant responded, subsequent questions were asked to clarify some of the situations described.

Data collection was finalized upon information saturation, when no new or relevant data was encountered.<sup>17</sup>

The information was organized and categorized using the thematic analysis proposed by Bardin.<sup>4</sup> Following transcription of interviews and field observations, the material was thoroughly reviewed for pre-analysis and data exploration. Then charts were systematically organized and units of meaning recorded, with subsequent classification by thematic area.

The principal theories in health communication were utilized for data interpretation, in addition to theories by Foucault, whose ideas facilitate the consideration of power and knowledge within institutions.

The study was approved by the Research Ethics Committee of the Federal University of Minas Gerais (Appearance No. ETIC 133/08) and by the Ethics Committee of the Belo Horizonte Municipal Health Secretary (Protocol 044/2008).<sup>f</sup> Study participants, including participants of peer groups, signed a voluntary informed consent form. To guarantee anonymity, participants were identified by the letter C, for coordinator, and numbered according to the order contacted.

## ANALYSIS OF RESULTS AND DISCUSSION

The observed groups were majority female (78.1%), age 60 years or more (73.4%). There were an average of 18 participants per group, and groups met weekly (53.8%), biweekly (7.7%), every two months (7.7%) or every three months (3.8%).

### Seasonal communication

Among the groups studied, themes concerning dengue control and prevention were principally discussed during outbreak seasons, when community collaboration is sought:

*“We lead some themes to the given health topic, according to what is happening at that season”.* (C1, nurse)

This same finding was encountered in another study<sup>23</sup> on health communication practices for dengue prevention. Health professionals still adopt a communication model for a single, time-limited, campaign that prioritizes epidemics, even though it would be important to integrate dengue as a topic for health services throughout the year. Foucault<sup>11</sup> (2004) explains that in epidemics a breakthrough occurs, so that the medical field adopts new discourse, behavior and goals so that the subject of recognition is reorganized and modified, changing practice.

One of the factors that interferes with adherence to preventive practices involves the lack of a continuous mode of communication between the health service and community.<sup>5</sup> The seasonal silence established by these groups presents a challenge for coordinators, who must create space to stimulate continuous discussions of the public health issues relevant in communities.

In order to encourage community action during the groups, some coordinators co-opt members to participate in campaigns against dengue during epidemic periods:

*“C2 [CHW] says that during Dengue Awareness Week, he considered the possibility of the group doing something: ‘I would like to see if you all become encouraged to participate’. The group discusses about dengue activities, but does not make any proposals. ACS remains silent. After some minutes, he interrupts the group and says: ‘I count on you’”.* (Observational notes)

Some factors influence and determine the degree of individual participation in community actions, such as social roles, manners to perceive and express values and the symbolic capital of each participant.<sup>8</sup>

In addition, each individual always occupies different places of conversation, does not presenting the symbolic consumption of homogeneous and stable form, whose movements and modes of appropriation and production of the senses constitute through diverse interactive processes.<sup>3</sup>

Therefore, it is important for the coordinator to recognize and consider these factors. The context appears to favor the involvement of individuals in their comfort zone, represented here by the initial decision of the coordinator, after the silence by participants, to call the group to action.

### Content discussed and information channels

Group discussions of dengue related to epidemiology, the vector life cycle, modes of transmission, symptoms,

<sup>f</sup> Ministério da Saúde, Conselho Nacional de Saúde. Resolução nº 196, de 10 de outubro de 1996. Aprova as diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. Brasília (DF); 1996 [cited 2011 Sep 31]. Available from: [http://dtr2004.saude.gov.br/susdeaz/legislacao/arquivo/Resolucao\\_196\\_de\\_10\\_10\\_1996.pdf](http://dtr2004.saude.gov.br/susdeaz/legislacao/arquivo/Resolucao_196_de_10_10_1996.pdf)

<sup>8</sup> Santos A, organizadora. Caderno Mídia e Saúde Pública: 20 anos do SUS e 60 anos da Declaração dos Direitos Humanos. Belo Horizonte: Escola de Saúde Pública do Governo de Minas Gerais; 2008 [cited 2011 Aug 21]. Available from: <http://www.esp.mg.gov.br/wp-content/uploads/2009/06/caderno-midia-e-saude-publica-3.pdf>

prevention, household visits by the zoonosis team and vaccination.

*“A participant asks if only the female [mosquito] transmits dengue. C1 [nurse] responds that yes: ‘The female sucks blood to feed the eggs’. Towards to the end of the group meeting, the nurse asks: ‘What are the classic symptoms of dengue?’ The group responds: ‘Pain and fever’”. (Observation notes)*

According to Foucault<sup>11</sup> (2004), the goal in discussing an epidemic is not to abstractly recognize the disease in a general manner. The task is to understand it within a given time and space, which requires consideration of the issues that individual people contemplate. Each person’s manner of communication is dependent on institutions and history, whose interactions determine the different ways people respond to reality and encounter solutions for health problems.<sup>3</sup>

During an epidemiologic emergency, health education requires an exchange of knowledge through horizontal interaction and requires consideration of participant needs rather than just normalizing behaviors.

Within the Foucault conception,<sup>11</sup> what makes an epidemic a singular fact is consideration of the context in which it occurs rather than the essence of the disease. Therefore, the ability of the coordinator to communicate in the group depends on her capacity to contextualize. Communication skills are related to identifying and assuming the various contexts that constitute each situation.<sup>18</sup>

Communication in groups was principally based on the actions programmed by the Brazilian Ministry of Health and utilized campaign materials:

*“C3 [nurse] says they will address some questions about dengue. She distributed a pamphlet by the Ministry of Health that emphasizes possible breeding location of the vector mosquito. During the reading of the pamphlet, the nurse looks at the members and makes comments. When a participant comments on an item, the nurse does not explore the remark”. (Observation notes)*

In the passage cited, some coordinators tend to view communication as a process to simply transmit information from an emitter (coordinator) to a recipient (group members). Such a model does not value the rest of the process, including the circulation of messages and their appropriation by the different people involved.

The coordinators’ fundamental preoccupation is to maximize the transmission of messages to the group and to limit possibilities for negotiation as well as creation of meaning. According to some authors,<sup>8</sup> this means limit the dimension of otherness that should accompany the concept of communication if the paradigm that most approximates the principles of the Family Health is the dialogue.

According to Freire<sup>13</sup> (1971), for an act of communication to be efficient the subjects must also engage in communication and the information must be understood within a meaningful framework shared among the subjects. If these requirements do not occur, understanding between the subjects will not exist and communication will be impossible.

The previously described situations are not conducive to the creation of meaning within the group, since some coordinators have difficulty to consider the prior experiences of participants with the subject matter and to stimulate discussion. This style of communication reproduces the hegemonic message of Brazilian health policy and reinforces the central role of information transfer in campaigns that focus on disseminating information about interventions to the community, with little attention to the role of exchange and appropriation by recipients.<sup>6</sup>

Other authors<sup>2</sup> criticize this type of educational approach because it cannot persuade and does not align with the goal to spread information. The goal should be to at least establish a public debate about the subject and guarantee sufficient information for people to increase citizen participation in health policies.

Therefore, to increase the impact of groups, we believe that the collective construction of educational materials in accordance with the local reality would stimulate dialogue and pluralistic practices. It is also essential for the coordinator to diagnose and evaluate the models by which people attribute meaning and convert information into action. The group coordinator would articulate a national proposal without restricting the discussion and would favor a decentralized production and exchange of ideas, thereby breaking the understanding that participation is synonymous with adherence.

### Information versus communication for action

In order to make the group more pro-active in its actions, some coordinators identify multipliers, who through repeated communication are considered intermediaries in the communication network. The two-step flow of communication reinforces the existence of intermediaries between the source and recipient of messages, which impact the manner that recipients understand. Although they are community members, the multipliers promote the diffusion of information in a singular manner, imprinting their own meanings to the content they spread.<sup>2</sup>

*“You end up creating multipliers. The neighbors, group participants, begin to feel responsible for dengue. If the neighbor’s water box is not covered, then I will report it”. (C7, nurse)*

Foucault perceives<sup>9</sup> individual constitutions as involved in historical processes of subjection involving forms



of power with an immediate influence in daily life that impact individuality. Individual constitutions involve four central aspects: 1) behavior related to conduct and how one understands how to be an active individual and their moral substance; 2) the mode of subjection, which involves how people are described or provoked when recognized as active; 3) ascension practices – a transformation experienced by the individual to reach another way of being; 4) the type of person they aspire to, when they behave as active subjects.<sup>12</sup>

Using these ideas, acts and conduct are real behaviors of people in relation to norms imposed by their culture, society and social group. Therefore, it may be argued that the active subject is fabricated, as is the passive and docile subject.<sup>10</sup>

No change occurs without learning, since the two processes are interdependent. Nonetheless, there is a distance between knowledge and attitude. Increased knowledge does not always correspond to a behavior change in the population, which is the main goal of dengue control measures.<sup>8</sup>

Various studies<sup>6,21</sup> report a satisfactory level of knowledge from educational campaigns, in terms of information transmission, but on the other hand, demonstrate a discrepancy between knowledge and effective control of the illness.

Although health-related norms and behaviors are mediated by culture, they are also very personal. Not considering the irrationality of behavior choices may be the greatest shortcoming in the practice of public health. It is therefore necessary to attempt to understand the various determinants of human behavior.<sup>7</sup> The attribution of meaning in a given situation is influenced by the moment in which you live, by the external dynamic represented by happenings in the world that in turn influence internal dynamics.

Moreover, permanent effort is required to place the main issues in the field of the values and symbolic elements with which communities operate in constant attention to with the multiple meanings that guide people's lives. Groups formed to take health action and group leaders can strategically make such efforts.<sup>19</sup>

The effective control of diseases, such as dengue, does not happen through vertical program, since the disease involves aspects connected to the conditions and experiences of communities that when neglected perceive social exclusion.<sup>21</sup> Communication should create references for action and individual behavior

change, according to personal and social knowledge and opinions. Communication efforts should be diversified, personalized, local and culturally relevant so that learning occurs through active comprehension of reality, based on community organization and knowledge.<sup>h</sup>

The need to open effective modes of communication in group processes should be emphasized. Effective relationships between the coordinator and other group members are necessary, as suggested by the ideas of cohesion and continuity.

## CONCLUSIONS

A majority of communication practices consisted of the coordinator transmitting information about dengue, with a focus on behavior and prescriptive discourse. This vertical transmission of knowledge contributes to establish distance between the participants. This makes it difficult for participants to identify with the part of reality they want to change, as active subjects who construct their lives within a sociocultural context involving expectations, values, beliefs and specific habits.

Actions against dengue require continuous activities that overcome promotion of behavior change through the simple diffusion of information during outbreaks.<sup>5,6,8</sup> Interaction and communication should be instead based on the reciprocal exchange of ideas between coordinator and group members.

The vector is well-adapted to the urban environment, and its control demands intersectoral actions involving, culture, education, tourism, transportation, civil construction and basic sanitation. It also requires involvement of the private sector and organized society, according to larger notions of health that move beyond the simple idea of treatment.

It is fundamental to consider the complex process of group communication. The focus should be on training people so they know what to do with information. It is important that the message communicated and the delivery method correspond to the needs of participants, which would contribute to autonomy in group decision-making and to transformation of reality.

Recognition of the symbols and specific codes of the several identities in the group is essential for effective group communication. Therefore, we recommend that communication strategies focus on dialogue so that the coordinator and members have freedom to discuss the problem and can learn to recognize it and understand it in a critical and reflexive manner.

<sup>h</sup> Braga JL. Aprendizagem versus educação na sociedade mediatizada. In: Anais do 10. Encontro Anual da Associação Nacional de Programas de Pós-Graduação em Comunicação – COMPOS; 2001; Brasília (DF). Brasília (DF): GT Comunicação e Sociabilidade; 2001 [cited 2011 Sep 31]. Available from: [http://www.compos.org.br/data/biblioteca\\_1257.pdf](http://www.compos.org.br/data/biblioteca_1257.pdf)

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