



EDUCATION FOR HEALTH

ORIGINAL RESEARCH PAPER

Process Documentation of Health Education Interventions for School Children and Adolescent Girls in Rural India

AR Dongre, PR Deshmukh, BS Garg

Dr Sushila Nayar School of Public Health, Mahatma Gandhi Institute of Medical Sciences, Sewagram, Distt- Wardha, India

Published: 18 May 2009

Dongre AR, Deshmukh PR, Garg BS

Process Documentation of Health Education Interventions for School Children and Adolescent Girls in Rural India
Education for Health, Volume 22, issue 1, 2009

Available from: <http://www.educationforhealth.net/>

A B S T R A C T

Objective: To undertake process documentation (PD) of two health education interventions for tribal school children (6-14 years) and adolescent girls (12-19 years) in rural central India.

Methods: The present participatory process documentation exercise was undertaken at Kasturba Rural Health Training Center, (KRHTC), Anji, which is a field practice area of the Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram. The various steps identified for process documentation were decided after reviewing the monthly and annual reports of KRHTC, training reports, published research papers, flipbooks and daily diaries of health educators. In order to get the health educators' perceptions, a free listing and pile sort exercise on the domain of 'perceived advantages of the present approach' was undertaken, followed by a semi-structured Focus Group Discussion (FGD) with the educators. A two-dimensional scaling and hierarchical cluster analysis was completed with the pile sort data to get the collective picture of perceived advantages.

Results: The health education interventions were need-based, focusing on a target audience. The approach was community-based and has the potential to stimulate an action-experience-learning cycle of health educators and community members by stimulating their creative potential. The health educators found locally-developed handmade flipbooks with relevant messages and culturally sensitive pictures to be facilitating factors.



Conclusions: The present study provided process documentation of two health education interventions which could be useful to both governmental and non-governmental organizations working in resource poor rural settings of developing countries.

Key words: Process documentation; flipbook; community-based; health education; school children; adolescent girls; India

Introduction

In developing countries, the success of primary health care programs depends on effective delivery of health education, which is one of the World Health Organization's eight essential activities of primary health care programs (World Health Organization, 1983). Some barriers, like failure to triangulate data from epidemiological sources and behavioral sciences as well as poor organizational and communication skills of health educators, have been identified in health education efforts (Hubley, 1986). Meanwhile, it has been noted that only 47 percent of published articles provide a sufficiently detailed description of educational interventions to allow replication (Loevinsohn, 1990). Recently, in India, similar weaknesses in health education approaches have been reported, such as poor involvement of target audiences in planning and implementation of health education interventions, lack of theory-based behavior change strategies, lack of quality assurance systems, excess use of newspapers, pamphlets and posters and poor organization of the workforce of health educators (Sharma, 2005).

Process documentation has been defined as the collection of all available data on a project to provide learning and to check objectives, to set the working methods, to develop monitoring systems and to initiate human resource development planning (Korten, 1980). Since process documentation provides insights and helps to analyze processes, it is often undertaken in small, pilot projects before conducting large-scale projects (Acharya *et al.*, 1993). This provides insight into policy formulation and setting criteria for conducting more extensive projects. Thus, it is a documentation-analysis-reflection process, and it is designed to be non-evaluative and non-threatening.

The use of process documentation in health education research is seldom seen since the concept is relatively new to the health sector. The National Health Policy of India intends to target school children and adolescents for promoting healthy behaviors among the general population (Ministry of Health and Family Welfare, 2002). Hence, the present participatory 'process documentation' (PD) exercise of two health education interventions for tribal school children (6-14 years) and rural adolescent girls (12-19 years) was undertaken in central India to document the various processes of these health education interventions and to explore health educators' perceptions about the program.

Methods

Study settings: The present study was conducted at Kasturba Rural Health Training Center, (KRHTC), Anji, which is a peripheral center of the Dr. Sushila Nayar School of Public Health (SNSPH), Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram. KRHTC, Anji, is located in the Wardha district of Maharashtra state, India. The study site was 758 kilometers east of the state capital of Mumbai. In addition to the rural training of medical students, nursing students, interns and postgraduate students of Community Medicine, KRHTC provides community-based services like village health clinics and health education for rural school children and adolescent girls in the surrounding 23 villages. The total population of these villages was 31,482 with



23.3 percent between 6-19 years of age. About one-half of the population was employed in the agriculture sector as their primary occupation. The average number of years of schooling for adolescent girls was 8.5 years.

Focus and the steps of process documentation: KRHTC, Anji, has implemented two health education programs: 1) school-based intervention on personal hygiene for school children during the period 2003 to 2004 and 2) community-based intervention on menstrual hygiene for adolescent girls from 2003 to 2007. The health education interventions were carried out by using two locally developed handmade flipbooks on personal hygiene and menstrual hygiene for school children and adolescent girls, respectively. A flipbook is a book with a series of pictures and relevant text that is logically sequenced to give a health message. It assists the outreach workers and other health educators as an aid for interpersonal communication. The effects of these health education interventions on behavior change of the target audiences have been tested and reported in other studies (Dongre *et al.*, 2006; Dongre *et al.*, 2007).

The present process documentation exercise focused on these two health education interventions. The objectives and the scope of the process documentation exercise were decided in two consultations with the Director of SNSPH and the Supervisor at KRHTC, Anji, over a period of one month. After obtaining informed consent from the KRHTC Supervisor, the trained internal facilitator undertook the process documentation by considering the guidelines of the Society for Participatory Research in Asia (PRIA). PRIA has facilitated process documentation for twelve developmental agencies in India (Acharya *et al.*, 1993).

The various processes to be documented (see Figure 1) were decided upon after reviewing the monthly reports and the annual reports of KRHTC, training reports, published documents, flipbooks, daily diaries of the health educators (social workers) and auxiliary nurse midwives (ANMs). Thus, the identified key processes of health education interventions were: 1) needs assessment for message development; 2) development of health education materials; 3) social mobilization to build local capacity to identify and address needs of the target audience; 4) capacity-building of the staff and participatory planning; 5) implementation of health education sessions; and 6) assessment of behavior change among target groups.

For the review of process documentation processes, formative exploration (free listing and pile sorting exercises) was undertaken with the health educators. The retrospective qualitative information was obtained from six health educators and two ANMs. Free list and pile sort exercises were undertaken to explore the 'perceived advantages of the present health education approach' (Hudelson, 1994), where respondents were asked to make a free list of the advantages of the health education approach. The advantages with high Smith's S value (Smith's saliency score) were pile sorted. Smith's S refers to the importance, representativeness or prominence of items to individuals or to the group, and is measured in three ways: word frequency across lists; word rank within lists; and a combination of these two (Schrauf & Sanchez, 2004). Then, respondents were asked to group the advantages they felt went together. A two-dimensional scaling and hierarchical cluster analysis was completed with pile sort data to obtain a collective picture of perceived advantages. The analysis of free list and pile sort data was conducted using Anthropac 4.98.1/X software (Borgatti, 1998). This was followed by a semi-structured Focus Group Discussion (FGD) (Dawson *et al.*, 1993). The content analysis of qualitative data obtained from the reports, documents, diaries and the FGD report was undertaken. However, the emphasis on both documentation on the one hand and process analysis and perceptions of health educators on the other hand were given equal importance.

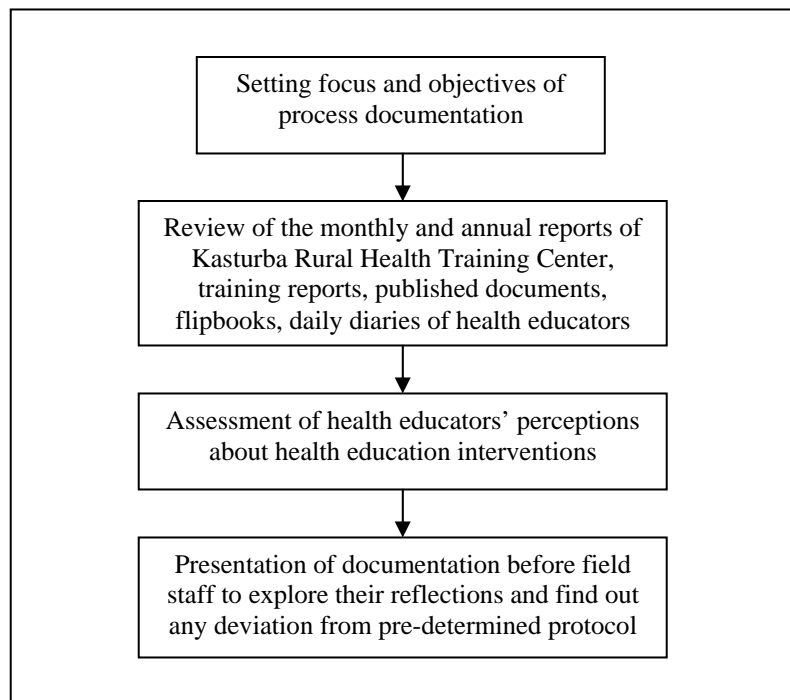


Figure 1: Steps of participatory process documentation of two health education interventions for school children and adolescent girls in rural India

Results

The two health education materials (flipbooks) addressed personal hygiene for tribal school children and menstrual hygiene for adolescent girls. The routine monthly reports had little qualitative information on the processes. However, the published research papers and daily diaries of health educators could provide information on the processes of village-based programs.

Needs assessment for message development: The needs assessment for the development of flipbooks was undertaken by triangulating quantitative (survey) and qualitative (FGD) data. This triangulation exercise took into consideration local epidemiological and behavioral science data. For example, data regarding poor menstrual hygiene practices among adolescent girls was generated by epidemiological study (survey) and misconceptions associated with menstruation were understood through FGDs. Both these findings were collated to design health education messages. The quantitative surveys were conducted to find out the current status of indicators (Dongre *et al.*, 2006; Dongre *et al.*, 2007). The qualitative data were collected using techniques like participant observation or FGDs. The process of qualitative data collection was useful to bridge the gaps in quantitative data by exploring various socio-cultural barriers in behavior change. It also took indigenous concerns into account by involving at least one group (10-12 members) of the target audience, teachers and women's groups. The qualitative data proved useful for theory-based health education intervention.

Development of health education materials: After needs assessment, the health education materials were developed in the form of handmade flipbooks. Program for Appropriate Technology in Health (PATH) guidelines were adopted for message development (Zimmerman *et al.*, 1996). The rough draft of flipbooks were pretested in the field before the intended target audience to ensure it



conveyed appropriate meaning and to make it more compatible with local customs and traditions. The required modifications were made before preparing the final handmade flipbooks. Thus, socio-culturally relevant health education materials were maximized after target audience research. The health messages were few in numbers and were framed in the local language, *Marathi*. The identified key behaviors for change among tribal school children were objectively verifiable. But, it was difficult to ensure objectively defined behaviors related to hygienic menstruation management by adolescent girls in a rural Indian cultural milieu. The key decisions regarding the content and preparation of health educational materials were made by a team of health educators, ANMs, medical interns and a medical officer posted at KRHTC, Anji.

Social mobilization: A team of trained social workers carried out social mobilization to establish a platform for message dissemination. Social mobilization is defined as a capacity-building process through which community members, groups or organizations plan, carry out and evaluate activities on a participatory and sustained basis to improve their health and other conditions, either on their own initiative or stimulated by others (Howard-Grabman, 2007).

For improving personal hygiene and reducing related morbidities among tribal school children (6-14 years), a tribal residential *Ashram* school was targeted. *Ashram* schools are residential schools providing lodging and boarding, uniforms, books and notebooks and educational equipment to underprivileged scheduled caste and scheduled tribe children. Scheduled castes and scheduled tribes are Indian communities that are explicitly recognized by the Constitution of India as previously "depressed classes" (Government of India, 2005). School teachers and members of the village '*Gram Panchayat*' (local self-government) were motivated through regular interaction in monthly meetings to ensure their active participation in health check-ups and monitoring behavior change among students after health education sessions. For adolescent girls, a community-based group called '*Kishori Panchayat*' (KP, forum of adolescent girls) consisting of 15 to 20 adolescent girls was formed in each of the 23 villages. Initially, the social workers contacted the mothers of adolescent girls and informed them about the purpose of KP formation in their village. Social mobilization was required to break down isolation and build community-based networks at the village level so that behavior change would become a sustainable social norm.

Capacity-building of staff and participatory planning: Social workers trained in communication skills by public health specialists from Dr. Sushila Nayar School of Public Health acted as health educators. They studied relevant health topics before using the flipbooks for health education. Six social workers and two ANMs of KRHTC, Anji, active in needs assessment and development of flipbooks; planned health education programs. The planning was done for monthly health education sessions with a focus on various village level social and cultural activities when target audiences came together, such as at school gatherings like *Ganesh* festival (worship of lord *Ganesh*), *Durga* pooja (worship of goddess), *Pola* (farmers' festival) and other social events. Thus, there was an attempt to reinforce locally existing channels of communication in the health education programs.

Implementation of health education sessions: A trained social worker or ANM delivered the health messages to school children and adolescent girls using the above low cost pre-tested health education materials. The planned health education sessions were conducted once a week in the school for one hour over a period of six months. For adolescent girls, the messages were first given to members of KP during their monthly village level meetings. The social worker or an ANM, in turn, arranged a quarterly meeting for all adolescent girls in their respective villages, called '*Kishori Sabha*'. In this meeting, the previously sensitized adolescent girls delivered the health messages using the same health education materials. For simultaneous health education sessions in different villages, photocopies of flipbooks were used. This activity was carried out for three years. An entire health education intervention was supervised by public health specialists.



Assessment of behavior change among target groups: Quantitative assessment was done to examine possible behavior change in the personal hygiene of school children. After one year, there was a significant improvement in indicators of personal hygiene. The proportion of children with clean, combed hair and clean, cut nails significantly improved from 27.6% to 52.7% and from 29.7% to 48.2%, respectively. Morbidities related to poor personal hygiene like lice infestation and scabies was significantly reduced from 42.8% to 18.8% and from 36.6% to 17.9%, respectively. Most of the school children (56.6%) were thin (BMI less than the 5th percentile); there was no improvement after one year. Overall, the school health education program with active involvement of teachers led to improvement in personal hygiene in school children and reduction in related morbidities.

The assessment of behavior change among the adolescent girls was undertaken after three years. A triangulation of quantitative (survey) and qualitative (trend analysis) data was done to increase the validity of results as the indicators of behavior change related to hygienic menstrual practices were difficult to objectively verify. After three years, a significantly higher proportion of adolescent girls (55.4%) was aware of menstruation before its initiation as compared to 35% at baseline. The practice of using ready-made pads increased significantly from 5% to 24.9% and the practice of reuse of cloth declined from 85.2% to 57.1%. In a trend analysis exercise, adolescent girls reported positive change in their behavior, attitude and level of awareness.

Health educators' perceptions and reflections: Health educators reported certain advantages of this health education approach. The pile sort data classified these advantages into three groups. According to the first group, the contents of the flipbooks were problem-based and the health information given in simple story form was useful to make sessions interactive and interesting for the target audience. According to the other two groups, the flipbooks were handy, easy to understand and one could quickly revise them before health education sessions. There was no dependency on electronic and print media. The health educators were involved in target audience research, message development, dissemination and, subsequently, in evaluation.

The process documenter presented his observations before the field staff of KRHTC to obtain their reflections. During discussion, it was found that there was no significant deviation from the original study protocol. The various processes, ranging from needs assessment to final evaluation of health education interventions, ensured involvement of the staff and the community. Hence, the overall evolution of new initiatives and learning was a slow process. Initially, the principal of the Ashram school was reluctant to allow a health check-up (survey) fearing that the poor health status of children would be disclosed in the local newspapers. Similarly, the mothers of the rural adolescent girls were apprehensive about health education on a sensitive topic like menstrual hygiene. The health educators recognized this resistance during the needs assessment phase. Hence, the health educators could develop a strategy to address this resistance before the actual implementation of the health education intervention. The school teachers and the mothers were reassured regarding the non-threatening nature of the intervention and its importance to improve the health of school children and the adolescent girls.

Further discussed in the group was that mere knowledge-building was not sufficient for behavior change. Hence, the supportive social environment had to be created. This was done by initiating community-based distribution of 'sanitary napkins' for adolescent girls at subsidized rates in each village. The money was raised from the villagers and the distribution of napkins was ensured through female village health workers. Considering the high prevalence of nutritional problems among school children and adolescent girls, it was decided to initiate weekly iron supplementation in future programs.



Discussion

The process documentation exercise in the present study was 'participatory', as there was participation of the field staff and the process documenter was a member of our internal faculty. The process documentation was preferred as it is learning-based, non-evaluative and non-threatening. Conventionally, the system of monitoring and evaluation is set up as a donor-driven policing function, which is often preoccupied with demonstrating 'success stories' (Gupta *et al.*, 1997). The conventional system tends to overlook the processes useful for further development and sustainability of the program.

The two health education approaches were systematic, participatory in nature, need-based, focused on the target audience and required local resources. The emphasis was on community participation in health education planning and implementation. These approaches have potential to stimulate an action-experience-learning cycle of field-based health educators and community members as the approach heavily relied on participation and utilization of their creative potential. The health educators evaluated the locally-developed handmade flipbooks, with relevant messages and culture sensitive pictures, as a facilitating factor in the health education program. Such exploration in various resource-limited settings is needed to help select appropriate cost-effective health education interventions. In India, the involvement of the target audience in planning and implementation of health education has rarely been seen (Sharma, 2005).

There is considerable socio-cultural and economic diversity in India. Development of a single health education strategy is less likely to work. Hence, a flexible and participatory health education strategy based on the local epidemiological situation was required to address the majority of health problems which are preventable by simple health education. There are certain weaknesses in health education efforts, like emphasis on knowledge-based information, reliance on print media, inability to reach rural populations and no capacity-building for health educators (Sharma, 2005). The present process documentation exercise has explored the potential solutions to these existing constraints and has addressed each of the constraints. In the present study, the staff learned that, along with health education, supportive health services are required to ensure behavior change.

In India, the present Information Education and Communication (IEC) strategy is too fragmented, relies heavily on the mass media and does not address the needs of the rural population (Ministry of Health and Family Welfare, 2002). It is widely accepted that school and college students are the most impressionable targets for receiving information relating to the basic principles of preventive health care. In the three tier health care system of India, health education of the rural poor is the responsibility of the Primary Health Center (PHC) and its sub-centers. The present team approach of health education, based on local resources, could be an option for government-owned PHCs and sub-center staff.

In South Africa, Nyamwaya (2003) observed that the majority of health promotion programs were planned, managed and controlled exclusively by professionals, especially from within the health sector. Similarly, in India, health education is generally of little importance in national health programs, which emphasize a curative approach. The delivery of health education campaigns has, most often, been at the techno-managerial, vertical program level without building the infrastructure at the grassroots level. However, strengths like elaborate infrastructure, resources for information dissemination, existing school health education programs and ability to conduct systematic needs assessments should be kept in mind (Sharma, 2005). The present study explored the community-based, participatory approach for health education intervention.

Voluntary agencies have contributed significantly in developing alternative models as well as providing low cost and effective health care services in many remote parts of India. It has already been recommended to support innovative projects in the voluntary



sector to conduct research and development of health educational materials (Mukhopadhyay, 1997). The potential of the voluntary sector could be utilized for replication of low cost health education efforts for behavior change in socio-economically disadvantaged groups like scheduled castes and scheduled tribes and in remote areas.

Overall, the present study provided process documentation of two pilot health education approaches which could be useful to governmental and non-governmental organizations working in resource poor, rural settings of developing countries. The present process documentation exercise attempted to offer solutions to the existing constraints and explored working approaches to the challenges of implementing effective health education interventions, such as ways to involve target audiences and the workforce of health educators in planning and implementation processes.

Acknowledgement:

We wish to acknowledge financial assistance from the Aga Khan Foundation and USAID under its Child Survival Grant (cooperative agreement GHS-A-00-03-00015-00).

References:

- Acharya, B., Verma, S., & Tandon, R. (1993). *Process documentation in social development programme (Mimeo)*. New Delhi: Society for Participatory Research in Asia (PRIA).
- Borgatti, S. (1998). *Anthropac 4.0. Natick MA: Analytic Technologies*.
- Dawson, S., Manderson, L., & Tallo, V. (1993). *The focus group manual: Methods for social research in disease*. Boston: International Nutrition Foundation for Developing Countries (INFDC).
- Dongre, A., Deshmukh, P., & Garg, B. (2006). The impact of school health education programme on personal hygiene and related morbidities in tribal school children of Wardha district. *Indian Journal of Community Medicine* 31, 81-82.
- Dongre, A., Deshmukh, P., & Garg, B. (2007). The effect of community-based health education intervention on management of menstrual hygiene among rural Indian adolescent girls. *World Health and Population*. Retrieved on October 13, 2007, from: <http://www.longwoods.com/home.php?cat=381>.
- Government of India. (2005). Initiatives towards specific segments of the society: Education of scheduled castes & scheduled tribes. Retrieved on September 2, 2008, from: http://india.gov.in/sectors/education/edu_scheduled_castes.php.
- Gupta, R., Sohani, G., & Dhamankar, M. (Eds.). (1997). *Monitoring and evaluation for strategic management and organizational development. Proceedings of an international workshop held at MDMTC*. Pune: India, 1997.
- Howard-Grabman, L. (2007). Demystifying community mobilization: An effective strategy to improve maternal and newborn health. In, C. Storti (Eds.), *What is community mobilization? (pp.5)*. Maternal and Child Health Division, U.S. Agency for International Development, available at: http://www.accessstohealth.org/toolres/pdfs/ACCESS_DemystCM.pdf



- Hubley, J.H. (1986). Barriers to health education in developing countries. *Health Education Research*, 1, 233-245.
- Hudelson, P. (1994). *Qualitative research for health programmes*. Geneva: World Health Organization.
- Korten, D. (1980). Community organization and rural development: A learning process approach, *Public Administrative Review: Institute of Phillipine Culture*, 480-511.
- Loevisohn, B. (1990). Health education interventions in developing countries: A methodological review of published articles. *International Journal of Epidemiology*, 9, 788-794.
- Ministry of Health and Family Welfare. (2002). *National Health Policy of India*. Retrieved September 27, 2007, from: <http://www.mohfw.nic.in/np2002.htm>.
- Mukhopadhyay, A. (Ed.) (1997). *The Independent Commission on Health*. New Delhi: Voluntary Health Association of India, 319-337.
- Nyamwaya, D. (2003). Health promotion in Africa: Strategies, players, challenges and prospects. *Health Promotion International*, 18, 85-87. Retrieved on September 27, 2007, from: <http://heapro.oxfordjournals.org>.
- Schrauf, R., & Sanchez, J. (2004). The preponderance of negative emotion words in the emotion lexicon: A cross-generational and cross-linguistic study. *Journal of Multilingual and Multicultural Development*, 25, 266-284. Retrieved on September 21, 2007 from <http://www.multilingual-matters.net/jmmd/025/0266/jmmd0250266.pdf>.
- Sharma, M. (2005). Health education in India: A strengths, weaknesses, opportunities and threats (SWOT) analysis. *The International Electronic Journal of Health Education*, 8, 80-85. Retrieved on September 27, 2007, from: <http://www.iejhe.org>.
- World Health Organization (WHO). (1983). New approaches to health education in primary health care. WHO Technical Report Series, 690, 7-44.
- Zimmerman, M., Newton, N., Frumin, L., & Wittet, S. (1996). Program for Appropriate Technology in Health. Developing health and family planning materials for low-literate audiences: A guide. Washington. Retrieved on September 27, 2007, from: http://www.path.org/files/DC_Low_Literacy_Guide.pdf
-