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ORIGINAL ARTICLE

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# Training rural women to improve access to oral health awareness programmes in remote villages in Nepal

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**Abstract:** *Objectives*: Description of experiences and results of training rural women in Nepal to recognize basic oral health problems and to perform basic oral health promotion activities. *Methods*: Rural women from different districts of Nepal were trained in a 1-day course in oral health promotion as part of a 4-month vocational skills programme targeted at them. Their knowledge about preventive oral care, their recognition of basic oral health problems and their ability to perform basic oral health education were assessed qualitatively and quantitatively before and after the course. *Results*: From 2006 to 2009, 141 women from 30 mostly rural districts were trained. Following the educational intervention, an overall trend towards improvement of their oral health awareness and their knowledge was documented. They proved to be competent in oral health promotion activities, in demonstrating oral hygiene techniques and in recognizing basic oral health problems. They were able to organize oral health awareness programmes in their villages and acted as advocates for the benefits of fluoridated toothpaste. After 3 years, they educated 2100 other community members, with at least 4000 children participating in their oral health awareness programmes. *Conclusion*: A community-oriented educational intervention programme for rural women in basic oral health promotion activities could be a successful culturally sensitive means to support access to oral health awareness programmes for Nepalese people in remote areas.

**Key words:** campaigns; caries; collaborative approach; culturally sensitive health programmes; dental hygiene; developing countries; knowledge; oral health; oral health promotion; oral hygiene; periodontal disease; primary prevention; research; rural women; status

## Introduction

The 'Buddhi Bangara Project (BBP)' (buddhi bangara means wisdom teeth) started in 2005. The project combines support, education and research. It aims to motivate the Nepalese people the awareness of oral self-care and to promote community involvement in oral health education programmes. This project also supports the development of dental hygiene education and the dental hygiene profession in Nepal (1). The project involves local communities at many levels. Its aim is to provide support without creating dependency (2, 3). The BBP is based on the importance of making a contribution towards the training of local health workers. Disadvantaged populations need access to simple oral health

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care combined with information and preventive activities. This type of care, delivered by assistants or health care workers in the community, is rarely translated into action (4, 5). The BBP is a collaborative project and targets different groups. Adaptation of the programme and embedment in the local community is important to stay successful and to offer sustainable support to the local community. Efforts have been made to involve local community members in all aspects of the project, which hopefully contributes to create an opportunity to enable more Nepali individuals and communities to achieve good oral health. Part of the programme is a descriptive longitudinal study to examine the oral health of Nepali children, support of the curriculum development of the dental hygiene education in Nepal and the establishment of an oral health promotion (OHP) training centre in Dhangadi (Western region Nepal). To reach larger parts of the population, the BBP also introduced a training programme for rural women in basic oral health promotion activities and in recognizing basic oral health problems. This article describes the experiences and results of the training of these rural women.

## Background

Nepalese society is male dominated. The mobility of male workers is high due to social and cultural factors. Women therefore have an enlarged responsibility for the family, because many families are separated from their working-age male members. Patriarchy in Nepalese society manifests itself also in legal structures (i.e. shift of a girl to a final household in marriage and tying women's property rights with marriage). Women have limited access to resources like employment, health facilities, education and knowledge, making women more dependent on men for access to these resources (6). Rural women tend to suffer more than rural men. Their poverty and low social status are a major contributor to chronic poverty. There is substantial evidence showing that focusing on the needs and empowerment of women is one of the keys to human development (7). Empowerment can be described as a process in which an individual is taking over control over his/her own life on the basis of equality with others. Women's empowerment is the process (and its outcomes) in which women – individually and collectively – become active, knowledgeable and goal-oriented actors who take and/or support initiatives to overcome gender inequalities. Hence, women's empowerment refers to a strategy to achieve gender equality as well as to the inherent capacity building processes (8). Programmes for women in Nepal are usually primarily directed to fulfilling women's basic needs rather than their empowerment. The BBP specifically choose to add the oral health promotion training to an existing 6-month vocational training programme for rural women in Baluwatar, Kathmandu. This vocational training aims to improve the harsh (living) circumstances of rural women. Within the programme, rural women are trained in community leadership, emergency first aid, group animation, vocational skills, and how to budget and save money. They learn to recognize their rights and gain confidence in speaking out for themselves (9). It is important for a successful health care programme to provide a culturally appropriate way to include women, to incorporate diverse local perspectives and to promote broad-based participation, as well as to cooperate with local organizations and to involve members of the community (2, 10). The oral health training is embedded in the existing vocational training because it was considered that performing basic oral health promotional duties required specific competencies that these women acquired during their 6-month training, among them are higher self-esteem, as well as a changed attitude and confidence to educate fellow villagers. Being part of the vocational course meant the project would not only meet local needs and interests but is also sensitive to social and cultural contexts in which it is located.

## Content of training

At present, there are no structural oral health promotion programmes in Nepal, while existing promotional campaigns are usually inappropriately designed to reach the poor living in remote areas. The objective of this 1-day training was to provide rural women with sufficient knowledge and skills to recognize basic oral health problems and to perform basic oral health promotion activities. The training of rural women is part of a 5-year collaborative project from the Buddhi Bangara Foundation Netherlands (BBFN). The BBFN cooperates with the Navjoti centre and Kantipur School of Dentistry (KSD) and (until 2009) InHolland University of Applied Sciences (INH). A dental hygienist teaches the rural women, together with dental hygiene students from KSD and INH. Dental hygiene instructors and students from KSD are actively involved in providing the training, which encourages their active involvement in the planning, implementation and evaluation of the programme. Sustainability of the programme is guaranteed. Kantipur School of Dentistry will continue conducting the programme after the BBP is finished.

The oral health promotion training consists of a 4-h theoretical training in small groups (one tutor and six women) and 4 h of practical training. Subjects taught are plaque, development and factors influencing caries, gingivitis, periodontitis, halitosis and oral hygiene techniques. Special emphasis is put on the use and effects of fluoride toothpaste. The systemic link between periodontal disease and general health is explained and specific attention is paid to oral cancer, as data reveal that oral cancer is the most common form of cancer in men in Nepal (11).

The course is very practical and aims to teach the rural women the basic skills that is needed to provide information about the development of oral health problems, prevention of oral diseases (advocates of fluoride use) and to recognize the presence of plaque, inflamed gums and caries. Part of the training of the women is a thorough oral examination, followed by the appropriate dental hygiene treatment by a dental hygienist.

After completion of the course, the participants received a certificate of attendance and, since 2007, an 'ID card'.

The basic question to be examined through this research was whether or not this training of rural women could contribute to improving access to oral health awareness programmes for people in rural areas.

## Methods

Data for this study were collected from a questionnaire, participant observation and open interviews. There were three stages to the data collection. The first stage conducted a baseline questionnaire, which collected information from each rural woman before her participation in the course. This questionnaire (in Nepali) was used to assess their (basic) baseline awareness of oral health, of oral hygiene behaviour and their perception of oral health. If a woman was illiterate, the questions were read by a Nepali dental hygiene or dental student. The basic knowledge was assessed through eight statements with three answer options (agree, don't agree, don't know). The statements were related to prevention of gum disease, caries, influence of smoking on oral health, benefits of fluoride and dietary intake (sweets and soft drinks). The second stage of data collection, immediately post-educational intervention, consisted of the same questionnaire to reassess their basic knowledge, in order to determine whether or not the training was successful. Data analysis and comparison of data were carried out using SPSS (SPSS Inc., Chicago, IL, USA), version PASW Statistics 18 (Chi-square and Fisher's Exact Test) and Excel software.

The oral health promotion activities and performance were assessed by participant observation (at stage 2 and 3 of the data collection). The women performed a basic intraoral examination (on a course participant) and were asked to identify oral health problems (caries, gingivitis, plaque and calculus) and to demonstrate a brushing method (Bass). They were asked to present an oral health promotion activity, with the use of posters (provided by the BBFN). The features of the assessment were eye contact, tone of voice, posture, use of material and content of presentation. The content was translated by an interpreter (Nepali origin) with a dental background. In cooperation with Nepali dental hygienists, educators and dentists, their proficiency level and the content of presentation were determined.

For the third stage of data collection (1-year post-educational intervention), the questionnaire was given to the women in order to assess quantitatively whether the women had retained their knowledge. In addition, group interviews were held to assess qualitatively how they had experienced their effectiveness in implementing oral health initiatives. These interviews were used to examine the experiences of the women so far and to examine if the programme needed to be adapted. During the 1-year post-educational interviews, not all women who had attended the course were present, as some of them were from remote areas and could not travel to Kathmandu. This was a limitation in this study. However, we were able to interview four groups of women (who participated in 2006 and 2008) using an open interview approach (until saturation). During these follow-up sessions (in 2007 and 2009), 59 women were present. Non-computerized analysis was used to analyse the result of the interviews; responses were interpreted by looking at patterns and recurrent themes were grouped. The results of the interviews were used to adapt the programme to specific recommendations, needs and expectations of the rural women. Accommodating any of their concerns and providing them with a sense of involvement in the ongoing development of the training and the programme.

## Participants and study area

The women who were trained for this project from 2006 to 2009 (four cohorts), came from 30 mostly rural districts in Nepal (see Fig. 1 and Table 1). The average life expectancy of women in Nepal is 60.75 years at birth (compared to 61.12 years for men) (12). The average age of the 141 women participating in the courses from 2006 to 2009 was 23.4 years, ranging from 16 to 33 years. In this group, 43% were unmarried.

## Results of the questionnaire and participants' observation

Results from the questionnaire showed that 57% of the participating women were not satisfied with the appearance of their teeth (Fig. 2). Appearance is important for women as illustrated by the remark of one of the women:

If you are young, you don't want to look like an old woman, with black teeth or no teeth.

Only one woman reported no experience of pain in the past 12 months, while 52% of the women reported toothache and oral discomfort in the past 12 months and 5% did not know if they have had pain (Fig. 3). The oral pain did affect the daily life of those who had experienced pain. During times they had experienced pain, it affected their ability to eat, sleep, speak, smile or laugh. Fifty per cent of the women described the condition of their own teeth as poor to very poor, while 46% of women described the condition of their gums as poor (Table 2). Most women reported to brush their teeth once or twice a day, using their own toothbrush (100%). A small group also used the datiwan or chewstick (7%) or finger (7%). Charcoal is being used by 7% of the women and salt by 18%. Interdental aids are not used frequently; however, toothpick use was reported by 21% of the women. Most women used toothpaste, and 50% reported to use toothpaste with fluoride, while 43% did not know if their toothpaste contains fluoride. Even though 50% of the women mentioned the use of toothpaste with fluoride, the basic oral health knowledge at baseline (pre-educational intervention) demonstrated that awareness about the benefits of fluoride was low. A majority of the women were aware that brushing teeth can prevent tooth decay (91%). Sixty-seven per cent of the women knew that brushing teeth can also prevent gum disease. The cariogenic characteristics of soft drinks and sweets were recognized by 60% and 54% of


*Fig. 1.* Geographical distribution of represented districts throughout Nepal.

Table 1. **Districts represented in OHP course and number of women trained per district and year**

| Number | Area/village | 2006 | 2007 | 2008 | 2009 | 2010* |
|---|---|---|---|---|---|---|
| 1 | Godavari | 2 | 40 | | | |
| 2 | Iliam | 2 | 1 | 1 | | |
| 3 | Saptare | 1 | 2 | 1 | | 2 |
| 4 | Kaski | 1 | 3 | 1 | | |
| 5 | Mahendranagar | 2 | 1 | 1 | | |
| 6 | Narayanghat | 1 | 2 | 1 | | |
| 7 | Thapa | 3 | 4 | 1 | | |
| 8 | Syangja | | | 20 | | |
| 9 | Dharan | | 3 | 1 | | |
| 10 | Surketh | | 1 | | | 3 |
| 11 | Lalitpur | 1 | | | | 1 |
| 12 | Navalparasi | 1 | | | | |
| 13 | Jhapa | 1 | 1 | 1 | 1 | 2 |
| 14 | Rawtahat | | 1 | 1 | | |
| 15 | Tanahu | | 1 | | | |
| 16 | Makwanpur | | 1 | | | |
| 17 | Kailali | | | 1 | | |
| 18 | Doti | | | 1 | | |
| 19 | Kapilvastu | | | 1 | | |
| 20 | Dipayal | | | 1 | | |
| 21 | Nuwakot | | | 1 | | |
| 22 | Arkakachi | | | 1 | | |
| 23 | Khotang | | | | 15 | |
| 24 | Sunsari | | | | 3 | 1 |
| 25 | Okaldunga | | | | 4 | |
| 26 | Achham | | | | 3 | |
| 27 | Dailekh | | | | 1 | |
| 28 | Solumkumbu | | | | 1 | |
| 29 | Kalimfone (India) | | | | 1 | |
| 30 | Salyan | | | | 1 | |
| 31 | Udayapur | | | | | 1 |
| | Total | 15 | 61 | 35 | 30 | 10 |

*Not included in research.

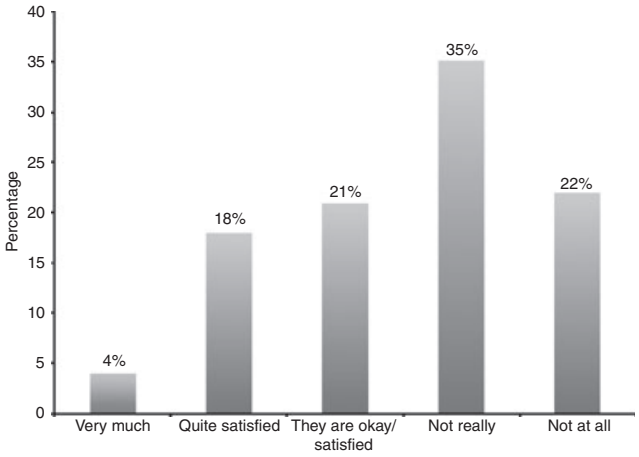


*Fig. 2.* Question: satisfaction of rural women with the appearance of their teeth ($n$ = 141) (pre-educational intervention questionnaire).

the women respectively; while the rest of the women did not consider sweets and soft drinks bad for teeth, or reported that they did not know. Forty-seven per cent were aware of the negative impact of smoking on the oral cavity (Table 3). When they experience oral discomfort, 32% of the women reported to visit a dentist, while another 25% visit the physician. The remaining women visit medicine shopkeepers, governmental health post workers, private paramedics and traditional healers (Fig. 4).

Basic oral health knowledge immediately after the course (post-educational intervention) showed an increased knowledge about the benefits of fluoride, tooth brushing, dietary intake and adverse effects of smoking (Table 3).

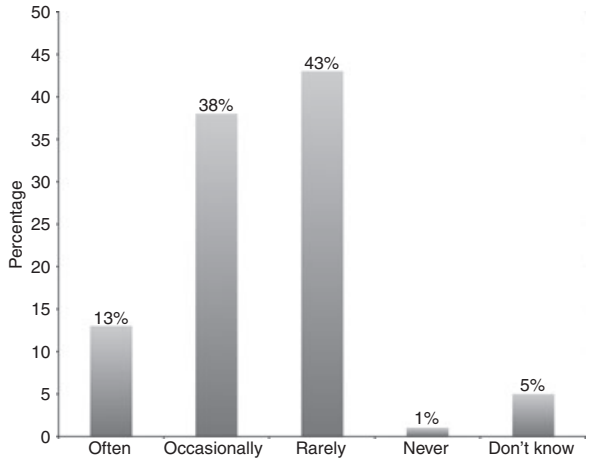


*Fig. 3.* How often during the last 12 months did you have toothache or feel discomfort on account of your teeth? ($n$ = 141) (pre-educational intervention questionnaire).

We were able to assess the knowledge at 1 year post-educational intervention of the 2006 and 2008 cohort ($n$ = 59) (Table 3). An overall trend was seen, that the women retained sufficient basic oral health knowledge. As the initial awareness about the benefits of fluoride toothpaste before the educational intervention was low, we were particularly interested in the retained knowledge regarding fluoride. In this group of women, the remaining knowledge at 1 year post-educational intervention regarding the benefits of the use of fluoride toothpaste was high (98%) and the difference between initial and post-educational knowledge was significant ($P < 0.05$, Fisher's exact test). If the women are able to actually change that type of behaviour and advocate the use of fluoride toothpaste, it might have an effect on the occurrence of caries in their villages.

The 59 women demonstrated appropriate brushing techniques and performed effective demonstrations of how to brush children's teeth. They also were able to provide basic oral health promotion, with the use of posters.

Practical assessments of the women at the end of the training demonstrated their ability to educate other people in oral health awareness as well as in performing basic oral health screenings.

## Result interviews

The 2006 cohort reported in the first year after the educational intervention interview, that after their OHP training, they started out by giving advice to their relatives. Thus having

Table 2. **Question: how would you describe the health of your teeth? Question: how would you describe the health of your gums? (pre-educational intervention questionnaire)**

| | Excellent | | Very good | | Good | | Average | | Poor | | Very poor | | Don't know | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* |
| How would you describe the health of your teeth? | – | – | – | – | 11.3 | 16 | 24.8 | 35 | 31.9 | 45 | 21.3 | 30 | 10.6 | 15 |
| How would you describe the health of your gums? | 7.1 | 10 | – | – | 7.1 | 10 | 22 | 31 | 46.1 | 65 | – | – | 17.7 | 25 |

Table 3. **Basic oral health knowledge of rural women, pre-educational, immediate post-educational intervention ($n$ = 141) and 1-year post-educational intervention ($n$ = 59)**

| | Pre-educational intervention ($n$ = 141) | | | Post-educational intervention ($n$ = 141) | | | 1-year post-educational intervention ($n$ = 59) | | |
|---|---|---|---|---|---|---|---|---|---|
| Basic oral health knowledge of rural women | Agree | Don't agree | Don't know | Agree | Don't agree | Don't know | Agree | Don't agree | Don't know |
| Brushing teeth can prevent tooth decay | 128 (91) | – | 13 (9) | 138 (98) | 3 | – | 57 (96) | 2 (4) | – |
| Brushing teeth will prevent gum disease | 95 (67) | 46 (33) | – | 141 (100) | – | – | 56 (94) | 3 (6) | – |
| Brushing once a day keeps my mouth healthy | 45 (32) | 35 (18) | 71 (50) | 13 (9) | 128 (91) | – | 3 (6) | 56 (94) | – |
| Soft drinks are bad for teeth | 85 (60) | 25 (18) | 31 (22) | 141 (100) | – | – | 55 (98) | – | 4 (2) |
| Sweet products are bad for teeth | 76 (54) | 20 (14) | 45 (32) | 141 (100) | – | – | 57 (96) | 2 (4) | – |
| Fluoride is added to some brands of toothpaste | 50 (35) | 20 (14) | 71 (50) | 120 (85) | – | 21 (15) | 55 (98) | 4 (2) | – |
| Using fluoride is a harmless way of preventing tooth decay | 40 (28) | 5 (4) | 96 (68) | 141 (100) | – | – | 55 (98) | – | 4 (2) |
| Tobacco is bad for the teeth and mouth | 66 (47) | 10 (7) | 65 (46) | 136 (96) | – | 5 (4) | 59 (100) | – | – |

Values in parentheses denotes percentage.

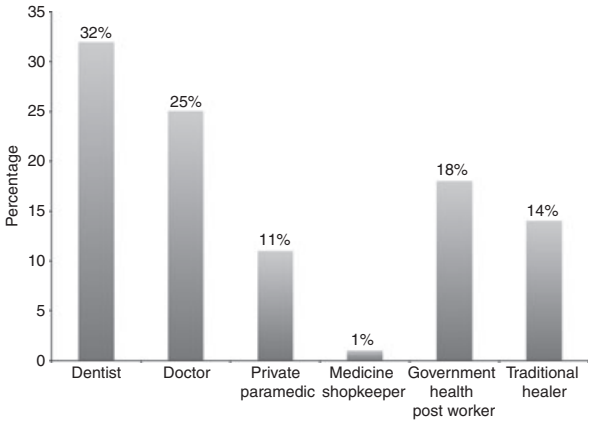


*Fig. 4.* Question: who would you visit if you have pain or discomfort? ($n$ = 141) (pre-educational intervention questionnaire).

gained confidence, they then introduced the information to other community members. However, they found that some community members, especially men, rejected the information and were sceptical about their knowledge. It is quite common for Nepali men to have a negative perception about the credibility of women. Residents in rural areas continue to associate adequate health care with a hospital building and the presence of a medical doctor (10). The response of some of the community members discouraged the women; they reported to feel insecure. This resulted in their decision to teach groups of selected women with children first, which led to a positive change. The first group of female community members trained by the rural women reported beneficial aspects of the implementation of daily oral hygiene care and the use of a proper brushing technique. The main benefit reported was a better breath. They also mentioned a decrease in oral pain and reduction in swelling of the gums in themselves and their children. Some of the women even reported a decrease in headaches. These self-reported effects seemed to be a decisive factor in convincing other community members about the positive effects of oral hygiene, for which they acted as advocates in their own villages. Stimulated by the Navjoti centre, the women continued to organize several oral health awareness programmes in their villages.

The 2006 cohort suggested an 'ID card' displaying that they were trained to perform OHP activities. They strongly believed it would improve their credibility.

The women mentioned that the price of toothpaste is 20–40 Nepali RPS (0.26–0.52 US$). Some reported that fluoride toothpaste could cost 70 Nepali RPS (0.93 US$). They reported that affordability of toothpaste is an issue. Sometimes they can barely afford to buy food. Their perception is validated by studies showing the price range from toothpastes manufactured in India and Nepal ranging from 14–45 Nepali RPS (0.18–0.60 US$), while international products range from 82–345 Nepali RPS (1.10–4.60 US$) (13). It is a fact that in poorer countries (like Nepal), the affordability of products essential to oral health indicates a necessity to make these products more affordable. The average monthly income (middle class by Nepalese standards) is between 1000 and 3000 Nepali RPS (13–40 US$), while the average monthly income for poor people in the remote areas is less than 1000 rupees (13 US$). The price of fluoride toothpaste is believed to be too high in some developing countries (13). An advocacy process by the United Mission to Nepal Oral Health Programme (UMN OHP) in 1997 to increase the availability and utilization of fluoridated toothpaste resulted in the low cost of the same. Locally produced fluoride toothpastes were less expensive then the imported fluoridated brands (14).

The women also expressed concern about the use and affordability of toothbrushes and interdental cleaning aids.

Both groups requested a follow-up course and were in need of more information. They also expressed a need for materials to support their OHP activities.

The feedback from the women after the training showed a great dedication to their efforts to improve the oral health in their villages. The women also reported a higher self-esteem, which is not particularly linked to the OHP activities, but was more likely a result of the leadership training. One of the women said:

We don't have hospitals or other health care facilities in our village, but you gave us some tools to improve our health.

A representative from Navjoti centre added:

If you teach women in this country, they will teach their skills to other women, as well as to their children and other family members. If you continue to teach women, it will change the country. And believe us; we will continue to provide this information to other women.

The women trained in 2006, each reported to have trained at least four groups of other women, with approximately 25 participants. They also contributed to existing training about microcredit and educated another 35 women. Some women conducted a special day programme in a childcare facility in the Godavari region, which reached 95 children and their caretakers. Further records of Navjoti centre, Baluwatar, Kathmandu, indicate that in each represented district, these rural women educated at least 100 other women. From 2006 to 2008, in 22 districts, the trained rural women have informed approximately 2200 additional women. Records kept by Navjoti centre show that at least 4000 children in the represented districts were reached by the oral health promotion activities of these rural women.

## Discussion

Data from the pre-educational intervention questionnaire were used to adapt the course to the women's needs, perceptions and beliefs about oral health. The information about whom they visit in case of pain is of interest for future developments of training programmes in Nepal, which points to targeting governmental health post workers for basic oral health trainings in the near future. Based on the impact of this programme, KSD took the initiative to start training women and health post workers from Village Districts Committees in

Nepal. KSD makes an attempt to promote oral health to the community by integrating oral health into general health messages (i.e. washing of hands, influence of smoking on general and oral health and infectious diseases like HIV).

The women from the first cohort, during the interviews in 2007, suggested an 'ID card' displaying that they were trained to perform OHP activities, to improve their credibility. Since 2007, the BBFN provides an 'ID card' for the trained women. The 2008 cohort did not report any problems with not being taken seriously, demonstrating that the 'ID card' was an effective and cultural appropriate solution.

Research demonstrated that some locally produced fluoridated toothpaste had deficiencies, and is of no oral health benefit (15). Recommendations to monitor the quality of fluoride toothpaste manufactured in Nepal and the development of set criteria for quality of fluoride toothpaste are not yet implemented in Nepal (16). In the course, we therefore specified our recommendation for certain fluoridated toothpastes to avoid misunderstandings. We choose to recommend locally produced toothpastes that meet the criteria of free available fluoride concentrations. These brands are more expensive. To approach the women in their expressed concerns over the affordability of fluoride toothpaste and to encourage its use, we had to demonstrate cost-effectiveness of the use of fluoride toothpaste. In the OHP training, specific attention was paid to the fact that only a pea-size amount of toothpaste is needed. The quantity of toothpaste recommended for use in toothpaste advertisements in Nepal is far too much. To improve equitable access, efforts to make fluoride and fluoride toothpaste affordable and accessible should be intensified (17). At Kantipur School of Dentistry, they have the facilities to examine the toothpaste scientifically. It would be an excellent opportunity if they started to monitor these criteria and inform the general public about their findings.

From the first interviews (2007, cohort 2006), we learned that the first training was too much focused on Western approaches. We had to adjust our information and use more culturally appropriate recommendations. We incorporated the datiwan (the twig of a certain herb, which has medicinal properties, similar to the miswak) in our training. A miswak could be at least as effective as tooth brushing for reducing plaque and gingivitis, when preceded by professional instruction in its correct application (18). We adapted our information about the necessity for a new toothbrush and to replace it on a regular basis. A study demonstrated that in 7- and 8-year-old children, the use of heavily worn 14-month-old toothbrushes, with severe bristle matting, is as effective in removing plaque as new toothbrushes (19). We also changed the introduction to interdental cleaning aids. There is evidence available suggesting that a miswak is also effective in removing plaque from the embrasures, thus enhancing interproximal health, when compared with toothbrushing only (20). We continued providing information about the use of dental floss, interdental brushes and interdental woodsticks; however, we introduced the use of datiwan and other alternatives to clean the interproximal areas. In cooperation with KSD, the BBFN have explored the options to introduce interdental woodsticks in Nepal (import). At present, there is an oral hygiene company interested in distributing the interdental woodsticks via KSD. This could mean the introduction of an affordable and culturally appropriate interdental aid in Nepal.

The BBFN acknowledged and responded to the request of the women for materials to support their activities. In 2009, the BBFN produced the Nepalese Oral Health Guide, a 12-page brochure, focusing on oral health and prevention. In addition to the brochure, flex prints were developed. Flex prints are sheets of polythene high quality digital prints for outdoor billboards and banners. The prints can be used to give oral health promotion to different groups. The set contains six posters discussing tooth decay, gum disease, oral cancer, prevention, nutrition and children's teeth. Each represented district will be provided with the brochures and the flex prints. The women can use the brochures in combination with the set of oral hygiene flex prints. The Nepal Oral Health Guide will be made available on the website of KSD (second half of 2010), as well as the guidelines and tips for oral health awareness programmes for (school-) children in Nepal. In 2010, all the participating districts will receive brushing models for demonstration purposes.

The development of an Oral Health Promotion Training Centre in Dhangadi (OHPTC), which was one of the aims of the BBFN, could make a difference in providing more districts (specifically in the more remote areas of West Nepal) with training, oral health promotion programmes, materials and support. It would meet the request of the rural women for ongoing support and additional material and it would contribute to train more women from other regions (without a need to travel to Kathmandu). The centre makes it possible to provide the women in the adjacent districts with OHP materials on a regular basis and will enable ongoing training of rural women, health post workers and teachers and the introduction of school-based OHP outside Kathmandu Valley. At least one Nepalese dental hygienist will work in the centre as a trainer. The dental hygienist (trained by KSD) will organize and implement the training of rural women and health post workers in West Nepal. Under the supervision of KSD and with funding from BBFN and SIMAVI (a Dutch non-governmental organization), the centre will be established in 2010. The contribution of the BBFN and SIMAVI (10.500€) will be made available for the project through Simavi according to a remittance schedule (following three yearly instalments). The available funds make it possible to run the centre for at least 3 years. Kantipur School of Dentistry will be responsible for the execution of the submitted and approved proposal and for the submission of annual reports. The establishment of this OHPTC in West Nepal and the embedment of an oral health awareness programme in the local community mark a milestone in the work of the BBFN. Volunteers will deliver emergency care and free dental camps twice a year. The Dental Hygienists Association of Nepal (DHAN), Nepal Dental Association

(NDA), Navjoti centre and KSD signed letters of intent to comply with this activity.

## Conclusion

The Buddhi Bangara Project actively involves the local community. It aims to give the responsibilities for improving oral health on the Nepali people, creating a sustainable way of providing OHP in Nepal. The OHP training for rural women described in this paper was integrated in a diverse collaborative project to improve oral health in Nepal. Credibility of the participating women needed to be secured by locally accepted solutions. In Nepal, the introduction of a simple 'ID card', stating the women were certified oral health promoters, was effective in improving their credibility with members of their community (especially males). Embedment of the OHP training in a leadership training is effective, because during such vocational programmes, the women acquire skills that are needed for effective OHP activities. Adaption of the content of the course to comply with Nepalese standards and integrate local cultural habits is necessary to improve the way the local community members can relate to the provided information. The development of material specifically focused on Nepalese people is effective in producing a realistic and culturally appropriate message. From 2006 to 2008, the OHP activities performed by the rural women reached at least 6200 women and children in the remote areas of Nepal.

This project demonstrates that rural women performing OHP activities can be successful in contributing to improve access to oral health awareness programmes of Nepali people in the remote areas.

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