

A Cervical Cancer Prevention Programme in Rural Mexico: Addressing Women and their Context

MARTHA GIVAUDAN,^{1*} SUSAN PICK,^{1,2} YPE H. POORTINGA,³
CARMEN FUERTES¹ and LAUREN GOLD^{1,4}

¹*IMIFAP (Instituto Mexicano de Investigación de Familia y Población, A.C.), México, D.F.*

²*UNAM (Universidad Nacional Autónoma de México), México, D.F.*

³*University of Tilburg, Netherlands and University of Leuven, Belgium*

⁴*Harvard University, Massachusetts, USA*

ABSTRACT

This article reports on the development and administration of a programme in seven rural villages in the Mexican state of Oaxaca to address high rates of cervical cancer. The rationale and strategy are described on which the programme is based. The development and administration of the programme (to 1513 women) is presented, aimed at enabling women to take better care of themselves. Various additional activities that were added in the course of the programme in order to facilitate contextual factors are also described, including community campaigning, programmes with men and the training of health personnel. Effectiveness was evaluated in terms of both process and impact indices, showing high rates of attendance at programme sessions by enrolled women, an increase in knowledge and a substantial increase in the number of preventive diagnostic tests. The final section reflects on both the achievements, and the scope and the limitations of the programme. Copyright © 2005 John Wiley & Sons, Ltd.

Key words: Mexico; Oaxaca; cervical cancer; pap smear; health promotion programmes; rural women

INTRODUCTION

Cervical cancer is a major public health problem in Mexico rooted in poor hygiene, prevalent high-risk behaviours, and under-use of medical services. It is the leading cause of death among women 35–64 years old (Jimenez-Perez & Thomas, 1999) and the second cause of death among women aged 15–64 years (INEGI, 2001), with a national mortality rate of 10.2 per 100 000 women (Secretaría de Salud, 1999). A necessary precursor of cervical cancer is the Human Papilloma Virus (HPV) (Muñoz, 2000), though not all women who are infected with this sexually transmitted infection also develop cervical

* Correspondence to: Martha Givaudan, Málaga Norte No. 25, Col. Insurgentes Mixcoac, Del. Benito Juárez, 03920 México, D.F. E-mail: marthag@imifap.org.mx

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cancer. HPV is more prevalent among those of lower educational level and/or socio-economic status (Lazcano-Ponce et al., 2001). Although the Mexican Health Ministry has prioritized the need for cervical cancer screening through Pap smears (Secretaría de Salud, 1999), both availability and utilization of quality services remain low, especially in rural communities (Lazcano-Ponce, Rascon-Pacheco, Lozano-Ascencio, & Velasco-Mondragón, 1996).

The present article reports on a study in Oaxaca, one of the three poorest states in Mexico, with an annual mortality rate due to cervical cancer of 12.4 per 100 000 women. The objectives were to develop and evaluate a programme for cervical cancer prevention; to generate support among community members, service providers and policy makers; and to show that a programme directed at women and their context would increase knowledge, enhance requests for Pap smears and promote preventive action.

In this article we not only report *what* we did but also provide the rationale for *why* we did things in a certain way. We begin with a brief overview of the theoretical considerations and the project strategy that guide our programmes. Thereafter we report the construction and implementation of the programme, together with some extensions that were added on the basis of preliminary results. Lastly, we discuss the results and elaborate on problems that we experienced.

APPROACH

In the course of nearly twenty years IMIFAP, the Mexican NGO that conducted the programme, has developed a two-pronged approach to programme development. The approach is informed by theory and research, and a systematic strategy is followed in design and application of programmes (Pick, Givaudan, & Poortinga, 2003; Pick, Poortinga, & Givaudan, 2003; Pick & Poortinga, in press).

Theoretical orientation

Our understanding of the current state of knowledge in health education, particularly in rural areas of Latin America, can be formulated in the following five principles (Pick et al., 2003).

First, behaviour occurs in a cultural context, encompassing all aspects of the world in which people function. This implies that programmes should address not only individual behaviour, but also relevant aspects of the ecocultural and sociocultural context (e.g. Lerner & Galambos, 1998; McLeroy, Bibeau, Steckler, & Glanz, 1988). In our view most important to consider are economic subsistence and lack of affluence (Berry, Poortinga, Segall, & Dasen, 2002). Poverty restricts the range of actions available to a person in many situations. Wealthy people have access to resources that are not available in a poor society, including reliable resources of food and fresh water, good medical care, information about human rights, etc. In low-income countries men typically are in control of financial resources and hold ownership of land and credit, while women are dependent on them (World Bank, 2001). Closely related to economic wealth is the level of education.

Context also refers to sociocultural variables, including values, norms and beliefs as well as everyday practices and customs that are (largely) shared within a society (Segall, Dasen, Berry, & Poortinga, 1999). One has to understand the rules that govern behaviour,

especially those with a normative character, in order to grasp the possible constraints on behaviour changes (Marín, 1993).

Our second principle is that programmes have to be need driven. This requires that relevant needs have to be identified as well as the scope and limitations of behaviour changes that can help to address these needs. Therefore, programmes have to be rooted in the everyday context and experiences of the target population. Needs have to be recognized as such by the client group and their social environment. The combination of real-life expertise with academic perspectives is a potentially powerful way to develop programmes that are effective (Kagiticbasi, 1996; Repucci, Woolard, & Fried, 1999).

The third principle relates to the targets of change in health programmes. In psychology the primary level of concern is the individual person. The person tends to be considered as possessing dispositions that have continuity over time and situations. These can be conceptualized as more or less static trait dimensions (e.g. McCrae & Costa, 1996) or as dispositions resulting from self-development and external influences, such as self-efficacy (Bandura, 1997) and self-esteem (Baumeister, 1993). In our approach we focus on specific target behaviours, providing programme clients with elements that enable them to change these behaviours in a way that promotes their health. Changes in trait-like dispositions are seen as resulting from rather than as antecedent to changes in actual behaviour in concrete situations. Therefore, programmes should teach clients to handle situations that, for some reason, are difficult for them. IMIFAP programmes emphasize the transmission of knowledge and social skills that allow the person to react optimally according to his or her own standards and desired outcomes. Examples of skills relevant to behaviour change in health are being able to make one's own decisions, the use of direct and open communication and the expression of one's feelings. These are among the 'life skills' that the World Health Organization (WHO) has identified as a priority (WHO, 1999).

Our fourth principle, related to the first, is that throughout the development of a programme attention should be paid to advocacy and dissemination. Advocacy is directed at policy makers and community leaders, whose permission and support are needed for administering a programme. It also aims to create an atmosphere in the community that encourages participation in the programme. Hence, advocacy feeds into context change. Advocacy is also needed for procuring financial support. Dissemination refers to spreading public knowledge about programmes and their results. It takes place through campaigns in the (local) media, and distribution of pamphlets and posters. Later in the development of a programme that has been shown to be effective and efficient, advocacy and dissemination are needed to gain support for further distribution and implementation, and ultimately for the 'upscaling' of the programme so that it becomes available for large numbers of participants.

Advocacy implies an ambiguity in so far as it precedes actual programme delivery. Community leaders have to give permission for a needs survey before a programme is even constructed and financial sponsors have to be convinced of its potential before it can be implemented to show its merits. This ambiguity decreases in so far as a programme is rooted in established traditions reported in the literature and in previous experience with similar programmes and target groups.

The fifth and final principle is that all activities in the construction and implementation of a programme have to be evaluated from the initial identification of needs until large-scale implementation. A programme has to be shown explicitly to be effective in bringing about the desired changes in individual behaviour, and to achieve this in an efficient, cost-effective manner. Evaluation requires accountability in all phases as well as

objective data on key target outcomes. Such data can help to identify strong and weak points and ultimate programme effectiveness (Kelly, Murphy, Sikkema, & Kalichman, 1993; Shadish, Cook, & Leviton, 1991; Wholey, Hatry, & Newcomer, 1994).

Strategy

These five principles guide the various steps in programme development that are distinguished in Table 1. The stages in the construction and implementation of a programme are listed. Two columns refer to the specific aims of each stage and examples of characteristic activities. To the right of the bold line there are two further columns that refer to advocacy and evaluation. We follow this table, discussing for each stage first the activities conducted to realize the stage objectives, thereafter advocacy and dissemination and finally evaluation.

In the project reported here we postulated one major criterion of programme success, namely a substantial increase in the number of Pap smears. There were several corollaries, such as indicators of women's empowerment to seek advice of health services, increased knowledge about cervical cancer, communal support for cancer prevention initiatives and improvement of cervical cancer screening services by health professionals. We will also report incidental indicators of success that can be plausibly linked to the programme, especially in the case of programme extensions that were not part of the project as originally designed.

PROBLEM DEFINITION AND IDENTIFICATION OF NEEDS

Target population

The high rate of cervical cancer in the state of Oaxaca combined with previous experience in other programmes (Leenen et al., 2004; Pick, Givaudan, & Brown, 2000; Pick & Givaudan, 1996; Pick de Weiss et al., 1988; Venguer, Pick, & Fishbein, 2004) were the basis for preparing a project proposal with the objectives mentioned in the introduction. After funding had been obtained, the region of Valles Centrales of Oaxaca was selected in cooperation with the State Ministry of Health, which considered this to be one of the most underserved areas. There is no public transport, roads are unpaved, most villagers have to walk for hours to reach a highway with buses and even though all communities have electricity many homes lack this facility.

Seven villages with about 7900 inhabitants (including migrant workers living temporarily elsewhere) were to take part in the programme. The target group consisted of all women in these villages, between 15 and 64 years of age.

Needs identification

The exploratory research for the identification of needs has to be understood against the background of available knowledge about poverty and social inequality in rural Mexico. This has been documented in a large number of writings in cultural anthropology (Pagan & Sanchez, 2000; Rothstein, 1999), sociology and social work (Beutelspacher, Martelo, & Garcia, 2003; Watkins, Gabali, Winkleby, Gaona, & LeBaron, 2002), and psychology (Henry, 2004) including previous work at IMIFAP (see earlier references). For the present project we supplemented this information with focus groups and interviews.

Six focus groups were held with women in the participating villages. Knowledge about cervical cancer, commonly referred to as 'cancer of the woman', was limited; nobody

Table 1. An overview of the programme strategy (Pick & Poortinga, 2004)

Project stage	Goals	Method and activities	Advocacy and dissemination	Evaluation
Problem definition and identification of needs	<ul style="list-style-type: none"> • Definition of domain • Exploring need and scope for programme (individual level and community) • Establishing target behaviours for change (individual) 	<p><i>Context level</i></p> <ul style="list-style-type: none"> • Demographic information, surveys, ethnographic information etc. <p><i>Individual level</i></p> <ul style="list-style-type: none"> • Focus groups, interviews, questionnaires, etc. 	<ul style="list-style-type: none"> • Drawing attention of stakeholders to the problem • Seeking collaboration to carry out exploratory research • Seeking funding 	<ul style="list-style-type: none"> • Are there clear definitions of the problem domain and client group? • What is the quality of the background data? • Psychometric quality of exploratory research (focus groups, etc.)
Programme construction	<ul style="list-style-type: none"> • Construction of preliminary version of the programme • Planning for advocacy and dissemination (locally) 	<p><i>Context level</i></p> <ul style="list-style-type: none"> • Advocacy meetings • Construction of media messages <p><i>Individual level</i></p> <ul style="list-style-type: none"> • Selecting programme topics and contents • Selecting didactic methods 	<ul style="list-style-type: none"> • Facilitating contextual conditions for behaviour change (local) • Publicity campaigns (local) 	<ul style="list-style-type: none"> • Is there good content validity (in terms of defined needs and domain description)? • Pretesting of public advocacy activities
Programme implementation (local)	<ul style="list-style-type: none"> • Establishing effectiveness of programme content and method of delivery 	<p><i>Context level</i></p> <ul style="list-style-type: none"> • Try outs, revisions <p><i>Individual level</i></p> <ul style="list-style-type: none"> • Try outs, revisions 	<ul style="list-style-type: none"> • Facilitating programme distribution and administration among target population 	<ul style="list-style-type: none"> • Are clients open to the programme? • Is there good attendance? • Are there observable effects (e.g. assessment with control group)?
Upscaling (regional/national)	<ul style="list-style-type: none"> • Enlarging the reach of the programme in number of individuals • Expanding context changes across regions 	<p><i>Individual level</i></p> <ul style="list-style-type: none"> • Training for trainers 	<ul style="list-style-type: none"> • Conducting publicity campaigns • Dealing with sponsors and administrative authorities (national) • Mass media campaigns • Facilitating contextual conditions for behaviour change (national) 	<ul style="list-style-type: none"> • Is the programme efficient and effective after upscaling? • Have the important stakeholder groups all been addressed? • Were advocacy and dissemination sufficient and successful? • Is there maintenance of changes?

could explain what cancer is, though most had heard about a test that allows a doctor to diagnose cancer; they also knew that such a test was free of charge. They saw lack of health care and poor hygiene as causes, but could hardly give more specific information. Having cancer is seen as reflecting on the woman's lack of hygiene, or on infidelity in the couple. Misconceptions were expressed, for example that the test was unnecessary for women without a sexual partner, that a blow to the body could cause it and, most important, that absence of symptoms means good health. The only symptom the women related to the disease is pain.

In general, embarrassment of having the test taken and delayed reporting of results were mentioned as the two most salient obstacles to test taking. Women mentioned their husbands or partners as an obstacle only on two occasions. However, beyond 'permission' to go to the health clinic, women receive little support from their partners when it comes to health behaviour. They were generally in favour of health education for men with a focus on preventive measures so that they do not harm the women's health.

All women agreed that they would prefer a woman to take the test, preferably an outsider. Several women expressed that they would feel shame in meeting afterwards a person who had taken a sample from their vagina; there was also a concern that such a person might not keep the results of the test confidential.

Additional information was obtained from a focus group with seven health promoters,¹ one from each village. These health workers had basic knowledge of contributory factors to cervical cancer, such as multiple sexual partners (often related to migration) and the causal role of a virus obtained through sexual relations. They affirmed most of what the women had mentioned, including the importance of shame, mistrust about confidentiality of the examination, and the long delay between test and results as impediments to having a Pap smear taken. More than the women they emphasized that husbands or partners may resent the women visiting a clinic.

Trust increasing measures and prompt delivery of results were the options most frequently mentioned to motivate women to have Pap tests. Next came the use of educational materials, including videos, and lectures. A third point was the recommendation that materials needed to take the Pap smear should always be available (this apparently is not the case, see below).

Three further focus groups were held with men ($n = 26$) from 20 to 56 years of age, recruited by municipal presidents in three of the villages. Again basic information indicating lack of knowledge and shame was confirmed. The men made comments indicating that they are in control of their women's health behaviour, e.g. talking about taking their wives to a clinic, when they (the men) felt this to be necessary. Only one participant mentioned the possibility that the jealousy of men could be a factor in women not taking the test, and most rejected the suggestion that a woman might take the test without her husband knowing this. A telling observation is that the men would talk about women in the third person; none of them referred to himself or his partner directly.

Ten structured interviews were held with doctors, nurses and auxiliary health workers in the seven communities. They mentioned the low number of tests and migrant workers who return from Northern Mexico and the USA as major factors in the high incidence of cervical cancer. Vaginal pain, discharges and burning or itching are the most common

¹Community health promoters are mostly women who work for the public health sector for low wages and often even as volunteers. They receive an initial training to carry out their work and participate from time to time in additional training activities.

symptoms for seeking medical advice, but often women go to local healers before seeing a 'modern' health professional. The interviewees emphasized the men as a major obstacle; in some cases they do not even allow their wife to be examined by another woman. They also frequently mentioned the shame the women feel of being examined, especially by a person whom one might meet again later, and the fact that women do not see the need for a check-up, as they do not experience symptoms or consider themselves to be old anyway, and feel healthy.

Together the various focus groups and interviews confirmed that lack of knowledge and lack of skills often keep women from seeking Pap smears. Moreover, a number of specific factors in the social and cultural context were mentioned (e.g. control by the men, and long delays in the reporting of results) that pointed to issues to be addressed in a programme.

Advocacy and dissemination

From the beginning contact was made with state health authorities of Oaxaca to gain support for the project. After funding had been approved, the first activity was a presentation of the project for about 80 key authorities, including the state minister of health, a representative of the European Union, and the municipal presidents and wives from the target villages, who were introduced to each other, also with a view to strengthen the written and verbal commitments each had made.

The cooperation with the health authorities specifically entailed the promise of treatment for women who would test positive on the Pap smear test and partial coverage of transportation expenses for the programme staff. Furthermore, it was arranged that past records of the numbers of Pap smears would be made available for the villages in the project. This enabled the computation of the rate of Pap smears in the 2 years prior to programme implementation; taken by women 15–49 years this figure was 36%.

Apart from meetings with state health authorities, individual and group meetings were also held with municipality presidents and staff of the health centres in various villages. Although resistance to change and suspicion about strangers meddling in one's affairs are notorious in marginalized rural areas, we gained initial cooperation in all seven villages.

Evaluation

The initial stage of the project was based on extensive background knowledge supplemented with specific information on the target group. This information was gathered in numerous focus groups and interviews. The target group was well defined and selected in consultation with local authorities. Since the project aimed at a very concrete goal (increase in Pap smears), its major objective could be defined precisely. In line with the strategy for programmes outlined earlier on, we paid attention to context as well as to the needs of the target group, i.e. women at risk for cervical cancer. Another positive point is the extensive advocacy already early in the project with health authorities and other stakeholders, including municipal presidents.

PROGRAMME CONSTRUCTION

On the basis of extensive previous experience with other programmes referred to in an earlier section, it was decided to use participatory techniques in the delivery of the

programme, including role playing and small group discussions on advantages and disadvantages of various courses of action in situations related to sexuality and cervical cancer.

Another point where previous experience guided the approach was the use of a closely supervised 'cascade' in the programme delivery. For this, programme developers train a first echelon of programme facilitators, who in turn train a second echelon of facilitators, etc. The final echelon are the target clients. In rural Mexico the pre-final echelon are generally community health promoters (e.g. Venguer et al., 2004), school teachers (e.g. Givaudan, 2000) or physicians (Venguer, Heinz, Pick, & Givaudan, 2002). In the present project, community health promoters served in this capacity.

The focus groups and interviews had made clear that an ideal programme should be directed not only at the women, but also at health delivery staff and the men. These additional stakeholders could facilitate the behaviour change that was the primary objective of the programme. An extension with full training for these additional groups was beyond the proposal for which funding had been obtained. Nevertheless, we decided that we would provide some training to these groups to increase programme effectiveness as well as to arrive at a better programme for future use.

The actual contents of the programme were informed by the focus groups. The training for all groups of participants was to contain clear information about the causes of cervical cancer, risk factors, prevention, popular misconceptions and preventive measures. Health rights and responsibilities and gender roles were also included. For the women decision making on matters concerning their own health (empowerment), skills in the communication with their partners and expression of feelings were included. This resulted in eight modules, which were to be presented in eight sessions of 2 hours each. An example of the contents of part of one module is shown in Appendix 1.

The health promoters were given more or less the same programme as the women: (i) to serve their own health interests, (ii) to prepare them for their task as facilitators and (iii) to enable them to serve as a role model for other women in their communities. In addition, they were given training in the administration of the programme. Their training lasted 26 hours, distributed over 3 days.

For the men a shorter programme (three sessions of 2 hours) was developed. In addition to the general topics this programme aimed at sensitizing them to health problems, to improvement of the communication with their partner, and to expression of feelings.

A sensitization session was developed for health service workers (doctors, nurses). It emphasized their responsibility to create an atmosphere of trust, making the women feel secure and lowering their embarrassment about visiting a doctor and exposing their genitals. In addition, the importance was stressed on an adequate supply of the utensils needed to take the Pap smear and a reduction of the time delay between the taking of the test and reporting of the results.

The course materials were plasticized in order to make them more durable. Illustrations with bright colours were made in a style that previously had been found to suit rural taste (Venguer et al., 2004). Six IMIFAP facilitators with wide training experience in rural areas screened a first version of the contents and exercises. The next version was presented to health promoters, social workers and women in rural Oaxaca. A major suggestion was that women should be invited personally to attend the workshops (by the local health promoters) as a way to overcome possible discouragement by their husbands. Other suggestions included a larger size flip chart than originally planned, ideas for additional exercises and changes in the timing of some of the existing exercises. Local health authorities asked that the programme be similar to an earlier programme

that was seen as very successful (Venguer et al., 2004), so that the two in future could be integrated.

Advocacy and dissemination

A presentation of the educational materials and the advances was made to the National Minister and Undersecretary of Health. Similar presentations were given in the target villages. Reports of advances were submitted also to the funding agencies. Regional and local mass media (radio, newspapers) were included in the dissemination of information about the programme. This resulted in newspaper articles and radio news items.

Evaluation

The quality of a programme is difficult to evaluate, except through the results of the actual results. To achieve content validity a listing of relevant items was prepared for each type of target group based on the focus groups and interviews. The final programme was checked against these lists. The programme content and logistics of administration were tested in trial runs.

Advocacy and dissemination went rather well; the planned activities were widely approved by the stakeholders. As word spread around, other villages approached the programme staff in order to be considered for future administration of the programme.

PROGRAMME IMPLEMENTATION

The programmes were implemented as designed with one exception, namely an additional feedback session of a few hours for the health promoters in each community every two modules; materials for the training of the local women were handed out to them.

Some difficulties were experienced. In one of the communities three of the four health workers migrated in search of better-paid work and the programme implementation was delayed in some villages due to unusually heavy rains. In one of the villages the municipal president started to raise objections against the programme, probably in reaction to some negative lobbying. The programme staff arranged for higher authorities to provide support. The greatest difficulty turned out to be the time demands that the workshop sessions required from the women, especially those who lived further away from the locality (usually the local health or community centre) where these sessions were held.

The community health promoters worked hard to persuade the women to take part in the workshops. In the end 1513 women attended. Not considering migration, this amounted to just over half (52%) of the women in the reproductive age who were present at the time. The number of men who attended sessions was 485. Given the limited funds and time available, fewer efforts were made to promote their participation.

Advocacy and dissemination

An extensive effort was made to raise public awareness about cervical cancer and the Pap smear test, and to facilitate a supportive context in each of the villages. Fences were painted with pictures and slogans, banners hung and messages made through loudspeakers. In addition, written and oral presentations to authorities, including clinic directors and municipal presidents and their spouses, continued during the entire period of programme implementation. The programme staff delivered all slides containing Pap smears to the government

clinics. In addition, it can be mentioned that the programme was presented in a local congress for the promotion of indigenous and intercultural education. The fact that IMIFAP was the only national institution asked to participate was greatly appreciated by the local community health workers; it strengthened their sense of programme ownership.

Evaluation

Process evaluation. After their training the health promoters completed a questionnaire on knowledge and attitudes. All received a passing score or better. Moreover, one session of each health promoter was attended (unexpectedly) by a member of the programme staff. Although comments were made to individual health workers on how to improve their presentation and the group interaction, the supervisors were impressed with the overall quality of implementation.

No formal evaluations had been planned for the programme extensions to health staff and men. An indicator of programme success for men is that 60 men on average attended each session, instead of the intended 20–25. Moreover, there was far more demand than could be accommodated in the available staff time. In a winding-up session after the workshops had been completed the community health promoters commented that the programme was especially valuable because it included the needs and ways of thinking of the communities, which was useful for them because it helped them communicate better and more directly with the target women, regarding not only cervical cancer and its prevention but also their work in general. The durability of the materials was seen as an asset that enabled future dissemination and replication of the programme. Most stakeholders appreciated that, for the first time, there was a programme including the men.

Once women attended the workshops, they tended to do so regularly; 87% of all participants were present for at least seven of the eight sessions. The overall presence in the workshops of women of the target population amounts to 40% of the theoretical maximum (all women attending all sessions). In our experience this is a high percentage of coverage. Moreover, there were numerous ad hoc indicators that in our opinion reflect support for and even enthusiasm about the programme among the women. For example, frequently a participant would come spontaneously to the programme staff at the occasion of session supervisions to mention that the programme was important to her and that women should learn about their right to health. Women would also mention that they had gone for a Pap smear, or even that they had talked to their husbands about this.

Impact evaluation. During the period of programme implementation, which lasted about 6 months, 834 Pap tests were taken by programme staff in the seven villages, which is considerably higher than in the previous 24 months when 1417 such tests were taken by the public health services in the district. Sixty-one per cent of the tested women ($n = 486$) had previously undergone at least one Pap smear test. Of those who had never taken the test before 14.7% ($n = 110$) reported shame as the reason for not having done so and 12% ($n = 90$) unfamiliarity with the test.²

² Nine women were diagnosed with severe dysplasia (cancer in situ) and a further seven with initial or moderate dysplasia. In addition, 96 women were found to carry the Human Papilloma Virus (HPV) that precedes cervical cancer. For all these women appointments were made at the Civil Hospital in Oaxaca or other nearby health facilities. The Ministry of Health informed programme staff that, contrary to previous agreements, it could not pay for all treatments due to budgetary constraints. In response IMIFAP arranged for donations and services from other institutions, especially for cases involving radiotherapy and hysterectomies.

Table 2. Results of pre-test and post-test in the areas of knowledge, attitudes and behaviour

	Pre-test, % (<i>n</i> = 279)	Post-test (without workshop), % (<i>n</i> = 124)	Post-test (with workshop), % (<i>n</i> = 82)
Knowledge about cervical cancer (general information, consequences, risk factors, prevention and Pap test)	62.9a	61.5a	71.1b
Attitude (towards health, cancer, partner, perception of partner's attitude, communication and trust in health staff)	71.5a	68.5a	74.1b
Behaviour (Pap smear test in the previous 9 months)	20.6a	46.0b	56.2c

Note: unequal subscripts in a row after % indicate $p < 0.05$.

A study with a pre-treatment and a post-treatment questionnaire was conducted using an instrument developed for this purpose. There were 126, mainly closed, items that asked about knowledge, behaviour, attitudes related to cancer, Pap smear and reproductive health in general and about relationship with partner. Due to the high levels of illiteracy in the communities (27% had never attended school, 37.5% could not read Spanish and 40% could not write it), the instrument was administered as an interview by university students hired and trained for this purpose. They approached women in public places and asked for their cooperation. Before the start of the programme the questionnaire was administered to 279 women. After the completion of the workshops 206 women were interviewed, of whom 82 had also been included in the pre-treatment sample.

The gist of the results for the entire set of 485 protocols is reported in Table 2. The entries are given in percentages of responses that were positive or correct. The main finding is that both women who attended the workshops and women who did not attend were more likely to take the Pap smear as a consequence of the programme. We see this as evidence in favour of the extensive advocacy efforts that were part of the project. This increase is probably due to the activities of the health promoters, banners, painted walls, radio programmes, etc., that drew attention to the Pap smear examination. At the same time, there was a (significantly) larger increase in number of Pap tests among women who attended the workshops than among those who did not, showing that the individual approach did have an effect on the decision to take the test. The impact of the workshops is further supported by an increase in knowledge and by a slightly more positive attitude towards and the responsibility for one's own health.

UPSCALING

Despite positive findings we consider it premature to recommend adoption of the programme state or nation wide. There are still some issues on which more information is needed. A major question concerns the efficiency of the programme. The amount of effort that went into the various activities was considerable, both from the side of the programme staff and from the side of the communities. In the next phase of development it should be tried out whether and to what extent a smaller number of training sessions for the women will make the programme less effective. Other questions refer to advocacy and

dissemination. For example, it is not clear whether the investment of staff time and effort was optimally distributed across the important stakeholder groups (women, men, public and private institutions, administrative authorities). However, as we shall argue in the discussion, the findings in our opinion so far are positive. They definitely justify a further trial with a view to reduce remaining uncertainties about optimal programme design.³

DISCUSSION AND CONCLUSIONS

The ultimate questions in a project of the kind described in this article are: is the programme effective, efficient and suitable for upscaling?

The first question can be answered positively. The various indicators together strongly suggest that the programme had an impact on the desired behaviour. The most direct and objective result is the increase in the number of Pap smears. Also the questionnaire study provided plausible evidence, confirming the impact of the programme on actual behaviour as well as on knowledge, and on some attitudes relevant to the target behaviour.

Probably the most salient finding was the impact of the programme on the behaviour of women who did not attend the workshop. As there were no signs of a similar increase in villages without programme, we can only ascribe these effects to the programme activities. The importance of strengthening the social context in order to achieve change is clearly shown by these results. Unfortunately, we cannot estimate the relative contribution of various efforts, such as an improved atmosphere in the clinics and a friendlier communication with clients by the health staff, or the relentless efforts of many health workers who visited individual women, or the banners and wall paintings drawing attention to the Pap smear test, or the more open communication by women having attended workshop sessions about a matter that apparently is associated with shame and embarrassment.

Another finding was the significant impact on actual behaviour as a consequence of participation in the workshops. This finding was supported by an increase in knowledge about cervical cancer and related issues, as well as a (somewhat) more open attitude to partner. In our opinion the success of the programme is further supported by various process indicators, such as a very high rate of attendance once women came to the workshop, the interest of the men in the programme, and the support and enthusiasm of most community health promoters. The set of programme activities as a whole unmistakably met a need of the communities.

The question of whether the programme was efficient is difficult to answer in the absence of any comparison with other programmes. One suggestion, based on Table 2, might be that a future programme should concentrate on facilitating the context for women to ask for a Pap smear test, and do away with the more time consuming and hence more costly, workshops for women and men. However, such a recommendation would be premature. It seems quite likely that the increase in knowledge and the more independent attitude towards the partner are factors that will contribute towards the maintenance of the desired behaviour (Prochaska & DiClemente, 1982). If this is the case, the women who attended the workshop may continue to profit. Also, these women are likely to be conducive to maintaining a general sense in the community to the effect that a Pap smear test is good for one's health.

³A following stage in which the programme is administered and evaluated in another 11 villages of Oaxaca has been approved by the financial sponsors.

With respect to the third question, the body of evidence will have to be extended before upscaling to state level or national level can be recommended. However, the results reported justify the collection of further and more definite information. Such extensions are currently being planned.

The present project has some wider implications for programmes in the area of health behaviour. First and foremost, the results support the soundness of a principle that we have been arguing for some time, namely that programmes should be directed at promoting changes in concrete behaviours, rather than in traits or dimensions that are more general and abstract (Pick et al., 2003; Pick et al., 2003). The changes in the target behaviour, i.e. women asking for the Pap smear test, were clear. This also holds for the knowledge increase as a result of workshop attendance. Changes in broader traits, such as attitudes, could be demonstrated, but were more limited. This agrees with our views, outlined in the introduction that changes in underlying general traits follow changes in actual behaviour, rather than preceding them.

Another principle is perhaps even more strongly supported by the data, namely that an ideal programme operates at two levels, individual and community. Both a context that facilitates target behaviour and individual resources that are strengthened through the provision of relevant knowledge and training of skills helps enable individual behaviour change.

The results also support the importance of advocacy and dissemination. These activities played a central role by providing the basis for sensitizing the communities and for facilitating political support both vertically from federal to state and state to municipal levels, and horizontally across municipalities. The extensive interactions with various stakeholders proved particularly useful when less than full cooperation was obtained from some health workers.

The consistent emphasis on evaluation helped us to plan the various stages of the project and to think about the evidence needed to demonstrate programme effectiveness. It ultimately provided us with the evidence that we needed to prepare this article.

We argued in the introduction that programmes should be need driven. The need for better health care was rooted in the high incidence of cervical cancer and the low percentage of women that took the Pap smear test. In the first stage of the project the rather abstract statistics gradually gained bones and flesh through the focus groups and interviews. The reactions of the women, both in the concrete manifestation of number of Pap smears and in the numerous enthusiastic reactions to the workshops, are evidence of the effectiveness of this programme. It is hard to imagine that such an outcome would have been reached if the programme had not responded to a need that was felt to be real by the women in the seven communities.

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APPENDIX

An example of programme content

A summary of each module was presented in a programme book for the health promoters all of whom could read. One of the larger modules, on Sexually Transmitted Infections (STIs), consisted of six parts of which one included the following:

Other methods of preventing STIs are:

- Have the Papanicolaou at least one time per year
- Practice safe sex
- Communicate openly with your partner about your and his sexual practices
- Have appropriate hygiene habits
- Periodically examine your own genitals and those of your partner
- Wash genitals after intercourse
- Urinate after intercourse
- Use underwear made of cotton

(This part is knowledge oriented; other modules, particularly those on communication and decision making, relied more on activities by the women in the form of role playing, etc.)