INSTITUTIONALIZING A
FERTILITY MANAGEMENT COURSE
IN THE NURSING SCHOOLS OF COLOMBIA
1988-1992

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ABBREVIATIONS

ACEP  Columbia Association for the Study of Population
AMFEM Mexican Association of Medical Schools
FM    Fertility Management
FP    Family Planning
HS    Human Sexuality
EXECUTIVE SUMMARY

This evaluation study had two main objectives. The first was to identify possible indicators of "institutionalization" as the term relates to family planning training in the pre-service arena; the second was to identify specific levels of success in incorporating a fertility management (FM) and human sexuality (HS) course into the curriculum of nursing schools in Colombia. The evaluation also investigated the effect of the FM/HS course on the knowledge and attitudes of students who attended the course. Various strategies were used to reach these objectives including: a review of existing program documentation; interviews with members of the program Steering Committee, deans and students; and focus group sessions with nursing school professors.

Two indicators were initially tested as the most appropriate for defining "institutionalization." These related to offering at least one FM/HS course after completion of the Columbia Association for the Study of Population (ACEP) funding and preferring to offer the course in the first semester. These were selected because they represented both commitment on the part of schools to support the course and to offer it as early as possible to students. Given these two criteria, eight of the 19 nursing schools had institutionalized FM/HS training within their academic structure. Although by the time of the study the program had not received any economic support from the universities' administrations, there was much interest in, and logistical support for, the program's development in many of the schools.

In terms of the student interviews, some change was measured in the level of knowledge about contraception among students who took the course. No significant change in their attitudes regarding sexuality and family planning, however, was identified. Positive interest in the program on the part of the students and faculty members was clearly expressed by the fact that numerous extracurricular activities were undertaken by both groups, without remuneration in most cases.

These preliminary results reflect a positive impact of the program. The fact that the study was conducted only six months after financial support for the course had ended, however, must be kept in mind. Another evaluation may be warranted after a longer period of time to determine if the changes observed to date have continued and/or if there have been additional changes.
INSTITUTIONALIZING A FERTILITY MANAGEMENT COURSE IN THE NURSING SCHOOLS OF COLOMBIA

BACKGROUND

Introduction

In 1978, JHPIEGO financed several courses on fertility management (FM) and human sexuality (HS) for medical students at the University of Tampico in Mexico. Due to its success, the Mexican Association of Medical Schools (AMFEM) asked all its associates to promote this type of course. Consequently, in 1981, JHPIEGO approved the financing for a FM/HS course in 23 of the existing 53 medical schools in Mexico. The program consisted of a 15 hour course offered one hour daily during the students' free period. The focus of the FM/HS course was different from the rest of the curriculum in that strong emphasis was placed on the student as a manager of her/his own fertility. Focus on the student was facilitated by the use of audiovisual materials (movies and filmstrips on human sexuality) and demonstrations that allowed the student to touch certain contraceptive methods and pelvic models.

The program in Mexico reached 20,000 students during its three cycles. The activities were evaluated by a group of professionals including the Executive Director of The Colombian Association for the Study of Population (ACEP) who suggested that the same type of program be introduced in Colombia. This idea was supported by the results of a study of health science students in Colombia which revealed a considerable amount of unwanted pregnancies within this group. The suggestion to develop a FM/HS program was favorably met by the Nursing School Administration in Colombia; the medical schools chose not to endorse the program and therefore starting in 1990, the course was offered in 19 out of the 20 Colombian nursing schools. ACEP received technical and financial support from JHPIEGO for this program for four years. During this period, the program supported 349 courses for approximately 6,980 students.

Study Objectives

The principal objectives of the study were to:

♦ Develop a working definition for JHPIEGO of the term "institutionalization" and to identify appropriate indicators for measuring this concept

♦ Determine the level of incorporation of the FM/HS course into the curriculum of the 19 participating Colombian nursing schools
Identify factors associated with the successful incorporation of the course into the nursing school curricula

Determine the level to which the courses had a positive effect on the students (in terms of their attitudes toward family planning, their behavior and their professional interests)

STUDY METHODOLOGY

Overall Study Design

This study involved both qualitative and quantitative data collection strategies. In terms of the former, existing program documentation was examined as the first step in the evaluation. In addition, three focus group sessions were conducted with professors from the nursing schools. One of these groups included professors who taught the FM/HS courses in schools where the program was considered "more" successful. The second group also included course professors, but they were from schools where the program was categorized as "less" successful. Professors from the same schools who had not participated in the program made up the third focus group. The study’s quantitative data collection component consisted of a series of interviews with:

- Members of the project’s Steering Committee,
- The deans of each of the nursing schools
- A random sample of 1,500 students from six of the nursing schools

The evaluation took place over seven months from April to October, 1992. The first four months were dedicated to planning, developing data collection instruments, reviewing existing program documentation, and conducting interviews with members of the Steering Committee and the deans of the nursing schools. The student interviews took place in August and September, 1992 and the month of October was spent analyzing the data and preparing a report.

Documentation Review

The evaluation’s first activity involved a review of all documentation available in the ACEP office. This included trip reports, correspondence and program progress reports. The data collected as part of this review helped guide the subsequent stages of the evaluation.
To interpret these data, a formula was created that served as a basis for classifying schools as "more" or "less" successful (in terms of successfully incorporating the FM/HS course). The level of success was defined using three variables: the number of courses offered (compared with the number planned); offering the course in the first semester of study (as recommended in the project protocol); and the number of hours dedicated to the course (compared to the number recommended).

If the number of courses realized was equal to or greater than the number planned (i.e., four courses per program cycle on average), the school received a "positive" rating. If the number was less than that planned, the school's rating was "negative." If the courses were given in the first semester, the school again received a positive rating. If offered later in the school year, a negative rating was given. The rationale for this rating was based on the initial recommendation that the course be given at the beginning of the students' careers in order to avoid unplanned pregnancies and school dropouts due to pregnancy and to provide an early foundation for positive attitudes toward family planning (FP). In terms of the third variable, positive ratings were given to schools where the course length was 15 hours or more (as initially recommended).

After each university was coded with either a plus (+) or a minus (-) for each of these three variables, the number of pluses and minuses were tallied and a classification was given based on the total score. Eight schools were ranked as "more" successful and six were ranked as "less" successful using this preliminary classification scheme (complete information for five schools was unavailable).

Interviews with the Steering Committee

The second stage of the evaluation consisted of interviews with the four members of the program Steering Committee using a structured guideline. The purpose of the interviews was to obtain additional information on how the project was administrated and coordinated throughout its four year life-span.

Interviews with Nursing School Deans

Using a structured questionnaire, the deans of the 19 nursing schools were interviewed from May through July, 1992. The purpose of these interviews was to obtain more detailed information on whether or not (and how) each school chose to formally include the FM/HS course in the curriculum. Any interest in the course demonstrated by the administration of corresponding medical schools also was to be documented. Another focus of the interview was to identify which schools had officially undertaken the responsibility for continuing the program.

Focus Groups

As noted, three focus group sessions were conducted with professors from the nursing schools. The professors within each group were selected at random from...
among all those who were eligible to be interviewed. For two of the groups, the attitudes of the professors towards family planning were discussed as well as any changes they perceived in their own attitudes as a result of the course. Support for the FM/HS course in terms of any extracurricular activities carried out or extra time dedicated to the students for discussing personal issues was also noted. Discussion guides were used for the sessions, one for the professors who participated in the program and another for those who did not teach the FM/HS course. Eight professors participated in each session.

Student Interviews

The objective of the student interviews was to determine if there was any difference in the level of knowledge about and attitudes towards contraception between graduates of the course and students who had not taken the course. Seven hundred and fifty course graduates from the last two phases of the program were selected for this evaluation activity. Students from the first phase of the program were excluded because they had already graduated from their respective institutions (and would therefore be difficult to locate). An equal-sized group of students from schools similar to the nursing school (e.g., social work and psychology) was identified as the comparison or control group. The total sample size was 1500 students.

The 19 universities were divided into two groups (more and less successful), and three universities were selected at random from each group. The universities chosen for this part of the study which were more successful were as follows:

University of Antioquia in Medellín
University of Manizales
Industrial University of Santander

The less successful universities were:

Metropolitan University of Barranquilla
University of Cartagena
University of Neiva

The number of students interviewed per school was determined using the probability proportional to size sampling strategy to avoid the need to weigh the sample in the analysis. The students were randomly selected by phase using the administrative lists from the schools. The total number of interviews conducted was 1,497. This was less than the 1,500 desired because it was not possible to reach the number anticipated for the control group in Cartagena.
The following table summary presents information on the sample size.

**TABLE 1**

**STUDENT SURVEY SAMPLE SIZE**

<table>
<thead>
<tr>
<th>University</th>
<th>II</th>
<th>III</th>
<th>Total No.</th>
<th>%</th>
<th>II</th>
<th>III</th>
<th>Total No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartagena</td>
<td>140</td>
<td>180</td>
<td>320</td>
<td>17.3</td>
<td>57</td>
<td>73</td>
<td>130</td>
<td>17.3</td>
</tr>
<tr>
<td>Metropolitana</td>
<td>144</td>
<td>124</td>
<td>268</td>
<td>14.5</td>
<td>58</td>
<td>50</td>
<td>108</td>
<td>14.4</td>
</tr>
<tr>
<td>Neiva</td>
<td>140</td>
<td>80</td>
<td>220</td>
<td>11.9</td>
<td>27</td>
<td>33</td>
<td>90</td>
<td>12.0</td>
</tr>
<tr>
<td>Antioquia</td>
<td>270</td>
<td>120</td>
<td>390</td>
<td>21.5</td>
<td>109</td>
<td>49</td>
<td>158</td>
<td>21.5</td>
</tr>
<tr>
<td>Manizales</td>
<td>105</td>
<td>168</td>
<td>273</td>
<td>14.7</td>
<td>42</td>
<td>68</td>
<td>110</td>
<td>14.7</td>
</tr>
<tr>
<td>Santander</td>
<td>140</td>
<td>240</td>
<td>380</td>
<td>20.5</td>
<td>27</td>
<td>97</td>
<td>154</td>
<td>20.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>939</td>
<td>912</td>
<td>1851</td>
<td></td>
<td>320</td>
<td>370</td>
<td>750</td>
<td></td>
</tr>
</tbody>
</table>

**RESULTS**

**Indicators of Institutionalization**

The first objective of this evaluation was to develop a working definition of the concept "institutionalization" in terms of family planning training within nursing schools in Columbia. This is a word that is frequently used in reference to long-term program sustainability, but it is often employed in the abstract rather than in concrete, measurable terms. In order to measure progress towards the achievement of institutionalization in any program, it is first necessary to establish discrete indicators of this term.

Thus, several indicators representing institutionalization in this context were tested. These indicators were developed from a number of study variables using different criteria. Beginning with the information collected from the dean interviews, the initial definition tested was strictly operational using the following variables:

♦ The school offered new courses upon the termination of ACEP support

♦ The courses had taken place (or were anticipated to take place) during the first semester of the academic year
The courses were required of all students.

These variables were selected because they represented factors deemed important to the overall success of the program. According to this definition, seven of the nineteen schools (37%) had institutionalized the program.

The final operational definition considered most workable for this study, however, included only two criteria: first, having offered at least one course without ACEP support—demonstrating an interest in continuing the program, and second, having offered it (or planned to offer it) within the first semester of the students' academic career, maintaining the initial course objective of avoiding unplanned pregnancies during the students' studies. Given this definition, eight (42%) of the 19 nursing schools had institutionalized the FM/HS program.

By comparing schools that met these two criteria to those that did not, several interesting differences were revealed (although none that were statistically significant). In schools where the program had been institutionalized, the instruction was not included, for the most part, in the orientation sessions (Table 2). These sessions constitute the first (introductory) instruction for all students and, therefore, have wide exposure. Interestingly, the duration of the courses was slightly longer in the schools where the program did not meet these two criteria for institutionalization. In some but not all of the schools meeting these two criteria, the students and course professors themselves had developed some of the teaching material used in the FM/HS course. In all eight of these schools, the faculty administrators felt that their students should continue to receive this type of instruction, ideally during the first semester.

The majority of the deans in all 19 schools agreed that the content and initial focus of the course should continue in the future. Nevertheless, in examining the contents of the curriculum at the time of the evaluation, it was noted that some differences existed in several schools (e.g., there was a greater emphasis placed on the topic of human sexuality than in the original course schedule). And, in some schools, demography was omitted. All schools, however, maintained discussions about the various contraceptive methods.
**TABLE 2**

COMPARISON OF SELECT VARIABLES IN "INSTITUTIONALIZED" VERSUS "NON-INSTITUTIONALIZED" SCHOOLS

<table>
<thead>
<tr>
<th></th>
<th>Non-Institutionalized</th>
<th>Institutionalized</th>
<th>$\chi^2$</th>
<th>$p =$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course given during orientation</td>
<td>63.6 %</td>
<td>37.5 %</td>
<td>1.27</td>
<td>0.26</td>
</tr>
<tr>
<td>Course given at another time</td>
<td>36.4 %</td>
<td>62.5 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schools' directors wanted the program</td>
<td>72.7 %</td>
<td>100 %</td>
<td>2.59</td>
<td>0.11</td>
</tr>
<tr>
<td>Directors did not want the program</td>
<td>27.3 %</td>
<td>00.0 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New materials developed by faculty</td>
<td>45.5 %</td>
<td>75.0 %</td>
<td>1.66</td>
<td>0.20</td>
</tr>
<tr>
<td>No new materials developed</td>
<td>54.5 %</td>
<td>25.0 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Factors Related to Course Success**

Based on information obtained from the focus group sessions, the following factors were identified as important to the success of the program:

- Agreement on the part of the administration and faculty of the necessity and importance of providing FM/HS instruction to all students entering the university
- Charismatic course professors. And, although the course professors did not have to be trained in maternal and child health, familiarity with this specialty greatly facilitated the teaching of reproductive health themes
- The use of a participatory teaching methodology

**Effect on Students**

Another objective of this evaluation was to determine to what extent the course had any effect on the students (in terms of their knowledge of contraception, their attitudes toward sexuality and family planning and their own behavior and professional interests vis-a-vis fertility management). The effect of the course was measured in this analysis by comparing the level of contraceptive knowledge among students who took the course against the level of those who did not take the course. An index of correctly answered knowledge questions was developed and compared between the two groups. In general, members of both groups had a high level of contraceptive knowledge. The level was significantly higher, however, among students who had taken the course ($p < 0.0001$) (Table 3).
Attitudes towards human sexuality also were explored using an index of positive or negative replies for a number of questions: abortion as an option when faced with an unplanned pregnancy; whether or not sexual education increases sexual activity; whether sexual activity should be restricted to only married persons; and, if the loss of virginity reduces the likelihood of a woman getting married. Both groups seemed to express a fairly liberal attitude toward sexuality and the few differences observed between the two groups were not statistically significant (Table 3).

Another index of attitude towards contraception/family planning was created with four other questions including the acceptability of providing information and contraceptive methods to adolescents and whether or not contraception is the responsibility of the man or the woman. Although the study group showed a more liberal attitude in terms of this index measure, the differences were not statistically significant.

**TABLE 3**

<table>
<thead>
<tr>
<th></th>
<th>Study</th>
<th>Control</th>
<th>Z'</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP Knowledge</td>
<td>0.75</td>
<td>0.66</td>
<td>10.305</td>
<td>.0001</td>
</tr>
<tr>
<td>Sexuality Attitudes</td>
<td>0.43</td>
<td>0.43</td>
<td>0.446</td>
<td>.66</td>
</tr>
<tr>
<td>FP Attitudes</td>
<td>0.97</td>
<td>0.95</td>
<td>3.019</td>
<td>.0025</td>
</tr>
</tbody>
</table>

*Wilcoxon Rank Sum Test*

Another indicator of the potential effect of the course was precautions that the students had taken to prevent unwanted pregnancies. Any student who had sexual relations was asked about previous and current use of specific contraceptive methods. Approximately half the students interviewed had sexual relations and the large majority of these (95%) had used contraception. With regard to current use of a method, the difference between the two groups was not statistically significant. Thus, having attended the FM/HS course was not significantly associated with increased contraceptive use among these students.

Among female students who had never been married, a group in which pregnancy was least likely to be desirable, the occurrence of pregnancy at any time in their lives was not statistically significant between the study group and the control group (p = 0.4). When this analysis was restricted, however, to only those who had sexual relations (and therefore, were at risk of pregnancy), the proportion who had ever been pregnant was substantially higher in the control group than in the study group (17.5% and 11.2% respectively). And, the difference between the two groups was statistically significant (p = .055). While this finding cannot be conclusively considered a positive
effect of the course because, among other factors, the date of pregnancy was not recorded, professors in the focus groups commented that they had perceived a reduction in the pregnancy rate among students since the FM/HS program began. The importance of this potential effect (the rationale for introducing the program in the first place) warrants further investigation using a different, more appropriate data collection methodology (e.g., prospective study).

Because the sample of students was stratified by phase of the program, these two groups of students were compared in terms of their attitudes toward sexuality and family planning (as well as pre- and post-test scores). This was done to assess whether there was any difference in the quality of the training in the two phases of the program. This analysis revealed that students who had received the course in its second phase had an even greater level of knowledge of contraception than those trained in the third (more recent) phase. These results confirm what could be predicted from information provided by the faculty, deans, and Steering Committee members in focus group sessions and interviews, i.e., that second phase students had more opportunities to reinforce their knowledge in semesters following the course. This finding reinforces the importance of providing this course early in the students' academic career.

CONCLUSIONS

One can conclude from the student questionnaire that the level of contraceptive knowledge among those students entering university is fairly high. Any attempt to measure increases in knowledge levels as a result of the course, therefore, should be designed to pick up small changes. In addition, it can be concluded that, in Columbia, university students' attitudes about sexuality and family planning (FP) in general are fairly liberal. It is unlikely, therefore, that significant changes in attitudes will result from taking the course especially as the FM/HS course is fairly short in duration. In order to measure change in attitudes in the future as a result of the course, therefore, one would need to select a group of students that starts out with fairly conservative attitudes.

It is possible that subtle differences in attitudes existed between the two groups as a result of the course, but the questions asked were not sensitive enough to pick up these differences. Posing sensitive questions about sexuality and contraceptive use, however, is difficult especially among young, mostly unmarried, students. This points to one of the major weaknesses of attitudinal studies.

In terms of the deans' attitudes, all of those who responded indicated an intention to include the FM/HS course within the curricula of their respective schools. Approximately half of the deans, however, said they would not include it as a separate course but rather as part of another course of study, a decision that contradicts the objectives spelled out in the initial FM/HS project. In addition, there was no agreement
among the deans in terms of what the profile of the FM/HS program should be. Some felt the course should be obligatory while others felt it should be an elective. The majority did agree, however, upon the importance of having the students pass the course, even if they received no credit for taking it.

The fact that in just under half of the schools, students from other schools besides nursing ended up attending the course demonstrates the popularity of this type of training. Strategies for institutionalizing the course in other schools, therefore, should be developed in a way that allows any interested student to attend the course (while at the same time maintaining the commitment of the administrators to keep the program within the first semester of study).

The lack of economic support on the part of the university administrator should not be considered an insurmountable obstacle or indicator of a lack of interest in the program's continuation. The fact that one of the schools had reduced some of its academic requirements to permit the teachers to dedicate more time to the preparation and development of the course is a clear indication of the importance placed on the FM/HS program in this school. This strategy for compensation should be explored further in schools where it has not yet been considered.

Considering the initial objectives of the study, the evaluation succeeded in determining variations in the level of incorporation of FM/HS training in the 19 schools; identifying some factors that positively influenced the extent to which FM/HS was incorporated into school curricula and; whether the course had any effect on the students' knowledge of and attitudes towards FP.

The study did not, however, fully succeed in providing a useful, working definition of the term "institutionalization" that could be applied to other JHPIEGO programs. This reflects the fact that the study size was small (N = 19), many of the variables were categorical in nature, and there was not enough variability in the responses to yield statistically significant differences. Factors related to the concept of institutionalization that were identified from the qualitative results include: administrative commitment, teacher dedication, adequacy of teaching materials, and financial contribution.