

ISP-CS1  
Community Service CATEGORY

May 1, 2000  
ISP Proposal

Title: Diabetes education for a group of Latina patients at a school-based free clinic

Background:

The idea of developing a free clinic in Southeast San Diego was a dream of UCSD students and faculty members some time before the Baker Elementary site opened in October 1998. The need for a clinic to serve the primarily Latino population in the area was supported by 1990 Census data, which reported that in zip code 92113: a) 64% of households were Hispanic, b) of Hispanic households, 43% were linguistically isolated, c) 40% of Hispanic individuals lived below the poverty line, d) compared to other ethnic groups, Hispanics had the lowest per capita income (\$4982 compared to \$7285 and \$7345 for whites and blacks, respectively). Given this information, it was concluded that many Latino members of the community surrounding Baker Elementary face cultural, linguistic and economic barriers to health care access. The mission of the new clinic was to provide excellent medical care and health education for our patients.

Since the clinic opened, students taking the free clinic elective course have been asked to give talks on a variety of health-related topics. These sessions have been enthusiastically attended by our Latina patients. Given the patients' level of interest in health education and the high prevalence of Type 2 diabetes mellitus in the Latino population, it seems reasonable to create a project to educate our patients about this disease. A recent study of over 3000 Mexican-American older adults demonstrated that the prevalence of self-reported diabetes in the sample was 22%, associated with high rates of obesity, diabetes-related complications, and diabetic medication use (2). Both prevalence and complication rates were higher for the Mexican-American patients than for non-Hispanic whites or African-Americans. Another study of 1400 Mexican-American participants in Texas showed a 15% prevalence of Type 2 diabetes mellitus diagnosed according to standard clinical criteria (7).

There are a number of community-based education programs reported in the literature. One study educated diabetic patients via automated telephone calls in English or Spanish, and found that Spanish-speaking patients were more likely to select self-care tips and nutrition modules than were their English-speaking counterparts (9). The intervention held the interest of the Spanish-speaking patients over time, with the majority of them continuing to listen to the modules over the 12-month period (compared to one-fourth of the English-speaking patients). Another study postulated that diabetes education programs are greatly underused and looked at barriers to attendance (4). Such barriers included patient lack of awareness of programs, misperceptions about what was involved in participation, and health beliefs. Factors that were positive predictors of program attendance included female gender, insulin dependence, high degree of obesity, and physician recommendation. A third study compared a 'standard' curriculum to a nutrition-based curriculum for diabetes education classes in a mostly Hispanic patient population (8). The results showed that given a choice, patients were five times more likely to choose the nutrition-based education program than the standard program, but receiving one's choice did not accurately predict class attendance or willingness to follow-up. Despite the group selected, participants who attended all five classes significantly increased their diabetes knowledge, gained less weight, and reported improved physical functioning compared to those who did not attend any classes. The above mentioned studies highlight the importance of delivering information about diabetes in a manner well-tolerated by patients, taking into account cultural beliefs about illness.

Definition:

What are the goals of the project?

The primary goal of the project is to educate a group of women about a disease process that is likely to affect them directly, whether they or a close family member are diagnosed with diabetes mellitus. It has become clear to the staff of the Baker Elementary free clinic that our Latina patients are underserved, both in lacking access to medical care and in lacking appropriate information about health and illness. Specific goals are as follows:

1. Give three formal presentations in Spanish to a group of 15 women:
  - 1) Diabetes mellitus: presenting signs and symptoms, basic pathophysiology, organ systems affected, common medications used in treatment, recommended screening tests, natural history of disease.
  - 2) Nutrition education: inform patients of the ADA recommendations for the Mexican-American diet, ask them to bring samples of typical meals to the meeting, discuss ingredient substitutions.
  - 3) Physical activity education: discuss cardiovascular exercise, including recommended frequency, duration and objective measurement of intensity (e.g. taking radial pulse), relation to weight control and diabetes prevention. Take patients on a sample 20 min brisk walk in the neighborhood.
2. Pretest and posttest patients' knowledge on the above topics at each session.
3. Evaluate the effectiveness of the project based on knowledge testing and on patients' subjective feedback.
4. Compile materials for placement in the Baker Elementary free clinic office, so that future students may provide ongoing education about diabetes mellitus to patients.

What is innovative about the project?

1. The student presenting the above information is already well known to several members of the community and trusted, which should facilitate communication and improve patient interest and participation.
2. The project will involve active participation on the part of the patients, between preparing/sharing meals and joining the group for a physical activity session. It is hoped that such active participation would help develop long-term memory for the information presented.

How is the project relevant to a career in medicine?

My career goal is to become a family practitioner and to work in an underserved area, with a focus on the Latino population. This project will help me to learn more about diabetes mellitus, which is a very common disease seen in the family medicine office. It will also allow me to learn effective methods for educating patients in Spanish, in a culturally appropriate way.

What is the student's role in a time commitment to the project?

The student will be responsible for recruiting participants in the education program from among the Baker Elementary free clinic patients and individuals in the community. Other responsibilities will include giving three presentations in Spanish to a group of women, creating a knowledge questionnaire that may be used to pretest and posttest the participants, and analyzing the results of the project. The time commitment will be as follows: as one of the clinic coordinators for the Baker Elementary free clinic site, I will be helping to run the clinic every Tuesday afternoon during the 4th year, as well as setting aside three months in the 4th year to work on the project full-time.

Methods:

1. Recruitment of Participants: A mailing will be sent to adult female patients of the Baker Elementary free clinic site with a description of the project. The inclusion criteria will be: age 18-60, self-identified as Latina (Hispanic), ability to communicate in Spanish, and willingness to complete all three sessions including knowledge questionnaires and end-of-project evaluation. The target number of participants is > 15. The interested women may declare their interest via telephone or an enclosed response card. If the mailing is insufficient to attract participants, I will enlist the help of community leader Isabel Dominguez in conveying information about the project to women in the neighborhood surrounding Baker.

2. Development of Pretest and Posttest Measures: Three knowledge questionnaires of 10 questions each will be written, on the topics of diabetes mellitus, nutrition and physical activity. These will be administered immediately before and following each corresponding information session. It is anticipated that the measures will be administered in a written, Spanish format. However, the reading levels of the participants will need to be assessed beforehand, and some questionnaires may need to be administered verbally.

3. Information Sessions: These are to be given on three successive Tuesday afternoons, for one hour each. The general content of the sessions will be as described above in the "goals" section of this proposal.

4. Analysis and Writing of the Report: The above measures will be statistically analyzed to determine whether there is a significant difference in participants' knowledge before and after the information sessions. Participants' written and verbal feedback about the usefulness of the sessions will also be qualitatively analyzed and compiled. A report of the findings will be written and submitted to the Electives Committee, and the information will be made available to students at the school-based free clinic as well as community leaders.

#### Evaluation:

The ISP chair and committee members will evaluate each step of the project. First, the committee will review the information to be presented in each of the three information sessions, as well as the pretest and posttest questionnaires. Following the presentations and collection of data, the committee will be asked to review the preliminary results and offer guidance on the format of the summary report describing the project and its findings. Once the report has been completed, the committee will review it and offer suggestions prior to its being submitted to the Electives Committee. Finally, the ISP committee will evaluate the student's ability to apply the results of the project to the future education of patients at the school-based free clinic. The student will make the information obtained available to the clinic in a binder format.

The endpoints of the project will be defined as follows: the data collection phase will be complete at the end of the third information session following the collection of questionnaires; the data reporting phase will be complete when the report has been approved by the ISP committee members and submitted to the Electives Committee; and the follow-up phase will be complete when a condensed version of the report is placed at the clinic site. The success of the project will be judged on the improvement in knowledge scores between the pretest and posttest questionnaires, and on the more subjective measure of patient satisfaction with the experience.

#### References:

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