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MASS COMMUNICATIONS/EDUCATION STRATEGIES FOR IMPROVEMENT OF PRENATAL HEALTH BEHAVIORS IN MEXICO

by

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Summary

This project used anthropological and survey research methods to obtain baseline information from 491 pregnant women to design and test mass media materials for improving health-related behaviors during pregnancy in the United States-Mexican border population Factors measured were food beliefs, other pregnancy beliefs and behaviors, utilization patterns of prenatal care, and sources of health information Previous research has demonstrated that prenatal care is clearly and strongly associated with improved pregnancy outcomes, and that prenatal care is especially important for women at increased medical and/or social risk In developing countries, prenatal care services are scarce and minimal Existing services provide mainly educational and screening functions unless high risk status is identified.

Study results showed that women who initiated prenatal care early in pregnancy were more likely to seek advice from a physician, were more knowledgeable about self-care and risks, and were likely to make more prenatal clinic visits Women had inadequate knowledge about their optimum weight gain during pregnancy and cited anemia as a common problem, as did their physicians in the Tijuana area They had varying degrees of awareness of other risk factors in pregnancy (diabetes, hypertension, vaginal bleeding, abdominal cramps), but a need for more information was obvious They also reported that their male partners were not supportive about weight gain and other self-care behaviors

The most desired source of pregnancy-related information was one-on-one or small group contact with doctors or nurses in clinic settings Television, radio, pamphlets, posters, and communicating with relatives were also important information sources Using focus groups, the research team developed and tested informational and motivational materials The project produced prototypes for four communication methods a consciousness raising poster, a calendar with basic prenatal care messages, a pamphlet with expanded messages, and two songs with messages about the baby's father's responsibilities and the mother's nutritional habits In addition, we recommend talk radio programs using local physicians for questions and answers and clinic discussion sessions whenever possible

The three methodologies used--ethnography, survey, and focus groups--were mutually reinforcing Topics were often first identified during the ethnographic phase, quantified during the survey phase, and then refined into messages by means of the focus groups The findings from the methods are frequently woven together throughout the report, since it is their synthesis that proved so useful in developing the final product.

Overview

The literature shows that prenatal care is correlated with improved outcome, both for the United States (Cortes 1985, Bragonier, Cushner, and Hobel 1985, Institute of Medicine 1985, Fuchs and Stubblefield 1984, Norris and Williams 1984) and for developing countries (Donaldson and Billy 1984, Ebrahim 1982, Faundes, Hardy, and Diaz 1982, Lechtig and others 1982, Lechtig and others 1975) It is less clear why these visits should matter or how many visits provide the critical threshold to make the difference

Prenatal care appears to provide risk assessment (identification of major problems of pregnancy as well as monitoring of fetal growth and maternal weight gain), prevention and treatment of infection, and acquisition of information and motivation leading to healthy behaviors, particularly in areas such as nutrition

and avoidance of alcohol, cigarettes, and other harmful substances One question raised in the planning of this research project is to what degree all these activities, particularly the latter, are really provided by underfunded, understaffed prenatal programs in much of the world Are some activities such as self-care, nutrition, self-detection of potential high risk conditions, and encouragement for prenatal check-up possible outside the clinic setting?

Another question centers around the optimum number of prenatal visits While the traditional United States model calls for a minimum of eight visits for a normal pregnancy, the World Health Organization (WHO) specifies a minimum of five, and the reality for Tijuana, our study site, was estimated to be even lower Yet Guilkey and others (1987) found that as few as three prenatal visits had a significant positive relationship to birth outcome in the Philippines (see also Wong and others 1987) Also, Faundes and others (1982) found that women with less prenatal care than the WHO five-visit minimum still had significantly better outcomes than women with token care or no prenatal care at all

The research evidence emphasizes that "neither high technology nor costly specialists are needed to reduce perinatal risk when the level of perinatal mortality is as high as is usually the case in developing countries" (Faundes and others 1982, p 112) Given the scarce health resources in many countries, a logical approach is to maximize the timing and quality of the relatively small number of prenatal visits that is realistic for most women, and to supplement these visits with consciousness raising and health education programs

Collaborative nature of the project

These questions were raised in joint meetings with the UCLA researchers and those of the Medical School of the Universidad Autónoma de Baja California (UABC) in Tijuana, Mexico A solid working relationship of several years between UCLA and the UABC had produced several joint pilot research projects and an enthusiasm for continued collaboration In particular, the UABC Medical School was implementing training in public health and had sought collaboration and support from the UCLA School of Public Health In addition, prenatal and maternal health are considered a priority for the UABC Tijuana's public health services have a similar emphasis and the cooperation of their staff provided an added incentive to carry out this project.

Specific objectives

The project's principal objective was to produce educational materials that would increase women's awareness of the reasons for prenatal care, when to seek it, how to identify problems (high risk conditions) during pregnancy, and how to maximize self-care during pregnancy Self-care was defined as preventive behavior regarding improved nutrition, stress reduction, and identification of problems or high risk conditions related to the pregnancy The precise forms of educational materials (posters, pamphlets, radio programs, and so on) were to be determined by the women of Tijuana themselves, and by the accessibility, feasibility, and potential for sustainability of the various options To identify and develop these materials, the research team planned three project phases

- **Phase I, Ethnographic** This phase consisted of anthropological fieldwork focusing in depth on a relatively small number of women (convenience sample) to document attitudes, beliefs, and behaviors related to pregnancy, to identify sources of health information, and to generate specific questions for the survey phase
- **Phase II, Survey** This phase involved a community-based survey of pregnant women to ask questions identified during the ethnographic phase that needed quantification The communities were selected to fit specific demographic criteria (purposive sample) and all pregnant women within each community were approached to participate in the survey
- **Phase III, Design and Assessment of Educational Materials** This phase combined the findings from phases I and II and applied them to the design of educational materials Design ideas and early versions of the materials were tested with focus groups of women in Tijuana. Prototypes were developed and final materials were prepared for reproduction

The specific objectives did not include an examination of utilization patterns and long-term appraisal of the materials because of time and funding constraints This will be carried out with other funding, probably under several different projects

Research questions

This project did not propose a specific hypothesis to be tested Instead, it aimed to develop descriptive information on pregnancy that would be used to generate educational material for women and their families Specific information was sought on the following

- the women's use of formal and nonformal sources of prenatal care,
- the frequency of prenatal care visits,
- the recognition of potential high risk conditions,
- nutrition behaviors during pregnancy,
- the use of iron and vitamin supplements during pregnancy,
- preferred and actual sources of prenatal health information,
- stresses associated with pregnancy,
- self-care behaviors during pregnancy

Based on the answers to these questions, the team generated educational materials and addressed a new set of questions about their acceptability and utility using focus groups

Research setting

Tijuana is a city of one million situated on the northern border of the Mexican state of Baja California To the north is the United States of America. San Diego, California, which is situated immediately across the border from Tijuana, is Tijuana's American metropolitan counterpart. In the 100 years since Tijuana was founded, it has grown from a ranch into one of Mexico's major metropolises It has a reputation in Mexico as one of the country's most prosperous cities, although by standards of per capita income, housing, and automobile ownership, it is an impoverished, developing country city (Herzog 1985)

Tijuana's roads and buildings tend to be in bad repair Neighborhoods only a few miles from the downtown area have no running water, sewers, or paved roads The growing population consists mostly of immigrants from other parts of Mexico who came to seek employment in the relatively brisk economy of tourism and the *maquiladoras*, international subcontracting firms that provide assembly operations for corporations in developed countries, such as the United States and Japan.

As is characteristic of Latin American cities, Tijuana is organized around the Center, where government offices, consumer services, public parks, cultural centers, and tourist activities are located The Center also has many residential areas and rings of neighborhoods fan out concentrically to the east, west, north, and south All services diminish with increasing distance from the Center The Center is less than two miles from the U S border, and that border crossing is the busiest international border in the world (Herzog 1985)

A new area is being developed on the Otay Mesa, a plateau located along the border on the northeast side of the city The UABC, an international airport, and a vocational college are located here, along with a second border crossing, some *maquiladoras*, and newer, government subsidized housing Most of the housing in Tijuana, however, is self-built. Public transportation is abundant, with buses and cheap taxis frequently criss-crossing the sprawling urban, suburban, and to a lesser extent rural, settlements

Tijuana is the center for medical services for the entire Baja California peninsula and the local university trains doctors and dentists The Center has many doctors' offices, hospitals, and clinics The concentration of medical services downtown drastically diminishes even in neighborhoods a mile from the Center

Research Methodology

An interdisciplinary team of anthropologists, media specialists, ethnographers, interviewers, economists, psychologists, and public health specialists from UCLA and UABC participated throughout the project (see appendix A) This section discusses the methodology for the ethnographic and survey research phases

Purpose of the ethnographic and survey phases

The initial phase of the project was designed to document knowledge, attitudes, and practices regarding prenatal health care for currently pregnant women to obtain in-depth information using a variety of data collection techniques, and to provide question areas and draft the wording of specific questions for the survey phase The combination of various techniques (informal interview, conversation, observation, participant observation) provides for more accurate findings through the triangulation of information The same results are verified in various ways (see Scrimshaw 1990 for a detailed discussion of the mix of quantitative and qualitative methodology)

The purpose of the survey phase was to conduct a baseline community household survey of currently pregnant women to assess use of both formal and nonformal health services, knowledge of pregnancy risk factors, nutritional data, and communication patterns

Sample selection

Criteria The geography of Tijuana was not conducive to random selection given our criteria of low socioeconomic status Instead, communities of low socioeconomic status were identified, and then selected to provide maximum geographic variability Note also that there are no truly rural communities in the usual sense within the political jurisdiction of Tijuana. The rural communities in this study are somewhat isolated from Tijuana (30 minutes drive), but might more realistically be called suburbs, although they lack many of the services (health, educational, transportation, and so on) found in suburbs of more developed countries

The criteria used to select communities for both the research phases of the study were that the communities should

- be within the political jurisdiction of Tijuana,
- represent both urban and rural communities,
- be of low socioeconomic status

Communities Based on these criteria, the team selected the communities shown in table 1

Table 1 Ethnographic and Survey Communities

Community	Ethnography	Survey	Prenatal care available
Rural			
El Florido		X	Yes
Flores Magón	X	X	Yes
La Gloria		X	No
El Tecolote		X	No
Cañon del Sainz	X		Yes
Urban			
El Rubi		X	No
Cerro Colorado		X	No
Lazaro Cárdenas		X	Yes
Lomas Taurinas	X	X	No
El Río		X	Yes
La Obrera	X		Yes

Women The criteria for sample selection were that women should be currently pregnant, of low socioeconomic status, and live in Tijuana All women were interviewed in their homes by Spanish-speaking interviewers

During the ethnographic phase, permission was obtained from community leaders and health officials to enter the community The researcher was introduced to key community leaders, usually by health officials The researcher then located ten pregnant women in each community who were willing to participate in the research and who met the study criteria In addition to the study criteria, the researcher tried to assure the inclusion of respondents who differed in terms of parity, months pregnant, age, and years of residence in Tijuana. The ethnographic data were collected primarily during February, March, and April 1988

During the survey phase, the initial steps in entering the community entailed a "visual census" of how many pregnant women resided in that community, as well as a household census to determine if there were pregnant women in the household All households were approached within each sample community All pregnant women located were asked to participate in the study Initially we proposed a total of 400 interviews, however, during the survey phase a total of 451 were interviewed. The survey data were collected during July and August 1988

Sample Size The number of interviews by phase and location is shown in Table 2

Table 2 Number of Women and Communities Participating in Study

Phase	Urban	Rural	Total
Ethnography			
Number of interviews	20	20	40
Number of Communities	2	2	4
Survey			
Number of interviews	285	166	451
Number of communities	5	4	9

Protection of subjects Each participant was given a written consent form (see appendixes B and C) in which the project's purpose was set out. The researchers explained that participation was voluntary, that results would be presented only in summary form, that individuals would not be identified in connection with information about themselves, and that subjects could cease to participate at any time if they so desired.

Instrument development and data collection

Ethnographic phase The ethnographic instruments consisted of data collection guides or checklists based on the field manual Rapid Assessment Procedures for Nutrition and Primary Health Care Anthropological Approaches to Improving Programme Effectiveness or RAP (Scrimshaw and Hurtado 1987) The research team modified the RAP guidelines for the current project and prepared draft instruments These ethnographic instruments were then tested with representative respondents, and were revised and refined with the assistance of several additional staff members from UCLA and the UABC These instruments were

refined again after the ethnographic work (see appendix B), and were published as an appendix to the Spanish version of the RAP manual (1988)

Two UABC ethnographers and two UCLA public health research assistants were trained to conduct the field work The team members used laptop computers for entering the field notes Some additional notes were handwritten and transcribed by the Tijuana-based project secretary The two UCLA researchers lived in their respective research communities for up to two months The UABC researchers commuted to the communities from their homes in Tijuana.

The time originally planned for case studies proved to be insufficient for the in-depth ethnographic work. Thus, we decided to reduce the number of case studies from the 15 originally envisaged to 10 cases per community This allowed timely completion of the ethnographic phase while preserving the reliability of the data base We felt that quality of data was more important than quantity, since the study's subsequent phases would focus on quantitative questions

Survey Phase After analysis of the ethnographic data, quantitative data required for this project fell into four major areas

- sociodemographic characteristics,
- patterns of prenatal health care,
- behaviors and perceptions during pregnancy,
- sources of health information

Draft instruments were prepared based on data from the ethnographic phase and on instruments used by members of the research team for previous studies The two survey supervisors (see appendix A) were trained, and they pilot tested the instruments with representative respondents Drafts were then reviewed for clarity, as well as for the completeness of each question to assure that the instrument was culturally and linguistically appropriate to the study population The final survey instrument appears in appendix C

Eight UABC medical students were selected to participate in the survey as interviewers A six-day training course provided interviewers with a clear understanding of interview techniques, methodology, and how to collect information from respondents by using precoded questionnaires The interviewers collected data during a five-week period Research team members coordinated the work, participated in supervisor and interviewer training, and supervized data collection

Data analysis

The ethnographic data were reviewed and analytic categories created based on the content of the information and on the data collection guide topics The text was entered into a computer, either in the field or by the project secretary The ethnographers used the software package Ethnograph to label and sort the ethnographic data

An interactive data entry and management system (Survey Mate) was used to enter all survey data. Data cleaning involved the usual checks for consistency, out of range variables, and missing information

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) and consisted, for the most part, of simple frequencies and cross-tabulations, since the data were designed to be primarily descriptive Chi square and T tests were used as indicated, and some Anovas and intercorrelation matrices were conducted as appropriate

Problems encountered

Transportation to the field sites was the primary difficulty for both phases We learned first-hand the access problems that could inhibit the use of health programs as researchers struggled up and down hillsides and experienced lengthy waits for buses Only one interviewer was unable to complete the survey interviews as expected, but this did not affect the results because other interviewers filled in

An additional difficulty was presented by the need to run the project through two universities, in two countries, even though only three hours driving time separated us Additional costs were incurred in terms of communication, travel time, and coordination The benefits were a combination of professional strengths at the two universities, which was instructive for all of us, an excellent field site for the project, and the opportunity to work in an environment where the results could be quickly applied.

Research Results

The information discussed in this section is a combination of data from the ethnography and survey phases As a rule, the survey results are presented first and the ethnographic findings are then used to illustrate, explain, and reinforce the survey results

Sociodemographic characteristics of the respondents

Table 3 shows the sociodemographic characteristics of the respondents As can be seen, the project goals of interviewing women with a range of ages, levels of education, timing of initiation of prenatal care, and number of months pregnant at interview were achieved. The distribution of the number of months pregnant at interview was very even For each month of pregnancy from three to nine months we interviewed between 10 and 15 percent of the sample Twenty-six percent of the women interviewed were experiencing their first pregnancy Twenty-four percent of the women were age 19 or under, including nine women (2 percent) who were 15 or under Only nine women (2 percent) were 40 or over

Note that 143 women reported no formal care While a possible explanation is that a few women were too early in their pregnancy to have sought care, only women who identified themselves as pregnant were interviewed. The "no formal care category" consists of women who replied "no" to a question asking if they had sought care as soon as they suspected they were pregnant and who reported no use of formal health services in relation to the current pregnancy after a list of such sources was read For each source the women had to reply yes or no regarding its use Probably most of the 143 nonusers of formal care had postponed such use or chosen not to use this source of care, and that relatively few were too early in pregnancy to have had a chance to go for care

Table 3 The Sociodemographic Characteristics of the Study Population

Characteristics	Mean	Range	Number
Age in years	24 50	13-47	n=443
Years living in Tijuana	13 05	0-39	n=444
Years of education	6 63	0-17	n=444
Month of pregnancy	5 00	1-9	n=444
Month care began	2 18	1-9	n=299
No formal care reported	na	na	n=143
Pregnancies	3 12	1-16	n=444
Live births	1 95	0-14	n=444
Living children	1 85	0-12	n=444
Household size	5 20	0-20	n=444
Marital status		Percent	
Married		64 10	n=443
Consensual union		31 60	n=443
Not living with baby's father		7 20	n=442
Work status			n=353
Full-time outside home		9 10	
Part-time outside home		3 10	
Work for income at home		3 40	
Unemployed		76 50	

na = not applicable

The high level of unemployed women in this sample is surprising We do not know to what degree it reflects the recent arrival of some of these women to Tijuana, the fact that nearly two-thirds were married, and difficulties in obtaining or traveling to employment in Tijuana. We do know from the ethnographic work that men do not like their wives to work outside the home, especially when pregnant. We did ask women how many months they had worked during the past year (in part to capture prepregnancy work) and 248 women (55 9 percent) said none This means that roughly one quarter of the women had worked during the past year but were not working at the time of interview Seventy-three percent (376) of the women reported that the baby's father worked full time Another 90 women (28 4 percent) reported that the baby's father worked part time or occasionally Only nine women (2 percent) said that the father was not working at all. The remainder did not know or the baby's father did not live in Tijuana. This relatively high employment rate for fathers may account, in part, for the lower rate for the women

The mean number of people in the household was 5 2, with a standard deviation of 3 0 The range was from 1 to 20

An examination of relationships between age groups and some of the sociodemographic variables was conducted Analyses were conducted using five-year age groups and also using two groups, women age 19 and under and women age 20 and older The five-year groups yielded numbers too small for many of the analyses conducted, so the two groups, teens (age 19 and under) and women 20 and over were used for most analyses This was done in response to a request from ICRW staff that we focus some of the analysis on the differences between teenagers and older women

Examinations of relationships between age and parity revealed the expected finding that younger women were more likely to be primiparous (Chi square = 127 73, DF = 1, $p < 001$), but 27 percent of the 106 women age 19 and under were multiparas, and most of these women had at least two living children at the time of interview

Age and education were negatively correlated (R = 24, DF = 441, $P < 001$), as might be expected, since younger women may have had less opportunity to attend secondary school Interestingly, an examination of cross-tabulations of age and education showed that while older women were more likely to have had no schooling at all, they were also more likely to have studied beyond the 6th grade, as well as beyond the 10th grade (Chi square = 25 18, DF = 5, $p < 001$)

Age was also related to whether or not women were living with the father of their baby Eighty-seven percent of women ages 19 and under were living with the baby's father as compared to 94 percent of women ages 20 or older (Chi square = 4 6, DF = 1, $P < 05$) Similar differences also emerged when looking at whether women were married, divorced, or in a "free union" with the baby's father Forty-three percent of the women ages 19 and under were formally married, compared with 70 percent of the women ages 20 and over Forty-seven percent of the younger women were in free unions, as compared with 27 percent of the women age 20 and over More of the younger women were divorced or separated (9 percent) as compared with the older women (3 percent) (Chi square = 25 9, DF = 2, $P < 001$)

When age was examined in relationship to whether or not a woman in either a rural or urban residence had worked during the past year, no significant differences were found

Utilization patterns of prenatal care services

Initiation of care patterns Three initiation patterns were identified using three different items on the questionnaire to classify respondents as early initiators of prenatal care (group 1), late initiators of prenatal care (group 2), and noninitiators of prenatal care (group 3) Prenatal care was defined as pregnancy-related services sought from formal sources such as a private physician or a health center Women in group 1 answered "yes" to the question "When you suspected you were pregnant did you go to someone (someplace) to get care?" and said that they went for care the first time at four months or less of their pregnancy Also, they reported using a formal source for care when queried with a list of sources Women in group 2 also said they sought care as soon as they were pregnant, but initiated it at five months or later, and also reported use of formal care at some point during their pregnancy Women in group 3 did not report any use of formal health services at any time during their pregnancy

Of the subjects, 289 or 65 percent were early initiators of prenatal care services, 93 or 21 percent were late initiators of prenatal care services, and 62 or 14 percent reported no prenatal care

Table 4 shows frequencies for a number of sociodemographic characteristics for each initiation group Chi square tests, T tests, and one-way analysis of variance were used as appropriate to examine differences between groups There were no significant age differences by pattern of utilization The average educational level was 6 6 years of education with early initiators of services being significantly more educated ($F = 9\ 6$, $DF = 2, 444$, $p < 001$) than late or noninitiators - Early initiators had lived longer in Tijuana (mean 12 2 years) than noninitiators (mean 9 7 years) There were significant differences in marital status among the groups, with close to 75 percent of early initiators married (Chi square = 27 6, DF = 6, $p < 001$) and 43 4 percent of noninitiators married. This is interesting in that significantly more of the younger women were not married, and there are no significant relationships between age and initiation pattern

Those who sought formal prenatal care made from one to more than eight visits, although the mean number of visits was 3 4, the median was 3 0, and the standard deviation was 3 6 As might be expected, the early initiators were likely to make more visits (mean = 4 9) than later initiators (mean = 3 1, $p < 001$) Early initiation was also positively correlated with having experienced a prior pregnancy ($R = 09$, $DF = 442$, $p < 05$) and with having lived in Tijuana longer ($R = 11$, $DF = 434$, $p < 01$) Women who had lived in Tijuana longer also made more visits ($R = 1309$ $DF = 434$, $P < = 01$)

As stated earlier, 76 5 percent of all respondents reported being unemployed Late initiators were more likely to be unemployed than the other two groups ($p < 001$) Late and noninitiators were more likely to have two or more living children

Table 5 presents data on the use of kinds of prenatal services in ranked order for early and late initiators of care Early initiators were most likely to use a private physician and were significantly more likely to use private physicians than late initiators (Chi square = 63 1, DF = 2, $p < 001$) The second and third highest formal source of health care reported were the social security facilities and local health centers, respectively Late initiators reported higher use of these two government sponsored health services than early initiators An interesting point is that the ranked ordering of sources of formal care were similar for both groups, which may reflect personal preferences or the perceived quality of care provided by these facilities

Table 4 Sociodemographic Characteristics by Initiation Pattern

Characteristic	Total (N=444) mean	Early (N=289) mean	Late (N=93) mean	Nonuse (N=62) mean
Age	24 6[a]	24 7	24 7	23 7
Number of living children	1 8[a]	1 7	2 1	2 2
Number of years living in Tijuana	11 7[a]	12.2	11 3	9 7[c]
Mean years of education	6 6[a]	7 1[c]	5 8	5 6
Number of persons in household	5 2[a]	5 1	5 2	5 6
	Percentage	Percentage	Percentage	Percentage
Marital status				
Married	64 1[b]	72 2[c]	52 7	43 5
Living together	31 6	25 0	39 8	50 0
Separated or divorced	4 1	2 4	7 5	6 5
Employment status				
Unemployed	76 5[b]	75 3	75 0	84 0[c]
Currently working	15 6	17 5	11 1	12 0
Other	7 8	6 9	12 5	4 0

[a] one-way analysis of variance
[b] Chi square
[c] $p < 001$

Table 5 Frequency of Use of Formal and Informal Health Care Services by Early, Late, and Noninitiator Groups
(percent)

Type of care	Total (N=444)	Early initiators (N=289)	Late initiators (N=93)	Non-initiators (N=62)
Formal				
Private physician	45 5	55 4	45 2[a]	--
Social security	25 5	28 3	34 4[b]	--
Health center	16 9	18 7	22 6[b]	--
General hospital	4 7	4 8	7 5	--
Red Cross	2 9	2 1	7 5[a]	--
Informal				
Sobadora[c]	7 2	6 2	9 7	8 1
Mother-In-Law	2 0	2 4	2 2	—
Mother	4 7	5 2	4 3	3 2
Pharmacy	3 6	1 6	1 1	0 9
Midwife	1 1	0 7	1 1	3 2[a]
Nobody	1 8	--	--	12 9

-- = not applicable

Note Categories are not mutually exclusive and sum to more than 100 percent.

[a] $p < .01$

[b] $p < .00$

[c] A sobadora is a masseuse, but is also like a chiropractor

A one-way analysis of variance using a composite variable of use of all formal health care services revealed over all significant differences between the groups ($F = 42.8$, $DF = 2$, $p < .001$). Post-hoc Newman Keuls procedure showed that early initiators have significantly different initiation patterns from the late initiator group ($p < .05$), who made less use of private physicians and more use of the social security system and the government health center.

These findings are consistent with those obtained by Jasis (1987 and 1985) obtained in a survey of the border population conducted in Tijuana. The use of private medical services as well as early initiation of prenatal care was found to be correlated with income. Upper-income women were more likely to choose the private sector and receive early prenatal care. Low-income women were more likely to use public services (over 50 percent), although there was an overall preference for private care.

Use of formal and informal prenatal care services. Of those respondents who did not initiate use of formal services, the major reasons given were lack of money and no insurance (15.4 percent). Approximately 27 percent reported that they simply decided not to go, and 20.2 percent of the noninitiators reported that they never go to anyone (even a nonformal source) during the first few months, do not like to go to the doctor, or did not feel it was necessary. Close to 13 percent of the noninitiator group did not initiate prenatal care because they were not sure if they were pregnant or had no physical symptoms, yet, as stated earlier, only women who identified themselves as pregnant were interviewed. Possibly by the time these women decided they were pregnant, they felt there was no need to go. Work done by Scrimshaw (1985) in Ecuador and Browner (1980) in Colombia shows that when women in those countries are not anxious to be pregnant, they feel that they are in a borderline state where their period might still "come down." This postponement of the definition of pregnancy facilitates the rationalization of induced abortion in those countries. In Mexico, it may also account for postponing, often indefinitely, a prenatal visit to a clinic or doctor. Surprisingly, only four respondents reported that the "medical facility is too far," while two respondents stated that they "didn't know where to go."

Table 5 also shows the use of informal health services by initiation pattern. Early initiators reported the lowest use (6.2 percent) of a *sobadora* (massage therapist), but the highest use of their own mother (5.2 percent). Among the late and noninitiator groups, close to 10 percent reported use of a *sobadora* and were less likely than early users to report reliance on their mother (4 percent). Among the noninitiator group, 3.2 percent reported using a midwife. The latter group was significantly more likely to use this source of health care (Chi square = 2.9, $DF = 2$, $p < .01$). Close to 13 percent of the noninitiators reported using nobody, which was a significant variation from the other groups (Chi square = 50.2, $DF = 2$, $p < .001$).

To summarize, the results suggest that women who have the access to and the means to pay for private care are more likely to initiate prenatal care early. Late initiators are more likely to rely on public sources, such as the social security system (which in Mexico provides health care to insured workers and their families) and the public (government sponsored) health centers. Nonusers are the most likely to resort to traditional resources such as midwives, or not to seek assistance at all. Even early initiators, however, still rely to some extent on informal sources of health care such as their mothers and mothers-in-law, the

sobadora, and the pharmacy For the early and late initiators these informal sources appear to be a supplement to the formal sources For the noninitiators, they form the only source of advice, if any

Obstacles to use of services Our ethnographic data provide more detail about low use or nonuse of prenatal services Women in the ethnographic sample expressed concerns about walking up and down hillsides to reach main roads and transportation They greatly feared falling during pregnancy From the researchers' experiences, falling was a real risk in some of the hillside neighborhoods In addition, some of the restrictions on the mobility of young wives observed in other Latin American countries (Scrimshaw 1978), as well as in Mexico (Lewis 1963), continue to be in force in Tijuana. Some of the younger women studied did not go out alone because "it wouldn't look right" and their husbands wouldn't like it, so they were dependent on their husbands or female relatives to accompany them to prenatal care

Another concept often stated during the ethnographic work was "Why should I go to a check-up if I feel well?" One woman noted. "It's a good idea to go to see a doctor during pregnancy so that one doesn't put the child's life in danger, but I haven't gone during this pregnancy because I have felt well " Another said "I should go to the doctor every month, but when I feel something odd in my belly such as the child doesn't move or it becomes hard or I feel 'boxed in' then I go to the *sobadora* or 'one who massages' "

A major theme that emerged during the ethnography was dissatisfaction with public health services (not explored in the survey due to time constraints and because this was so universal and obvious) Partly because of this, another important finding was the use of multiple services, a theme echoed by the survey data. In one case "Rosa" went to the local clinic for a check-up on Monday, as scheduled, but was told to return the following day as the doctors were not there (she was not told why) For the next three days the same thing happened Finally, she went to another public clinic considerably further from her house that cost her a day's wages and three hours of travel The doctor there did not tell her how the baby was and "didn't even prescribe some vitamin pills " She now refuses to return to any public clinic and is hoping her husband can qualify for social security benefits so she can go to that hospital

In general, the women studied ethnographically preferred to get prenatal care from private practitioners If they could not afford this option, they preferred social security to the public clinics because they thought the service was better This is consistent with the use patterns described by the women surveyed, as shown in table 5

Content of first prenatal visit When women were asked about initiating prenatal care, they could report a simple check to see whether or not they were pregnant or they may have had a more thorough prenatal examinaton To get a better sense of what actually happened during the first visit of the current pregnancy, the women were asked a series of yes/no questions about examinations and procedures Their answers are summarized in table 6

Table 6 Content of First Prenatal Visit

Action	Percentage Yes	No	Number
Performed a pregnancy test	72	28	n=318
Took blood pressure	75	25	n=321
Advised you to avoid alcoholic beverages	60	40	n=320
Advised you to eat certain foods during pregnancy	57	43	n=321
Advised you which foods to avoid during pregnancy	46	54	n=320
Recommended tetanus vaccination	33	67	n=321
Gave you vitamins	72	28	n=320
Advised you not to smoke	57	43	n=320
Took blood sample	64	36	n=321
Advised you which medications not to take	51	49	n=320

Remember that the information in table 6 is based on the women's recollections of what took place in answer to some very specific questions Nevertheless, for purposes of improving pregnancy outcome, we need to know what women remember Based on table 6, high proportions of the women were given advice about avoiding smoking and drinking alcoholic beverages, and were given vitamins It is disappointing that only a third of the women recall having a tetanus injection suggested to them Advice on diet was mentioned by the women around half the time These answers probably represent most, but not all, of the content of the prenatal care about which they were asked Clearly much of the time the first visit is much more than a token visit only to confirm the pregnancy, and includes examinations and medical advice

Use of pregnancy-related sources of information Table 7 shows that the most likely source of pregnancy-related information for all respondents is the private physician Female relatives (mother and mother-in-law) and female friends are the second and third most frequently mentioned sources of information about prenatal care Overall, fewer than one tenth of the women mention their husband as a source of prenatal care information Other sources of information include the *sobadora*, someone older (usually another woman), pharmacist, and midwife

Chi square analysis reveals significant differences between the early initiator groups and the other two groups The early initiators are more likely than the other two groups to obtain information on prenatal care

Table 7 Ranked Order Frequency Distribution of Use of Information Sources by Early, Late, and Noninitiators

Source	Total (N=444)	Early initiators (N=289)	Late initiators (N=93)	Non-initiators (N=62)
Physician	50 5	60.2[a]	30 1	35 5
Mother	20 0	19 7	21 5	19 4
Nobody	13 1	8 7[a]	21 5	21 3
Husband	7 7	6 2	9 7	11 3
Mother-in-law	7 7	8 7	5 4	6 5
Female friend	5 9	5 9	5 4	6 5
Other	4 5	5 4	3 3	1 6

[a] $p < 001$

from the private physician (Chi square = 31 95, DF = 2, $p < 001$) Early initiators are significantly less likely to report nobody as a source of information, while late and noninitiators are three times more likely to mention nobody (Chi square = 14 4, DF = 2, $p < 001$)

Ethnographic findings placed more emphasis on the woman's mother as a source of advice For more educated women, the doctor was seen as coming first in authority, but the mother would be consulted first. This does not imply a contradiction between ethnographic and survey findings, but more likely represents a subtle depth on when, how, and for what people are consulted Our survey question was probably interpreted as referring to more clinical type of information

Perceptions of prenatal care Among the early initiators of prenatal care services, the average month of pregnancy for initiating prenatal care was 2 8 months Over 50 percent of the early and late initiators perceive the first trimester to be the most important time for taking precautions Only 37 7 percent of the noninitiators perceive that a pregnant woman should take precautions in the first three months of pregnancy Additionally, close to one-third of this group perceive the third trimester as the time one must take the greatest precautions

The item asking why a woman should see a doctor when she is pregnant reveals that 42 8 percent report "to check to see how the pregnancy is progressing " Approximately 40 percent of all respondents report the major reason is "to see how the baby is doing " In fact, these two responses are very similar, although one focuses on the pregnancy and the other on the baby Thus over all, 83 percent of the women correctly identified the preventive or check-up nature of prenatal care when they reported that the reason for seeing a doctor is to monitor the health of the mother and baby Other reasons given by the respondents include "to avoid complications," "to obtain vitamins," and "to have a good delivery " The only significant difference among the groups on this issue was that 15 percent of the noninitiators indicated the reason "to see if I need vitamins" influences their decision to seek care (Chi square = 9 6, DF = 2, p < 01), while only 4 percent of the early initiators reported the need for vitamins as a reason to seek prenatal care

As mentioned earlier, women contacted during the ethnographic phase had mixed perceptions of prenatal care One woman said "Why go to a doctor unless you are sick? If I go, I get very nervous, I feel more confident here in my house than in a hospital There many people look at me I don't like that "

Pregnancy related beliefs and behaviors

Stages of pregnancy As discussed under methodology, one of the reasons for this multistage approach was to increase the validity or accuracy of the findings, as well as their reliability or replicability Thus, during the ethnographic phase we did not discuss pregnancy in terms of trimesters as health care providers and most health education literature use this term Instead, we tried to elicit women's views of pregnancy through open-ended discussions None of the women studied ethnographically described pregnancy in terms of stages or trimesters "It grows little by little It seems to me to be more like a process " Women do, however, divide pregnancy into months, usually two through seven There is also the concept of the early part or--the beginnings--of pregnancy and *el último* or the last month or two A less clearly delineated middle section is described as *los mediados* This has implications for the way in which women are asked about stages of pregnancy For this population, both questionnaires and patient education information would do best to use terms like *los primeros meses* (the first few months), *los mediados* and *el último* or *los ultimos meses* (the end or the last months) instead of the word *trimestre* (trimester), which is less readily understood

Concepts of risk. One of the purposes of this project was to help women obtain information on how to identify and respond appropriately to high risk conditions The ethnographic data showed that the term "risk" (*riesgo* in Spanish), while a direct translation from the English, was not understood or much used by the women When asked what risk meant to them in relation to pregnancy, most said "The fear of childbirth, the birth itself " Upon discussion, the word *peligro* or danger emerged as most closely representing the concept of risk for these women Danger implied the hazards of pregnancy, the things that could go wrong and hurt the baby Because of this, we used the word *peligro* or the closely associated word *miedo* or fear in the survey instrument and again in the messages we designed for the communication phase

The association between risk and phases of pregnancy varied in the ethnographic sample Some women saw the early period as more dangerous because a woman may not realize she is pregnant and may not eat well or may take dangerous medications Others saw this period as dangerous because the fetus is little and could easily be dislodged by a fall or other abrupt movement. Women also worried that *coraje* or anger during this period could lead to abortion

Most of the women studied ethnographically did not see the middle period of pregnancy as dangerous The final months were seen as dangerous because of the size of the fetus ("it moves around a lot and can hurt you") and because of fear of the delivery itself One woman echoed the feelings of many when she said "Pregnancy is nothing unless the birth is bad That is what gives me the most fear, actually it gives me goose bumps You never know what might happen " Many women expressed fears of a cesarian section Thus, in the early months women were more concerned about risks to the fetus and in the later months they were more concerned about risks to themselves

Survey questions about risk focused around specific problems and symptoms The data on perceived times of danger have already been discussed in relation to use of services Questions on perceptions of **baby movement** showed that 41 percent of the women would fear that the baby was dead if they had stopped feeling regular movements Nine percent of the respondents reported that "the baby was sick" if movement stopped, while 19 percent reported it was sleeping When women were asked what they would suggest to a pregnant friend who had been feeling the baby move and then felt no movement for several days, 93 percent would suggest that she see a doctor

During the ethnographic work, the theme of danger from eclipses emerged Concerns centered around the idea that eclipses can cause deformities or **birth defects** People listened to the radio or watched television to find out when eclipses would occur Women would try to stay indoors during an eclipse A safety pin on the woman's underwear was thought to protect against an eclipse, as were keys pinned to the underwear or hanging from a belt Red underwear was also thought to be protective

Close to one third of the ethnographic sample reported experiencing **bleeding** during pregnancy, although only one actually miscarried All reported seeking care for the bleeding in the formal system Reasons given for the bleeding included a *susto* (fright), anger, a fall, and lifting heavy things

Twelve percent of the women surveyed said they had experienced vaginal bleeding during the current pregnancy When asked why this happened, only 21 women (39 percent) of the 54 women who reported bleeding had any explanation at all Explanations ranged from anger and tension to falls

All women surveyed were asked why they thought women experienced vaginal bleeding during pregnancy Fourteen percent said lifting heavy objects caused bleeding, 30 percent cited threat of spontaneous abortion, and 3 percent mentioned anger This indication that at least some of the women associated bleeding with complications was reinforced when the women were asked directly if vaginal bleeding during pregnancy is dangerous Ninety-five percent said "yes," and 93 percent said women should go to the doctor This is not always as easy to do in reality, as illustrated in a case study from the ethnography

One woman in the ethnographic sample began bleeding in her sixth month of pregnancy She worried but did not seek attention until the flow increased Her husband then became concerned and

consulted his mother who examined the woman The mother-in-law wanted her to see a doctor, but the woman did not want to be seen bleeding on the bus she would have to take to reach the doctor The local midwife was summoned She examined the woman and tied a sheet around her to absorb the blood, then convinced her to seek medical attention The woman refused to go to a public clinic because of her mistrust of public facilities, so a neighbor drove her to a private clinic Rest and an injection stopped the bleeding and contractions

Three percent of the women surveyed reported having **blood in the urine** during the current pregnancy A high proportion of the women (85 percent) thought this was dangerous

The women surveyed were asked a series of questions about symptoms of **hypertension and toxemia** Twenty-seven percent of the women reported they had had a rise in blood pressure during the current pregnancy, 69 percent said they had not, and the rest did not know What this question measures, of course, is not clinically accurate, but it does show the proportion of women who thought, for whatever reason, that their blood pressure was up It also reflects a high degree of awareness of the problem, and 86 percent of the women felt hypertension was dangerous during pregnancy When asked about means of lowering blood pressure, many women suggested going to the doctor (44 percent) or taking medicines (12 percent) Other suggestions included changing the diet ((5 percent), rest (12 percent), drinking coca cola (4 percent) and "nothing" (3 percent) These findings indicate a relatively good level of awareness of hypertension and what to do about it, which could be enhanced and reinforced in the educational materials

Questions about specific symptoms showed that 43 percent of the women surveyed had noticed swelling in their feet during the current pregnancy and 59 percent identified this as a potential problem They suggested elevating their feet (24 percent), eating less salt (24 percent), resting (20 percent) and going to the doctor (11 percent) if the swelling appeared "bad "

Forty-six percent of the women surveyed reported headaches during the current pregnancy, and 58 percent identified this as a potential problem if frequent and severe Women suggested seeing the doctor (38 percent), taking medicine (16 percent), resting (11 percent) or doing nothing (20 percent) for headaches

A surprising 25 percent of the women surveyed reported experiencing blurred vision during the current pregnancy, and 76 percent felt this was a dangerous symptom The majority (58 percent) felt women with this symptom should see a doctor Others suggested eating well (14 percent), taking vitamins (9 percent), and "drops" (2 percent) The references to food and vitamins suggest that they associated blurred vision with weakness

When asked what the word **diabetes** meant to them, women surveyed replied that it meant "high sugar" (23 percent), involved "blood problems" (8 percent), or was caused by eating too much sugar (9 percent) Only 2 percent said that they themselves had diabetes, and 96 percent identified it as dangerous The figure for women reporting diabetes is low for this population, and implies that some pregnant women may have this condition but be unaware of it. Questions about symptoms such as excessive thirst (reported by 65 percent) are difficult to interpret since Tijuana has a hot, dry climate Only 11 percent of the women thought such thirst might be dangerous

Weight and weight gain The women surveyed were asked if they had ever had "a baby who was born weighing too little " Of the respondents who reported having at least one previous live birth, 29 5 percent said "yes " This is a high proportion of the women, even when we consider that the question is based on womens' perceptions and recall rather than actual, reliably recorded, baby weights When asked why babies are born weighing too little, 87 percent of all the women said poor nutrition, while another 6 percent said lack of vitamins These responses indicate that women are well aware of the relationship between diet in pregnancy and the baby's weight.

Women were asked how much they thought the baby should weigh Responses ranged from 1 kilogram to 6 kilograms, but the mean was 3 16 kilograms and the median was three Women's responses were scored as correct or incorrect (too heavy or too light) and the resulting scores were cross-tabulated with prenatal care initiation patterns, but no significant differences emerged Essentially, most women (84 percent) had correct impressions of the ideal weight of a baby

Women's perceptions of their own weight gain were more complicated. Responses to a question about total weight gain in pregnancy ranged from 1 kilograms to 30 In addition, a third of the women sampled said they did not know the answer The median response was 7 kilograms, but this does not take into account the number of women who said "0 " Women's responses were grouped into three categories, low, adequate, and high Of those who responded to this question, 53 percent were in the low group, 35 percent had a correct response, and 12 percent overestimated pregnancy weight gain When these findings were cross-tabulated with initiation of prenatal care patterns, the differences were statistically significant (Chi square = 10 31, DF = 1, $p < .05$) Late and nonusers of prenatal care were more likely to be in the low weight gain group (64 7 percent and 66 7 percent, respectively) as compared to early care initiators (48 8 percent) Of the three groups, early initiators were most likely to be in the adequate or accurate weight gain estimate group (40 3 percent as compared to 25 5 percent for the late initiators and 14 8 percent for the noninitiators)

It is not clear whether early use of prenatal care services increases women's knowledge, or whether more knowledgeable women are more likely to seek earlier prenatal care In all likelihood, there is an interactive pattern

The women surveyed were asked if women should eat more, less, or the same amount of food during pregnancy, and also, whether they actually ate more, less, or the same Of the total sample, 54 percent said they should eat more, 35 percent said the same, and 11 percent said less We were surprised that only a little over half the sample said more, although this is consistent with the varied expectations for weight gain We examined this variable for teenagers (13-19) and adults (20 and over) and found that the teens were more likely to think they should eat more (65 7 percent) than the adults (50 5 percent), while the adults were more likely to say the same (38 4 percent as compared to 25 7 percent for the teens) (Chi square 7 58, DF = 2, $p < .05$)

The response to the question on actual eating patterns (more, less, or the same amounts) showed that fewer women (46 percent) said they actually ate more, 32 8 percent said they ate the same amount, and 21 percent said they ate less than before becoming pregnant. Again, teens and adult women differed

significantly, with proportionately more teens (58 7 percent) saying they ate more than before becoming pregnant than adults (42 3 percent) Twenty-one percent of the teens said they ate the same as before in comparison to 36 percent of the adults, while approximately 20 percent in both groups said they ate less than before (Chi square = 10 28, DF = 2, p < 01)

Anemia. The use of iron capsules was examined in relation to prenatal care initiation patterns Early initiators were significantly more likely to be taking iron (62 9 percent) than late (50 6 percent) or nonusers (13 percent) (Chi square = 50 85, DF = 2, P < 001) During the ethnography, frequent references were made to vitamins and iron, and the word anemia was used to refer to "weak blood "

Pica or eating earth was reported by four respondents and is often perceived as being associated with anemia. Women were embarrassed about this behavior and usually hid it from family members Clay was the preferred substance, although "white" dirt was also mentioned as popular Some women bought magnesium tablets from pharmacies for this purpose

Eighty-six percent of the women surveyed said they knew that some women eat earth Of the explanations given, the most common was that the baby felt like it (6 percent), the mother needed vitamins (7 percent), the mother needed iron (3 percent), and that it is "refreshing" (1 percent) Twenty eight percent said they have had the desire to eat earth, while 73 percent said they had not. Eighteen percent said they wanted to eat magnesium tablets, and 8 percent (37 women) said they had eaten one or more magnesium cubes during this pregnancy

The women surveyed were asked a number of questions about iron during pregnancy (These questions were actually asked earlier in the interview than the questions on anemia to avoid a bias about links between iron and anemia.) When asked what function iron had, 22 percent said it makes the bones stronger (denser), 21 percent said it was good for the body, and 22 percent said it was good for the baby Since these answers were not mutually exclusive (women could give multiple answers), it is clear that many women did not have a response to this question

During the ethnography, the concept that iron can only be absorbed in the early part of pregnancy emerged Women indicated that there was no point in taking it after the first few months since "it wouldn't do any good." We asked the women in the survey about this Of the 330 women responding, 34 percent thought it was only absorbed during the first three months of pregnancy, 27 percent thought it was absorbed through the middle period as well, 11 percent thought towards the end, and 20 percent thought it would be used throughout the pregnancy Nine percent had other alternatives It is noteworthy that so many women did not think iron could be used after the first and second trimesters This has implications for educational materials

When asked about iron injections, 45 percent of the women said they had received them The ethnography revealed that women often felt any medication was more effective if given by injection, which is why this question was asked during the survey Fifty-four percent reported taking iron tablets during this pregnancy

Food and food habits "During pregnancy one should eat well because what one eats, the baby eats, and a baby should be well nourished" (Maria, Tijuana, Mexico)

During the ethnographic phase, women identified relatively few food restrictions Most of these were confined to foods considered bitter or acidic, such as lemons and chiles These foods are classified as "cold," and other cold foods such as ice and ice cream are also avoided because they might cause colic (stomach pains) The women thought this would make the fetus uncomfortable and make it turn around and upset the stomach Acid foods are also seen as possibly causing *chuncual*, or a red rash on the fetus' buttocks

Other dietary restrictions noted during the ethnographic phase include coffee (the caffeine is seen as bad for the baby), salt ("because it makes your feet swell"), sodas ("the gas is bad and harms the stomach"), too many white flour tortillas and pasta, lard, and oil because "they make the mother and child too fat" and pork "because of the little animals it contains " These attitudes reflect a good awareness of some of the actual dietary hazards during pregnancy

The survey contained a question on which foods are good for you during pregnancy Up to 12 foods could be coded. The responses were used to generate a food knowledge score, which was based on a sum of "correct" answers This showed generally good knowledge, reinforcing the ethnographic findings The mean for the sample was mentioning four healthy foods, the range was zero to ten Good foods mentioned included meat, milk, fish, chicken, eggs, and lentils The food knowledge score was positively correlated with education (R = 143, DF = 442, p < 001) and length of residence in Tijuana (R = 1520, DF = 434, p < 001) Early initiators of prenatal services also had higher food knowledge scores than late initiators or nonusers of prenatal care (Chi square = 13 3, DF = 4, p < 01)

Food cravings in pregnancy were recognized and satisfied whenever possible Some women believed that if cravings were not attended to, the baby would be born with its mouth open, asking for food Questions in the survey about cravings revealed that they were most often attributed to the baby's desire for certain foods (47 percent of the 273 women who responded to this question) or to the effects of the pregnancy itself (24 percent) Of 438 women, 88 percent felt women should eat the foods they craved Perceived consequences of not doing this included a spontaneous abortion (27 percent), premature birth (6 percent), and baby born with its mouth open (16 percent)

Stress, rest and activity During the ethnographic phase, women talked about the dangers of *corajes* or strong emotional upsets *Corajitos*, or little upsets, like having to reprimand a child, are not dangerous, but with *corajes* one's face gets hot and one gets upset.

One concern frequently expressed during the ethnography was that the baby would get stuck, or adhere to the woman's abdomen This was called *encajo* or *pega* *Encajo* was thought to be brought on by too much rest or lying on the same side too much Women went to the *sobadora* to get a massage to free up the baby

The women surveyed were asked why *pega* or *encajo* occurs Fifty-one percent said it was due to sleeping or lying down, while another 40 percent said it was due to not exercising The remaining women expressed a variety of other reasons, or did not respond to the question (70 women) When asked what to do about the problem, 16 percent of those who replied (317 women) said they would go to a masseuse, 33 percent said they would massage themselves, 19 percent would do nothing, 8 percent would go to a doctor, and the remainder had a variety of other strategies

Women in the ethnographic sample summarized ideal care during pregnancy as meaning mild exercise, no abrupt movements, rest, taking vitamins, and eating well. Most women felt that they should not lift heavy objects as this could lead to bleeding and miscarriage One woman stated "It's not good to lift heavy objects, gain much weight, work hard, sweep or bend much " Another said. "One should not get hit or bumped and should not lift heavy things, but, what can you do, you have to have water " This statement refers to the fact that the need to fetch and carry water means that her actual behavior cannot conform to the ideal of not lifting heavy things

These findings indicate that while women believe they should avoid heavy work, there are also culturally defined problems that arise from too little activity Cultural norms, then, reinforce a moderate level of activity and some rest.

Communication patterns

Survey results showed the most frequent sources of health information can be classified into the general categories of mass media, interpersonal communication with laypersons, and interpersonal communication with health professionals

As shown in table 8, the doctor was the single most important source of health information (84 percent) The second most frequent source was television (52 percent), and the third most frequent source was friends and relatives (mostly the mother or mother-in-law) Table 8 also shows that mass media are a powerful source of health information, and that women frequently read printed materials in the form of health pamphlets and magazines for health information This was often iterated by the women studied ethnographically, who preferred one-on-one contact with health providers, pamphlets, and radio or television shows as sources of information Other studies have shown that Hispanic women have read pamphlets with health information, particularly those obtained from health sites (Alcalay et al 1988)

By contrast, newspapers were not an appropriate medium to reach this population These results are consistent with other studies (Alcalay et al 1988) that have found similar patterns of media use among low-income Hispanics in the United States

Communication with laypeople can be an important source of health information for this population, particularly with relatives or friends The only health experts that were significant sources of health information were doctors, and to a more limited degree, nurses

There were relatively few statistical differences between primiparous and multiparous women in terms of their communication patterns Multiparous women were more likely to use the radio ($p < 01$) and the physician ($p < 001$) than were primiparous women, and were generally more likely to report health programs as sources of information (DF =441, F = 11 78, $p < 001$) Women who started using prenatal care services early in their pregnancy were more likely to watch television ($p < 05$) and obtain information from their doctor than were late or noninitiators ($p < 001$) In general, early initiators were greater users of mass media than the other two groups (DF = 439, F = 5 00, $p < 01$), but the main difference is with the noninitiators (Scheffe procedure significant at the 05 level)

Table 8 Sources of Health Information

Source	Number	Percentage
Mass media		
Television	230	52
Radio	144	32
Newspaper	53	12
Weekly paper	23	5
Pamphlets	212	48
Picture books	95	21
Magazines	186	42
Interpersonal communication laypersons		
Relatives	174	39
Neighbors	174	39
Friends	218	49
Interpersonal communication health professionals		
Midwife	39	9
Doctor	374	84
Social worker	76	17
Nurse	133	30
Pharmacist	51	12

Table 9 provides a breakdown of the types of broadcast media, print media, and group participation used as communication sources in this population The high proportion of women who reported listening to music programs on the radio is of particular interest.

These findings were consistent with the ethnographic findings, where women often talked in detail about information they had obtained One women reported hearing a radio program on pregnancy where it was said that a pregnant woman's baby died inside because she took too many pills at once The woman who recalled this said that is one reason she tries not to take medication when she is pregnant. Television and radio novels were also mentioned frequently, as in the survey Women also spoke of seeing posters in clinics, and could often describe pictures and messages in detail

Communication Phase

The purpose of this phase was to apply the results of both the ethnographic and survey phases to the development of a health education campaign using mass media and other appropriate means to meet the identified needs of the target population

Methodology

The development of the health education campaign involved two steps

1 Assessment of the ethnographic and survey results to identify areas of intervention in pregnancy-related behaviors and communication patterns of the target population (done during autumn 1988)

2 Design of a health education campaign based on the results of study This step included the following stages

- designing health education materials (autumn 1988),
- pretesting format and content of these materials in focus groups (winter 1989),
- producing sample materials and further focus group testing (spring 1989),
- producing final materials in format for mass reproduction (spring and summer 1989)

Focus groups were conducted to document the responses to three components of the printed health education materials program a poster, a calendar, and an informational brochure (the rationale for selecting these formats is discussed later) In a focus group, a relatively small group of people (5-15) who represent the audience for the intervention are asked to attend a meeting where their opinions will be sought A leader guides the discussion based on a set of questions and test materials (photos, slogans, and so on) and a recorder writes down the responses (see Scrimshaw and Hurtado 1987 for a more detailed discussion of this process) Often, refreshments are served and other ways may be found to thank people for their trouble For this project, we told women we would be asking for their ideas on how to help women learn more about how to take care of themselves during pregnancy We told them a doctor (usually Dr Rosa Luna) would be available at the conclusion of the session to answer questions The questions themselves were also useful sources of information about women's concerns and information needs

As shown in table 10, there were two basic types of focus groups, one to guide the format decisions and the other to pretest proposed content of the materials

For the first type of focus group, women were shown two to four different graphic ideas (posters, pamphlets, calendars, and so on) Discussions were also held on other formats, such as small group discussions in clinics Women's responses were documented, and this information was subsequently used to make the format decisions for each component of the campaign Four focus groups of this type were conducted

In the second type of focus group, women were asked to respond to proposed graphic ideas and written messages for a given component of the campaign For example, several calendar formats, messages, and graphics would be compared (see appendix D for examples) The responses from these groups were used to refine further the graphic elements and wording of messages A total of nine focus groups of this type were conducted (see table 10) This means that focus group results are often in the form of statements such as "Both groups preferred to see people eating rather than just food." Each focus group served to narrow down the choices of materials and to guide the format

Table 9 General Communication Patterns

Communication source	Percentage
TV programs women watch	
News	72
Soap operas	76
Films	70
Women's programs	33
Musical	42
Children	45
Talk shows	43
Health	45
Community service	33
Radio programs women listen to	
News	59
Music	80
Talk shows	36
Community service	26
Soap operas	13
Religious	9
Health	34
Print media used	
Story books	23
Magazines	33
Newspapers	35
Group participation (weekly or monthly)	
Church	43
Neighborhood group	16
PTA	12
Union	2

All 13 focus groups were conducted by a team of four trained field researchers For every focus group, the research team prepared a guide that specified an objective in terms of the decision or action that would result from the focus group The guides contained questions designed to evoke responses from the group that could be used to assess four different concepts

- comprehension
- credibility
- cultural acceptability and relevance
- appeal

After each focus group, the research team submitted a detailed observational report and a summary report of responses relevant to decisions or actions Not only did all members of the research team consider this report, but it was also reviewed in detail with the design consultant responsible for the actual production of the materials

Table 10 Focus Groups

Topics discussed	Number of groups conducted
General themes and formats	4
Poster wording and graphics	3
Calendar wording and graphics	4
Pamphlet wording	2

Campaign messages

The most significant areas pertaining to prenatal health care based on the survey and ethnographic data are described below

Access to care Research results indicated that about a third of the women who were interviewed did not use formal health services for prenatal health care Ethnographic findings revealed that many women thought prenatal care was not necessary if they were feeling well, or that it was too much trouble to bother with Thus, one message needed to emphasize that women should have a prenatal examination at least three times during pregnancy at the beginning of pregnancy, at the middle, and towards the end. The rationale for these three points in time is implicit in the literature review and is primarily medical If women are making relatively few visits anyway, the detection of high risk conditions may be the most important function of prenatal care For this purpose, women should be seen as soon as possible in pregnancy and then again in the middle and last trimesters The importance of starting prenatal care early in the pregnancy was emphasized. The need for some basic continuity of care was also stressed.

Nutrition Our data indicated two major areas to be addressed weight and anemia

Women lacked knowledge about the amount of weight they should gain during pregnancy, however, their responses were more accurate about the amount the newborn was expected to weigh Most women responded that if the newborn were to weigh three kilograms, for example, they should gain about three kilograms of weight during their pregnancy Both the ethnographic data and the focus groups revealed that many women were not aware of what, besides the baby, accounted for pregnancy weight gain Also, many felt pressure from the baby's father not to get "too fat." Furthermore, many women who did attend clinics and were weighed there were not told what they weighed and what their rate of weight should be Thus, a goal for the campaign was to communicate the need to gain gradually between 10 and 12 kilograms during pregnancy (significantly more than the weight of the fetus), and to communicate this to men as well as to women

Eighty-two percent of the women associated anemia with poor nutrition Results from the survey identified a positive awareness of the need for iron during pregnancy and iron deficiency in the form of anemia as a risk factor In addition, women identified that they knew anemia during pregnancy was bad for the baby Anemia was also a big preoccupation of women studied in the ethnography phase and was avidly discussed in the focus groups *Pica* (eating clay or dirt) was blamed on anemia Finally, clinicians in Tijuana have identified anemia as a problem for this population Vitamins were identified by women in all phases of the research as "good for the body" and "giving strength " Because the study found that vitamins were viewed as important in this culture, especially during pregnancy, they can be considered a culturally acceptable vehicle for preventing anemia. A goal for the campaign included messages to prevent anemia through good nutrition and taking vitamins

Risks during pregnancy The data from all three phases showed that women needed more information on symptoms they can detect that could be early warning signs of risks to the pregnancy In particular, women were fearful of childbirth and related complications, including cesarian section Therefore the campaign included messages encouraging women to consult a physician if during pregnancy they noted any of the following list of symptoms

Primary Messages (calendar and brochure)

Strong headaches
Swollen feet and hands (excessive swelling)
Cramping and it was too early to deliver
Vaginal bleeding

Secondary Messages (brochure only)

Fever or chills
Nausea
Rapid weight loss
Movements of the baby discontinued
Problems urinating
Excessive thirst

These symptoms were selected on the basis of the more serious complications of pregnancy as judged from the literature and by the team physicians Many hours were spent in team meetings as well as in the focus groups trying to describe symptoms in ways that the women could understand and identify The final symptom list above did not include everything the physicians would have wished, but contains what is feasible for women to identify themselves

Choice of media

In accordance with basic principals of health education, a three-tiered strategy was employed.

1 Raise the consciousness of the target population Why should prenatal care be important to you?

2 Disseminate information How can you take better care of yourself during pregnancy?

3 Reinforce messages over time What will remind you of ways to take better care of yourself during pregnancy?

Given the results from the survey and the ethnographic study, we should have designed and created a television show, a radio show, a pamphlet, and arranged for long one-on-one discussions between doctor and patient. Given the resources of this project and of health programs thoughout the world, these preferences of women were not all feasible Television is too expensive and difficult to sustain for most health programs Overcrowded clinics do not permit the luxury of long conversations with staff, and even radio programs are difficult to create and maintain, although we do recommend talk shows or brief informational shows with local doctors wherever possible Of the preferences expressed by women in the survey, only the pamphlet was feasible

During the ethnography, we noticed calendars in every home, many given away each year by local businesses that included advertising messages For example, as one of the interviewers noted "She had a wall calendar from the pharmacy hanging next to the door " In addition, posters were often seen around Tijuana and in clinics and pharmacies Therefore, we selected printed materials in the form of a poster, a calendar, and a health pamphlet for the campaign (see appendix D for text and photographs of these materials)

The poster consists mostly of a visual message with minimal text to support the image, its purpose is to increase women's awareness of the seriousness of pregnancy, as well as the importance of being informed and taking good care of themselves Posters were chosen as a visually attractive way of capturing women's attention and directing it onto the campaign's main goal The poster portrays a young pregnant woman The pregnancy is advanced far enough to be obvious, but is clearly in the second rather than third trimester This deliberate difference in emphasis when compared to most other posters about pregnancy, was to show that attention should be given to the pregnancy early on

Five consciousness raising messages were pretested with the intent of selecting one or deriving a primary message chosen by the participants to go with the photo on the poster The following messages were pretested via focus groups (a) Pregnancy is something serious (*el embarazo es cosa seria*), (b) I want you to be healthy (*quiero que estes sana*), (c) have a healthy baby (*tenga un bebe saludable*), (d) every pregnancy is different (*cada embarazo es diferente*), and (e) prevent complications (*prevenga las complicaciones*) Upon conducting focus groups with health care professionals and community participants, a new message was derived and retested Participants chose "Pregnancy is a serious matter· inform yourself, take care of yourself " However, the research team was concerned with reinforcing the need for initiating prenatal care during the early stage of pregnancy, consequently, data from both the ethnography and survey were used to add an additional call to action in the poster· "Seek medical care (at least) at the beginning, the middle, and the end of pregnancy "

When selecting the image/photo for all the materials, six different images/photos were presented, independently from the messages, to elicit responses from participants The focus group moderator probed into participants' reactions by asking such questions as (a) What does this photo say to you? (b) What does it inspire you to do? (c) What would you change about this photo? (d) Which photo most reminds you of prenatal care? These questions are a small representation of the questions used as most questions were based on the participants' reactions It soon became clear which images sparked immediate negative reaction or no comprehension of the intended message As a result, we selected a couple of photos for further testing with

different focus groups The final image the women selected was that of a young pregnant woman, dressed in "pretty" clothes, and showing an abdomen indicating pregnancy

Note that throughout the process of selecting both the message and the image, the two were tested simultaneously for consistency The final message and photo were also tested together to assure that the women were perceiving the intended message

The idea of the calendar was pretested in the focus group discussion after we noticed many calendars in homes during the ethnographic phase The women said that they would welcome an attractive calendar for display in their homes They explained that it can serve a dual educational purpose first, it will remind them of the appropriate behavior during pregnancy, and second, it will also educate the family, thus creating a more supportive environment. The calendar was designed to provide cues to action for the four main areas identified by the survey where key information was needed for this population use of prenatal health care services at least three times during the pregnancy, weight, nutrition, and risk prevention

The calendar balances visual elements with text. Several images were tested for each topic The ones finally selected reflect the choices of the women in the focus groups The women stated that they preferred photographs to drawings Also, women asked that a happy\proud looking man be in the pictures showing a woman being weighed and a woman eating since men tend to object to weight gain They wanted their spouses to see that eating and gaining some weight during pregnancy was good For similar reasons, a man was added to the picture of a woman obtaining health care

A calendar was chosen so that women could hang it in their homes and therefore be exposed to the messages frequently The calendar's design permits use year after year, as the months can be changed without having to get a new calendar every year The calendar should be promoted by the local media and distributed free of charge through a variety of community outlets

The health pamphlet was designed to provide a more detailed explanation about each of the areas identified as important for the campaign This survey, in addition to other studies, has shown that pamphlets are an effective way to reach Hispanic women with health information The pamphlet's cover has the same picture as on the poster (see appendix D), and the text includes a series of simple questions and answers on the same issues as the calendar Each answer provides in-depth information about the reasons the actions promoted are important for a positive pregnancy outcome The intention is to make this brochure available through community organizations, private physicians, clinics, and local television and radio stations

The following messages about prenatal care, derived from the ethnographic study, survey, and literature research, were pretested for credibility, acceptability, relevance, and comprehension of messages

1 Seek medical care (at least) at the beginning, the middle, and the end of pregnancy
2 Seek medical care if during your pregnancy you notice
   - vaginal bleeding
   - strong abdominal pains
   - excessive thirst
   - excessive swelling of the hands and feet
   - any other concerns that worry (you)
3 (You) can prevent anemia by eating well and taking vitamins

4 During pregnancy it is important to gain 10 to 12 kilograms Discuss with your doctor what your ideal weight gain should be

Pretesting these messages allowed us to modify the wording to increase clarity and detail Verbal and nonverbal responses revealed a great deal of information, particularly about the areas in which the women clearly needed more education For example, many women identified excessive thirst as a symptom of pregnancy, but few understood the health implications involved Consequently, this is an area deserving greater emphasis These sessions also revealed how the women differed, particularly in their level of knowledge about prenatal care It became clear that a very basic level of prenatal care education in the proposed health education materials was needed to satisfy the needs of all women of Tijuana.

A variety of images to be included in the brochure were pretested. Given the choice of using either a still life drawing or a still life photo, the women preferred the still life drawing The various images pretested ranged from pictures with the husband, a female doctor, a display of food, the family gathered at a table with a balanced meal, and the woman weighing herself in her husband's presence The most frequent comment was an overwhelming desire for the husband's participation throughout the pregnancy

The issue of family support was identified as an essential factor contributing to a healthy pregnancy This finding inspired the creation of one of the songs that romantically emphasizes the man's important role during pregnancy (see appendix D)

The last element for the campaign was a demonstration cassette of two songs, composed and produced in draft form (see appendix D) The survey data indicated that radio has a high potential to reach this audience with a mean listening time for this sample of seven hours per day The songs were ideally suited to dramatizing two campaign messages, nutrition and paternal support.

Both the ethnographic and focus group results supported the importance of radio as indicated by the survey respondents Here, several alternative formats are available brief advertisements, songs, serialized stories, and advice or talk shows (with or without telephone call-in) Women were particularly attracted by the idea of songs, which is why we developed some We felt that serialized stories were beyond the scope of this project and would have limited use since they would not bear repetition

Another format we strongly recommend, which could be developed locally in different regions, is an advice or talk show Women repeatedly indicated they wanted one-on-one communication, which is not feasible An advice show, however, can feel quite intimate and one-on-one We suggest putting knowledgeable and articulate physicians together with local radio stations for brief advice or talk shows that could run weekly or more often for an indefinite period of time

Although television was identified as an important source of health information for the target population, it was not used for the following reasons

1 The fleeting nature of television messages Communication research has shown that television is not effective in providing information or changing behaviors on complex matters that need to be communicated clearly and repetitively in order to be adopted Because of these findings, the multiple messages and behaviors promoted by the prenatal care campaign made television a less appropriate choice than printed material

2 The extremely high cost of television production, which is beyond the project's budget.

Thus a poster, a calendar, a pamphlet, and songs appeared to be a good compromise that combines attractive visual components with relevant text These choices also offered some guarantee of permanence, particularly the calendar and the pamphlet.

Conclusions and Recommendations

At the beginning of this project, two of the investigators traveled to Mexico City to seek similar projects and educational materials to test or adapt for the Tijuana area. A number of projects for training health workers were identified, as were several primary health care and child survival projects They found nothing that focused specifically on pregnancy with the detail produced by this project.

At the beginning of the study the issue of the degree of need for the Tijuana area was raised. Our research found that lack of or inadequate transport is a serious constraint in the provision of health care in the city itself, and even more serious in the rural areas Private sector and government facilities constrained access to health care in terms of their physical access (distance and travel time), and qualifications required to receive care at a particular facility Accessibility in terms of distance or travel time and in terms of congestion or waiting time varies greatly for residents of different parts of Tijuana

More important, women varied greatly in their actual use of biomedical prenatal care and in their perceptions of the need for such care Our ethnography, survey, and focus groups revealed key areas of information that could be provided to women through a series of mutually reinforcing educational strategies

The next step

This project went only as far as producing camera ready educational materials Two private organizations in Tijuana (a pharmaceutical company and a drugstore chain) have agreed to fund the production of the calendar and the pamphlet. In addition, a United States pharmaceutical firm and an international health care agency have expressed interest in underwriting the production of these materials One group is interested in adapting the materials to local cultures in other Latin American countries through additional focus groups Photographs would be redone to suit local populations

The second step should be to test the materials using an operations research design This would involve collecting baseline information in test and control communities, then disseminating the materials in the test communities for a time Evaluation would consist of repeating the baseline studies to measure knowledge, attitudes, and behaviors, and possibly changes in outcome, although this would need such a large population that it might not be cost effective Funding is currently being sought for this purpose

Dissemination of research findings

This project has many audiences One is the readers of United States and international health journals The second is the many health planners and health care providers at local levels, particularly in Mexico The third is the women who are the intended recipients of the materials

Drs Luna and Rivera will focus on this second group The UABC has an agreement with the Federal Secretariat for Health that provides for internships for its medical students This establishes a functional integration of professional medical and human services training in the service delivery centers Thus, the UABC and the Mexican government have combined forces and our project has the potential for

impacting their joint efforts A series of conference and workshop presentations and in-service training sessions is being planned

Publications are planned for Mexican, U S , and international outlets The research team has planned a series of papers to follow this report as outlined below

- patterns of prenatal care utilization,
- the use of mass media for disseminating information and the design of informational materials,
- the core findings of the survey and ethnographical work,
- food-related beliefs and behaviors during pregnancy (with particular emphasis on the ethnographic findings),
- detailed findings derived from the focus groups,
- policy implications of women's health information sources,
- analysis of the advantages and disadvantages of the combination of methodologies used,
- attitudes toward pregnancy and behaviors of the women studied and implications for program planning and clinical work

Evaluation of the ICRW program in relation to this project

The ICRW program under which this research was conducted provided a great deal more than funding The intellectual support and stimulation were very important to the quality of the work possible under the contract as well as to our morale The sense of interconnectedness to other projects was also extremely important. The summaries of other projects provided both a context and a stimulus for our own

We feel that we undertook an extremely ambitious project for the relatively short amount of time allocated Any one of our three phases could have been done in the time frame of the entire project, instead, we did all three If forced to chose fewer phases, we would do the ethnography, materials design, and focus groups and omit the survey Nevertheless, we learned some things from the survey (such as the mistaken views of weight gain) that we did not learn in the ethnography Also, the survey allowed us to quantify many concepts, such as the various risks in pregnancy Much of the information generated in the ethnography guided the survey to such an extent that we could not imagine doing without this phase

It was difficult, but well worth while, to work in two countries through two institutions Ideally, we should have had more time to work through each phase in both institutions and to have fuller discussion with faculty and students We skipped many of the social niceties so important to international work and forged ahead to meet our goals and our timetables It is a tribute to a remarkable team and to excellent support from the ICRW that we succeeded

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CALENDAR FORMAT AND COPY
JUNE 28, 1989

I Calendar Format

Based on results of focus groups, we will use the calendar format with three different photographs and a graphic representation for a total of four topics

II Copy

El Embarazo es Cosa Seria
Informate y Cuidate

Busca atención médica al principio, a mediados, y al final de tu embarazo aunque te sientas bien

Durante el embarazo tu cuerpo sube de peso por el bebé, la placenta, el aumento de sangre y otros líquídos necesarios Por eso es importante que subas poco a poco alrededor de 10 o 12 kilos

Puedes evitar la anemia comiendo bien y tomando vitaminas con hierro

Consulta a tu médico si durante tu embarazo notas que

Tienes dolores fuertes de cabeza

Se te hinchan mucho las manos y los pies

Tienes dolores fuertes en tu vientre y todavia no te toca tu parto

Te baja sangre

Si algo te molesta o hay otra cosa que te preocupa

Proyecto Prenatal (Isaac, please check what this says on the poster and be consistent.)
University of California, Los Angeles
Universidad Autónoma de Baja California
International Center for Research on Women

III Photos

Use of Services Pregnant woman with father of baby and female doctor

Weight: Pregnant woman weighing herself with a man watching

Nutrition and Anemia Pregnant woman and husband at home eating food at a table Setting should be credible as Tijuana.

Food items to be included.
- milk
- eggs
- tortillas, beans, rice
- green leafy vegetables or other vegetables
- chicken

IV Graphic Elements to be Developed

Question mark for high risk message

Appearance of the monthly calendars--the calendar should be easy to read and have space on each date for the woman to write if she wants It should be for more than one year, or design so one can attach future years

August 11, 1989

COPY FOR FOLLETO

EL EMBARAZO ES COSA SERIA

Informate y Cuidate
(bottom cover) Este folleto te dirá como cuidarte durante tu embarazo

Qué son los cuidados prenatales?

Una parte de los cuidados prenatales son las visitas regulares a las clínicas y medicos de confianza para ver si todo va bien Además, estas visitas son una buena oportunidad para hacer preguntas acerca del embarazo

Otra parte de los cuidados prenatales son aquellos que tu te brindes y tu familia te puede dar para protejer mejor tu salud y la de tu bebé durante el embarazo

Que tan seguido debo visitar al medico?

Es recomendable visitar al médico cada mes durante todo el embarazo De no ser posible, busca atención médica por lo menos al principio, a mediados y al final de tu embarazo aunque te sientas bien Así puedes asegurarte que todo va bien

Cuáles son algunas señales de peligro que puedo notar durante el embarazo?

Si tienes dolores fuertes en el vientre o espalda y todavia no te toca tu parto

Si notas que orinas muy seguido, tienes mucha sed y apetito que no se quitan con la bebida y comida que normalmente consumes, puede ser señal de la diabetes La diabetes necesita cuidado prenatal especial

Si tienes dolores fuertes de cabeza. Puede indicar alta presión, anemia o azucar en la sangre

Si notas que se te hinchan demasiado los pies y las manos Esto puede tambien indicar alta presión

Si tienes sangrado vaginal

Si hay alguna otra cosa que te preocupe, por ejemplo
-Escalofrios y fiebres
-Nausea frequente y vómito
-Perdida de peso repentina
-Falta de movimientos del bebé después de que ya habia empezado a moverse

Estas señales deben ser atendidas **inmediatamente** por el médico

Qué cosas debo evitar durante el embarazo?

Medicamentos no recetados por tu médico

Fumar cigarillos de cualquier tipo

Tomar bebidas alcohólicas y mucho café

Debo seguir una dieta especial durante el embarazo?

Si, procura tener una dieta balanceada porque lo que comes es lo que alimenta a tu bebé Una dieta balanceada quiere decir que todos los dias comes algo de cada uno de estos grupos de alimentos

Alimentos	Grupos
carnes, pollo, pescado huevos leche y quesos frijoles con tortillas y arroz	proteinas que son importantes para el crecimiento
frutas y verduras	vitaminas y minerales
panes y cereales	carbohidratos que nos dan energías

Qué puedo hacer si tengo anemia?

La anemia es muy comun en mujeres embarazadas Tu puedes evitar la anemia comiendo higado y huevos lo mas seguido que puedas, y tomando vitaminas con hierro especiales para el embarazo

Cuanto peso debo subir?

Durante el embarazo tu cuerpo aumenta de peso por el bebé, la placenta y otros liquidos como el agua y la sangre que se producen en mayores cantidades Por eso, es importante que subas poco a poco alrededor de 10 o 12 kilos Fijate en tu aumento de peso durante cada visita a la clinica y pregunta cuál es el peso ideal para ti.

Como puedo mantenerme sana y tranquila durante mi embarazo?

Descansar Toma una siesta diariamente, o por lo menos descansa con los pies en alto Si un familiar o vecino puede cuidar tus niños durante tu descanso, Hazlo Acostumbrate a hacer algunos quehaceres sentada, por ejemplo planchar o preparar comida.

Mantengase activa El ejercicio y las actividades moderadas ayudan a dar tranquilidad mental y fortalecen el cuerpo

Procura tu tranquilidad. Platica con tus amistades, familiares, y profesionales de tu comunidad sobre tus preocupaciones

Como puede ayudarme mi familia?

Enseña este folleto a tus familiares para que aprendan sobre los cuidados prenatales El papá de tu bebé debe ayudarte a hacer tus visitas prenatales, comer bien y descansar Tu mamá y otros familiares también pueden darte mucho apoyo

Asi, cuidando tu embarazo con el apoyo de tu familia puedes lograr tu salud y tu tranquilidad para dar la bienvenida a tu bebé

PRENATAL CARE SONGS FOR TIJUANA

Cada Vez que Te Veo

Cada vez que te veo
Yo puedo imaginar
Lo bonito que sientes
Tu vientre maternal

Yo siento mucho orgullo
De compartir
La flor de este capullo,
Un fruto mio y tuyo
Que mas nos ha de unir

Y al paso de los meses
Yo te cuidaré, sin fallar
Sabiendo que de tu vientre
Nuestro hijo nacerá.
Con gozo y con ternura, CORO
te quiero acariciar
Para que esta criatura
Sepa que en esta vida
Son dos quien lo han de amar

Es cosa de mujeres
Lograr procreación
Pero es cosa de hombres
El apoyo y protección

Y así como en tu cuerpo
Hay parte de mi ser
Te veo y siento ganas
De estar más a tu lado
y de cuidarlo también

Hoy te digo, mi vida,
Lo hermosa que te vez
Pues al cambiar tu cuerpo
Veo crecer nuestro bebé

Por ahora yo no puedo
Tenerlo junto a mí,
Deja que yo te abrace,
Juntemos corazones,
Sintámolos latir

Laura Durazo, David Silvan 1989

Each Time I See You

Each time I see you
I can imagine
How beautiful your
Womb must feel

I feel such pride
To share
The flower from this bud
A fruit from you and me
That we both created

As the months pass
I will care for you, without failure
Knowing that from your womb Our child will be born
With joy and tenderness
I want to caress
So that this child
Will know that in this life
There are two people that will give it love

To achieve the intimate nurturing
Is a woman's role
But support and protection
Is the man's role

Since part of my being
Is in your body
I see you and feel
Like being at your side
To care for him also

For now I can't have him
With me
Let me hold you
Join our hearts and
feel them beat together

Laura Durazo and David Silvan
1989

YO QUISIERA

Yo quisiera comerme un panecillo con canela y piloncillo
Y comerme galletitas y fritangas, pa' calmarme el gusanillo
Yo quisiera comerme unas papitas, chocolates y refrescos,
Me quisiera tomar una cerveza y fumarme un cigarillo

Pero yo sé linda criatura, que hay que darte cosas buenas,
como papas, zanahorias y quelites, fruta, queso y carnes frescas

Las tortillas con frijoles, un guisado con verdura,
El arroz, ensalada y agua pura, te ayudan a ti criatura

Por ti linda criatura, por ti voy a cuidarme,
Eres parte de mi ser y de mi cuerpo,
Y yo puedo superarme

Me quisiera comer un pan de caja con bastante mantequilla,
Y tomarme un cafecito bien cargado, pa' aguantar el largo dia
Yo quisiera comerme chicharrones y una salsa bien picante,
Yo quisiera unas gorditas de chorizo, que me pongan bien campante

Pero yo sé linda criatura, que hay que darte cosas buenas,
como papas, zanahorias y quelites, fruta, queso y carnes frescas

Las tortillas con frijoles, un guisado con verdura,
El arroz, ensalada y agua pura, te ayudan a ti criatura

Por ti linda criatura, por ti voy a cuidarme,
Eres parte de mi ser y de mi cuerpo,
Y yo puedo superarme

Laura Durazo
1989

Translation I would like to

I would like to eat a sugary cinnamon roll,
And eat some cookies and fried food to calm my munchies
I would like to eat some fried potatoes, chocolates and sodas,
I would like to drink a beer and smoke a cigarette

But know beautiful baby that we have to give you good things,
like potatoes, carrots and green leafy vegetables, fruit, cheese and fresh meat.

The tortillas with beans, a meat and vegetable stew,
rice, salad, and clean water all help you, baby

For you beautiful baby, for you I will care for myself
You are part of my being and of my body,
And I can better myself

I would like to eat a loaf of bread with a lot of butter,
And drink a cup of strong coffee to make it through the long day
I would like to eat fried pork rinds with a hot sauce,
I would like some fat sausage rolls, that will make me real happy

ButI know beautiful baby that we have to give you good things,
like potatoes, carrots and green leafy vegetables, fruit, cheese and fresh meat.

The tortillas with beans, a meat and vegetable stew,
rice, salad, and clean water all help you, baby

For you beautiful baby, for you I will care for myself
You are part of my being and of my body,
And I can better myself

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