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REPORT

Nutritional Education Project

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Santiago, December 17, 1974

Objectives

The three main objectives of this paper are to 1) identify those areas in which mass media education could effectively enhance the ongoing nutrition education programs in an effort to solve the priority nutrition problems of the neediest and most vulnerable sectors of Chilean society; 2) provide an overall description of the mass media available which will be effective in providing the greatest impact with the widest audience reach for a mass media nutrition education campaign; and 3) provide a design for a pilot project complete with cost benefit analysis which, depending upon its effectiveness, can be amplified into a nation wide scale as well as used as a model through which the other identified nutrition problems not amenable to change can be applied.

Problems

The problems have been identified as:

- a) protein calorie malnutrition;
- b) nutritional anemia prevalent in pregnant women;
- c) endemic goiter;
- d) Vitamin A deficiency;
- e) An ever increasing incidence of chronic ailments stemming from overweight, i.e. cardiovascular diseases, obesity and diabetes.

Education as a means of changing these Problems

In order to achieve maximum educational impact, it is proposed to use mass media motivation with traditional education. This will be achieved by first beaming motivational and educational messages and then by reinforcing each media message with traditional direct education utilizing informal teaching sessions, group dynamics, didactic and audio-visual materials.

The suggested messages would be designed to: 1) encourage the consumption of protein foods not traditionally eaten such as rabbit, horse meat, and certain grain and bean combinations; 2) encourage the

prolonged practice of breastfeeding; 3) encourage the consumption of iodized salt; 4) promote boiling of water and washing of hands to avoid contamination and diarrhea; 5) encourage consumption of foods high in Vitamin A; 6) appeal to overconsumers to eat less, as well as lower, on the food chain; 7) educate the family to the fact that growing children and pregnant mothers need more protein for proper development than do working fathers; 8) discourage alcoholism; 9) encourage the consumption of the new foods being developed especially to alleviate the nutritional problems; 10) encourage the entire family to go to the clinic regularly; and 11) encourage agricultural priorities in rural areas. The financial as well as market availability of the suggested foods must be assured, as must the cultural receptivity to the media messages be tested prior to airing to assure a high degree of success.

Pilot Project

In order to ascertain the most efficient and the cost benefit effectiveness of the various educational methods, it is proposed that a pilot project evaluating the various approaches be carried over a six month period. The objective of the pilot is the prolongation of maternal lactation. The purpose of the pilot is to provide a design which, once proven effective; will become a model for future nutrition education campaigns.

Rationale

In 1973 in Chile almost one out of every 10 children died before the age of one year. This is indicative of an infant mortality rate of 88 per thousand (U.N. figures) which, despite extensive prenatal and vaccination programs, is among the highest in Latin America. Of the nearly 20,000 annual deaths of under one year olds, almost half were due to bronchial pneumonia and diarrhea, and of these more than 60% died before six months of life. (Ruth Puffe and SKS 1972).

It has been documented in Chile that only 60% of mothers breastfeed their children at birth, and only 30% continue to do so up until the third month. (Dra. Marin). There is substantial evidence demonstrating that the transferrance of immunities from mother's milk significantly decreases the incidence of infectious diseases, notably bronchial pneumonia and diarrhea. The practice of early weaning with commercial infant formulae in areas of contaminated water supply and with poor hygienic

practices greatly increases the chances of infant diarrhea which, once causes the child to become malnourished, works synergistically with other infectious diseases.

In October 1974, there were 99,677 known malnourished children. Marasmus was found principally in children under 6 months of age. Of the children who died, 70% were shown to be malnourished. (Dra. Marin).

70% (malnourished dead) of which:

The prolongation of breastfeeding thus should result in a significant decline in numbers of malnourished children by lowering morbidity and mortality rates and thereby affect a decline in hospital and medical expenses.

- 15% breastfed never weaned
- 35% breastfed 1 month or less
- 50% never breastfed.

Another related factor is an incidence of low birth weights in Chile. It is stated that 15% weigh less than 5.5 lbs. at birth. It has been recently demonstrated that there is a direct relationship between the mother's protein intake during pregnancy and the child's weight at birth.

It has been stated the Chile imports 60 to 70% of its food (CONPAR). With an extraordinarily high inflation rate, lag of income behind prices, a high incidence of unemployment and other economic, political and social factors, the lower socio-economic classes are suffering from an extremely acute food supply problem. Approximately 80% of the average man's salary must be spent on food alone in order to obtain an adequate diet, assuming that he is nutritionally wise and knows how to buy and prepare food (U. of Chile). With the present world food crisis it is projected that this situation will grow increasingly worse.

According to the Chilean poverty map, extreme poverty exists throughout the country. It is estimated that one out of five, a total of two million, live in extreme poverty.

It is evident that nutrition education could play a major role in this situation. The primary thrust towards the return to breastfeeding and the prenatal diet and weaning foods education, is merely a beginning aimed at the most vulnerable target group, the pregnant and nursing mother, and the infant.

Description of traditional pre - and post - natal education

Clinic Infrastructure and available materials

Each clinic daily has 1 or 2 volunteers who work as nutrition educator aides. They receive a 20 hour training course. They then go and work in the clinic on a rotation basis. Their materials include flip charts and pamphlets. They give informal teaching sessions to waiting patients, rotating themes bi-weekly. Due to a paper shortage and lack of sufficient funds these educational materials are minimal. There are also posters and signs in the clinics.

- 7) The introduction of fruit juices is encouraged as a source of A and D.
- 8) The clinic further encourages the introduction of vegetable soups when the child reaches the 5th to 6th month;
- 9) It is taught that beans are not to be used until after the child reaches two years due to the difficulty of digesting this food;
- 10) The introduction of foods before the sixth month does not have a nutritional significance, rather it prepares the mother, and formulates the eating habits in the infant;
- 11) The attempt is to teach the weaning practices based on the availability of the foods for the region;
- 12) It is preferable to introduce the spoon and cup and eliminate the bottle. The advantages are: a) avoid the use of the pacifier, b) avoid the child's rejection of the breast, c) avoid the malformation of the dental structure of the mouth, thereby contributing to a better physical development.

When: These practices are taught in the clinics during the period of medical control of the pregnant mother and the new born child. It has been suggested that there is a need to motivate the women to come into the clinic earlier than they now do, at least by the fourth month of pregnancy. The instructions are given by 1) the doctor to the individual mother during the child's medical checkup, and 2) by the nutritionist or the midwife in the waiting room. There is now an ongoing program to educate the school children about the importance of nursing. There is also a push to emphasize the advantages of breastfeeding in the medical curriculum in the medical schools.

Description of Previous & On-going Multi-Media Nutrition & Health Campaigns

In the NHS there is a publicity department which is in charge of producing materials for public service campaigns. Its role predominately has been to develop the content for the materials. The publicity department then applies to the Minister of Economics who engages a private corporation to finance the promotion in return for the opportunity to attach its own propaganda to the campaign. In the past, the radio and television stations were government subsidized, so that these same nutrition and health materials, in the form of messages, were given to the announcers. The public service announcements thus have traditionally taken the form of spoken announcements (Gladys Retamal SNS educator).

The multi-media campaigns have, in varying degrees, included: 1) Radio and TV announcements; 2) instructional TV programs - with demonstrations and discussions, premiums offered for responding to questions by mail, and pamphlets and booklets offered upon request; 3) newspaper and magazine articles; and 4) posters and pamphlets in the clinics. Examples of recent campaigns are the promotion of: 1) consumption of fish; 2) prevention of cardiovascular diseases; 3) prevention of respiratory diseases; and 4) prevention of diarrhoea.

None of the campaigns as a whole has had an evaluation component. Rather, individual parts of the campaign have tabulated results, such as the number of respondents to Channel 4's offer of a fish recipe booklet. It is a generally shared assumption, however, that the mass media public service announcement is an effective motivational tool. An example of its motivational impact is the cardio-vascular disease prevention campaign which appealed to the audience to come into the clinic for a check-up. At the beginning of the campaign many clinics were glutted and therefore were forced to turn individuals away.

The "stop diarrhoea" campaign is initiated once every year around the month of November when, it is stated, the disease is most prevalent. This year's campaign consists of posters, pamphlets, and radio and television announcements. The message is: "stop diarrhoea, come to your health clinic regularly, and breastfeed up until six months." In many clinics there are posters showing a mother breastfeeding. In addition to all of this there have been several newspaper and magazine articles regarding breastfeeding, prenatal diet and weaning practices. The effects of this campaign upon the pilot project will be considered.

Premise

Based on the above descriptions of the previous and on-going programs utilizing traditional education and multimedia methods it becomes apparent that there have been and are like campaigns to encourage the prolongation of breastfeeding and to teach good weaning habits.

It is the premise of the proposed campaign that those previous and ongoing methods have not proven effective in encouraging and prolonging breastfeeding and therefore have not significantly lowered malnutrition.

The hypothesis is that through a highly calculated strategy the desired overall change of attitude and resulting change of behaviour will be affected.

The mass media component of the pilot project proposes the introduction of a psychologically gauged advertising technique which has not been used for public service announcements in the past.

The direct education component of the pilot proposes the introduction of intensive peer group dynamics which will develop the needed supportive ambience for the mother.

The food component proposes the distribution of needed protein and calorie commodities which have otherwise not been available to the lower socio-economic mother.

The workshop component of the pilot proposes the introduction of peer group dynamics and an exchange of knowledge in a coordinated motivational effort for the medical professionals.

The tele-education component proposes the introduction of a nation-wide approach to motivating and qualifying medical professionals as well as mothers as breastfeeding experts.

The pilot project proposes the introduction of a cost benefit effectiveness analysis which will provide valuable information for future campaigns.

The pilot project further proposes the collaboration of CONPANO, NHS, CRS and CARTAS in a major coordinated effort.

Prolongation of Maternal Lactation

Pilot Project Overview

The objectives of this project are to: 1) reduce significantly the current 18 to 20% rate of protein-calorie malnutrition most prevalent in infants of 0 to 6 years (CONPAN), 2) to achieve a reduction in infant morbidity and infant mortality and 3) to achieve an overall improvement in the health status of both mother and child.

The methods proposed to arrive at these objectives are 1) to encourage the practice and prolongation of, breastfeeding for, at least, the duration of six months; 2) to distribute free food commodities to provide supplemental proteins and calories for the pregnant and lactating mothers and their children; 3) to provide overall education relating childbirth, good weaning and nutrition habits.

The program includes 3 components: 1) motivation - the use of mass media persuasion both to motivate the mothers to go to the clinic as well as to effect a positive attitude change in both mothers and medical professionals towards the practice of breast feeding; 2) education - direct, person-to-person, to mothers incorporating informal teaching sessions, group dynamics, didactic and audio-visual materials; and direct to professionals via a workshop; 3) food delivery - to supplement the mother's currently inadequate protein and calorie food intake;

The premise is that there are priority cost benefit methods of reducing malnutrition. Therefore this project proposes the testing of the three above stated components on an individual as well as an integrated basis.

Design - There will be two pilot areas, the Oriente of Santiago and Valparaiso. In the Oriente area, the person-to-person education technique combined with free food distribution will be tested. In the Valparaiso area the effects of mass media combined with free food distribution and didactic materials without person-to person contact will be evaluated in one-half of the clinics, and in the other half, mass media, free food distribution, and the person-to-person education will be evaluated. There will be a control area receiving free food only.

The pilot project is designed to answer these questions:

- 1) Will mass media alone be effective in changing breastfeeding habits and, combined with free food distribution, significantly lower malnutrition?
- 2) Will traditional direct, person-to-person education with food distribution without mass media effectively achieve these goals?
- 3) Will free food distribution alone significantly lower malnutrition without a program to affect the breastfeeding attitude and behavior change?
- 4) Is it cost benefit effective to combine all three components in order to change nursing habits and reduce malnutrition?

These questions are important to answer so that, at the time the project is expanded to the nationwide scale, it will be known which components will be vital for its success.

The total number of mother and child units who will receive the direct education and the free food distribution is approximately 15,000. The U.S. government and COC supplementary food rations provide the pregnant woman with 52% of the protein and 16% of the calorie daily requirements. For the nursing mother the rations provide 41% of the protein and 14% of the caloric daily requirements.

The first estimated costs of the food component for a total number of women and children units of 15,000:

COC/CRS/CARITAS	<u>Per Year</u>
Delivery and Management	\$ 30,000
Printed sacks and bagging	18,000
Vitamins	40,000
Food for 9 months	496,200
Food consumption survey: 8,800 persons and materials	<u>118</u>
TOTAL	<u>584,318</u>

The first estimated costs of direct education for a total number of women and children units of 15,000 for which CRS/CARITAS offers \$ 7,900 in kind:

TOTAL \$ 42,380

The first estimated costs for mass media for 202,830 women of child bearing ages of entire zone. Women expected to give birth in one year: 30,400.

Air time	8,000
Production	8,000
Testing	3,500
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SubTotal	19,500
Technical Assistance	8,500
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TOTAL	28,000

Tele-Education

Purpose: A fourth component of this project currently being developed by CONPAN, NHS, and CH 7 nationwide TV, is a mandatory tele-education course to qualify the clinic team, the nurses, midwives, and auxiliaries as maternal lactation experts.

Methodology: The NHS will send out notices to all medical professionals to announce the course. There will also be advertisements in the newspaper, La Tercera, soliciting students. It is expected that persons not obligated to take the course will join, such as doctors, Red Cross and other volunteers, and mothers. There will be an enrollment fee. Workbooks will be given to each student. The course will be televised for 15 to 20 minutes every Saturday and/or Sunday. It is projected that the course will begin in June 1975 and will last for one of 1/2 months. Upon completion of the course a diploma will be given.

An in-depth description of this component of the overall breast feeding project shall be available from CONPAN to be submitted to AID by the end of December.

Due to the fact that the tele-education course will be televised nation-wide, it will be taken into consideration as an important factor in the evaluation of the mass media campaign.

Direct Person to Person Education

Catholic Relief Services/Cáritas with a grant from USAID began a pilot project in Lo Barnechea, province of Santiago. Based on its success the project is being expanded by CRS/Cáritas and CONPAN to 13 clinics in the Oriente area of Santiago and 7 clinics in Valparaiso.

Purpose: The objective of the program is to encourage mothers through education and psychological support to nurse their babies until they reach the age of 6 months.

Preliminary results of Lo Barnechea pilot:

In August 1974, the program was initiated with all the pregnant women of the area. At the date of their preliminary report, November 8, 73 mothers and children were in the program. Of the 73, 58 are being breastfeed exclusively, 5 are breastfeeding with supplemental bottle feedings: 1 is on the bottle and 5 are not participating.

Reasons for non-participating mothers are:

- a) mother too old;
- b) 1 mother no nipples;
- c) 1 mother came too late - her baby was in the hospital 1 month.

The results of a comparison with a control group in the second month demonstrated:

	CONTROL	BREASTFEEDING
Malnutrition	25%	7,4%
Weight increase	1,541 grms.	1,686 grms.

The incidence of diseases were extremely low in the breastfed group as opposed to the frequency of the control. The control group sought out medical consultations three times that of the breastfed.

Methodology:

The program functions both in the maternity hospital and the health clinic, thereby enlisting the aid of the nurse, the midwife and the breastfeeding consultant. All personnel except for the breastfeeding consultant were part of the NHS clinic structure prior to the start of this program. CRS/Cáritas is supplying and training volunteers to work as the breastfeeding consultants.

The program:

When a woman enters her 8th month of pregnancy she is encouraged to attend a series of meetings which deal with 1) advantages of breastfeeding to both mother and infant; 2) breast and nipple preparation, nursing techniques and how to overcome problems; 3) childbirth and its relationship to successful nursing within the family context; and 4) weaning and good nutritional habits applicable to entire family. These are four meetings once a week for a month's time. The midwives assist in the psychological and physical preparation, and are there at birth to support and aid the new mother. Ten days after delivery the mother is enrolled in the health clinic. There the breastfeeding consultant (bfc) and the nurse weigh and measure the child before and after nursing. This affords the bfc. a means of helping a woman who is encountering difficulties. The mothers go to meetings each week so that new mothers can observe other mothers nurse. This creates a very supportive peer group ambiance. Well-baby checkups continue for six months. Each baby receives an average of eight such checkups. By this time the mother has fully established her nursing relationship with her infant.

The didactic materials include posters, booklets and audiovisual materials. Food and vitamins will be distributed as well.

A workshop for doctors is planned for April, 1975. Four foreign doctors will be invited. There will be publicity about the workshop and publications in the various medical professionals journals resulting from the workshop.

An in-depth description of the direct education component of the breastfeeding campaign is available in the CRS, USAID Prop.

Media Description - TV Nationwide

There are four TV channels: Channel 7, which is nationwide covering 52 cities; Channel 9, which broadcasts only at night; Channel 4, which covers the Valparaiso area; Channel 13, which reaches Santiago, San Fernando, and Concepción.

Ch. 4 and Ch. 7 both have expressed interest in the breastfeeding campaign.

TV Audience breakdown (McCann Erikson)

Ch 13 Santiago - reaches	54% of TV audience
Ch 7 Santiago -	40% of TV audience
Ch 9 Santiago -	6% of TV audience

Access:

In Chile there are an estimated 2,000,000 TV sets and 1,200,000 homes with TV. It is further estimated that 1 in 10 of the low socio-economic families have TV (USIS). A recent study demonstrates that many families share with their neighbors. However, the impact of this medium if proven effective with middle and upper classes will contain a multiplier effect. The lower classes often aspire to the prestigious lifestyle of the upper class and given they perceive changed habits in the upper, they in turn will emulate this behaviour.

Favorite hours:

For women during the week days the favorite viewing time is between 1:45 pm. to 5:30 pm. the hours of the tele-novela. Daily breakdown of airtime:

- A. children all morning until 1 pm.
- AA. women 1:05 pm. to 5:30 and Saturday 1 pm. - 6 pm.
- AAA. prime time 6 to 9 pm.

Audience description of nationwide campaign

The intended TV audience is approximately 720,000 women of child bearing ages (between the ages of 15 and 45 years). (A message aimed at fathers may also prove effective, although this must be evaluated later in a copy testing stage, if decided important enough to produce). Approximately 12% of the women of child bearing age are expected to give birth in one year, thus providing a potential 86,400 nursing and pregnant mothers. The problem of the cessation of breastfeeding is predominately an urban phenomenon, although it is already appearing in some rural areas. All socio-economic classes are involved. However, the gravity of the problem exists predomately in the low socio-economic classes where poor sanitary hygiene and contaminated water are major factors. Few women in the intended audience work; this is said not to be a factor. Of those who do, and who pay social security, they are allowed 42 days off prior to birth and 84 days after, with 1/2 their regular pay as maternal subsidy allotted by government law. All mothers stay in the hospital from 3 to 4 days after childbirth so there is enough time to establish the nursing.

Costs

It has been calculated that approximately 60% of the women of child bearing age, or 86,400; are expected to give birth in one year. Two 60 second spots per day, five days a week, for a period of 6 months will cost \$ 36,000 for airtime. This means \$ 42 per lactating mother per year, given that the 6-month programming is effective and the message is retained through the year. All the TV stations are losing their government subsidy so airtime must be paid. It has been stated that CONPAN will take this responsibility. The suggestion has been made to seek out a private corporation to sponsor the campaign. The costs of production are included in the pilot design description as those same spots will be used for the nationwide program.

Media Description - Radio Nationwide

There are 38 radio stations in Santiago and 141 around the country. 7 radio stations were identified to have high ratings: Radio Portales, Agricultura, Minería, Nacional de Chile, Cooperativa, and Chilena. Radio Colo-Colo was pointed out as the most popular in the lower socio-economic sectors.

Access:

It is estimated that 96% of the homes in Chile have radio sets, which leads to the assumption that 96% of the women of child bearing age have radio access, giving us an approximately audience of 146,664 women of child bearing ages. This does not take into account a multiplier effect which could easily affect all the women of child bearing ages.

Favorite hours:

For women 9 am. to 12 noon are most listened to hours.

Costs:

For airttime it is calculated that each 60 second spot per station would cost \$ 2.31. For four spots aired on 6 stations per day for 6 months would be approximately \$ 1,600. 9 ¢ per mother per year given the six month program retains its effectiveness through the year. It has been stated that CONPAN will absorb this cost. Production costs are included in the costs of the pilot.

Media Description Valparaiso

TV Channel 4 of the Catholic University is the one local station in the zone of Valparaiso.

Reach: Channel 4 is viewed in Valparaiso, Vifia del Mar and Quilpue and Quillota.

Access: Approximately 64% of the homes in this area have TV. It has been estimated for this region as well that 1 in 10 lower socio-economic families have a TV and many families share the TV with neighbors. The largest number of the viewers are children. More exact data on TV access of our intended audience will be obtained in the preliminary audience survey. (See knowledge, attitude, perception and behavior study).

Favorite hours:

The hours between 2:45 pm. and 6 pm. are the favorite hours for women. These are the hours of the telenovela.

Radio:

The local stations in the zone most listened to are:

<u>Radio Stations</u>	<u>Audience</u>
Radio Portales	- noticias and radio novelas, all ages—males and females.
Radio Recreo	- mostly musing, youth and women
Radio Minería	- noticias - males
Radio Cooperativa	- listened to by all levels
Radio Valparaiso	- low socio-economic listeners

Reach:

These stations cover the entire area.

Access:

It has been stated that more than 96% of the population have radios.

Favorite hours:

9 am. to 1 pm. are the favorite listening hours for women.

Audience Description:

The media reach of Channel 4 TV and the local radio stations to be used in Valparaiso cover the entire zone, which includes Valparaiso, Vifia del Mar, Quilpue, and Quillota. Thus a much larger population will be affected than the sample population which will be evaluated. The total population of the zone is 881,900 of which 202,830 are women of childbearing ages, and 30,340 are expected to give birth in one year.

Sample population

The total number of women of child bearing ages of Vifia and Valparaiso is 98,832. The total number of women expected to give birth in Vifia and Valparaiso is 11,860. This is our maximum sample audience. Of the 16 SNS clinics in the pilot area, seven clinics with an expected 6,000 newborn is in one year will have breastfeeding auxiliaries and educational booklets. The other nine clinics, with an

expected 6,000 newborns will only have the instructional booklets. All will be recipients of the radio and TV messages.

The costs for radio and TV airtime for the Valparaiso area are described in the project design which follows:

Although the mass media campaign does not propose the use of the press for the pilot project design per se, a breakdown is included as publicity will be sought for all the various components of the total project.

Women's magazines:

High/middle socio-economic (young women)	Paula - 80,000 buyers
Class readership predominately (mature women)	Vanidades - 85,000 "
	Eva - 72,000 buyers

Newspapers

(business paper)	El Mercurio
#s bought week days	82,000 copies
#s bought Sundays	140,000 copies

(reaches women)	La Tercera
#s bought week days	140,000 copies
#s bought Sundays	240,000 copies

Didactic Materials to be used in the valparaiso pilot area:
Instructional booklets 18 x 23 cm. newsprint 2 colors, 62 pages, motivational and comic booklike with original drawings containing prenatal diet, breast and nipple care and preparation, psychological preparation, advice concerning possible problems, weaning food instruction. It is suggested that these be offered free to all women in the clinics.

Posters large, modern, originally drawn, portraying a tender beautiful woman nursing her child.

These materials are being provided for by CRS/Cáritas.

Messages

The key to the success of the campaign is the short, calculated and frequently repeated message which can be inserted during the favorite viewing and listening hours, and thereby ascertain the maximum audience reach, penetration and impact. The message is breastfeeding. The development of three different treatments of this one message is suggested. One treatment might take a traditional, religious approach. A sequence of shots of traditional art portraying the nativity scene and Mary nursing Jesus is suggested. A suggested script is included. This script if used will need modification and adaptation into the Chilean Spanish. Another suggested approach is to appeal to the husband. This might be achieved by using a well known cultural hero and portraying him with wife and child. He would speak of the values of his wife breastfeeding. The scene would convey the image of a loving happy family. A third suggested treatment might be to portray a party in the President's Mansion. Two elegant and beautiful women go upstairs, one nurses her infant and they discuss the values, convenience and pleasures they have experienced from breastfeeding.

The Chilean advertising industry is very sophisticated so that it is suggested that CONPAM commission an experienced, producer-director versed in the field of advertising to take charge of the creation and production of the spots.

Mass Media Project Design

1. Creation and Production

- A. Ten weeks—working with a production team from the School of Education and Channel 4 of the Catholic University, the technical advisor will create and produce three treatments of one message. This will entail: 1) content development, to establish, with the nutritionists of the University of Chile and MHS, the subject matter in relation to the physical and financial availability of all foods referred to in the messages, 2) creative development, to apply this established content to a creative format. Integrated within the creative development framework, the technical advisor (TA) will work with a local radio station (Portales or Cooperativa) and a music composer, to develop the musical theme for all messages. 3) production, to produce all materials.

- B. Two weeks - working with the research team of the Catholic University the advisor will copy test the messages and revise them accordingly.
- C. Two weeks - the revised messages will then be reproduced, in 10 copies of the 16 mm. black and white film, and 30 copies of the 45 RPM records.
- D. Persons and Institutions who have been contacted in Valparaiso and who have expressed interest in working on the project are: Sr. Roberto Henríquez, Producer, director Ch. 4 TV; Sr. Carlos Sphe, Director of Radio Cooperativa; Sr. Luis Nicolini, Professor, School of Education, Catholic University; Sra. Adriana Marín, Professor of Nutrition Education University of Chile. Sra. Isable Tassara, Director of Milk Program, SNS, and Sra. Elena Equiguren, Professor of Sociology and Research, Catholic University.
- E. Production Costs - for three 60 second TV spots created and produced by the Catholic University's School of Education and Channel 4, in conjunction with a technical advisor, the costs have been estimated at: (as of November 21, 1974)

Black and white 16 mm. 3 minutes duration	\$ 4,000
10 copies	800
Personnel	200
TOTAL	<u>\$ 5,000</u>

Costs for three 60-second radio spots produced in the studios of Radio Cooperativa have been estimated at: (as of November 14, 1974)

Studio time (30 minutes)	\$ 900.00 (900)
plus technician fee	500.00 (500)
Locutor (30 min., member of ARCHI - Association of Radio Difusores Chile)	800.00 (800)
Music composition	<u>800.00 (800)</u>
TOTAL	3,000.00

II. Copy testing

- A. Purpose - to provide an indication of: 1) the sample audience's receptivity to the message, 2) the audience's understanding and perception of the message, and 3) the impact of the message, whether the contents of the message are motivating and actionable. Depending upon the results of this testing, the messages will be modified.
- B. Methodology - A sample audience of 20 to 40 mothers in a NHS local clinic will be shown the message proto-types and will hear the radio tape proto-types, the mothers will be interviewed with a questionnaire whose format is designed to arrive at the above stated objectives.
- C. Costs - Development of the interview format, including materials should not exceed \$ 100. Depending upon the need to revise messages, the cost could range from zero up to \$ 500.

III. Knowledge, attitude, perception and behavior study

- A. Two weeks - development and production of questionnaire and two weeks implementation of survey before start of campaign and two weeks at the end of the campaign. (It has been suggested by Elena Eguiguren, faculty Sociology Dept. of Catholic University, that students will be available in the months of January and July).
- B. Purpose - 1) to ascertain a more exact measure of ownership of radio and TV and of the media listening habits from an audience sample, 2) to establish specific attitudes, knowledge, perceptions, and practices regarding breastfeeding, weaning, the prenatal diet, and other related subject matter, 3) to obtain an idea of the availability of the suggested foods for the prenatal diet and weaning period, and 4) to establish a base-line measure from which a comparison of attitude and behavior change can be made at the end of the campaign by applying the same survey. This component of the program provides a measure of communication effectiveness. The measurements of health improvement, and reduction of malnutrition, morbidity and mortality shall be evaluated in the clinic.

C. Methodology - the survey will be carried out in the clinics before the start of the mass media campaign, and again after its completion. A 10% sample population selected from a universe of 11,859 women expected to give birth in Vifia del Mar and Valparaiso indicates a need for approximately 1,000 interviews. Working only between the hours when the mothers are in the clinics, from 9:00 AM to 1:30 PM., one interviewer can achieve 15 twenty-minute interviews per day, 75 per week. A research team of six students and one instructor from the Catholic University can accomplish each phase of the survey in a two week time period. The instructor, working directly with the TA, will 1) assist in the creation and coding of the questionnaires, 2) train and supervise the research team, and 3) tabulate the results.

D. Costs - it has been stated that the University students will donate their time in return for course credit. This will absorb the estimated cost of E° 10,000 per interview. It has been further stated that the instructor shall be commissioned by CONPAN, and therefore the salary will be paid for by the GOC and the Catholic University. The instructor's salary at the university has been evaluated at E° 10,000 per hour. Other costs include lunches, transportation, printing materials and computer time.

Supervisor salary - 4 wks., 5 hrs. per day	\$ 800.00	800
Supervisor & six students, transportation and Lunch - 2 wks.	200.00	200
Printing materials	200.00	200
Computer time at \$ 300 per hr.	300.00	300
Programming costs	500.00	500
TOTAL		<u>2000</u>

Second wave with booklet evaluation

The second wave of the survey to be conducted after the six month campaign will consist of the same questionnaire added to which will be an attitude survey to ascertain the response to the booklet. The purpose of this component is to give us an indication of 1) whether the women has received and kept the booklet; 2) if she identifies with the characters; 3) whether she has been motivated by the booklet.

Methodology is the same as the first phase. Costs are estimated at \$ 1,000,00

IV. Media Plan

- A. TV - Channel 4 TV will place two 60-second spots per day, between the hours of 2:45 pm. and 6 pm. five days a week for the duration of six months.
- B. Radio - The five radio station (Portales, Recreo, Minería, Cooperativa, and Valparaíso) will play the message on a rotation basis during the morning hours, 9 am. to 1 pm. Two stations will each play a one minute message daily, and three stations will each play two 20-second messages daily, for one week and then rotate. This schedule will be worked out with the stations.
- C. Costs for TV Airtime - Two 60-second TV spots per day during these favorite viewing hours cost \$ 32 (as of December 31, 1974). For five days per week for six months the cost is \$ 4000. Given that 64% of the women expected to give birth in the entire zone own TV, our audience is 19,418 and the cost per mother is 20 cents. If the campaign proves effective in an overall change of women's attitudes, and the following year the women who give birth, breastfeed, then the cost is 10 cents per TV owning mother, or 8 cents per all potential mothers in the zone, given a multiplier effect. Finally, if all the mothers of child bearing age in the zone are affected and eventually breastfeed, the cost is a little under 2 cents per mother.
- D. Costs for Radio Airtime - For four sixty-second spots per day for six months the cost is approximately \$ 2,769. Given that 96% of the women expected to give birth in the zone have radios, our audience is 29,126, and the cost per mother is estimated to be 9 cents.

Media Monitoring Study

Purpose: To obtain a valid approximation of the frequency with which the spots are aired. The final evaluation of the media component depends upon the number of times the spots are aired and at what hours.

Methodology

It is suggested that hospitalized patients be requested as volunteers. They will be given check sheets with which to mark the hours of listening or viewing the spots, and assigned to the particular stations in the program. Each station thus will be monitored for two days each week for four weeks during the first two weeks and the last two weeks of the campaign.

If volunteers can be obtained there will be no cost for this part of the study.