AMERICAN UNIVERSITY OF ARMENIA
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF PUBLIC HEALTH

AN EVALUATION PROPOSAL FOR A FAMILY PLANNING EDUCATIONAL PROGRAM

A THESIS PROJECT FOR SEEKING THE DEGREE OF MASTER OF PUBLIC HEALTH

AND

PREPARED BY THE STUDENT OF PUBLIC HEALTH DEPARTMENT,

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Table of Contents

Executive Summary

The problem of family planning is of prime importance in the gynaecological practice nowadays as it provides women with an opportunity to space their births with diverse means of contraception rather than with abortions. Family planning also enables women to avoid various complications that are caused by artificial abortions.

For many decades artificial abortions have been considered as one of the main means of family planning in Armenia. This statement is supported by the results of a survey conducted from 1989-1991 in Yerevan in co-operation with WHO with 4349 women of reproductive age. The results of this survey showed that from 4349 women involved in the survey 63% had undergone at least one artificial abortion , 6%- 10 and more artificial abortions. Data obtained from MOH of the Republic of Armenia show that since 1993 a significant increase is detected in the incidence trends of artificial abortions-being maximal in 1996 (659 incidence cases per 1000 live births).

The risk of post-abortive complications remains relatively high -leading to many severe disturbances of female reproductive sphere. These complpications affect the main health indicators of women in the most productive years for work and study. Besides, the government and the society have to pay for the treatment and rehabilitation of these patients.

In this aspect there is a need to facilitate the education and promotion regarding alternative methods of birth control , development of programs- aiming to disseminate information about family planning and contraceptive methods in Armenia.

For these purposes and as a part of the MPH thesis an educational booklet was developed and included the topics of family planning , abortions and modern methods of birth control. The booklet was developed from June-August , 1997 , on the basis of the most recent data existing in the scientific literature. It was administered to 27 women in the early postpartum period who had delivered in the Armenian Research Centre of Maternal/Child Health Protection. 30 women were included in the control group (did not receive the booklet). The sample frame was represented by the list of all women delivered at the Armenian Research Centre of Maternal/Child Health Protection within the time period of September 12 -October 6, 1997. Baseline data were collected from all of the 57 women by face-to-face interviews with a

structured questionnaire. Analysis was performed to detect whether the two groups differed at baseline , which could affect the true measurements of the main outcome study variables. It was found that the two groups did not

differ in any categories analysed. A significant negative association was found between parity and contraceptive usage.

This evaluation proposal seeks funding for the collection of post-intervention data for the educational booklet. These data will be used to assess the the effectiveness and the effects of the educational booklet given to women in the early post partum period at the Armenian Research Centre of Maternal and Child Health Protection. The following main study variables will be assessed :

- Mean knowledge score
- Attitude regarding use of contraceptives for birth control.
- Reported prevalence of modern birth control method' usage.

Measurment of changes in the main study variables between two groups will help to the evaluate the educational booklet and reveal whether it was applicable and whether it worked or-not. It is hypothesised that by increasing the awareness of women in the post-partum period regarding contraceptive means - we would achieve an increase in the reported prevalence of modern birth control methods usage.

Aims of the proposal

This evaluation proposal is written for post data collection follow up of an educational program regarding family planning and modern birth control methods. The program development, baseline data collection and analysis have been completed and the reports are contained in the analysis part of this proposal

. The **general aims** of the educational program include :

- Evaluation of an educational program for post partum women regarding family planning and modern birth control methods
- Increase knowledge, improve attitudes towards modern contraceptive methods in the study women

- Increase the reported prevalence of modern birth control methods' usage in Yerevan
- Lower abortion rates in Yerevan

The **specific aim of this evaluation proposal is:**

Collection of post follow up data -to assess the effectiveness of the educational booklet given to women at early post partum period at the Armenian Research Centre of Maternal and Child Health Protection in terms of the following main study variables under consideration:

- Mean knowledge score
- Answer to attitude question preferring contraceptive usage as birth control method
- Reported prevalence of modern birth control method' usage.

After the program implementation (administration of the brochure) the knowledge, attitudes and practices of women on contraception (KAP) with their corresponding variables will be measured between women received the booklet with those who had not received it.

- So, the difference of changes in terms of knowledge, attitudes and practices of modern contraceptives between two groups of women will be measured after one year of the initial study start. Measurement of changes in main study variables will take place at one point of time(November, 1998). This time-frame was chosen for the reason that one of the main outcome variable to be measured- the reported prevalence of modern birth control methods' usage for a postpartum woman requires relatively long time interval- in order to detect changes due to the program.

The baseline information on the target population (the"intervention" group) vs." control "was available. The baseline analysis of data from the study sample is described in the Analysis part of the project.

Background

General Overview

The problem of family planning is of prime importance in the gynaecological practice nowadays as it provides women with an opportunity to space their births with diverse means of contraception rather than

with abortions -avoiding from various complications caused by artificial abortions.

The term “family planning” often encompasses two district concepts-contraceptive use and family planning services. Basic human rights, health-related issues and demographic concepts are incorporated in this term. Contraceptive use assumes usage of every device, method and procedure which can prevent an unwanted pregnancy. Family planning services include specialised programs, activities and facilities-providing the woman/couple with contraceptive counselling, contraceptive means and later follow up of these patients. The family planning services helps the woman/couple and the community to meet their needs-both their practical needs to perform conventional role more effectively and their strategic need to find new roles and opportunities[1] .

From a global perspective, there are three major rationales for the organised *family planning movement* : a demographic *rationale,* a health rationale and a human rights rationale. And it is important to deal with the issues of health and family planning from all three perspectives[3].

The need for the extension and maintenance of the family planning educational programs and services have been established world-wide during last decades. The International Conference on Population and Development held in Cairo, 1994, emphasised the need for actions in the family planning and basic reproductive health components. The priority areas in the Family Planning Services Component were defined as follows:

- Contraceptive commodities and service delivery
- Capacity-building for information
- Education and communication regarding family planning

In the Basic Reproductive Health Services Component the priorities were given to:

- Information and routine services for prenatal, normal delivery and post-partal care
- Information, education and communication about reproductive health
- Adequate reproductive health counselling [2].

The availability of family planning counselling together with the availability of screening, diagnosis and treatment is one of potential indicators of the quality of reproductive health services. [10].

There have already been established many efforts aiming to enhance better reproductive health programs

and services. An example is the Safe Motherhood Initiative(SMI) which is a global effort to reduce maternal morbidity/mortality by means of several activities such as-facilitating Family Planning/Reproductive Health educational opportunities for women [4].

The evidence in the recent literature illustrates the effects of Family Planning Education/Counselling on the contraceptive usage. A controlled field study involving 1.444 young males and females of reproductive age was performed in 2 South-western states of the United States(California, Texas) to evaluate the impact of a contraceptive educational program. The results stated that the experimental program as compared with the comparison program(no contraception counselling) led to significantly greater contraceptive efficiency during the follow-up year among the participants of the experimental group[5]. Prior exposure to sexuality and reproductive health education was associated with gr eater contraceptive efficiency at the one-year follow-up among almost all sexual-experience and gender groups. [5]. The authors of the study conclude that more outcome evaluation studies are needed for a public health effort as burdened and pervasive with expectations as sexuality education is [5].

A 11-month contraceptive continuation pilot project offering monthly reproductive health assessment and counselling for students enrolled in Baltimore school clinics was evaluated. The results of the study revealed that the usage of some contraception methods(oral contraceptives and periodic abstinence) increased over the course of the program. Whereas no significant increase was detected in the use of condoms. The study concluded that the monthly contraceptive counselling can improve contraceptive use although dropout rate and contraceptive failure remain high[6].And the authors believe that these results were direct consequences of intensive follow-up and persistent counselling efforts available in the program. A report by Huntington from Cairo analyses the results of a research carried out at two sites in Egypt to improve the medical care and counselling of post-partal patients. Family planning information provided to postpartum patients increased as a result of the project's training program. The proportion of patients intending to use a contraceptive method increased by 30 percent points due to the improved counselling [9].

As with the respect of educational/counselling method, Moore suggests to create illustrated print materials for health and family planning education.[7]. The statement is that these kind of health messages

have a more striking and lasting impression on their audience. The Program for Appropriate Technology in Health (PATH) has found that the best way of ensuring that FP education materials will be understood and accepted is to develop them with the help of the target audience [7].

For various reasons, including the population policies of the former Socialist countries, abortion is much more frequent than contraception in Central and Eastern Europe [10] . Hassoun and Jourdain mention that in fact a health policy favouring contraception instead of abortion is firstly inspired by political or ethical reasons[10].

For many decades medical abortions had been considered as one of the main means of family planning in **Armenia.** The results of a survey conducted from 1989-1991 in Yerevan in co-operation with WHO with 4349 women of reproductive age supports the evidence that artificial abortions still remain the main means of birth regulation among Armenian women [11]. The results showed also that from 4349 women involved in the survey 63 % had undergone at least one artificial abortion, 6%- 10 and more artificial abortions. Data obtained from the MOH of the Republic of Armenia represent the official statistics of artificial abortions since 1975 till 1996 (See Appendix A ; Chart 1) as annual incidence rates per 1000 live births. As it can be seen from Chart 1, the incidence of artificial abortions decreases from 1975 till 1993; but after 1993 significant increase is detected in incidence trends of artificial abortions, thus being maximal in the year of 1995. This tendency may be explained by the difficult socio-economic situation in Armenia from 1992 to 1996. Women were unwilling to bear a child because of an unsatisfactory socio-economic situation. And the main birth spacing method was artificial abortion-because of no available amounts of modern contraceptives.

According to WHO summaries (1995) Armenia is on the 10th place among European and Asian countries by the incidence of artificial abortions of 29,6 per 1000 woman in fertile age* .

According to the official statistics of the MOH of Armenia there are available data only regarding the prevalence of IUDs and hormonal contraceptives since 1992 which are represented in Table 1 (See Appendix A). These are too low numbers, but it is worth to mention that these data are not complete and representative; they only include the number of cases registered in medical institutions. Mostly these cases

are not registered by the reason that a medical history card must be fulfilled if the case is registered officially. However, the dynamics of indicators suggest that there is a positive shift with regards to hormonal contraceptive prevalence. According to WHO summaries (1995) the prevalence of contraceptive usage in Armenia was 9 % and this is one of the lowest indicators among European and Asian countries*

When referring again to data from the 1989-1991 Yerevan survey in co-ordination with WHO data revealed a prevalence of 56 % among fertile women in Yerevan. And the number of women using a less effective method (rhythm/physiological method , washings, spermicides, interrupted intercourse, etc.) was much more higher comparing with Eastern-European countries (See Appendix, Figures 1; 2).

Risk of Postabortive Complications

The risk of postabortive complications remain relatively high leading to many severe disturbances of female reproductive health such as:

1. Secondary infertility (Disability-dysfunction)
2. Spontaneous abortions and premature deliveries (Dysfunction)
3. Extrauterine pregnancies mostly resulting in tubal abortions and tubal ruptures- severe conditions in the gynaecological practice requiring urgent surgical interference :(Disability- dysfunction)
4. Post-abortive haemorrhage and shock (Mortality)
5. DIC-syndrome (Disseminated Intravascular Coagulation)-(Mortality issues).
6 . Non-specific or specific infections of the female genital organs (Disease- causing morbidity).

The complications due to the artificial abortions can be attributed to several factors such as:

1. The quality of the abortion performance- assuming that artificial abortions whether performed by vacuum-aspiration or uterine cavity curettage are considered mini-operations and require specialised quality performance.

2. It is of big importance to examine the general health and specific reproductive health status of the woman seeking an abortion ; this issue assumes that in the case of some general and reproductive health conditions abortion performance is contraindicated (Such as- a history of a haematological disorder; pelvic

* Highlights on Women's Health in Europe, 1995

inflammatory disease, previous operations in the minor pelvis) .

3. Complications evolving from artificial abortions can be also attributed to the equipment of the operative room, assuming the existing modernisation capacities of the operation room and enabling the personnel to perform a quality procedure, such as- adequate sterilisation of surgical instruments, etc.

Risk Factors and Risk Behaviors

In order to determine what causes women to undergo an artificial abortion in Armenia it is of a significant importance to examine the behavioural and environmental conditions linked to health status or quality of life indicators.There had been distinguished several behavioural and environmental risk factors enabling and enhancing abortion in Armenia.

According to Phase 4 of the Precede-Procede Model for health promotion planning and evaluation [12] - potential factors that may influence behaviour of women undergoing abortions are as follows:

1. Predisposing factors:

- Knowledge- knowledge of women that:

´ Abortion is not the perfect way of birth regulation.

´ Knowledge about complications artificial abortions can lead to sometimes , despite the qualification of the doctor.

´ Knowledge about the date of pregnancy that is mostly desirable to interrupt (up to 11 weeks of gestation).

- Beliefs- women have to have the belief that:

´ The family planning has to be performed beforehand, before pregnancy occurs- by means of a variety of modern contraceptive methods(pills, IUDs, condoms, diaphragms, etc.).

´ The termination of life of a living being is out of the rule of a couple.

Attitude of women towards the concept of abortion - Represents a general concept of predisposing factors together with beliefs, values, knowledge, etc.

2. Enabling factors - (Often conditions of the environment) :

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* Highlights on Women's Health in Europe, 1995

- No existence of governmental laws/ regulatory actions to prohibit artificial abortions.
- Lack of the available amount of necessary contraceptives, drugs in polyclinics/clinics vs. drugstores.
- Low income of the general population-

The second and third points are particularly demonstrable when providing the following data : the cost of one package of contraceptive pills in private drugstores equals 4.000 drams (US$ 8) and the cost of one intrauterine device of foreign production- 5.000 drams(US$ 10) ; while the minimal salary in Armenia is 4.000 drams- equivalent to US$ 8* .

- Low amount of modern methods of contraception in polyclinics/clinics.

3. Reinforcing factors:

- Health providers- The opinion of some doctors concerning the issue that the contraceptive pills or IUDs are dangerous for the reproductive health of women and the main means of family planning remains the artificial abortion. Of course, this issue includes elements of objectivity, taking into account that IUDs can cause erosion, transformation of the normal vaginal mucous membrane of the uterine cervix, or-pills can cause hypertension and thromboembolic complications. But, however, a professionalised contraception assumes division of patients into groups to be prescribed a definite contraceptive according to many clinical and para-clinical exact data. And it is not rare in the clinical practice that the health providers' opinion appears to be subjective-for the sake of their own profit.
- Family, friends- Can provide misleading information concerning abortions and claiming them the only traditional and generally accepted method for family planning.

All the above mentioned behavioural and environmental risk factors pose a potential to the increase in the prevalence of artificial abortions and, consequently , to its complications-thus affecting the main generative health outcomes of women in reproductive age in Armenia.

Public Health Implications

- Women undergo an abortion at reproductive age(mainly from 25 up to 40 years of age). Consequently, complications evolving from them and being reflected in the indicators of health

status in this age category affect women in the most productive age for work and study.

- Besides, the government and the society have to pay for the treatment and rehabilitation of these patients.
- Complications evolving from artificial abortions can have psycho-moral consequences - causing the family and the woman, first of all ,to suffer from them: as this is with the case of a desired pregnancy when infertility after abortion is the issue.

Justification of the Problem

In this aspect nowadays the reproductive health services in Armenia are faced a major problem: the problem of artificial abortions . And there is an evidence for a need to facilitate the education, promotion and maintenance of family planning services, including mass information regarding modern birth control methods, development of programs aiming to support the dissemination of information about alternative ways of birth regulation other than abortions are as well as procurement and delivery of modern commodities regarding modern methods of birth control.

Materials and methods

As mentioned above- the proposed project aims to evaluate the effectiveness of the intervention-here represented by the Educational Booklet - in terms of changes in the following outcome variables:

1.Mean knowledge score

2. Answer to the attitude question # 20-" Contraceptive usage is better"

3. Reported prevalence of modern birth control method' usage

Description of the program

The educational booklet was developed during a 3- month period and includes the topics of family planning, abortions and modern methods of birth control (See the attached copy). Because of limitations in time and material resources we were not able to perform a qualitative research and reveal the most important topics to be covered . Nevertheless, the booklet covers the basic issues of family planning with

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* Reports of the MOH of RA on Maternal and Child Health Profile-1996, Yerevan, 1996

its core components, modern birth control methods and issues regarding artificial abortions. The booklet is in Armenian language and was created on the basis of most recent data existing in the scientific literature - citations from which are reported at the end of the booklet. It is written and edited in a manner to enable easy understanding of the stated material for the target audience. The booklet is entitled: " What Is The Family Planning" and consists of 6 parts-including an Introduction and a Conclusion and four main parts entitled:

Part 1- " Family Planning: What Is It?'

Part 2- " Artificial abortions - Why- No?"

Part 3- " What Are Contraceptive methods"

Part 4- " Types of Different Contraceptive Methods, Their Mode of Usage, Advantages and Disadvantages"

The Booklet includes as well different illustrated materials, including illustrations of each contraceptive method described in the corresponding text. They are descriptive and correspond to the textual representations.

After the first draft was ready, the booklet was revised by two specialists-gynecologists. The appropriate comments and remarks were taken into consideration. After which the second, revised version was given to 2 public health specialists for revisions and comments. After the revised draft of the booklet was ready, it was administered to five women in reproductive age. Several comments were addressed and taken into account. The final version was then developed and ordered for printing.

It is hypothesised that by increasing the awareness of women in the post-partum period regarding modern methods of birth control we can achieve realisation of the following goal:

- Increase the reported prevalence of modern birth control methods' usage in Yerevan .

Study design

The study design followed in our project is a Quasi-Experimental non-equivalent Control Design-with

experimental and control groups chosen on a non-random basis. By choosing such a research design and

assigning study participants to experimental and control groups, we, however, understand that we would not be able to control all of the relevant variables. We anticipate partial control on factors influencing internal and external validity. The two groups for our study would be as similar as permitted by availability.

Both- the experimental and the control groups were chosen by a census method to obtain a certain number of designated respondents- in our study represented by the list of all the women delivered in the Armenian Research Centre of Maternal and Child Health Care (ARC MCHC) . So, our sampling frame was the list of all women delivered from the 10 th of September till the 6th of October, i. e.- within the period when data collection process was held.

Setting

The list of all women delivered from 10 th of September till 6th of October was obtained in the Delivery Department of the ARC of MCHC. Taking into account the fact that the number of deliveries per day at the ARC of MCHC equals ~ 3-4 and anticipating the possibility of refusals to participate in the survey we would expect having ~ 30-35 respondents during each of the 2-week periods. There existed several inclusion criteria for the study participants delivered at the above mentioned facility. They were as follows:

1. Having an Armenian education
2. Being Yerevan residents
3. Having delivered a live child and who would be alive at the point of interview .
4. Women who had no hysterectomies or other radical operations on genitalia during/after the delivery .

Armenian education was regarded as a criteria for inclusion because the Booklet and the Questionnaire by which the women would be interviewed were in the Armenian language.Being Yerevan resident was also an inclusion criteria as these women would be involved in the second stage of the project after a year of the initial study start.

The reason that women with a dead child at delivery or at the point of interview were eliminated from the study was that there would appear no sense in asking a woman about her contraceptive and birth

control practices having child's death at delivery or after it. Besides we eliminated from study participation women having had a hysterectomy at/after the delivery because it would be reasonless to interview such a woman about birth control methods.

Data Collection Technique

The data collection instrument was a Questionnaire, developed specially to measure variables regarding mainly to contraceptive knowledge, attitudes towards abortions vs. contraceptives as well as practices of abortions and contraceptives (KAP parameters). This Questionnaire was developed with the aid of two structured questionnaires on contraception and abortions. One of them was a WHO questionnaire regarding contraception and abortion by which the national KAP survey was performed in Yerevan, 1995. The other source for the questionnaire was represented by the "Family Planning and Contraception " part in a Structured Questionnaire by Wellstart International Publications, 1994.

The Questionnaire consisted of 6 Parts - General data; Contraceptive Knowledge, Attitudes Towards Abortion and Contraception, Past Practice of Abortions/Contraceptives, Future Plans; Access -with 47 questions in overall. 45 of these questions were only provided answer categories and two were open-ended ones.(See the attached copy in Appendix D). Each of the response items in the Knowledge part of the questionnaire was given a weighted point according to its importance. False and Don't know categories reasonably were not given any score. The scoresheet of knowledge questions is provided with the attached copy of the questionnaire in Appendix D. The sum of the weighted points for all knowledge questions represented the overall knowledge score of the respondent. This manoeuvre was introduced to enable the calculation of the mean knowledge scores for study participants within each group and derive a summary mean knowledge score for the baseline study population in the analysis part of the results.

Before administering to women in the study groups the Questionnaire was pre-tested on several women similar to the main study participants (i.e. women in the early postpartum period). The suggestions were taken into consideration to enhance better understanding of question' meanings and used for the later cleaning and editing of the Questionnaire. After which the final version was developed and used for data collection.

Women who were supposed to be included in the control group were interviewed during a 12-day period. And only after being assured that all of the women included in the first part of the study were discharged from the hospital- we started the second phase of the study. This was done for the reason of eliminating the possibility of the information contamination within representatives included in each of the groups. During the next 12-13 days women of the " intervention" group were interviewed.

All the women were read a consent form by the interview, and asked about their willingness to participate in the interview. In the cases of refusal the next woman in the list of deliveries corresponding to the stated inclusion criteria was approached Immediately after the interviews one copy of the educational booklet was given to each of the interviewed women included in the intervention group.

The Questionnaire was administered to study women by face-to-face interview. For several reasons we did not consider it appropriate to self-administer a Questionnaire which included knowledge questions.

1. The first reason was that self-administered questionnaires would be more appropriate in supervised group- gathering sessions to eliminate the likelihood of cheating or asking someone else .
2. Willingness to answer would not be controlled
3. Self-administered survey is not suitable for obtaining explanations of behaviour.
4. By the reason that respondents might fail to answer to some of the questions.

Research Questions and Hypotheses

RQ1: Does the educational booklet given to women in the "intervention"group increase their knowledge regarding modern methods of birth control?

H_0: There will be no change (difference) in the mean knowledge score between the women who received the booklet and the women who did not receive it.

H_A: By the end of November, 1998, the change in the mean knowledge score of the "intervention" group will be 15 % more as compared with the change in the mean knowledge score of the "control" group.

RQ 2: Does the educational booklet given to women in the "intervention" group improve their attitudes regarding modern methods of birth control ?

H_O: There will be no change in responses preferring contraceptive usage in Q.20 between women received the booklet with those not received it.

H_A: By the end of November, 1998, there will be a 20 % increase in the answers preferring contraceptive usage in Q.20 between the women received the booklet and those not received it.

RQ 3: Does the educational booklet given to women in the early post partum period increase their practices of modern birth control methods' usage?

H_O: There will be no change in the prevalence of modern birth control method' usage between the women received the booklet and those not received it.

H_A: By the end of November, 1998, the change in the prevalence of modern contraceptive usage in women received the educational booklet will be 25 % more as compared with the prevalence change of usage in women not received the booklet.

Sample Size

In order to estimate the necessary sample size in each of the groups we looked to one of the main outcome variables of interest - which was the *mean knowledge score.*

We used the following sampling method:

$$n = \frac{(Z_{(1-\alpha/2)} + Z_{(\beta)})^2 (2) \times \sigma^2}{\Delta^2} \quad ; \quad (1.0)$$

Where :

$Z_{(1-\alpha/2)}$- The Z-value corresponding to the probability that H_o will be rejected when the means (μ) in two groups do not differ.

$Z_{(\beta)}$- The Z-value corresponding to. the probability that H_o will not be rejected when the means in two groups differ.

Δ- The stipulated difference we want to detect between the means of the two populations

σ- Standard deviation of the parameter under estimation(here-the mean knowledge score).

We stated already that the parameter we would estimate was the mean knowledge score. For these purposes we needed the standard deviation of the mean knowledge score- σ. As each of the knowledge items included in the Questionnaire were worth a definite weight, we did the calculations of the mean knowledge score for each of the respondents separately-without computer aid. And the σ.was estimated as 1/6 th of the whole range (of the 100% knowledge scale). - σ.= 100/1/6 ~ 17.

For the other parameters we took the following values:

Z $_{(1-\alpha/2)}$- 1..96 for 95 % certainty **(α** -level=0.05)

Z -power- $_{(1-\beta)}$ = 0.80

β- level = 0.2

Δ- 0.15 (15 % improvement in the mean knowledge score of the "intervention" group as compared with the "control" group).

σ - 17

r- number of controls for each case

By plugging these numbers into the equation **(1.0)-**we get the following **n** size of the sample:

$$\mathbf{n} = \frac{(1.96 + 0.80)^2 \, (2) \times (17)^2}{(15)^2} = 21$$

So, we needed 21 respondents in our samples. But during the survey 27 and 30 women were interviewed in the intervention and control groups, respectively.

That was the reason we estimated the power which would enable us to detect a 15 % difference in the mean knowledge scores between the two groups having a sample with a size of 27 , with a standard deviation of 17 and α -level of 0.05. From the equation **(1.0)** we derived :

Z -power- $(1-\beta)$ = 0.8887.

Then we as well calculated the Z -power for the sample with the size of 27 if the stipulated difference between the two mean knowledge scores were 20 %; 30 % ; 40 % . Respectively, for each of these **Δs** we got the following values of Z- power :

n=27; σ=17; Δ= 20; r=1; α -level =0.05; Z -power= 0.9877

n=27; σ=17; Δ=30; r=1; α -level =0.05; Z -power= 0.9998

n=27; σ=17; Δ=40; r=1; α -level =0.05; Z -power=1.00

Thus, the greater is the stipulated amount of difference between two population parameters (means), the bigger is the power of the test to detect such a difference for the same sizes of sample. Or- as we derived above- if the stipulated amount of difference between two parameters remains constant- in a sample with a bigger sample size we have more power to detect that difference.

Data Analysis

Baseline data collected from interviews with postpartum women were managed using the computer program Microsoft Access. For statistical analysis the database was transformed into an EpiInfo Program File.

This part of the evaluation proposal was performed in the following order:

1. Analysis of baseline data of the whole study sample(N=57)

2. Analysis of data of each group and their comparisons - for making judgements whether these groups were similar (homogeneous) at baseline in terms of the main study variables under consideration.

Data obtained after the baseline analysis were incorporated into a unique section named-Baseline Results.

3. Plan of the follow-up analysis of the Post-data.

Baseline Results

1. Baseline Results of the Study Sample

57 women were interviewed during a 26-day period; 30 women (52.6 %) were included in the control group and 27 (47.2 %) women -in the intervention group.

1 woman who was asked for participation in the control group refused to and 2 women refused to participate in the interviews of the " intervention" group.

The description of the socio-demographic characteristics of all interviewed women is presented in Table2 (See Appendix B). 28 (49.1%) women were included in the age category of 19-24 The mean age of the study sample was 26.2 years. 42 (73.7 %) women had college or graduate-level education. So, this group of

women have much higher educational level as compared with the general Aremenain female population .

This issue poses a potential threat to the external validity of the results and we have to take this fact into consideration in the analysis of post data.

Women from all 8 districts of Yerevan were included in the sample; 3 of the districts are considered Central regions (Arabkir, Miasnikyan, Spandaryan) and 5 of them are considered District regions (Khorhurdayin; Mashtots; Shengavit; Shahumyan and Erebouni). Overall , 27 (47.4%) women were interviewed from Central regions of Yerevan and 30(52.6%)- from the District regions.

34 (59.6%) women were primiparous, i.e.- had one child (the child delivered directly before the interview period) and the rest were multiparous. . Most of the families (28- 49.1 %) -were composed either from 3 or 4 persons . The income categories were merged for the analysis into 3 main groups: - monthly expenditures up to US $ 100; US $ 100-200 and US $ 300 and more.

1 (1.75 %) respondent refused to answer and 15 (26.3%) women did not know about the monthly incomes of their families. From the remaining 41 women , the majority(28- 42.1 %) had monthly incomes of US $ 100- 300. The mean monthly income in the whole study sample was equal to US $ 175.

As mentioned earlier, for the measurement of the knowledge we derived a knowledge-score scale represented by the sum of all the knowledge questions each multiplied by their corresponding weights. Each of the knowledge questions was given a weight-based on the importance and relevance of the correctly mentioned knowledge item. Overall, there were 7 knowledge questions in the Questionnaire (See

the attached copy; Appendix D; p.2-3) .

The corresponding weights of each item is provided in front of the items.Summing the weighted points of all items we derived a maximal total knowledge score of 34. For each of the respondent in the sample the total knowledge score was calculated. Then a mean knowledge score (MNS) was derived for each of the groups and for the whole sample. The results of the mean knowledge score calculation are represented in Table 3. For the total sample MNS was equal to 10.52 (30.95 %). This low number suggests a poor knowledge of contraception and birth control.

Table 3. Baseline Knowledge Score of the sample (N=57). (both-for "cases" and the "controls").

Group	*Mean knowledge score ; (maximum=34)*	*Percent of the mean knowledge score; (from 100%)*
Women received the Booklet-"cases"(n=27)	11.29	33.2
Women not received the booklet; "controls"(n=30)	9.76	28.7
The total sample (N=57)	10.52	30.95

The 3 main attitude questions were analysed separately (Questions # 20; 23 and 24) due to complications in collapsing them. (See Table 4a) . 55 (96.5 %) women preferred contraceptive usage as a birth regulation method (See Table 4b). 51 (89.5 %) women were against artificial abortions and 48 (84.2%) women thought that the decision of family planning must be made by the couple.

Table 4. Frequencies of the Attitude question' responses (#21; 24; 25) for the whole sample (n=57).

4a. Formulation of the Attitude questions:

# of the Attitude question	**# 20**	**#23**	**#24**
Formulation of the question	" On your opinion, which is better for avoiding an unwanted pregnancy-undergoing an abortion or using a contraceptive ?"	" On your opinion, who must make the decision of the contraceptive usage in the family?"	" What is your attitude towards artificial abortions?

4b. Frequencies of the response categories for each of the Attitude questions.

Question #	**Frequency**	**Percent**
# 20		
Using contraceptive	55	96.5
Undergoing an abortion	1	1.8
Don't know	1	1.8
# 23		
The woman	5	8.8
The man	3	5.3
Both	48	84.2

The same	1	1.8
# 24		
Am for abortions	3	5.3
Am against abortions	51	89.5
It is the same for me	3	5.3

The baseline results derived from the analysis of birth regulation and contraceptive practices revealed the following data : 24 (42.1 %) women from the study sample had previously used contraceptives for birth regulation . 34 (59.7 %) women were primiparous(had one child) and 23 were multiparous. (Table 5).

Table 5. Baseline statistics regarding contraceptive usage and abortion practices in the whole sample (N=57) = 100 %

Variable	Frequency	Percent
Used contraceptive	24	42.1
Name of the method (multiple responses included)		
Rhythm/Calendar	6	
Interrupted intercourse	11	
Condom	21	
IUD	1	
Contraceptive Pills	6	
Side-effects from contraceptive usage	8	33.3
Name of the method caused the effect		
Condom	7	29.14
Pill	1	4.16
Ever had a failure to procure a contraceptive		
Yes	5	8.77
No	52	91.23
Ever had an abortion	10	17.5
Number of abortions		Percents taken from the overall number of abortion(10) as 10 =100%
1 abortion	5	50.0
2 abortions	1	10.0
3 abortions	2	20.0
4 abortions	1	10.0
10 abortions	1	10.0

Parity (number of children the woman had), a potential confounder, was analysed using a 2 × 2 table with the variable Contraceptive Usage. The results are presented below:

Table 6. Bivariate analysis of parity with contraceptive usage (OR for 95% confidence intervals)

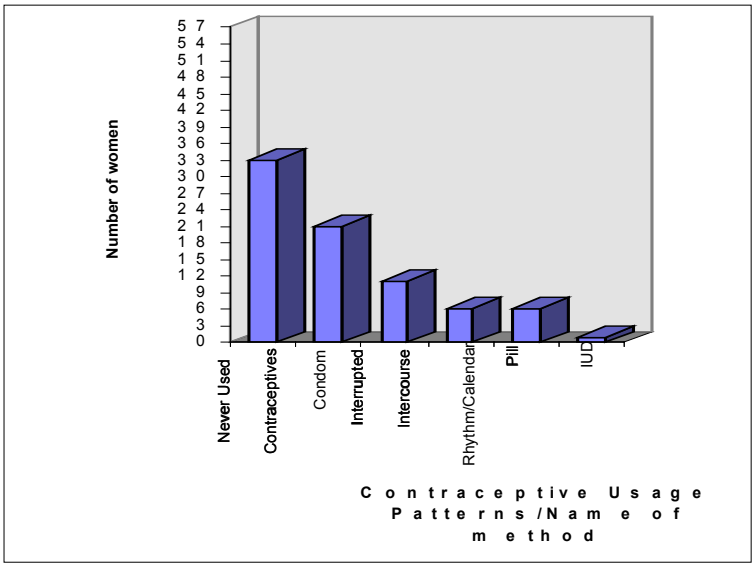
Parity	Ever Used a contraceptive	Total	OR	95% CI

Parity	Ever Used a contraceptive		Total	OR	95% CI
	Yes	No			
1 child	9	25	34	1.0	
2 or more children	15	8	23	0.19	
Total	24	33	57		0.05-0.69

As it can be seen from Table 6, the detected OR=0.19 with a 95 % confidence interval of 0.05-0.69. These results show a significant negative association between the number of children and contraceptive usage, i. e.- women having one child (the child delivered at the interview period) are "protected" against contraceptive usage. This is one of the important findings of the baseline data analysis of the sample which needs to be taken into account in the later stages of the post-data analysis.

The methods used included natural (rhythm , interrupted intercourse) and modern methods(condom, pill, IUDs). The methods were mostly used either solely (10- 42 %) or in combinations (in 14(58 %) cases from 24) - combining either two or-3 means of contraception . (Appendix B; Figure 3). Figure 4 in Appendix B shows the proportion and names of contraceptives used without combinations. In 9 (37.8 %) cases from 10 (42.%) condom was used and in 1 (4.2 %). case- the pill. 7 (29 %) women used combination of 2 methods for contraception (See Figure 5; Appendix B) and 7 (29 %) women from 24 used combination of 3 methods for contraception- combining at least one natural method with a modern one.(See Figure 6; Appendix B).). Chart 2 represents the number of women used different methods of contraception-- either in combinations or- without them.

Chart 2. Frequencies of contraceptive usage patterns (including methods used in combinations and without them).



Side-effects from contraceptive usage were reported in 8 (33.3 %) cases from 24- who had ever used a contraceptive.(Table 6). 7 (29.14 %) of them were detected during the use of condoms ; 5 (21 %) women using a condom stated discomfort during the sexual intercourse and 2 (8.14 %) women mentioned pains and blood from the condom use during the sexual intercourse. 1 (4.16 %) woman from 8 who had used a pill mentioned having menstrual disorders and infertility after the usage of the pill.

10 (17.5 %) women ever had an artificial abortion in their lives.(See Table 5). Half of them (5- 50.0 %) had only one abortion and 5 (50.0 %) had 2 or more abortions. The maximum number of artificial abortions was registered in 1(10.0%). case When asking the reason of undergoing an abortion rather than using a contraceptive- the woman was told to be allergic/reactive to any modern contraceptive method and mentioned the ineffectiveness of any of the natural methods of contraception.

In 5 (8.77 %) cases women reported having failures of contraceptive usage; (Table 5). 3 (5.26 %) reported that they could not find the wanted contraceptive mean in drugstores to purchase ; in one (1.75) case the reason was the woman's health condition and in 1 (1.75) case- the pressure of the family.

Hypothesising that there might be an inter-relationship between contraceptive usage and the failure of getting a contraceptive we performed a univariate analysis with a 2×2 table.

Table 7. Bivariate analysis of failure to procure a contraceptive with contraceptive usage (ORs for 95% confidence intervals) .

	Ever used a			

Failure	contraceptive		Total	OR	95 % CI
	Yes	No			
Yes	3	2	5	1.0	
No	21	31	52	2.21	
T otal	24	33	57		0.26-21.43

We found an OR equal to 2.21- a positive association which was not statistically significant. In 2 (3.5 %) cases from 5 failure of getting pills was mentioned; in 2 (3.5 %) cases women failed to get IUDs and in 1 (1.77%) case-spermicide tablets.

As for the women's future plans- 21 (36.8%) women wanted to have children in the future and an equal number of women (21- 36.8 %) reported that they do not want to have children any more in future. 15 (26.4 %) women were not sure whether they want to bear children again or not. From those 21 willing for future childbearing- the majority -11 (52.4%) stated to have a child after 3-4 years. Most of the study women (52- 91.2 %) wanted to use a contraceptive in the coming future.(Table 8).

Table 8. Future plans of contraception and birth control in the study sample (N=57).

Variable	Frequency	Percent; %
Want children		
Yes	21	36.8
No	21	36.8
Don't know	15	26.4
When want to have children		
After 1-2 years	5	23.8
After 3-4 years	11	52.4
After 5-6 years	4	19
Don't know	1	4.8
Want to use a contraceptive		
Yes	52	91.23
No	1	1.75
Don't know	4	7.02

2. Baseline results of each group and their comparisons

The second stage of the baseline data analysis was performed for the given study variables in 2 groups of women- (given " intervention"/" Control" as an outcome variable). to reveal existing differences

between the two groups in the case of being "exposed" to each of the given variables under consideration. The summary list is provided in Appendix B (See Table 9).

This stage of the baseline data analysis was important to reveal differences between the two groups in terms of the main characteristics under study and determine the degree of homogeneity between the two groups.

As Table 9 shows there were no noticeable differences between the two groups in Socio-Demoghraphic characteristics. The mean age in intervention group was equal to 25.44 and 26.44- for the control group. Mean years of education were 13.8 and 13.86 for each of the groups respectively- quite homogeneous . When looking at the parity in both groups we find that there is a negative association between the variable of having 1 and more than 1 children (parity) and belonging either to the intervention or control group (OR= 0.29; 95 % CI limits 0.08-1.01).(See Table 9).

We eliminated the number of women from the analysis who either refused to answer about their incomes or who did not know about it . The positive associations found in the income categories 100-200 vs. 200-300 with regards to intervention vs. control groups were not statistically significant. The mean income for intervention group = US $ 200 and US $ 176- for the controls.- no big differences in terms of the mean income level. Women in both groups were as well homogeneous in terms of their living regions(Central vs. District regions of Yerevan)- OR=0.6 with a 95 % CI limits of 0.18-1.95. (Table 9).

When analysing data regarding the knowledge in each of the groups-we again calculated the mean knowledge score in each of the groups by the method described above. The mean knowledge score for the "intervention' group was equal to 11.29 (33.2 %) and 9.76 (28. 7%)- for the " control" group from the total score of 34 (100%).

Table 3. Baseline Knowledge Score of the sample (N=57). (both-for "cases" and the "controls").

Group	*Mean knowledge score ; (maximum=34)*	*Percent of the mean knowledge score; (from 100%)*
Women received the Booklet-"cases"(n=27)	11.29	33.2
Women not received the booklet; "controls"(n=30)	9.76	28.7
The total sample (N=57)	10.52	30.95

The number of women preferring the contraceptive usage, being for abortions and thinking that the couple might make the family planning decision was quite homogeneous between two groups (See Table 10).

Table 10. Characteristics of ' cases" and " controls" regarding attitude.(Frequencies, ORs for 95% Cornfield confidence imtervals).

Characteristic	Case; # (%)	Controls; #(%)	OR	95 % Confidence Intervals
Attitude Question # 20				
Contraceptive is better	26 (96.3)	29 (96.6)	1.0	-------
Others(Abortion is better, Don't knonw)	1 (3.7)	1 (3.7)	0.9	0.02-34-92
Question # 23				
Both	24 (88.9)	24 (80)	1.0	------
Other(only man; only woman; the same)	3 (11.1)	6 (20)	2.00	0.38-11.62
Question # 24				
For abortion	2 (7.4)	4 (13.3)	1.0	-----
Against the abortion	25 (92.6)	26 (86.7)	0.52	0.06-3.78

From 24 women in the whole sample who had used a contraceptive- 13 (54.2 %) were from the intervention group and 11 (45.8 %) women belonged to the " control" group. (OR=1.6). But this association while looking to the corresponding 95 % CI limits was not statistically significant (0.49<OR<5.31). 5 (50 %) women from the intervention group and 5 (50 %) in the " control" group had had at least 1 artificial abortion in their lives (OR=1.14 with 95 % CI limits of 0.24-5.38) (See Table 11).

Table 11. Characteristics of women regarding previous practice of contraception and abortions. (Frequencies, ORs and 95 % Cornfield confidence interval limits).

Variable	"Cases"; #(%)	"Controls"; # (%)	ORs	95 % Confidence Interval
Used Contraceptive	13 (54.2)	11 (45.8)	1.0	------
Had not used	14 (45.8)	19 (54.2)	1.6	0.49-5.31
Number of methods used (during each time of usage)				
Only 1 method	4 (30.8)	6 (54.5)	1.0	---
2 methods	4 (30.8)	3 (27.3)	2.00	0.19-22.99
3 methods	5 (38.4)	2 (18.2)	3.75	0.33-51.89
Side effects				
Ever had	5 (38.5)	3 (27.3)	1.0	---
Did not have	8 (61.5)	8 (72.7)	1.67	0.22-40.29
Name of the method caused the				

effect				
Condom	4 (80)	3 (100)	1.0	---
Pill	1 (20)	0 (0)	0.00	0.00-40.29
Ever had an abortion				
Yes	5 (18.5)	5 (16.7)	1.0	----
No	22 (81.5)	25 (83.3)	1.14	0,24-5.38
# of abortions				
1 abortion	3	2	1.0	----
2-4 abortions	2	2	0.67	0.02-19.36
10 abortions	0	1	0.00	0.00-22.83

Data presented in Table 12 (See Appendix B) show the future reproductive plans of women in two groups. 8 (29.7 %) women from the intervention group and 13 (43.3 %) from the "control" group wanted to have a child in the future. The ORs of wanting a child between 2 groups was 1.79 but this was not a significant positive association. Of those 8 in the intervention group 3 (11.1 %) and 6 (20 %) from 13 "controls" wanted to bear their child after 3-4 years since the last delivery. 26 (96.3%) women from " cases" and 26 (86.7 %) from " "controls" stated that they wanted to use a contraceptive method in the future.

During the analysis process we considered the fact that some of the derived positive associations might be due to a confounding factor.

We suggest in later stages of analysis to take this fact into consideration and in cases when a positive association is revealed- perform univariate analysis between the variables which led to positive associations in the intervention group vs. controls. Or- in cases of detected associations (positive vs. negative) in order to purify the intervention effect(for example, on the prevalence of contraceptive usage)- perform multiple logistic regression analysis to see whether number of children(parity) contributes to the contraceptive usage in Cases/controls . Another approach might be to use a stratified analysis of , ex. contraceptive usage by the variable parity.

Afterall , we can derive that the two represented groups in the sample were considerably homogeneous in terms of socio-demographic, contraception and abortion practices as well as in their attitudes and knowledge regarding modern birth control methods.

The plan of the Post Data Analysis

The third part of the data analysis must be performed during the second stage of the evaluation of the

educational booklet. (after 1 year since the initial study start). Changes in the main outcome variables will be compared between two groups.

The following is a representation of the main study outcome variables , their levels of measurement and the appropriate analytical technique for each. .

1 Variable- Mean knowledge score.

Measure- Mean knowledge score

Level of measurement- Numerical (continuous)

Statistical method- One-tailed T -test would be applied to observe differences in terms of changes in the mean knowledge score between two groups.

2. Variable- Answer to the attitude question # 20- " contraceptive usage is better" .

Measure - Response category in Q. #20 "contraceptive usage is better"

1= Yes

2= No

Level of measurement- Nominal (dichotomous)

Statistical method- OR with a 2 × 2 table:

Answer category	Intervention group	Control group
Yes		
No		

As well as x^2- test ; calculation of P-values.

3. Variable- Reported prevalence of the modern birth control methods' usage

Measure- -1= Used a modern contraceptive

2= Did not use a modern method of contraception

Level of measurement- Nominal (Dichotomous)

Statistical method to be applied- ORs with a 2×2 table , x^2 - test ; calculation of P-values.

Logistical Considerations

The main concerns are connected with the organisation of the third stage of this study- post data collection analysis and evaluation process. This is essential in allocating and spending the time , human and material resources appropriately.

- It is planned that the post data collection, analysis and evaluation will take place within a one-month period, in November, 1998. But, however this time-frame can be flexible and be expanded or reduced in accordance with the ongoing processes.
- A training component must be incorporated in this stage of the project- to train and exercise people for later data collection. For this purposes a room will be rented- for 7 working hours, preferably at the American University of Armenia. The next day after the training till the end of data collection a rented car will take the survey assistants to the field from AUA building.
- The expenses for food will be covered by the sponsoring side-for a launch in the Cafeteria of AUA.
- The room rented for training purposes is planned to be hired for 7 working hours as well for the post data analysis and project evaluation. Data entry and cleaning processes will logically take place firstly.After the person finishes her his/her work, the program analyst will start the job another 7-day working period. Lastly, the program evaluator will fulfil his/her job within a 10-day period, which is planned initially.
- The compensations of personnel job is planned to be reimbursed after the fulfilment of their jobs, for each one, respectively, after their working period is finished.
- The program monitor and co-ordinator must have an everyday participation throughout the whole post data collection stage. He/she must create a working schedule for the post data collection and analysis phase as well as make revisions and changes in study logistics when necessary. The program co-ordinator will have a working-place in the rented office-room.

Budget

We developed an approximate matrix for the required financial resources to enable post-data collection and analysis.

The construction and the development of both-the booklet and the questionnaire as well as baseline data

collection and analysis have been complete. The budget spent on the realisation of the first two stages is presented in Appendix C (See Table 14). For this reasons we present the required budget for the third stage of this study- post-intervention data collection, analysis and evaluation of the reducational booklet.

We developed the budget which would be necessary for the realisation of each of the steps in the third stage (See Table 13).

1. Training.

It is planned to train people who would be hired for the data collection . The training will take place during a 1-day period with 7 working hours. And it is assumed that a room might be rented for the training- hopefully at the American University of Armenia.

- For one day the cost for rending a room will be approximately US$ 50 .
- Each of the trainees will receive US$20 for the training-so US$ 80 will be spent for the training of 4 data collectors.
- The trainer will probably be a Public Health specialist and receive US$ 50 for the one-day training.
- Each trainee will be allotted as well US$2 for launch. (US$ 10- for 4 trainees).

So, **US$ 190** will be spent during the training stage.

2. Xerox-services- 57 copies of the questionnaire each with 9 pages multiplied by 40 drams(i. e- the cost per page) equal to 20.520 dram (**US $ 41.04).**

No booklet will be given at this point of time.

3. Data collection and analysis:

Personnel:

- For this stage we need at least 4 people to contact the respondents and collect the data. Data collection in each of the groups might be performed by 2 people; each one accomplishing his/her job within a 7-day period. For these purposes each of the data collectors would be allotted a daily compensation- including the fee for food as well and equalling to US $ 20. So, for 4 persons we need US $ 80 daily ; for a 7-day period the expenses to hire data collectors are equal to US $ 560.
- As well a small " present" is planned to be given to each of the interviewed women with a price not exceeding US $ 1 per person. (A chocolate candy or a small souvenir). For 57 women we need US $ 57 (28.500 drams).
- 1 person for data entering and cleaning with a daily compensation of US $ 40 and assuming her/his job for seven working day period - equalling to 280 US $.
- A program analyst - With a daily compensation of US $ 45- hired for 7 working days (US $ 315).
- A program evaluator- Daily compensation of US $ 45 - and hired for a 10-day period (US $ 450).
- A program coordinator and supervisor - To follow and supervise the process of post data collection , analysis and evaluation as well as coordination and monitoring of the activities involved. He/she would be paid a daily compensation of US $ 40 for 30 working days. So, US$ 1200 will be spent to hire a program coordinator/monitor.

Total - US $ 2862.

Transportation costs:

- 1 car for 2 interviewers - Assuming the cost for the gasoline of 1 litre 180 dram and that the daily spending of the gasoline would be ~ 6 -7 litres, , we got 1440 drams (2.88 US $) for the daily costs of the car. In 7 days the fuel costs per one car would be equal to US $ 20.16. and for two cars- US $ 40.32 - during the 7-day period.
- 2 drivers will be hired with a daily compensation of US $ 15 Besides, each of the drivers might get a n additional payment per day-for the technichal needs of the car equalling to US$5. So, for 7 days the expenses for 2 drivers would be US $ 280 (US $ 140 for each of them).

Total- US$ 320.32

Equipments and site

- An office -room to be rented for a 7-hour working day within a 25-day period. Data entry, data cleaning and analysis will take place here. Assuming that the cost for renting a room might be approximately US$50, for 25 working days US$ 1250 will be spent for renting an office room.
- A computer and a printer (US$ 1500) with the appropriate computer programs installed in it.(MS Accesss; Excel; EpiInfo; SPSS; SAS) which would be used for data introductions and analyses.
- US $ 400 will approximately be spent for office supplies and other unprecedented subjects.

Total- US$ 3150

Total for data collection and analysis- US$ 6332.32

Total budget- US$ 6563.36

Table 13. Representation of the budget for Post-data collection and analysis phase.

Stage	Required Items	Number of Items/persons	Cost(In drams and the US $ equivalents
Training	**Room**	**1**	US$ 50
	Trainer	**1**	US $ 50
	Trainees	**4**	US$80 (US$ 20-each)
	Launch		US$ 10
			Total- US$ 190
Xerox-Services	**Questionnaire**	**57**	**20.520 (US$ 41.04)**
Post data collection, analysis and evaluation	**Personnel:**		
	Data collectors	**4**	US20 each- (US$560)
	A person to entry data	**1**	US$ 280
	Data analyst	**1**	US$ 315
	Program evaluator	**1**	US$ 450
	Program coordinator	**1**	US$ 1200
	Drivers	**2**	US$ 280
	Transportation:		
	Cars	**2**	US$ 40.32
	Site and Equipment:		
	Room	**1**	US$ 1250
	Computer with a printer	**1**	US$ 1500
	Office supplies	**As required**	US4 400
			Total- US$ 6332.32
		TOTAL BUDGET- US$ 6563.36	

Ethical Considerations

The “intervention” group was presented by 27 women at early post partum period , who were administered an educational booklet -devoted to the issues of family planning, abortions and modern methods of birth control. Before each interview women were introduced an informed oral consent protocol-describing about the aim of conducting the survey and the role of the participant in the interview. Women in both groups were told about the anonymity of all of the information given by them as well as about the possibility for refusal to continue the interview at any time. We did not find necessary of administering a written consent protocol by the reason that a woman orally unwilling to participate in a survey would not sign the paper and, the reverse .And the women told that they did not see any need for signing a paper.

Just after the interview women in the “ intervention” group were told that they will be given a popular brochure regarding modern methods of birth control. This news was greeted by the majority of women who were told about the “intervention”. We were told that this is a very appreciable initiative and that they would like seeing broader campaigns on this topic, yet vague for the majority of our women.

The booklet was developed and edited by ourselves, after thorough and careful review of all the available scientific literature on these topics. There was nothing new/innovative in the booklet which would pose a potential threat. to women after they read it. Reversibly, we expect to see the major benefits for our women in terms of their reproductive health issues.

Acknowledgements

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Appendix C

Representation of the budget spent on the realisation of the first two stages of the evaluation proposal.

1.Both- the education booklet and the questionnaire were developed by one person, free of charge, on voluntarily basis (MPH thesis). The representation of the budget for the first stage is presented in Table 14.

For data collection and administration of the booklet we needed - 60 copies of the questionnaire (30& 30 in both groups) and 30 copies of the booklet-as it would be administered only to the "intervention" group of women. Each Questionnaire consisted of 9 pages- ; so for 60 copies - 540 pages. The cost of the xerox/per page is equal to 40 drams. And multiplying 540 by 40 -we derived the overall expenses on the printing of the questionnaire (21.600 dram equalling to US $ 43.2). The booklet was created by student of PH Department as a part of MPH thesis who operated on voluntarily basis, free of charge. The booklet consisted of 30 pages; and we needed 30 copies of it. So, 900 pages each with a xerox cost worth to 40 dram. And we got the value of expenses for 30 copies of the booklet equalling to 36.000 drams (US $ 72). So, summing up the expenses for the brochure and the questionnaire- we derives the amount of expenses for the first stage - equalling to US $ 114. All lhe expenses for the xerox of the questionnaire and the brochure (US $ 114) were covered by the Centre of Health Services Research at AUA.

2. Table 13 presented below shows as well the overall cost of the procedures during the second phase-the baseline data collection. It is worthy to mention that the data collection from 57 study women(women delivered at Markarian clinic) was performed by one person- the student of the PH Department of AUA during a 26-day period. It was done using her own resources for transportation and time resources for the data collection. The daily costs for food were equal to US $ 2 and daily costs for transportation- US$ 1. So, daily US $ 3 was expended ; multiplying this amount by 26 (number of days the interviews were performed) we got an amount of US $ 78. Data analysis were performed by the same person, free of charge with the computer belonging to the Centre of Health Services Research within AUA.

So, for the previous 2 stages we got the sum of the total expenses equal to US $ 192.

Table 14. The expenses spent on the realisation of the first two stages of the proposal.

Stage of the Evaluation Proposal	Required Items	Number of Items/persons	Cost (In drams and the US $ equivalents).
First Stage- Development of the Questionnaire and the brochure	· **Questionnaire** · **Brochure**	**60** **30**	21.600 dram (US $ 43.2) 36.000 dram (US $ 72) **Total- US $ 115..2**
Second Stage- Baseline data collection	· **Data collector** · **Data analyst** · **Transportation Means and food** · **Computer**	**1** **1** **As required** **1**	None None Daily- US $ 3; For 26 days- US $ 78 None **Total- US $ 78**
		Total for two stages- US $ 193.2	

Appendix B

Table 2. Socio-Demographic Characteristics of All Women (N=57).

Variable	Frequency	Percent; %	Mean
Age Categories, yrs.			
19-24	28	49.1	
25-29	12	21.0	
30-34	10	17.5	
35-40	7	12.4	
Total	57	100.0	26.2
Education; years			
8-10	7	12.3	
11-15	42	73.7	
16-20	8	14.2	13.85
Region in Yerevan they live*			
1.Khorhurdayin	9	15.8	
2.Arabkir	16	28.1	
3.Mashtots	6	10.5	
4.Miasnikyan	5	8.8	
5.Spandaryan	6	10.5	
6.Shengavit	4	7.0	
7.Shahumyan	5	8.8	
8.Erebouni	6	10.5	
Number of children			
1 child	34	59.6	
2 children	21	36.8	
3 children	2	3.5	1.439
Number of persons in the family			
3-4	28	49.1	
5-6	21	36.1	
7-8	8	14.1	4.789
Income			
Up to US $ 100	11	19.32	
US $101- 300	24	42.1	
More than US $ 300	6	10.53	US $ 175
Refused to answer	1	1.75	
Did not know	15	26.3	

* Note- Regions # 2; 3 and 5 are the Central regions of Yerevan, # 1; 3; 6; 7 and 8 are included in the District regions; so as for their frequencies- Central regions= 27 (47.4 %) and 30 (52.6%)- for the District Regions .

Table 9. Baseline socio-demographic characteristics of " cases" and "controls"(Frequencies; ORs and 95% Cornfield confidence limits for OR).

Characteristic	Cases; # (%)	Mean	Controls; # (%)	Mean	OR	95 % CI
Years of education						
8-10	4 (14.8)		3 (10)		1.0	----
11-14	7 (25.9)		10 (33.3)		0.52	0,06-4.2
15-20	16 (59.3)		17 (56.7)		0.71	0.10-4.64
		13.8		13.86		
Number of children (parity)						
1 child	12 (44.4)		22 (73.3)		1.0	-----
2 and more children	15 (55.6)		8 (26.7)		0.29	0.08-1.01
Years of age						
19-24	16 (59.25)		12 (40)		1.0	---
25-29	4 (14.8)		8 (26.6)		0.38	0.07-1.86
30-34	5 (18.55)		5 (16.7)		0.75	0.14-3.97
35-40	2 (7.4)		5 (16.7)		0.30	0.03-2.26
		25.44		26.96		
Number of persons in the family						
3-4	13 (48.17)		15 (50)		1.0	---
5-6	10 (37.03)		11 (36.7)		1.05	0.29-3,80
7-8	4 (14.8)		4 (13.3)		1.15	0.19-7.16
		4.83		4.76		
Region in Yerevan they live						
Central	11 (40.7)		16 (53.4)		1.0	-----
District	16 (59.3)		14 (46.6)		0.6	0.18-1.95
Income						
Up to US $ 100	4 (14.8)		7 (23.3)		1.0	----
100-200	6 (22.2)		3 (10)		3.5	0.4-35.48
200-300	9 (33.3)		6 (20)		2.63	0.41-18.18

300 and more	3 (11.1)	US $ 200	3 (10)	US $ 176	0.7	0.06-8.03

Table 12. Future Plans of Contraception in 2 Groups; ORs and 95% Cornfield CI limits.

Variable	"Cases"; #; %	"Controls" #; %	OR	95 % CI limits
Want children in the future				
Yes	8 (29.7)	13 (43.3)	1.0	------
No	11 (40.6)	10 (33.3)	1.79	0.44-7.37
Don't know	8 (29.7)	7 (23.4)	1.86	0.4-8.90
When want to have children				
After 1-2 years	2 (7.4)	3 (10)	1.0	-----
After 2-3 years	3 (11.1)	6 (20)	0.86	0.06-12.21
After 5-6 years	2 (7.4)	2 (6.7)	1.5	0.0-52.2
Don't know	1 (3.7)	2 (6.7)	0.75	0.01-35.9
Want ot use a contraceptive				
Yes	26 (96.3)	26 (86.7)	1.0	----
No	1 (3.7)	0 (0)	Undefined	-----
Don't know	0 (0)	4 (13.3)	0	0- 1.72