

## *Executive summary*

**Introduction** - Cervical Cancer (CC) is an important reproductive health problem among women. It is the third most common cancer in the world and is the second most common cancer in females. In Armenia CC is the second most prevalent malignant tumor and is the second cause of cancer death among women after breast cancer. High mortality and morbidity rates and increased rates of advanced cases in Armenia and other developing countries when compared to low rates in more developed countries can be explained by the lack of effective screening programs and poor secondary prevention. The most widely used screening method for CC is cervical cytology or a Papanicolaou or Pap test.

**Objective of the study** - The aim of this study is to gather in-depth information regarding knowledge, attitudes and practices of Armenian women in Yerevan aged 18 to 65 years in regard to Pap test.

**Methods** - To show the real in-depth picture of the issue of CC secondary prevention utilizing a Pap test in Armenia, an exploratory qualitative study was conducted in Yerevan. Two types of qualitative research techniques were used: key-informant and in-depth interviews. Purposive (judgment) sampling was used to recruit 20 women aged 18 to 65 years for in-depth and 6 gynecologists for key-informant interviews. Data collection was conducted from July 20 to September 24 after approval of the study by the Institutional Review Board of the American University of Armenia. Interviews were carried out after oral consent was obtained in Armenian. Semi-structured field guides with open-ended questions were used for both types of the interviews. Data were analyzed using hermeneutic analysis which involves reading and rereading the transcripts for underlying themes. Data analysis was done by one researcher (principal investigator) with the assistance of a gynecologist.

**Results** – The study found that the knowledge level of Armenian women about CC and its association with a Pap test is low which, may be due to absence of sources of information and educational campaigns. Cultural attitudes of Armenian women as well as the current socioeconomic situation, distrust towards gynecologists, and absence of cytologic services also contribute to low rates of utilization of the Pap test. Moreover, women do not seek to Pap screening services by themselves but rely mostly on their gynecologists' decisions. However, overwhelming majority of women do not visit gynecologists for preventive purposes. The latter finding contradicts reported attitudes of the interviewed women because they said they believed that regular and frequent visits to gynecologists for preventive check-ups are important.

**Conclusion** – The study found that multiple factors influence the utilization of Pap screening services. Moreover, there is a unique set of these factors for each woman. Therefore, identification of the most important factors that have ability to predispose, enable or reinforce women's screening behaviors was important. A public approach should be adopted in tackling the problem of CC because this would enable the message to reach a number of women.

**Recommendations** – Based on the results of this study, recommendations include future quantitative research to survey the knowledge and use of Pap tests. Research should be carried out about risk factors of CC in Armenia. The role of mass media and polyclinics should be increased in promoting CC prevention. Also, specific procedural changes must be adopted to assure consistent classification of the results of the Pap test. Common technique must be used to obtain specimen in all health care institutions.

## **Introduction**

### **Description of the Health Problem**

Cervical Cancer (CC) is an important reproductive health problem among women. The major risk factor for CC is a sexually transmitted infection with the human papillomavirus (HPV). HPV generally is asymptomatic and easily transmitted. Other risk factors include early age at first intercourse, having multiple sexual partners, long-term use (> 5 years) of oral contraceptives, low socioeconomic status, and cigarette smoking (1, 2, 3, 4).

### **Burden of Suffering**

CC is the third most common cancer in the world (5) and is the second most common cancer in females representing 15 percent of all cancers (6). The incidence of CC is approximately 500,000 per year worldwide with 80 percent of cases from developing countries (6, 7, 8, 9). Of these women, over half occur in Asia (4). Every year almost 200,000 women die because of CC. Most of these deaths occur in developing countries (9).

In Armenia, CC is the second most prevalent malignant tumor. Among women, CC is the second cause of cancer deaths after breast cancer (10, 11). According to the Statistical Center of the Oncological Dispenser from the year 1985 to 2000, the morbidity from CC increased one and a half times, though the mortality increased slightly. Furthermore, the rate of advanced cases increased almost five times from 1.38 in 1985 to 5.33 in 2000 (11) (see appendix 1).

These rates were calculated estimating the population of women to be 1,500,000. However, the actual rates in the last 5 – 10 years are thought to be higher because the population has decreased due to high rates of migration. Accurate statistics can be determined once the ongoing official census is complete.

High mortality and morbidity rates and increased rates of advanced cases of CC in Armenia and other developing countries when compared to low rates in more developed countries. This may be explained by the lack of local effective screening and poor secondary prevention programs (4, 9). Screening provides an opportunity for early detection of pre-cancerous changes in the uterine cervix, resulting in earlier and more effective treatment (7). According to Hugh, “Cervical cancer is potentially 100 percent curable when precursor lesions are detected early” (12).

### **Pap Test or Pap Smear**

The most widely used screening method for CC is cervical cytology or the Papanicolaou or Pap test (1, 4, 13, 14, 15, 16). Results of the Pap test (named after George Papanicolaou, the first to elaborate and apply it in 1943), determine abnormal, pathologic changes in the uterine cervix, which are predisposing conditions or precursors to CC development (7,17). The technique of the Pap test is “scraping cells from the uterine cervix, fixing and staining them on a glass slide” (3). After this procedures a trained cytologist examines and determines normal or abnormal cells. Depending on the technique used, Pap testing has a sensitivity of 50 percent to 90 percent and a specificity of 90 percent to 99 percent. The sensitivity of the Pap test has a wide range because it depends on the adequacy of specimen collection and laboratory interpretation (3). As a result of the early detection of cervical neoplasia, appropriate and timely curative clinical interventions can be performed to “prevent or delay progression to invasive cancer” (5). Because it takes from 8 to 10 years for the development of invasive carcinoma from pre-cancerous changes, approximately all predisposing lesions can be detected by repeated testing (4).

Studies conducted in the US, Canada, and several countries in Europe have shown a sharp decrease in the incidence of CC and almost 60 percent reduction in deaths due to CC

attributed to the effects of Pap screening (1, 18, 19). Such positive achievements are due to well-organized mass screening programs (6). However, decrease in the rates has not been found in countries where cytological tests are not available or utilization of screening programs is low (19).

### **Pap Test in Armenia**

Based on the interviews with gynecologists representing 5 major maternity hospitals in Yerevan and an oncogynecologist from the Oncological Dispenser, it was determined that there are differences between the Pap test and the cervical cytology performed in most of the gynecological centers and institutions of Armenia. The main difference is in interpretation of the final results. The cervical cytology classifies the final results as mild, moderate or severe dysplasia. The results of the Pap test are reported using the Bethesda System developed by a National Cancer Institute consensus conference (see appendix 2). The Bethesda System standardized classification categories. It also considers the adequacy of the submitted specimen. In the Bethesda System, final results are classified into the following categories: Low-grade squamous intraepithelial lesion encompassing mild dysplasia or cervical intraepithelial lesion 1 (CIN 1), and high-grade squamous intraepithelial lesion encompassing moderate and severe dysplasia or carcinoma in situ (CIS) / CIN 2 and CIN 3 (3). However, despite some differences between the Pap test and cervical cytology, their basic technique and the goal are the same; namely, to detect pathological changes in the uterine cervix, which are precursors of CC. Thus, the term cervical cytology can be used synonymously with the term Pap test or Pap smear because they have the same basic meaning.

The availability of Pap tests differs between Yerevan (Capital City of Armenia) and the other Marzes or regions of Armenia. According to the key-informants the rate of Pap tests is almost zero in the Marzes. The main reasons mentioned by informants are the absence of

basic supplies necessary to perform the test and lack of specially trained cytologists. Another reason cited is lack of knowledge about this test among gynecologists working in the Marzes. In Yerevan the polyclinics should provide this service. However, due to the absence of trained cytologists and supplies, cervical cytology or Pap tests are not done in all polyclinics. Cervical cytology is available in all maternity hospitals in Yerevan. The first hospital, which adopted classification of the final results using the Bethesda System, is the Center for Women's Reproductive Health in the Erebuni Medical Center. Moreover, since June of the year 2001 the Pap test is performed in the Armenian – American Mammography University Center. However, due to lack of time it was not possible to check all hospitals, which perform a Pap test based on the Bethesda System.

### **Objective of the Study**

The aim of this study is to gather in-depth information regarding knowledge, attitudes and practices of Armenian women in Yerevan aged 18 to 65 years with respect to the Pap test. This study uses qualitative research methodologies to gather preliminary information regarding this topic. The specific focus of this research was the exploration of various factors that impact, either positively or negatively, the rate of Pap screening among Armenian women in Yerevan.

The following research questions guided this study:

- What is the current knowledge level of Armenian women regarding CC and its association with the Papanicolaou test?
- What are their attitudes in respect to regular Pap screening?
- What are current cervical screening practices among the women?

- What are some recurring themes noted among reported attitudes and knowledge and actual behavior?
- What factors influence utilization of Pap screening services in Armenian women?

## **Methodology**

### **Background information**

Currently the only data about the knowledge and use of a Pap test in Armenian women was obtained from the “Sevan Household Survey”. The findings indicate their knowledge is low. However, this study does not provide data on reasons why their knowledge level and compliance with recommended examinations are low. Moreover, attitudes of Armenian women towards Pap tests appear to be unexplored information. Thus, a decision was made to conduct an exploratory qualitative study. The purpose of this study was to gather data about knowledge, attitudes, and practices of Armenian women in Yerevan in regard to the Pap test. An exploratory study was chosen to gain preliminary in-depth insight about the topic. The issue is complex and little is known about it in Armenia, and as a result can not be easily understood using quantitative methodologies.

The focus of the study was on Armenian women because they are the potential beneficiaries of this test. In-depth interviews were conducted with them to explore their knowledge, attitudes, and practices in respect to the Pap test. This type of qualitative research was chosen since in-depth interviews could best provide insight about the relatively unexplored topic. In addition, key-informant interviews were conducted with gynecologists to obtain more in-depth information regarding professional opinions and knowledge about the women in relation to Pap smear.

### **Sampling and Recruitment Procedures**

In-depth interviews were conducted among women who met the following inclusion criteria:

- Women who are sexually active. (The literature indicates "women who have never been engaged in sexual intercourse are at decreased risk for CC; and therefore, do not require screening" (1). Regular Pap tests should be instituted after a woman first engages in sexual intercourse (1,3). Marriage was taken as an indicator of sexual activity, and married women were selected as research subjects).
- Women aged 18 to 65 years old. (The lower age of 18 years was selected for the reason that if the sexual history is unknown or considered unreliable, recommendations are that screening should start at that age (1, 3).

The upper age limit was selected because the literature identifies that screening of women aged 65 years and over reduces the risk of dying from CC insignificantly (1). The wide age range allowed comparison of knowledge, attitudes, and practice (KAP) between two generations).

However, it would have been better to recruit women who have multiple sexual partners because this increases the risk for CC. Finding women with many sexual partners would have been difficult due to cultural issues; namely, asking about multiple partners as a criterion too sensitive to ask Armenian women. In addition, it was supposed that even in case of asking this question most of the answers would not be reliable. Therefore, marriage was selected as one of the criteria for recruitment.

The following women were excluded from the study:

- Women with medical or nursing education
- Women who have public health education
- Women who work in the health care system including medical personnel and allied health workers

The reason these exclusions that it is assumed that they know more about the topic being studied; so, they will have more informed responses.

Purposive or judgment sampling was used to recruit 20 women.

All of the subject lived in Yerevan. Their ages ranged from 21 to 65 with a mean age of 41 and median age of 36.5 years. The duration of marriage of the interviewed women ranged from 1 to 43 years with a mean of 18 years and a median of 16.5 years. All interviewed women had children except for one who was pregnant at the time of the interview. Only 5 of the 20 women interviewed said they had not undergone an abortion. The number of abortions per women ranged from 1 to 12.

In regard to educational levels, 12 were classified as “higher education”; 1 selected “incomplete higher education”; 4 said they had “technical education” and 3 indicated they completed “secondary school”.

Only 3 women reported they were working, and 3 said they were retired. Regarding socioeconomic status of the informants, the range of money spent each month by their families ranged from \$30 to \$400.

The key-informant interviews were conducted with Armenian gynecologists in Yerevan who met the following criteria:

- Gynecologists who are engaged in clinical practice. (Practicing gynecologists are more aware about knowledge, attitude and practice of Armenian women).

- Gynecologists who have worked in the health sector more than 2 years.

(Gynecologists who have worked less than 2 years would not have the same level of information about the topic under the study).

Purposive or judgment sampling was used to recruit the gynecologists. Six gynecologists were interviewed. Four of them were females and 2 males. They were from six different health institutions. Years of working experience of key-informants ranged from 4.5 to 24 years. Thus, there was an opportunity to see differences in the information provided by the gynecologists representing different levels of experience.

### **Data collection**

Data collection was conducted from July 20 to September 24 after approval of the study by the Institutional Review Board of the American University of Armenia. Data were collected in Yerevan. Informants were referred by the students of the Public Health Department at the American University of Armenia. The 20 informants were friends and relatives of Public Health students.

**In-depth interview** – The in-depth interview is a form of qualitative research which is an “intensive and intimate opportunity to hear in detail from one individual” (20). It allows getting in-depth information from the informants; namely, people who are insiders of the issue under discussion. This technique was used to interview 20 women. The interviewer stopped selection after 20 because no new information was obtained.

The interviewer contacted the women over the telephone and made appointments. After agreeing to participate in the study the interviewer and subjects agreed on the day, time and place for an interview. All interviews took place at women’s homes. Interviews were conducted after oral consent was obtained from the participant. The consent form was written in Armenian (appendix 3). The questions for the interviews were semi-structured (appendix

4). The questions were contained in the field guide and were developed based on the specific research questions, which the study aimed to answer. The field guide was pre-tested using 5 subjects. After the pre-test, the field guide was revised and changes were made in the structure of some of the questions. During the pretest, it was found that not all of the women understood a question when the term “Pap test” was used. The addition of the term “cervical cytology” resulted in understanding.

The field guide for in-depth interviewing consisted of the following parts: introductory statement, warm-up questions, transition and key questions, summary and closing statements. All questions in the field guide were open-ended, which is considered an essential component of in-depth interviews (20). Using open-ended questions allowed for unanticipated responses from the interviewees. Most of the written questions were supplemented with probes to stimulate an informant to produce more information and thus to get more detailed responses to the questions.

Interviews were conducted in Armenian. The duration of the interviews ranged from 30 minutes to one and a half-hours. During the interviews handwritten field notes were taken by the interviewer, which were expanded and translated into English on the same day to avoid recall biases.

General demographic information was collected from each woman at the beginning of the interview to make comparisons based on these data. It allowed the opportunity to describe the subjects to better understand the composition and diversity of the group.

***Key-informant interview*** – Key-informants are people who have more knowledge about the issue under the study than ordinary people due to their position or experience (20). This technique of qualitative research was used to interview the 6 gynecologists from different hospitals. The interviewer contacted the gynecologists by telephone and set up the

appointments. All of the interviews were held in the hospitals where the gynecologists worked. The interviews were conducted after oral consent was obtained. Consent process and interactions regarding this were in Armenian (appendix 5). The duration of the interviews ranged from 30 minutes to one and a half-hours.

A field guide was used to conduct semi-structured interviews (appendix 6). It was developed in English and then translated into Armenian. The field guide was pre-tested with two gynecologists. After pre-testing, the field guide was revised. All questions in the field guide were open-ended. Most of them were supplemented with probes. Questions were grouped into the following groups: introduction, warming-up, transition and key questions, summary and closing statements. The handwritten field notes of the interviews were expanded and translated into English on the same day of the interview.

### **Data analysis**

Data analysis was done by one researcher (principal investigator). Data were analyzed using hermeneutic analysis, which involves reading and rereading the transcripts for underlying themes, which later become the organizing framework for interpreting their meaning. Repeated readings of transcripts of the in-depth and key-informant interviews allowed the researcher to highlight words, sentences, phrases, and concepts in order to find main ideas and specific responses. “Responses that are specific...should be given weight than responses that are impersonal or vague” (21). The analysis of the particular theme was considered complete when further rereading did not find any new information. One of the interviewed gynecologists helped in the interpretation of the results confirming the general findings.

The content of the transcripts was analyzed from the following perspectives:

- To identify the diversity of the responses in relation to studied issues.

- To reveal the main patterns in the knowledge, attitude and practice of the Pap test in Armenian women.
- To define which of the factors influencing utilization of Pap screening services. plays the most important role in Armenian women's decision to have a Pap test.
- To define the main barriers to undergo a Pap test among Armenian women.
- To find differences in knowledge, attitude and practice of Armenian women with regard to Pap screening across the different age, socioeconomic groups, and educational levels.

During the analysis, summary statements were made followed by quotes and illustrative examples chosen from the raw data, or statements provided by the interviewees.

The results of the study are based on the interpretation of the summary statements.

## ***Results***

### ***Results from key-informant interviews***

#### ***“CC as a public health problem”***

Information was gathered from key-informant interviews related to the topic under the study. During these interviews a common theme was repeated. The women indicated that CC is a public health problem in Armenia because its incidence as well as proportion of women with advanced stages among newly revealed cases have increased during the last 5-10 years. These beliefs were in sync with official data provided by the statistical department of the Oncological Dispenser (appendix 1). The data show CC is diagnosed in younger women than it was some years ago.

*“ 5-10 years ago, mostly it was diagnosed in women aged 55 and above. Now it is usual to find this pathology in women aged 40-45...Also rarely we find CC in young women aged 20-25”.*

#### ***“Reasons for increased rate of CC”***

The increase of the incidence of CC was explained by different reasons. The main reason mentioned in most of the interviews was an absence of mass screening programs.

*“Then, the number of advanced cases has also increased. This can be explained by the absence of preventive programs and mass-screening”.*

*“Some years ago prophylactic check-ups of women were obligatory... As now there are no such organized health programs I can suppose that the incidence of CC is increased, though I haven't numbers to prove this statement”.*

*“The main explanation is absence of free of charge mass screening...”.*

Another important reason for the increase in the incidence of CC mentioned by the gynecologists was the financial problem that exists among many families. As a result, women have no money to pay for the consultation of gynecologists and for the necessary tests.

Therefore, they apply to doctors when the disease is in advanced stages treatment, which is expensive, and the chances of success are much less.

*“Now medicine is not free of charge, as it was 10 years ago. This results are a decrease in the number of patients and women in general who apply for regular check-ups”.*

*“People do not have money to go to doctors. It doesn't matter to a gynecologist or a cardiologist”.*

### **“Late appliance to gynecologists”**

Most of the informants consider financial issues as the most common reason for applying late to gynecologists.

*“The first and the most important reason is financial”.*

All interviewees mentioned that another important reason for not going to the doctor was the national characteristic of Armenian women. What is inferred by this statement is that most Armenian women seem to sacrifice their health for their families. When funds are limited, they are spent on daily needs rather than medical care. Furthermore, they value their daily household activities more than seeking preventive care.

*“I mean that Armenian women have decreased self-worth. They think more about others than about themselves. They do not find time for themselves”.*

*“The second reason is the national characteristic of Armenian women. They prefer to clean the floor rather than to find time and to go to doctors”.*

*“There is no money in their family budget for their health. They can obtain money for their husband and children but not for themselves. I think that this is a characteristic of Armenian women. They care on everybody but not for themselves. Furthermore, they are engaged so much in their daily household problems that even in the presence of money they have no time to go to gynecologists”.*

Women are natured to preventive care. They go to see doctors when they have complaints, which may mean that the disease is in its advance stages. Furthermore, they do not pay attention to minor symptoms but go to see doctors when something serious bothers them.

*“For example, a woman goes to a gynecologist if she has a bleeding between menstrual cycles or after sexual intercourse. Furthermore, not a bleeding which occurs once but which is regular...However, bleeding is a sign of advanced stages of gynecological cancers, for instance cervical, vaginal, etc”.*

*“This disease [CC] is latent. For a long time patients do not have complaints or they have minor symptoms which do not cause discomfort. As a result they continue their daily life without knowing that they have a dangerous disease. They apply with complaints, which means the III or IV stage of CC”.*

### **“Screening practices”**

The increase in the rate of advanced cases of CC was explained by the informants as poor secondary prevention or by poor screening. Most interviewees stated that the rate of women getting Pap tests in Armenia is very low and that it has decreased during last 5 years. The low rate of Pap tests was explained by several factors. First, there are problems with the health system of Armenia. There are absence or lack of basic supplies and specially trained cytologists in polyclinics and hospitals.

*However, this test is not done in polyclinics... In most of the regions of Armenia it [Pap test] is not done due to absence of cytologists and supplies.*

*Furthermore, I can state that it is done only in Yerevan. In the regions this test is almost not done. Some exceptional hospitals exist... Polyclinics have not such services at all.*

*There are several reasons. At first, Pap smear is not done in all clinics. In our clinic this test is done since 1992 when our colleges from the US established our center and provided us with necessary training of the technique of tacking, dyeing and interpreting a Pap test. Another explanation why this rate is low is that women are not aware of the existence of such an important preventive tool.*

Additional factors include financial issues and the low level of knowledge Armenian women have about CC and its prevention. Women do not have the money to go to gynecologists or pay for this test.

### **“Knowledge about CC and its risk factors”**

All gynecologists mentioned that the knowledge of Armenian women with regard to CC and its prevention is extremely low. A high percent of women have no information about this disease and its preventable nature. A small number have some idea, but most do not know about it.

*“In general the knowledge level among Armenian women is very low. It is not pleasant for me to mention but Armenian women are not well educated in health issues”.*

*“I can say for sure that most Armenian women are unaware of this disease and its preventable nature. I do not consider cases when women have some idea about CC because usually this is a misinformation obtained from friends and neighbors not from knowledgeable source”.*

*“Almost nobody knows about Pap tests. But some women know about cervical cytological examination. Usually these are women who have undergone it”.*

Furthermore, the interviewees mentioned that almost nobody knows about risk factors of CC, particularly about its association with sexual behavior.

*“I assure you that 90% of the gynecologists do not know how Human Papilloma Virus (HPV) differs from other viruses. It is obvious that women also do not know about sexual behavior as a risk factor for CC”.*

*“If there are women who know about CC in general, I can tell you that nobody knows about risk factors”.*

*“Even they [Armenian women] do not imagine that such risk exists”.*

### ***“Reasons for lack of knowledge about CC and its prevention”***

Low level of knowledge about CC and its secondary prevention the informants explained by absence of sources of information. They stated that currently in Armenia there is no source where women can get information about this topic.

*“Now in Armenia there is no such source where women can obtain information about it [Pap test], and its purpose, except Internet and foreign literature”.*

*“Nowhere. Currently there is no such place where Armenian women can obtain information about this problem. There are not special TV programs. There aren't advertisements on the walls of the policlinics showing that CC can be prevented”.*

*“I would like to mention that the role of gynecologists is very important. In the situation when women have no possibility to obtain information anywhere they have to provide women at least with the information about the main gynecological problems and their early detection to determine treatable stage”.*

Absence of advertisements was cited as another reason. Advertisement was mentioned as the most important mode for informing women about CC and its prevention. The example of the Mammography Center was mentioned during most of the interviews.

*“The majority of women do not know about it [Pap test]. The reason is that there is no advertisement of the importance of this test. For example, let us consider mammography. Some years ago women were not aware of it like they are about a Pap test now. And what has happened? Due to organized efforts of the Mammography Center and mass media, women became aware. They know advantages of this examination, that breast cancer can be revealed at its early stages and thus treated more effectively. Furthermore, they know where they can get this examination”.*

Due to absence of reliable sources of information women mostly obtain their knowledge from their friends, neighbors. The interviewees mentioned that the quality of such information is questionable.

*“Mostly they [Armenian women] obtain information from their friends and neighbors”.*

*“Those who have some idea about CC and its prevention obtained their “knowledge” from rumors. The quality of such information is questionable”.*

### **“ Practice of a Pap test”**

Lack of knowledge with respect to CC and its secondary prevention makes women passive in the decision to undergo a Pap test. Based on the comments of the interviewed gynecologists, it is usually the gynecologist who decides if a woman should have a Pap test or not. In extremely rare cases, women are the decision-makers. The frequency of having a Pap test is also decided by a doctor. Mostly doctors decide to conduct a Pap test when there are visual changes on the uterine cervix. They use the test to diagnose and determine the course of a treatment. Conducting a Pap test for routine screening purposes is less frequent.

*“Gynecologists decide how often a woman should have a Pap test...If a doctor suspects something she/he may repeat this test to confirm the results. After that, a treatment is prescribed, if necessary. However, in Armenia doing a Pap test for preventive purposes like it is done in most part of the world is not common”.*

Although, the recommended age of a Pap test is 18 years (1, 3), there is no specific age for its initiation in this country. Furthermore, the rate of a Pap test is higher among women of reproductive age. It is low after age 40.

*“There is no special age for doing a Pap test. Usually it is done when a woman applies to the gynecologist for the first time due to disease or pregnancy”.*

*“The rate of this test [Pap test] is the highest reproductive age because during this time, sexual life is more active and there are more reasons for applying to gynecologists. For example, women go when they have discharge, disturbances of the menstrual cycle, pregnancies, etc”.*

*“Before marriage and after age 40 if there aren’t complaints, nobody goes to a gynecologist”.*

In other age groups the rate is very low compared to the relatively high rate among women of reproductive age.

### ***“Reasons for not being screened”***

The informants mentioned different reasons why women do not apply for a Pap test. Even sometimes they gave contradictory statements. However, the reasons mentioned by them consist of several beliefs. The first was due to a lack of knowledge and financial problems. Other beliefs were connected with the health system, itself. Due to the absence of this service in most of the polyclinics and hospitals, doctors do not refer their patients for the procedure. Or, though the service exists, doctors do not value its importance. However, in the statements of gynecologists, there was also a contradiction.

*“The main reason for low rate of applying to a Pap test is absence of this service in polyclinics of Yerevan... About financial issue, I can tell that it is not very important because in some hospitals its price is 500 drams while in others it is from 2000 to 2500 drams”.*

*“The main and the only reason is the financial barrier for socially low and high layers of the population. Knowledge doesn't play much role. Even after explanation of the importance of this test we face the same problem, namely financial issue”.*

*“Not all doctors value the importance of a Pap test. They rely more on their practice and their ability to diagnose disorders of the cervix visually. The second reason is financial problems in many Armenian families”.*

*“The main reason is “empty informational field”. I mean that women are unaware. They have no knowledge and information related to this issue”.*

### ***“Suggestions”***

The informants provided valuable suggestions to motivate women to obtain a Pap test more often. Almost all gynecologists suggested informing women about this test and its importance, which can be done by advertisements using mass media. The role of gynecologists is very important in informing and educating women. The example of the American Armenian Mammography University Center was mentioned as having a successful program to inform women about prevention of breast cancer by mammography, and how and where they can get it.

*“Another way is to inform women about this test and its importance. If a woman is informed even if she has no money, she can obtain it to go to a gynecologist”.*

*“The situation with this problem is in a very “sad” situation in Armenia unlike the situation with mammography. Some years ago, mammography examinations were in a similar situation. However, after the establishment of the Mammography Center the situation has changed dramatically. Advertisements by TV started. These were not simple advertisements but rather special TV programs about advantages of mammography, this Center and its sponsors. As a result many women are aware of this procedure. This in its turn makes some women apply to this Center. May be, this number is not very high, but hopefully it will increase”.*

*“The role of the gynecologists becomes valuable and very important. They must inform or if necessary warn women about this or that gynecological problem and the ways of its prevention”.*

*“In my opinion it should be a state policy. There should be TV programs about cancer prevention. Screening cabinets should be advertised by TV. For example, the Green Path campaign of the family planing helped a lot of women. Many of them before this campaign didn’t know about contraceptives and where they could obtain information how to use them. However, after the campaign, the rate of women applying to family planing cabinets increased. In my opinion the same positive results will be achieved if screening cabinets will be also advertised. In this case the number of women applying to these cabinets will increase also”.*

### **Results from in-depth interviews with women**

From in-depth interviews with Armenian women aged 18 to 65 years, information was gathered related to their knowledge, attitudes and practices with regard to CC and a Pap test.

#### ***“Frequency and reasons of visits to gynecologists”***

Based on these interviews, the frequency of visiting gynecologists is low among Armenian women. Mostly they visit a gynecologist for prenatal care. The second most common reason for visiting gynecologists was to have an abortion. Less common reasons for visiting a gynecologist were related to illness. None of the informants visited health care facilities for preventive purposes.

*“I visit a gynecologist during pregnancy or when I need abortion”.*

*“As I mentioned for prenatal care, but before that I had a discharge, and I applied for treatment”.*

*“I visited a gynecologist 10 years ago for an abortion”.*

*“I visit a gynecologist only during pregnancy”.*

*“I visit gynecologists very rarely. During the last 5 years, I visited twice...to insert an IUD”.*

However, despite what is their practice in the real life almost all informants mentioned that a woman should visit the gynecologist twice per year or at least once per year. Most of interviewees explained that frequent visits will lead to early diagnosis of gynecological diseases and as a result, treatment will be timely.

*“If any latent problem exists, it can be revealed earlier. In general, it is needed to visit a doctor twice a year in order to reveal existing health problems earlier...”*

*“The sooner a woman visits a gynecologist the sooner problems will be detected; and thus, they will be treated more effectively”.*

*“There are latent diseases, which can be revealed by frequent visits to a gynecologist”.*

### **“Ways of gynecological disorders’ prevention”**

Frequent visits to a gynecologist and preventive check-ups were mentioned by most of the interviewees as the most important and effective ways to prevent gynecological disorders, particularly cancers.

*“I think that if a woman is under regular control of the gynecologist, cancers can be revealed earlier or even prevented”.*

*“Like diseases of other organs, gynecological diseases also can be prevented by regular visits to the doctors. In that case diseases can be revealed early”.*

However, there were 3 informants who could not identify even one way of preventing CC. There were also opinions that diseases can not be prevented.

*“Disease is unexpected. It can not be prevented. If it develops, one has no power against nature”.*

*“Gynecological disorders can not be prevented. Everything happens as nature decides”.*

### **“Knowledge about CC and its risk factors”**

The knowledge about CC was poor. Most of the interviewees did not know anything about CC except that such a disease exists. Few of the women had some superficial information about it. There were also misinformation, for example:

*“I have heard that cancer of the uterine or uterine cervix develops after complications of an abortion. If during the abortion, the uterine is perforated it leads to the wound which later transforms into the cancer”.*

The knowledge about risk factors of CC and its predisposing diseases was also poor.

The interviewees listed stresses, abortions, an inserted intrauterine device (IUD), genetic predisposition and menopause as possible risk factors for CC's development.

*"In my opinion stress as well as genetic predisposition, play a role in the development of CC".*

*"Now stress is widespread, and people face it in many areas of their life, especially women. That is why this disease [CC] becomes so frequent".*

*"I think that it is connected with abortions and menopause".*

*"Multiple abortions can lead to CC".*

*"IUD can cause cervical or uterine cancer".*

Almost all of them did not know that sexual behavior is a risk factor for its development.

*"I have never heard that a cancer can be sexually transmitted".*

*"I hardly believe that sexual behavior can lead to a cancer".*

Only two interviewees knew that sexual behavior can play a role in the development of CC. However, their answers were vague and based on guesses.

*"I guess that irregular sexual life can lead to CC. By irregular sexual life I mean having many boy-friends... It is just my point of view, but I can not explain".*

Most of the informants consider age 40 years and above as the period when CC is most likely to develop.

*"CC as all gynecological cancers develops after age 40".*

Most of the interviewees could not explain why they think that CC develops after age 40 years. Some of them mentioned that age 40 years and above is a period when most gynecological cancers develop.

### ***"Predisposing diseases"***

The informants mentioned erosion of the uterine cervix as a predisposing disease leading to CC. Besides erosion, inflammation and raptures of the cervix were mentioned as predisposing conditions of CC.

*“The only disease leading to CC which I know is erosion of the uterine cervix”.*

*“CC starts from erosion and if not treated, is transformed into a cancer”.*

### **“Knowledge on CC’s prevention and a Pap test”**

Most of them consider regular and frequent visits to a gynecologist as a way of prevention of CC. As result of these visits, disorders of the uterine cervix can be earlier revealed, and their further development into CC can be prevented by timely and appropriate treatment. Treatment of predisposing conditions was also considered as a way of CC’s prevention.

*“Predisposing diseases can be prevented by a timely visit to a gynecologist, and thus by a timely treatment”.*

*“I know that erosion of the uterine cervix can be effectively treated”.*

Though, most of interviewed women consider regular visits to gynecologists as a way of preventing serious problem, their knowledge about Pap smear was low. Only one out of 20 interviewed women, knew the term “Pap smear”. This was a woman who was in France for a long time and had undergone this test there.

*“I have heard about a Pap test in France... Here in Armenia I have heard nothing about this test”.*

The remaining 19, did not know about this test or some of them confused it with a vaginal smear.

*“I have never heard or read about a cytological examination of the cervix”.*

*“Is it [Pap smear] the same as vaginal smear?”.*

Few informants have superficial information about cervical cytology. They had some ideas about how a Pap test can help to prevent CC. Some concluded that a Pap smear helps to detect changes in the uterine cervix or is used to confirm a diagnosis.

*“The cytological examination detects diseases of the uterine cervix”.*

*“The cytological examination helps to find “bad” cells. If such cells are present then surgical intervention is performed”.*

*“Some years ago I had erosion of the cervix. Before the treatment my doctor did cytological examination of the cervix to decide the treatment”.*

*“This test is taken to find cancer cells of the cervix... It gives an opportunity to find the disease early”.*

Knowledge about the frequency of how often this test should be done and age for its initiation was also inadequate. The informants mostly considered once per year as an appropriate frequency like most medical preventive examinations.

*“As every medical examination I think that this one also should be done once per year”.*

Other opinions suggested that the frequency depends on the existence of complaints and the age of a woman, twice per year for young women and once per 5 years after age 50.

*“If a woman has complaints... she must apply for this test more often”.*

*“Also it depends on the age of a woman. After age 50 it should be less frequent”.*

### **“Initiation of Pap screening”**

Opinions about the age when to initiate a Pap test varies. Women either do not know or gave different ages as times when it can be started. Some women consider marriage as a time appropriate for Pap test’s initiation. However, even these answers were vague and based mostly on guesses. Furthermore, most of them could not explain their answers.

*“I do not know, or I guess that after age 30?”.*

*“I do not know exactly. Maybe it should be started after marriage”.*

*“If you are not married, or sexually active, you do not need gynecological examinations”.*

### **“Sources of information”**

Almost all informants mentioned that currently there is no source in Armenia where they can obtain information about CC and a Pap test. Some of them who have some knowledge about CC and a Pap test mentioned that they learned their knowledge from their own experience since they have undergone this test.

*“I know about cervical cytological examination since I have undergone it”.*

*“I know it from my own experience”.*

Other sources of information included friends and neighbors, women magazines, and the Center for Women's Reproductive Health in the Erebuni Medical Center.

*"I like to read medical literature".*

*"I have read about it in women magazines".*

*"I have heard information from my friends or my neighbors".*

*"I did a Pap test some years ago. However, the only place where I have heard about cytological examination of the cervix is the Center for Women's Reproductive Health in the Erebuni Medical Center".*

### ***"Practice of a Pap test"***

The practice rate of the Pap test was also low. Only four women said they had had a Pap smear, and only one was estimated to have been tested in the previous three years.

*"I did it in January of this year".*

*"If I am not mistaken, I did cervical cytology 3 years ago".*

There were also women who do not know whether they had undergone the test or not. The reason for not knowing was that the gynecologist did not explain what analysis was done, and what were its results.

*"If I am not mistaken during that period the doctor performed this test. But I am not sure".*

*"I do not know whether doctors perform this test during pregnancy or not".*

*"The gynecologist did not tell me what analyses were done. Maybe that is why I do not know whether they did this test or not".*

*"The gynecologist told nothing. She only prescribed a treatment".*

However, some gynecologists interpreted the results of a Pap test, and made recommendations.

*"Yes, of course, the doctor explained the result of the test. She told me that I need treatment".*

*"The doctor told me that everything is OK".*

### ***“Future practice”***

Most of the interviewed women did not plan to have a Pap test in the near future. They often mentioned the reason was a lack of knowledge about the advantages of this test. Although some of the informants would like to have the test, they gave reasons for not doing it. For example, they said they did not have the time or money, or had a absence of complaints.

*“Now I am very busy with my children... I have no time for me”.*

*“I want to go to the gynecologist, but I have no time. I know that this is not a reasonable justification but what to do?”.*

*“Now everything is OK. I have no complaints. Nothing is bothering me that would make me go to the doctor”.*

*“After undergoing surgery, I am planning to go to my gynecologist, but it is already one year and I can not arrange this visit”.*

However, even those who were not against having a Pap test said they relied on the gynecologists’ decisions.

*“If I will have any complaints like pain, discharge and I do not know what else I would go to a gynecologist. If he/she will decide that I need this test I will do it. If not, why do it?”*

None of the informants mentioned having a Pap test in the near future for preventive purposes. The main reason was a low level of knowledge about a Pap test. Lack of knowledge was mentioned by some informants as a reason for the low rate of a Pap testing in Armenia.

*“The main reason is that Armenian women do not know that there is a such important test”.*

*“There is a lack of knowledge and understanding what can happen if a woman does not apply for this test”.*

The role of gynecologists was considered as important in informing women about this test.

*“Then gynecologists must inform women about the purpose and advantages of a Pap test”.*

*“Indifferent attitude of gynecologists is an important reason. They think only about their profit and money. As a result, women do not trust them and apply when there is a desperate necessity”.*

### ***“Reasons for not being screened”***

Six informants considered low self-worth and other cultural characteristics of Armenian women as reasons for not applying for a Pap test. Under cultural characteristics they meant valuing household more than their health and caring of the whole family more than for themselves.

*“The main reason is our Armenian behavior. Armenian women do not take care of themselves. They prefer to clean homes...rather than to think about their health... They apply to doctors very late when their health is impaired so much that they can not polish the floor”.*

*“At first, there is no cultural behavior to go to doctors”.*

*“The reason for not getting a Pap test is a national characteristic of Armenian women not to go to doctors and not to care of themselves”.*

Other reasons why women would not get a Pap test were absence of complaints, distrust towards doctors, and a lack of finances.

*Another reason is distrust towards doctors because they like to exaggerate patient’s condition.*

*“They do not have complaints, so they do not apply”.*

*“The first reason is financial. People have no money to go to doctors”.*

*“In my opinion everything is connected with financial problems... there are women who have no money for an abortion”.*

### ***“Suggestions”***

The informants provided valuable suggestions to motivate women to obtain a Pap test more often. In general, the respondents were very active in answering this question and provided a variety of suggestions. Most of the interviewees suggested having advertisements on TV about CC and its prevention. Examples of the advertisements of the Mammography Center and the Family Planning “Green Path” Campaign were mentioned by some women.

*“Then advertisements by TV, like it was done for the family planning campaign, may help”.*

*“I would suggest having special TV programs about women’s health”.*

*“At first, good information is necessary using advertisements by TV, like it was done by the family planning campaign”.*

*“Discussions should be organized by TV and radio. Gynecologists should be invited to conduct these discussions. It will help because women watch TV and listen radio more than they read newspapers”.*

The role of gynecologists was mentioned as an important factor for having a Pap test.

*“Meetings can be organized in institutions or large offices. Gynecologists can meet women in those settings and have informal conversations with them”.*

*“Gynecologists should explain advantages and disadvantages of a Pap test and what can happen if not apply for this test... now I am sure that negative fearful information is one of the most important driving forces in women’s decision to go to a doctor”.*

The role of policlinics was also mentioned in improving the number of women who apply for a Pap test.

*“Advertisement campaigns can be done in policlinics. Brochures can be distributed containing information about CC and its prevention”.*

*“I think that the only way is reminders from a policlinic. Doctors should regularly call women and tell what they have to do. Otherwise, they will not go. Other things will not help”.*

Those who think that financial issues are important for having a Pap test done suggested having free of charge tests or at least discounts.

*“At first, free of charge test should be done for women who apply for any reason to a gynecologist”.*

*“Some discounts on tests are needed for women...”.*

*“Affordable prices should be established for gynecological tests. Even for some women, examinations should be free of charge”.*

Another possible solution mentioned by some of the interviewees was to conduct educational campaigns in women’s policlinics.

*“After educational campaigns even women who do not have money will do something to obtain money to go to gynecologists if they know that it can help to prevent such a dangerous disease”.*

However, there were also pessimistic views.

*“I do not know what to suggest. I think that nothing will help”.*

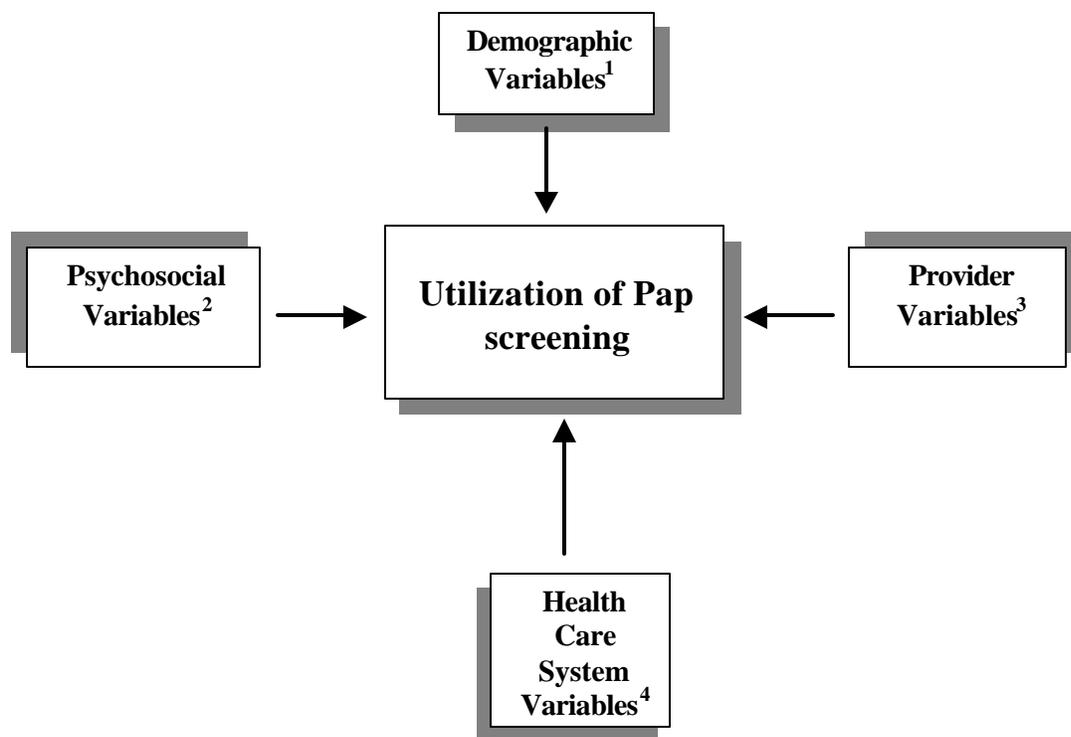
## **Discussion**

This study presents results of a qualitative exploratory investigation of knowledge, attitudes and practices of Armenian women with regard to Pap screening in Yerevan. For this purpose two techniques of the qualitative research were used: in-depth interviews with Armenian women and key-informant interviews with gynecologists.

Research indicates that there are four groups of factors (see the diagram) connected with utilization of a Pap test. These factors are grouped into four sets of variables: demographic, psychosocial, provider and the health care system (20), which can be presented in the form of a diagram (see page 29).

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**Diagram showing the variables influencing Pap test utilization**



1) Demographic Variable – age, education, socio-economic status, etc

2) Psychosocial Variable – women's beliefs, attitudes and motivations

3) Provider Variable – type of provider, his/her characteristics

4) Health Care System Variable – availability of supplies and cytologists for Pap screening services, quality of the Pap test

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Based on the results of the study it appears that all of the above mentioned variables play a role in Armenian women's decision to undergo a Pap test.

*Demographic variables* were found to be the relatively less important in the utilization of a Pap test, although the literature shows the opposite, namely that this variable is important (20). There were no major differences in responses of younger (aged 18 to 40) and older age groups (41 to 65). The only difference between them was that the knowledge about CC and a Pap test was a little higher in older women, but the practice was better in the younger group. The possible explanation for this is that younger women apply to

gynecologists more since they are of childbearing age, and therefore, are more likely to be screened than older women.

The rate of having Pap smear among women with low incomes did not appear different than in women with relatively higher incomes. This finding suggests that though financial aspects are important for women to seek health care, but it is not crucial.

There were similar patterns of practice in both employed and unemployed women, though some studies show that "... employment status is the strongest sociodemographic correlate of testing...". However, women who have higher education tend to be more knowledgeable about a Pap test, and thus utilize screening services more than women with professional technical education.

*Psychosocial variables* were the most important in women's decision to have a Pap test. This finding is supported with the data from the literature according to which psychosocial variable, namely a woman's knowledge, attitudes and beliefs are "critical factors in a decision to seek and utilize Papanicolaou screening services" (20).

The knowledge about CC and its prevention by a Pap test was poor in the subjects. The women were either unaware or have superficial information about CC and a Pap test. The main reason for this was an absence of any source where women can obtain reliable information. Lack of knowledge and information results in low utilization of a Pap screening.

Findings from the study indicate that cultural attitude of women influenced their decision about Pap testing. Armenian women care more about their family than for themselves. Moreover, they are so much engaged in their everyday household activities that even when there was a positive attitude towards screening, they did not go to doctors. Another barrier to screening was a lack of preventive health knowledge. None of the interviewees visited gynecologists for preventive purposes. Even in the case of mild complaints, women usually do not apply to gynecologists. Only severe complaints, which

disturb their everyday activities, result in their going to doctors. Furthermore, none of the subjects indicated they would have a Pap test in the near future.

In regard to their attitudes, there were discrepancies between what women think about visits to the gynecologist and what they do in reality. The majority of the informants consider frequent and regular visits to doctors, particularly to gynecologists, as important for their health. Almost all informants correctly explained the importance of regular visits; namely, frequent visits allow the doctor to diagnose diseases in their early stages, and to treat them more effectively. However, their actual behavior was the opposite of what they said they should do.

Negative attitudes toward gynecologists, for example, distrust, makes women less motivated to have a Pap test done.

*Provider variables* appear to have an influence on the informants' decision to do a Pap test.

Although, women view a Pap test as important, they play a passive role in the decision to have it done. They rely mostly on a gynecologist's decision. This can be explained by the absence of knowledge about the advantages of a Pap smear. As a result, women do not apply by themselves for Pap screening services.

Most of the key-informants blamed themselves and other gynecologists for a lack of knowledge about CC and preventive measures. Their reason is that they believe gynecologists should educate women and inform them about common gynecological problems and their prevention.

Women who visit gynecologists frequently were more likely to have a Pap test than women who saw them irregularly. The more the visits, the more likely they would have information about a Pap test and having it done.

Some characteristics of the gynecologists were mentioned as factors influencing having a Pap test. According to interviewees, incompetence and subjective attitude of gynecologists leads to distrust. Distrust results in avoidance of applying to them. The overwhelming majority of the interviewed women who had had a Pap test in the past mentioned that the gynecologist did not explain the results of the test and did not make any recommendation or suggestions. This is important since a single Pap test is not enough for a woman to be sure that she will not develop CC in the future. Therefore, at least a recommendation for repeating a Pap test after 3-5 years should have been made by the gynecologists.

*Health care system variables* were found to be important in the utilization of Pap screening services. The importance of these variables has increased during the last 5-10 years when state financing the health care system of Armenia decreased substantially.

Transition from free-of-charge medical care to payable care results in the decrease of women who apply to gynecologists. Being used to free-of-charge consultations and tests, women became reluctant to pay. On the other hand there are women who do not have the finances. Even in the presence of knowledge and a positive attitude towards a Pap test they can not afford to visit gynecologists. Furthermore, one not only has to pay for a Pap test but also for a gynecologist's consultation, pelvic examination and related services. Therefore, the cost of a Pap test does not play a large role because it is not high compared to other procedures and ranges from \$1.00 to \$5.00 depending on the clinic.

The absence of trained cytologists and basic supplies for doing a Pap test was mentioned as the main reason for not doing it in majority of the hospitals and polyclinics. Thus, even in the presence of knowledge about CC and its secondary prevention by a Pap test, women in some regions may not be able to have it done. For having a Pap test they should travel to Yerevan. In this case women encounter new barriers which are transportation

costs, time, and effort. Therefore, the possibility of avoidance from having a Pap test increases.

The quality of a Pap test was also mentioned as a problem regarding the Papanicolaou test. According to most of the interviewed key-informants, uniformity is not high in many institutions. The main reasons for low quality of a Pap test are expired supplies, and the incorrect technique of taking a specimen and preparing it. It may lead to false positive or even worse, false negative results of the test. As a consequence, reliability of this test decreases the motivation to have it done.

## **Conclusion**

This is the first qualitative study in Armenia looking at the existing attitudes, behavior and knowledge of Armenian women with regard to Pap screening. The information gathered from this qualitative study is not sufficient to make solid conclusions. However, its findings provide preliminary information and ideas for further study.

Therefore, based on the analysis of the data obtained by this study the following preliminary conclusions were made:

1. The study found low levels of knowledge about CC and its detection by a Pap test in a sample of 20 Armenian women.
2. The main reason for the lack of knowledge is an absence of reliable sources of information and educational campaigns in Armenia.
3. Mainly due to the first two reasons there is a low rate of a Pap testing among 20 research subjects.
4. Other factors contributing to the low practice rate of routine Pap screening are: cultural attitudes of the research subjects; their distrust towards gynecologists; socio-economic difficulties among the subjects; absence of cervical cancer screening services in the

hospitals and polyclinics; uniformity problems associated with the Pap test in some health care institutions; and irregular and rare visits to gynecologists.

5. There was a discrepancy between attitudes toward regular check-ups and actual behaviors. Despite the knowledge that check-ups are important, the women visit rarely gynecologists unless there is a desperate need.
6. The overwhelming majority of the subjects did not visit gynecologists for preventive purposes.
7. The study found interconnection among the variables influencing utilization of Pap screening services.

Study of the variables influencing utilization of a Pap test was important because it allowed to find the main barriers and/or the reinforcing and enabling factors for screening.

Consequently, as this was only the first step of investigation of secondary prevention of CC in Armenia, further exploration is necessary. Particularly, it is important to conduct quantitative research based on the results of this one in order to obtain generalizable data.

### **Limitations**

One of the limitations of the study is the limited number of people interviewed. However, it was enough to obtain preliminary information about the knowledge, attitudes and practices of Armenian women about CC and the routine use of Pap test screening. In qualitative research the sample size does not need to be large because “issues of statistical power are irrelevant”. The sample needs to be large enough to obtain adequate information to understand a particular case”. The researcher in a qualitative study can obtain useful and valuable information from a smaller but relevant sample of informants selected “because they

play a strategic role in a system” (22). However, the 20 women were from Yerevan, and it is suspected findings would have been very different if women from rural areas were included.

The sample selection method used also has limitations. Being a non-probability sampling technique, purposive sampling does not allow generalizability beyond the sample. External validity of the studies using this type of sampling technique is very low (24). However, generalizability is not the aim of qualitative research or issues of external validity. Its purpose is to explore the issue under the study in more depth regarding a topic that is difficult to study in a quantitative setting. For qualitative research it is considered appropriate and highly credible (23).

The analysis was done by one researcher, which can be considered a limitation of the study. In qualitative research when data have subjective nature, the transcripts should be analyzed by two independent researchers to make analysis verifiable, namely to see if the researchers come to the same conclusion and do they emerge the same themes or not using the same raw data and available documents. In addition, information was collected in the Armenian language and translated into English. There is always a possibility the original version may not be completely translated or some of the meaning could be loss.

## **Recommendations**

Summarizing the results of the study, it was found that not a single variable influences utilization of Pap screening services but a set. Moreover, there is a unique set for each woman. Therefore, identification of the most important factors that have ability to predispose, enable or reinforce women’s screening behaviors was important. A public approach should be adopted in tackling the problem of CC because this would enable the message to reach a number of women. Based on this idea the following recommendations are made:

### **General Recommendations**

- It is necessary to conduct quantitative research based on the results of this study in order to obtain generalizable data. A survey of the rate of the population routinely having a Pap test can be important in identifying the situation.
- A study of knowledge, attitudes, and practices of women from Marzes should be done because the findings can be very different from those obtained in Yerevan
- Further research of knowledge about causative factors resulting in CC is necessary in Armenia to make more specific recommendations in tackling this public health problem.
- Taking into account the ability of women to pay it is crucial to have free of charge tests or discounts for those who can not afford the procedure.
- Mass media should be used to increase the awareness of women about CC and the usefulness of a Pap test. Both the key-informants and interviewed women supported this idea. Special TV programs should be shown educating women about the purpose, method, and suggested frequency of the Pap test.
- Advertisement of a Pap test should be done on the level of polyclinics. Special posters advertising a Pap test should be attached to walls in or near the women cabinets. In addition brochures should be distributed.
- Gynecologists need to be educated about CC and how it best can be detected. Once, educated, they should be encouraged to teach their patients about routine screening practices. If this procedure is not available, they must be need accountable for providing referrals.

***Specific recommendations***

- Uniform classification of the results of a Pap test must be established in all health care institutions to make the results comparable all over Armenia.
- Educational programs to physicians must focus on their using uniform procedures. These uniform procedures should be developed and distributed by the Ministry of Health to every relevant hospital or clinic in the country.

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*Appendix 1*

TABLE 1. Morbidity, mortality and advanced cases of Cervical Cancer in Armenia from 1985 to 2000

<i>Numbers</i>	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<b>Morbidity</b>	169	175	208	220	215	262	233	185	193	190	192	216
<b>Mortality</b>	113	118	136	132	118	128	160	130	126	115	108	112
<b>Advanced cases</b>	27	29	22	20	35	36	45	31	30	34	31	41

TABLE 2. The rates of morbidity, mortality and advanced cases of Cervical Cancer in Armenia from 1985 to 2000

<b>Rates* per 100,000</b>	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
<b>Morbidity</b>	8.67	8.97	10.67	11.28	11.03	13.44	11.95	9.49	9.90	9.74	9.85	11.08
<b>Mortality</b>	5.79	6.05	6.97	6.77	6.05	6.56	8.21	6.67	6.46	5.90	5.54	5.74
<b>Advanced cases</b>	1.38	1.49	1.13	1.03	1.79	1.85	2.31	1.59	1.54	1.74	1.59	2.10

\*The rates are calculated using the number of women living in Armenia in 1985. This number is 1,500,00.

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## Appendix 2

### **The Revised Bethesda System for Reporting Cervical and/or Vaginal Cytologic Diagnoses. 1991.**

#### **Adequacy of the specimen**

Satisfactory for evaluation

Satisfactory for evaluation but limited by . . . (specify reason)

Unsatisfactory for evaluation . . . (specify reason)

---

#### **General categorization (optional)**

Within normal limits

Benign cellular changes: See descriptive diagnosis

Epithelial cell abnormality: See descriptive diagnosis

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#### **Descriptive diagnoses**

*Benign cellular changes*

Infection

*Trichomonas vaginalis*

Fungal organisms morphologically consistent with *Candida* spp

Predominance of coccobacilli consistent with shift in vaginal flora

Bacteria morphologically consistent with *Actinomyces* spp

Cellular changes associated with herpes simplex virus

Other

*Reactive changes*

Reactive cellular changes associated with:

Inflammation (includes typical repair)

Atrophy with inflammation ("atrophic vaginalis")

Radiation

Intrauterine contraceptive device (IUD)

Other

#### **Epithelial cell abnormalities**

*Squamous cell*

Atypical squamous cells of undetermined significance: Qualify \*

**Low-grade squamous intraepithelial lesion encompassing: HPV \*\*, mild dysplasia/CIN 1**

**High-grade squamous intraepithelial lesion encompassing: Moderate and severe dysplasia, CIS/CIN 2 and CIN**

**3**

Squamous cell carcinoma

Glandular cell

Endometrial cells, cytologically benign, in postmenopausal women

Atypical glandular cells of undetermined significance: Qualify \*

Endocervical adenocarcinoma

Endometrial adenocarcinoma

Extrauterine Adenocarcinoma

Adenocarcinoma, NOS

**Other malignant neoplasms: Specify**

**Hormonal evaluation (applies to vaginal smears only)**

Hormonal pattern compatible with age and history

Hormonal pattern incompatible with age and history: Specify

Hormonal evaluation not possible due to: Specify

\* Atypical squamous or glandular cells of undetermined significance should be further qualified as to whether a reactive or premalignant/malignant process is favored.

\*\* Cellular changes of human papillomavirus (HPV) -- previously termed koilocytosis, koilocytotic atypia, or condylomatous atypia -- are included in the category of low-grade squamous intraepithelial lesion.

From: National Cancer Institute Workshop. The revised Bethesda system for reporting cervical and/or vaginal cytologic diagnoses; report of the 1991 Bethesda workshop. *Acta Cytol.* 1992;36:273-275. Reproduced by permission of Science Printers and Publishers, Inc; copyright 1992.

*Appendix 3*

**American University of Armenia**  
*Consent form*  
**Study on the Secondary Prevention of Cervical Cancer**  
*Interview with Armenian women of age 18- 65*

**Purpose of the interview**

The purpose of this interview is to obtain information related to knowledge, attitude and practice of Armenian women with regard to secondary prevention (screening) of Cervical Cancer.

**Procedures**

In order for us to obtain information related to knowledge, attitude and practice of Armenian women with regard to screening of Cervical Cancer, you will be asked to participate in an interview. You will be asked questions about your knowledge, opinions and experience related to Cervical Cancer screening. The second year student of the American University of Armenia Ovsanna Najaryan will conduct the interview which will last from one to one and a half hour.

**Risk/Benefits**

There is no known risk for the participation in this study. The research possesses risk, discomfort and inconvenience as encountered in your daily life. We do not think that you will have any problems or discomfort due to participation in this interview. You will not directly benefit from the participation in this study. However, the information provided by you may help to reveal some problems in the issue of Cervical Cancer secondary prevention, and to discuss ways to improve them.

**Confidentiality**

Your name, address or other identifying data will not be used during this interview or/and in any part of this research process. Only your answers will be summarized to help us understand issues related to the Cervical Cancer screening. Only Public Health Department of the American University of Armenia will have an access to your responses.

**Voluntariness**

Your participation in this session is completely voluntary. It is your decision whether to participate in the study or not. You have the right to stop providing information at any time you wish or/and to skip any question you consider inappropriate. Your refusal to participate in the study or your decision to withdraw from that at any time will not affect you and/or your job.

**Whom to contact**

If you will have any questions related to the study you can call the person in charge of the study, Michael Thompson, MS, DrPH Candidate, tel: 512592, e-mail: [mthomps@aua.am](mailto:mthomps@aua.am). In case of disrespectful or unfair attitude toward you during the session you may call 512512.

**Date**

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*Appendix 4*

**Guide for in-depth interview with Armenian women of age 18-65**

**Note to interviewer:** *This guide is designed for in-depth interview with Armenian women age 18 - 65. The purpose of the interview is to gather information on cervical cancer prevention. The duration of the interview is from one to one and a half hours. Do not read items written in italic out loud.*

**Introduction**

- ❑ *Welcome the interviewee, and thank her for agreeing to participate*
- ❑ *Introduce the interviewer (name and his/her role), the recorders and the observers (if applicable).*
- ❑ *Explain the purpose of the research. Tell the subject that we are gathering information on cervical cancer knowledge.*
- ❑ *Request active participation.*
- ❑ *Explain that there are no right and wrong answers and that all answers are important and interesting to us.*
- ❑ *State that the research team will do everything to insure anonymity and confidentiality of the responses.*
- ❑ *Present content of the consent form*

**Demographic questions**

1. How old are you?
2. How long are you married/sexually active?
3. How many children do you have? **Probe:** How many abortions do you undergo?
4. What is your education?
5. Are you working?
6. Approximately how much money does your family spend per month?

**Warming up Questions**

7. How often do you visit a gynecologist? **Probe:** What were the most common reasons for applying to a gynecologist (preventive, prenatal care, childbirth, illness related)?
8. What types of procedures occur during the exam (physical exam, test, advice/education, etc.)?
9. How often should women visit a gynecologist? Why? State some reasons.

**Transition Questions**

10. How can gynecological disorders be prevented, for example, cancer? **Probe:** Can you give some examples?

**Key Questions**

*Knowledge Questions*

11. What do you know about Cervical Cancer?
12. Where did you obtain most of this information (journal policlinic, TV, friends, etc.)?
13. In your opinion how does Cervical Cancer develop?
14. What age is Cervical Cancer most likely to develop?
15. What are some of the risk factors of Cervical Cancer development? **Probe:** How can sexual behavior influence on Cervical Cancer development?
16. What diseases of the uterine cervix can lead to Cervical Cancer if not treated? **Probe:** How can they be prevented?
17. What have you heard or read about Pap smear or a Pap test? **Probe:** How it can help to prevent Cervical Cancer? Is it effective?
18. From where have you heard or read about Pap smear or a Pap test (friend, relative, TV, policlinic, etc.)?
19. How often should a woman have a Pap test?
20. At what age do you think a woman should have her first Pap test?

**Practice Questions**

21. Can you recall when did you have your last Pap test? **Probe:** How much did you pay for the Pap test?
22. How did the gynecologist explain the results of the Pap test? **Probe:** What did he/she recommend?
23. When do you plan to have your next Pap test? Why? State some reasons.

**Attitude Questions**

24. What do you think what are the reasons why women would not get a Pap test (lack of knowledge, financial issues, etc.)?

**Summary**

25. What would you suggest to improve the number of women who apply for a Pap test (reminders from a polyclinic, free of charge tests, advertisement, etc.)?

**Closing**

*Thank the participant for her contribution.*

*Ask if she has any questions.*

*Appendix 5*

**American University of Armenia**  
*Consent form*  
**Study on the Secondary Prevention of Cervical Cancer**  
***Interview with Armenian Gynecologists***

**Purpose of the interview**

The purpose of this interview is to obtain information related to knowledge, attitude and practice of Armenian women with regard to secondary prevention (screening) of Cervical Cancer.

**Procedures**

In order for us to obtain information related to knowledge, attitude and practice of Armenian women with regard to screening of Cervical Cancer, you will be asked to participate in an interview. You will be asked questions about knowledge, opinions and experience of Armenian women related to Cervical Cancer screening. The second year student of the American University of Armenia Ovsanna Najaryan will conduct the interview, which will last from one to one and a half-hour.

**Risk/Benefits**

There is no known risk for the participation in this study. The research possesses risk, discomfort and inconvenience as encountered in your daily life. We do not think that you will have any problems or discomfort due to participation in this interview. You will not directly benefit from the participation in this study. However, the information provided by you may help to reveal some problems in the issue of Cervical Cancer secondary prevention, and to discuss ways to improve them.

**Confidentiality**

If you wish your name, position or other identifying data will not be used during this interview or/and in any part of this research process. Only your answers will be summarized to help us understand issues related to the Cervical Cancer screening. Only Public Health Department of the American University of Armenia will have an access to your responses.

**Voluntariness**

Your participation in this session is completely voluntary. It is your decision whether to participate in the study or not. You have the right to stop providing information at any time you wish or/and to skip any question you consider inappropriate. Your refusal to participate in the study or your decision to withdraw from that at any time will not affect you and/or your job.

**Whom to contact**

If you will have any questions related to the study you can call the person in charge of the study, Michael Thompson, MS, DrPH Candidate, tel: 512592, e-mail: [mthomps@aua.am](mailto:mthomps@aua.am).  
In case of disrespectful or unfair attitude toward you during the session you may call 51/25/12.

**Date**

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*Appendix 6*

**Guide for Key-Informant Interview**  
**With Gynecologists**

*Note to interviewer: This guide is designed for 1 to 1.5 hours interview with gynecologists. Do not read items written in italic out loud.*

**I. Introduction**

- Thank the informant for agreeing to participate in the interview.*
- Introduce yourself.*
- Explain the purpose of the research. (To obtain information on knowledge, attitude and practice of Armenian women with regard to Cervical Cancer and its prevention).*
- Describe the process of the interview. Say that the interview will last 1-1.5 hours.*
- Explain that the project will do everything to insure the confidentiality of the interview.*
- Present the consent form.*

**II. Warming up Questions**

1. How long you have been working as a gynecologist?
2. How many initial patients do you see per week / How many current patients do you have?

**III. Transition Questions**

3. How has the incidence of onco-gynecological diseases changed over the past 5 – 10 years (for example, ovarian cancer, etc)?
4. How has the incidence of Cervical Cancer changed over the past 5 – 10 years in Armenia?  
**Probe:** How has age distribution of Cervical Cancer changed in Armenia?
5. At what stages of Cervical Cancer do women usually apply to a gynecologist? **Probe:** When Cervical Cancer is mostly revealed in Armenian women (during preventive examination – Pap smear, colposcopy, or when they apply with already developed complaints)?
6. For women who apply late what are the most common reasons for this?
7. What is the rate of Pap test in Armenian women? **Probe:** How does it change over past 5 years?

#### **IV. Key Questions**

8. How much have Armenian women heard about Cervical Cancer and its prevention? **Probe:** Are they aware of what are risk factors for Cervical Cancer development, such as sexual behavior?
9. If so, where have they heard about Cervical Cancer and its risk factors? **Probe:** Are there any misinformed information they have?
10. How aware are Armenian women of Pap smear or a Pap test and its preventive purpose? What do women think is the purpose of this test?
11. Where do Armenian women usually hear or learn about Pap test (policlinic, TV, friends, etc.)?
12. How often do Armenian women have a Pap test? **Probe:** What do you think is the ideal number of times to have this test?
13. At what age do Armenian women usually do their first Pap test? **Probe:** At what age the rate of Pap test is the highest among Armenian women? Why is this?
14. What do you think what is the reason for not applying to a Pap test or low rate of applying (lack of knowledge, financial issues, etc.)?
15. What would you suggest making women apply for a Pap test more often (for example, reminders from a policlinic, free of charge tests, advertisement, etc.)?

#### **Closing**

Thank the participant for his/her contribution.

Ask if he/she has questions.