
Beliefs and Attitudes of Rural Nurses in Lori Marz, Armenia toward Modern
Contraceptive Methods: A qualitative study

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Hermine Poghosyan, BSN
MPH candidate
American University of Armenia

Primary Advisor: Michael E. Thompson, MS, DrPH
Secondary Advisor: Kathleen M. White, PhD, RN, CNAA, BC

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Abstract

Background: About one-half million mothers in developing countries die annually due to unwanted pregnancy and its complications. Preventing unintended pregnancies through access to modern methods of family planning could avert 20% to 35% of maternal deaths, saving the lives of more than 100,000 mothers each year. The availability of contraceptives alone is not enough; the efficacy of family planning depends on people's knowledge and behaviours about contraceptive methods. Studies show that nurses play an important role in supporting women by providing education regarding contraception and contraception choices. In Armenian villages, nurses show an important role in educating rural communities about family planning. Nurses are the only professionals available in these areas who can provide women with education about contraceptives as a family planning method.

Aim: This study 1) explored beliefs and attitudes of rural nurses about modern contraceptive methods; 2) described nurses' perceptions related to use of modern methods of family planning; 3) described nursing services provided to rural population regarding reproductive health and contraceptive use; and 4) used the obtained data to make recommendations for improving contraceptive practices in rural area of Armenia.

Methodology: Nine in-depth interviews were conducted among nurses working in rural areas of Lori *marz*, Armenia.

Result: The average working experience of nurses was 22.5 years. Each nurse provided health care services to 150-200 patients on average each month. Most nurses were the only health care providers in their villages: they provided basic health care services, preventive care and educated rural community. Several nurses felt modern contraceptive methods were important in the lives of women. However, most of them reported that modern methods of contraceptive are ineffective and unsafe. Consequently, they do not recommend them to women, instead, recommending traditional birth control methods. The study found that nurses often provide incorrect or exaggerated information to women about modern contraceptives.

Conclusion: Nurses have many misconceptions about modern methods of birth control. This leads to incorrect counseling of women and contributes to unintended pregnancies. The underlying reasons for this gap are lack of knowledge and a reluctance to trust modern information and, in some cases, adherence to folk beliefs despite this information.

Key words: nurse, contraceptives, rural, Armenia

List of abbreviations

AUA	American University of Armenia
ADHS	Armenian Demographic and Health Survey
BP	Blood Pressure
FP	Family Planning
IRB	Institutional Review Board
IUD	Intra Uterine Device
LAM	Lactational Amenorrhea Method
OC	Oral Contraceptive
RH	Reproductive Health
STD	Sexually Transmitted Disease
TAR	Total Abortion Rate

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Introduction

About one-half million mothers in developing countries die annually due to unwanted pregnancy and its complications (1). Unwanted pregnancy can lead to negative consequences such as deterioration of maternal and child health as well as increased maternal mortality.

Thousands of women each year have problems due to illegal abortion and infections from such abortions. Illegal abortion is one of the major factors in maternal death (1).

Contraception is as an effective mean of combating the problem of unwanted pregnancy and unsafe abortions. It is an effective means of family planning (FP) and fertility control and therefore very important in promoting maternal and child health (2). In Armenia, as in all former Soviet Union countries, there is a high incidence of induced abortions, and it is one of the main methods of birth control (3).

Studies show that effective educational programs about FP methods will help to decrease the rate of unwanted pregnancies and the rate of abortions (4;5). Nurses provide effective health educational seminars to public. In Armenian villages, nurses play an important role in educating rural communities about FP. Nurses are the only professionals available in these rural areas who can educate women about contraceptives as a FP method (6;7).

However, there is no data in Armenia about beliefs and attitudes of nurses about modern methods of FP. Also, there is no evidence to demonstrate how nurses' beliefs and attitudes impact the quality of the services they provide and the content and the amount of information they provide to village population regarding FP and contraception.

This study investigated beliefs and attitudes of nurses in Lori *Marz* about modern methods of FP. The study utilized qualitative in-depth interviews.

Background and literature review

Almost 113 million women in developing countries want to delay their next child birth or avoid another pregnancy but are not using any modern method of FP, and another 88 million women are using less effective methods (8). Nearly 6 million unintended pregnancies occur annually. Many of those result in an unsafe abortion (9). Worldwide, an estimated 46 million induced abortions are performed annually; about 20 million are unsafe, and 95% of these take place in the developing world. Unsafe abortion accounts for an estimated 13% of pregnancy related deaths representing approximately 67,000 women every year (9). Studies show that there is a relationship between levels of contraceptive use and the incidence of induced abortion: increasing contraceptive use results in reduced abortion incidence in settings where fertility itself is constant (10).

Preventing unintended pregnancies through access to modern methods of FP could avert 20% to 35% of maternal deaths, saving the lives of more than 100,000 mothers each year (8). Modern methods of FP include pills, intra uterine device (IUD), male and female condoms, injectables, implants, diaphragm, foam/jelly, lactational amenorrhea method (LAM), male and female sterilization and emergency contraception (3). The availability of contraceptives alone is not enough; the efficacy of FP depends on people's knowledge of contraceptive methods (3). Studies show that nurses play an important role in supporting women by providing education regarding contraception and contraception choices (11;12). Modern health education materials and current information on FP contraception available to the public are absent in Armenia (13). The lack of updated information may limit nurses' ability to educate the population they serve.

Armenia is a mountainous country located in Southwestern Asia. The population in Armenia is 2,976,372 million (14). The country is divided into 11 provinces, called *marzes*, including the capital Yerevan (14). About 30 % of the Armenian population lives in rural

areas (15). In Armenia, the rural areas are poorer than urban areas and have poor access to health care services (16). The structure of Armenia's economy changed significantly after independence. According to the World Bank, Armenia is a lower middle income country (17).

Lori is one of Armenia's *marzes*. It is located in the north of the country, bordering Georgia with a population of 280,000 (18;19). Most Lori villages have a health care facility and a local nurse or midwife working independently who provides all types of health services in their village. Very rarely these health providers receive technical supervision from their reporting health facilities (18;20). However, there are several villages without nurses or any health care professional; people in these villages lack access to health services (18;21). Most health care facilities are in poor condition and lack basic medical supplies and medication. The facilities often lack electricity and water (18;20). Most village residents see physicians only in an emergency situations (22). Over 50% of the population lives below the poverty line, resulting in a substantial barrier to care, the inability to pay for health care services. In part due to economic hardship, the total fertility rate has been declining steadily over the last decade to below the replacement level of 2.1 and now rests at 1.7 (18).

The use of modern contraception as a FP method is still not well accepted in Armenia (23;24). Armenian women's attitudes toward contraception are generally negative (25). In Armenia, as in other former Soviet Union Republics, there is a high incidence of induced abortions, and it is one of the main methods of birth control (23;24). Thousands of Armenian women each year face unwanted pregnancies, unsafe abortions, and self-induced abortions. This is a major concern in Armenia and contributes to conditions leading to infertility, reducing further childbearing, and finally contributing to maternal and prenatal mortality (13;24;26;27). Between 10%- 20% of maternal deaths were reported from induced abortion.

Over the past five years, this figure has declined substantially to an average 5% of maternal deaths due to induced abortion (2 of 46 cases) (3).

According to the Armenian Demographic and Health Survey (ADHS 2005), the total abortion rate (TAR) for Armenia is 1.8 abortions per woman. The TAR is significantly lower than the rate of 2.6 abortions per women reported in 2000. The reason for this decline is not clear (3). The TAR is significantly different between rural and urban areas. Many women in Armenia, especially those living in rural regions, have more abortions as a mean of FP. According to the ADHS 2005 the urban TAR is 1.5, while the rural rate is 2.2 (3).

In Armenia, the rate of abortion remains high because the use of modern contraception is low (25). Traditional methods of contraception (primarily withdrawal) that has a high failure rate are still widely practiced (3;18;25;28;29). Table 1, adapted from the 2005 DHS report, presents levels of current use of contraception for married women and men.

Table 1 Percent distribution of married women and men age 15-49 by contraceptive method currently used, Armenia 2005

	<i>Any Method</i>	<i>Any modern method</i>	<i>Any traditional method</i>
Currently married women	53.1	19.5	33.6
Currently married men	66.2	56.9	46.3

Source: Armenia Demographic and Health Survey 2005

The usage rate of modern contraceptive methods is significantly different between rural and urban areas being very low in rural area that is 16.1% while in urban rate is 21.7%. The most commonly used modern method is the IUD followed by the male condom. The urban rate of traditional method of birth control is 32.6%, while the rural rate is 35.2% (3). Tables 2 and 3, also adapted from the DHS, show details about the rate of contraceptive usage in Armenia.

Table 2 *Percentage of married women by contraceptive method currently used, Armenia 2005*

<i>Residence</i>	<i>Any Method</i>	<i>Modern Methods</i>				
		<i>Any modern method</i>	<i>Female sterilization</i>	<i>Pill</i>	<i>IUD</i>	<i>Male condom</i>
<i>Urban</i>	54.3	21.7	0.7	1.0	9.8	9.8
<i>Rural</i>	51.2	16.1	0.4	0.6	8.9	5.5
<i>Total</i>	53.1	19.5	0.6	0.8	9.4	8.1

Source: Armenia Demographic and Health Survey, 2005

Table 3 *Percentage of married women by contraceptive method currently used, Armenia 2005*

<i>Residence</i>	<i>Any traditional method</i>	<i>Traditional method</i>		
		<i>Periodic abstinence</i>	<i>Withdrawal</i>	<i>Folk method</i>
<i>Urban</i>	32.6	4.7	25.3	2.6
<i>Rural</i>	35.2	2.5	31.4	1.3
<i>Total</i>	33.6	3.8	27.7	2.1

Source: Armenia Demographic and Health Survey, 2005

The ADHS 2005 data show that use of modern methods increases with educational attainment. Almost three times as many women with higher education than general basic education use a modern method (29 % versus 11 %). In general, women do not begin to use contraception until they have had at least one child. There is considerable variation in contraceptive use by region (3).

In villages where the nurses practice, they are in close relationships with the community and can have a significant impact on women's health. Studies show that educating women about the effectiveness of the modern contraceptives will increase the use of contraceptives among women (4;5;27).

In 2000, the Green Path Campaign provided information on reproductive health (RH) and FP through Armenia's mass media and community organizations. Based on this campaign there was a significant increase in the use of modern contraception among survey respondents, from 23.8% to 28.4% (27).

Studies conducted in developing countries show that rural woman with few economic resources and with low levels of education, have especially low levels of contraceptive use. Efforts to promote contraceptive use among these underserved women are based on the belief that fertility rates can be reduced by increasing both information about contraception and access to it (30). Since nurses are the main health care providers, they influence on health information provided to rural women. It is important to understand how these nurses think about modern contraception and how their own beliefs influence their practice.

Purpose

In-depth qualitative interviews conducted among nurses working in rural areas of Lori *marz*. This study 1) explored beliefs and attitudes of rural nurses about modern contraceptive methods; 2) described nurses' perceptions related to use of modern methods of family planning; 3) described nursing services provided to rural population regarding reproductive health and contraceptive use; and 4) used the obtained data to make recommendations for improving contraceptive practices in rural area of Armenia.

This study sought to answer the following research questions:

- 1) What are nurses' beliefs and attitudes regarding the use of contraceptive methods (modern and traditional)?
- 2) What are the typical nursing services provided to rural population regarding RH and contraceptive use?

- 3) What are the nurses' recommendations about improving the use of modern methods of FP in Armenia (or in rural areas of Armenia)?

Methodology

Study design

The study utilized a descriptive qualitative study design. This was an appropriate design considering the explorative nature of the study. Qualitative research is helpful for exploring issues regarding people's attitude and beliefs towards a specific topic or phenomenon (31).

Study population

This study was undertaken in nine rural health care facilities of Lori. The selection of health care facilities was purposive due to geographic location and feasibility. Study population was nurses who work in health care facilities in Lori. The inclusion criteria were nurses who work alone in the village health care facilities of Lori Marz without physicians and who were willing to participate in the study.

Sampling and Study Setting

A sampling approach often used in qualitative research is purposeful non-probabilistic sampling. The purpose of such sampling is to get participants who are able to provide information about the topic of interest (31). For this study, nine nurses were selected from villages of Lori Marz. The selection of nurses was based on convenience. Most of the villages have one community nurse. If the nurse agreed to participate then she was included in the study. If there were more than one nurse in the village, then the nurse who mainly provided reproductive health was selected. It was planned to interview 8-10 nurses from Lori Marz.

Interview guide

Based on the literature, a targeted interview guide was developed. The guide included open-ended questions to guide the interview. Several questions asked nurses to describe their attitudes and beliefs related to benefits, problems, and contradictions of modern methods of family planning, the services that they provide to the rural population, and other topics. The interview guide consisted of four sections, each having 3-6 questions (Appendix A). Before starting the study, the guide was pre-tested with two nurses working in rural areas. The purpose of this pre-testing was to make the interview guide clear and understandable for nurses. Several changes were made in the interview guide after the pre-testing.

Interviews

Several village clinics and ambulatories were contacted. A detailed description of the study was presented to nurses and they were asked to participate in the study. The interviews with nurses were conducted in a comfortable setting that was either in the homes or in the village health facility. The time also was convenient for nurses. Only the interviewer and the nurse were present during the interview. A student investigator of the study conducted all interviews. Overall, nine interviews were conducted. Six of the interviews took place in village health facility and the rest of the interviews in nurses' home. Interviews lasted 50 minutes on average. The interviews were audio taped. Interviews were conducted in Armenian and later translated into English, coded and analysed.

Ethical consideration

The research protocol was reviewed and approved by the Institutional Review Board (IRB) of American University of Armenia (AUA) for compliance with accepted standards and safeguards of human subjects. It included information about the benefits and risks for the

research participants and information that participation in the study is voluntary. Before conducting and audio taping the in-depth interviews, the nurses signed a written consent form (Appendix C).

Results

The study explored the beliefs and attitudes of rural nurses regarding modern contraceptive use and described the reproductive services that nurses provide the rural population. Direct quotes from the interviews are used to reflect the specificity of the answers and to confirm the summarized information.

All nurses were employed in the health facilities in their villages and were working without physicians. The nurses' average working experience was 22.5 years. Each nurse was responsible for providing health care services to about 150-200 patients per month. Most nurses worked and lived in the same village. However, one nurse lived in one village and worked in another village, she was responsible for two villages, and one nurse was responsible for three villages. During analysis several themes came up from the interviews and data from the interviews were grouped around these themes.

The following themes were identified during the analysis of the interviews

- 1) Description of rural nursing practice: responsibilities and working experience of a rural nurse
- 2) Provision of RH services and nursing practice
- 3) Nurses' attitudes toward modern contraceptive methods
- 4) Nurses' attitudes toward traditional birth control methods
- 5) Nurses' attitudes about abortions
- 6) Nurses' roles in community education regarding FP
- 7) Barriers towards the use of modern methods of FP

8) Suggestions/recommendations for improving the use of modern methods of FP and reproductive services.

1. Description of rural nursing practice: responsibilities and working experiences of a rural nurse

The first theme discusses the work experiences and major responsibilities of rural nurses. All nurses reported that they are the only health care provider in their village. Almost all nurses mentioned that they are responsible for all types of health care activities in their villages and they are responsible for providing care both to adults as well as to children.

“I provide all types of health care services to my village community.”

“I provide all type of health care services to everyone in my village; children, adolescents, elders, healthy and sick people.”

They are the only primary health care providers in the villages and rural people come to them with many health concerns. Most of the nurses mentioned that they are available for their communities and people at any time of the day. Some of them mentioned that is very hard to provide health care services to everyone in the village, since some of the villages are large and it is hard for the nurse to get to the patient’s home.

“There is no schedule or fixed time for village nurses, we are working every time of day (day time and night time), even we do not have weekends we are working on Saturdays and Sundays.”

“The village is big and it has about 2,200 people and it is very difficult to provide health care services to all of them.”

There are nurses who work in two or in three villages, also nurses who work in one village and live in another village, and reported that they have to walk from one village to another everyday to see patients, but that is impossible to go during whole winter. There is no transportation between villages and nurses walk.

“In winter time, it is impossible to go to work because of bad conditions of the roads. Also, it is very dangerous because of wolfs I am afraid to walk from my village to another village by myself.”

Some of the responsibilities of nurses are measuring blood pressure (BP), administering injections prescribed by physicians, vaccination, doing home visits, examining the baby, talking to mothers, conducting seminars for rural population. Most of the nurses told that they do home visits on regular basis to talk to mothers. The nurses were worried that parents are not well informed about their health and about providing best care to their children, and they spend lots of time with parents to teach them.

“I am responsible for providing the first aid to rural community, measuring people’s BP, making vaccinations, visiting to houses....”

“Since girls in our village get married in a very young age, I have to educate them about important topics related to reproductive health. Sometimes even some of them get married and do not know any thing that will happen with them after marriage even they do not realize that they will have a child and have to take care of them.”

Overall, in rural areas of Armenia nurses are the main and only health care provider. They reported difficulties in terms of taking so many responsibilities and taking care of many patients with various health issues.

2. Provision of reproductive health services and nursing practice

During the in-depth interview, the researcher tried to understand the provision of the RH services to rural population. Most of the nurses reported that this is one of their main responsibilities, especially taking care of women during their pregnancies. Most nurses mentioned that they are conducting seminars for village women and talk about Sexually Transmitted Diseases (STDs), HIV/AIDS as well as about birth control methods. They expressed worries that women are not informed about birth control methods and do not know anything about HIV/AIDS.

“I conduct seminars for adolescents and for young women and talked to them about birth control methods.”

“I had meetings with school children from age 14 to 17 and I talk to them about STDs, HIVs how to prevent these diseases.”

“I give advice to young mothers for example about breastfeeding, about oral contraceptives (OCs), condoms, IUDs as well as I tell them do not have abortions because abortions are not good.”

Several nurses mentioned that they have brochures and books about women and children health and they distribute those brochures among village women. Some of the nurses expressed concerns regarding lack of availability educational materials.

“Before I had some brochures, I gave that to women of this village and they read it, but now I do not have any of them. So if they come to me I explain them everything what they want to know, give advice.”

3. Nurses’ attitudes toward modern contraceptive methods

The major interest of this study was to explore the attitudes of nurses about contraceptive methods. A few nurses mentioned that there are women in their villages that are using modern methods of birth control. According to those respondents the modern methods of birth control that women use in their village are IUDs, OCs and condoms.

“There are women who use IUDs. Compare to oral OCs women use more IUDs than OCs.”

“Mostly used methods are IUDs, OCs and condoms but out of these mostly used methods is OCs.”

“Some women in our village use OCs and condoms.”

However, there were nurses who mentioned that women in their villages are not using any of the methods of modern contraceptives especially OCs because most of the women think that pills have very strong side effects and might harm their health. Also, nurses reported that they do not let women to use these methods since they are harmful.

“I do not allow women in my village to use any modern contraceptive methods such as IUD or OCs.”

“I am afraid to recommend women in my village to use OCs and IUDs because I know that later in their life they can have cancer.”

On the question “What do you think about the safety and effectiveness and other attributes of modern contraceptive methods?” majority of nurses said that modern methods are not effective.

“For example traditional methods are very effective and much safer than to use IUDs or to take OCs.”

“It is not suggested to use any kind of modern contraceptive methods because women can have some infections and inflammation because of those methods. They should not use OCs better to get pregnant than to take medications.”

“You know it is better to use traditional methods such as safe period method, withdrawal and douching than IUDs or OCs. For example, very often I recommended to some women to use safe period method.”

“Each method of modern contraceptives has its negative effects on health. Several women got facial hair after using OCs; some of them mentioned that they started to have problems with menstruation after using OCs. Others lose or gain weight after using IUDs”

For several nurses it was difficult to answer to this question or to talk about the effectiveness of modern methods of contraceptives because they mentioned that they do not know anything about the effectiveness of these methods. Several nurses mentioned that personally they did not use pills and do not know how effective they are.

“About effectiveness of IUDs and OCs I can not say anything ...I am not sure. Only for condoms I can say that they are effective and safe because condoms prevent many STDs such as HIV/AIDS.”

“I can not say about their effectiveness or safety, because I have seen some women who use IUD and got pregnant.”

“About OCs I was told that oral pills are hazardous for health...I do not know.”

“I do not know, I have never used the pills I can not say anything about their effectiveness.”

There were nurses that have talked about effectiveness and safety of condoms, but one of the nurses said that women should wash the condoms after using it.

“They can use male condoms but the condoms should be clean in order not having any infections and after using it they need to wash it.”

Very few nurses reported the importance and effectiveness of modern contraceptive methods. Those nurses consider the usage of contraceptive methods very important in lives of women. They mention the advantages of contraceptive for women.

“To compare modern methods with traditional method I can say that modern methods such as IUDs and OCs are much safer than any traditional method.”

“IUDs and condoms are about 90% effective. But, some women forget to take the pills everyday but if they take 2 pills the next day it also will be effective.”

“If women who use IUDs follow their hygiene it is a very effective method. For example, my daughter has an IUD already for 5 years and it is very effective. But about effectiveness of condoms I can not say anything because no one of the village women uses condoms.”

4. Nurses' attitudes toward traditional birth control methods

Based on nurses' opinions, women in villages use traditional methods of birth control.

The withdrawal method is commonly practiced.

“Mostly withdrawal, women afraid to use other methods (tablets or something traditional) of birth control. I know many women in our village use withdrawal, no other old traditional methods.”

“Women in this village use safe period method and withdrawal methods as traditional methods of birth control.”

“They have to do douching. After sexual intercourse women should urinate immediately it helps a lot.”

Several nurses mentioned that women in their villages are knowledgeable and “intelligent”. None of them uses any methods of traditional birth control. However, on the question “What do you think about the safety and effectiveness and other attributes of traditional birth control methods?” the same nurses said that there are women in their villages who use traditional methods and those are very effective and safe. Majority of nurses have positive opinions regarding effectiveness of traditional birth controls.

“Traditional methods are very effective. For example douching and urination (immediately after sexual intercourse) are very effective and safe.”

“I have positive opinion about traditional methods of birth control. If they use those methods correctly they will get good result meaning it will prevent them from pregnancy.”

“It is better to use traditional methods than modern methods of contraceptives.”

A few nurses reported having negative opinions about traditional methods of birth control. Based on their opinion it is better to use modern contraceptive methods than traditional contraceptive methods. In addition, they mentioned that traditional contraceptive methods have negative impact on health.

“In my opinion everything that is not medical can not be safe and effective.”

“Among all traditional methods the withdrawal can affect man’s health it is not good for man. About the effectiveness and safety I am not sure but I know that some women got pregnant after using safe period method and withdrawal method as a birth control.”

“Traditional methods can affects on mental health of a couple but mostly it affect on husband’s health. Traditional methods are not safe and effective modern methods are safer and more effective.”

“For example there are some women who used withdrawal and got pregnant a few times so I think traditional methods are not effective.”

5. Nurses’ attitudes about abortions

Almost all respondents mentioned that abortions are not good for women’s health. Most of the nurses are well aware about disadvantages of abortions. They clearly talked about complications of abortions and mentioned that abortion affects women’s health. They said that all women in their villages are well informed about disadvantages of abortion. However, there are several women in their villages that used traditional method of birth control and became pregnant and then they have to have abortion.

“Abortions are not good for women’s health, especially for those women who perform abortion very often for example there are some women who perform abortion every 2-3 months.”

“Abortions are not good I do not recommend them to have an abortion.”

“In my opinion it is not good to have an abortion. Better to prevent pregnancy with modern methods on time than to perform an abortion.”

“You know if woman has done 1 or 2 abortions it is ok but not more.”

Most respondents said that women who had abortions they always had complications and nurses suggest women to avoid abortions. They have mentioned that it is better to prevent the pregnancy in any way than to do an abortion.

“We had a woman who had an abortion and after abortion she had high temperature, then the doctor prescribed an antibiotic I administered the injections. Another woman had a bleeding after abortion then she went to the doctor and doctor cleaned the uterus one more time.”

“We had many cases, some of them had bleeding, vaginal discharge, and some of them had high temperature and different complications after abortions.”

“I had a patient who had an abortion and after abortion she had bleeding I referred her to the doctor and the doctor cleaned the uterus one more time.”

“There are lots of cases when woman had bleeding after having an abortion, high temperature or got some infections.”

Only one of the nurses mentioned that abortion will not affect on women’s health and she said if a woman wants to have an abortion, nurses cannot do anything.

“Abortion will not affect the health of women specially the mental health. If women have too many abortions then it might affect their health but I am not sure.”

6. Nurses’ roles in community education regarding family planning

Several nurses mentioned that they organize sessions for mothers about modern contraceptive birth controls, but that is not very common. Most of the nurses said that the counseling of mothers about contraceptives usually occurs at homes during nurse visit. In addition, the respondents said that if some of the women have questions they come to the nurse’s house.

“I discuss with young mothers the issues of contraceptive use, I invite them to the facility and talk to them and give advice about birth control methods.”

“During home visits I talk to them especially with young families. I give advice about birth control methods.”

On the question “What methods do you usually recommend?” nurses’ opinions were different, but majority of the nurses talked about traditional methods. They think that there is

no danger in traditional methods. They said that in some cases traditional methods did not prevent women from pregnancy but did not affect their health also. It was repeated several times by many nurses that modern methods of FP can “cause” cancer.

“I recommend them to use traditional methods. Traditional methods are much better than IUDs or abortions. It is better to use withdrawal.”

“The primary method that I recommend is safe period method (calendar).”

“Traditional methods are safe. Women can have cancer or other breast problems if they use OCs.”

Several nurses recommend using both traditional and modern methods of FP.

Moreover, there were opinions that traditional methods are very individual and women should use it on a right way.

“The primary method that I recommend is a condom. From traditional methods I recommend them to use withdrawal and safe period method.”

“Better to use traditional methods. It is very individual one can get pregnant and one might not.”

There were nurses that recommend only modern contraceptive methods. Some of them mentioned that women have to choose the method.

“I explain every method but they will choose which one they want. But I always recommend them to use condoms or OCs.”

“The primary method that I advice is OCs, IUDs are not convenient for couples because most of the men work outside of Armenia, mostly in Russia and they come only for a few months in the winter so there is no need to have an IUD all time, better to use OCs.”

“For example to nursing mothers I recommend lactation method to breastfeed exclusively and it prevents them from unwanted pregnancy. To other women I recommend to visit doctors and to use the prescribed birth control method. Some women use IUDs also.”

7. Barriers toward the use of modern methods of family planning

Majority of the nurses express their worries about the costs of modern methods of contraceptives. They explained that unemployment is very high in the villages and most of

the village residents live in poor conditions. According to nurses, modern contraceptives are expensive, and not everyone in the village can afford them.

“The biggest problem is that people in our village are poor they can not afford to buy pills, moreover, they can not afford to have a child and to raise the child, it is very expensive to take care of a child. There is no problem with medication (OCs or other methods of birth control) we have but people do not have money.”

“Some women can not afford IUDs, it costs 20,000 AMD and for some families it is very expensive, so they have to pay by themselves.”

“The main problem is that people can not afford, even though we have pills.”

“The condoms also are not cheap it costs about 200 AMD but some families can not afford it.”

“There are modern methods of birth control available, but people in villages are poor and can not afford it.”

However, there were nurses who reported no barriers towards the access of modern contraceptives in their villages.

“No... there are not any barriers, for example we have OCs but no one wants to use it. It is better to use withdrawal than medications.”

Most of respondents said that if someone really wants to use modern methods of birth control they could find them.

“There are no barriers in our village if they want to use any method they can buy from pharmacy.”

“In my opinion there are no problems because to use contraceptives does not require much money, an abortion cost much more than buying the pills or condoms.”

8. Suggestions/recommendations for improving the use of modern methods of family planning and reproductive services

Almost all of the nurses emphasize the importance of educating women about modern methods of contraception. They mentioned that every nurse in the village should be responsible for educating mothers, but because they are the only health care providers in the village, they are not able to allocate enough time for women. Nurses reported that they make any effort to answer to women's questions.

“I conduct seminars with young families very often to explain them everything related to the modern methods of birth control. I give advice to mothers and to give brochure to them.”

“It would be better to conduct seminars for young women and to provide OCs to poor families.”

“I think it would be better to provide more information about modern methods of birth control to all women in rural areas. They will use more if they know more about each type of modern methods of contraceptives.”

“Conduct seminars for rural community with physicians and to talk about modern methods of birth controls. Also, explain the effectiveness of those methods to every one in village.”

“Educate rural community about FP as well as to have consultations with doctors.”

Only two of the nurses mentioned that there is no need to educate village women about modern methods of FP because nurses think that village women are well informed. In addition, some of the respondents said that there is no need to talk about modern methods of FP because women should not use those methods.

“My suggestion is to do douching, to use male condoms and withdrawal as birth control methods.”

Discussion

This study investigated the beliefs and attitudes of rural nurses regarding FP and contraceptive methods. Overall, the results demonstrate that rural nurses are the main health care providers in the villages. They provide basic health care services, preventive care and educate rural communities. The study found that nurses have influential positions in affecting the health decisions and health knowledge of rural people. However, there are controversial beliefs and misconceptions among nurses regarding modern contraceptive methods that impacts on their service provision.

The main findings of the study were that nurses reported fallacious and exaggerated side effects related to modern contraceptive methods, at the same time they recommend rural women to use traditional methods, even though there is a strong body evidence suggesting

the ineffectiveness of the traditional methods. These nurses provide false information to women, such as modern methods may cause “cancer” or they are “medications”. The exaggerated side effects to modern contraceptive methods that nurses tell to rural women lead low-level usage of modern contraceptive methods. Unfortunately, one of the main reasons for providing such information is that nurses lacked knowledge or had inadequate training about modern contraceptive methods. This lack of knowledge negatively impacted their attitudes toward using these methods. Based on nurses’ opinion, modern methods of contraceptive are neither effective nor safe, and they do not recommend their use to women. Instead, nurses recommend traditional methods of birth control. Some of the traditional methods that nurses mentioned included periodic abstinence, withdrawal, douche, and prolonged breastfeeding as well as folk methods. While research shows that modern contraceptive methods are very effective and safe, and give women more control over their lives and avoids the risks of pregnancy and childbearing (32;33), nurses in these villages recommend traditional methods and suggest avoiding modern methods. Thus, it is very important to educate nurses about advantages and disadvantages of various contraceptive methods. If nurses have accurate knowledge about these methods, then they can communicate with rural women and provide reliable information to them. If rural women have accurate information about contraception then they can make informed choices about their lives and fertility.

Note accurate information about the risks and minimized information about the benefits of modern contraceptives discourages women to use these methods. None of the nurses recognized the non-contraceptive health benefits of modern methods and drew on folk beliefs to justify their fears of the risks and side effects of OCs and IUDs, such as women will loss or gain weight if use IUDs or can have problems with menstrual periods or get hair if they use OCs. However, based on research the use of OCs are not associated with weight

gain or increased body fat (34;35). Research shows that contraception is used both for protection against unwanted pregnancy and for a variety of non-contraceptive health benefits, including improvements in dysmenorrhea, acne, and others. Also, OCs reduce menstrual bleeding, help prevent iron deficiency anemia, which is common and often serious in developing countries also reduce some long-term health risks (32;36;37). Nurses exaggerated side effects related to modern methods such as women can develop cancer if they use one OCs or IUDs, while research show that use of OCs can reduce the long-term risk of endometrial and ovarian cancers. Moreover, it has been demonstrated that the use of OCs reduces the risk of benign breast disease (34;37). If women do not use correct contraceptive methods that may lead to unwanted pregnancy and abortion this widely is used by many women as FP method.

This study demonstrated that nurses beliefs and attitudes impacts on the services they provide to rural population. The lack of knowledge and strongly held misconceptions regarding modern methods among nurses impact the education and counseling they provide to women. Rural nurses are the only source of health information for women in villages and it is imperative that they can provide correct, timely information in a way that their clients can understand and benefit from it.

The limitations of the study related to the limitations of qualitative research in general. One of the main limitations of the study is the generalizability of the data; the study carried out in only one of the *marzes* in Armenia. Another limitation of the study is that one researcher did data analysis. Researcher analyzed data objectively however qualitative interpretation might be influenced by the biases of the researchers.

Conclusion and Recommendations

This is the first qualitative study conducted among nurses looking to the topic of contraception and knowledge and beliefs of nurses in Armenia. The study found that most of

the nurses provide exaggerated information concerning side effects of modern contraceptive methods to village residents and that they often provide misinformation to women regarding the modern contraceptives. The main problems to the use of modern contraceptives in rural areas were the negative attitudes of village nurses and the fear of side effects. The main reason of providing such information is village nurses' lack of knowledge.

Both contraceptive and other benefits of modern methods are unquestionable. Nurses as well as rural population should be educated about these methods. Several trainings and other educational programs have been taken in many regions of Armenia, as well as in Lori *marz*. Thus, it is important to investigate and understand how effective are these trainings or what are the other methods of information dissemination that will be more beneficial and effective.

Since nurses are the main source of health information in villages, the study suggests educating village nurses and providing them with updated literature. The study also suggests increasing awareness of FP and contraception among rural population by seminars. It is important to educate rural women and to provide literature about contraception and abortion.

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Appendix A. English version of In-depth interview guide

Title of the study: Beliefs and Attitudes of Rural Nurses in Lori Marz, Armenia about Modern Contraceptive Methods

In-depth Interview Guide

This guide is designed for 40-60 minutes in-depth interview with an Armenian nurses.

Introduction

- Thank the informant for agreeing to participate in the interview.
- Provide participants written consent form

Warm-up Questions

1. How long have you been working as a nurse?
2. What made you decide to become a nurse?
3. What is the one thing you like the best about your work as a nurse?
4. What is the one thing you like the least about your work as a nurse?

Description of work

1. Tell me about your typical working day as a nurse?
2. Tell me about the responsibilities you take as a nurse?
3. Which population do you serve? Probe: On average, how many patients per day/month/year do you usually see?

Nursing practice and personal attitude toward contraceptives

1. Tell me about your involvement in reproductive health services in your village?
2. In your opinion, what is the primary method of modern birth control used by women in your community? (if needed explain what is defined as a modern method).
3. What is the primary traditional method of birth control used by women in your community?
4. What do you think about the safety and effectiveness and other attributes of modern contraceptive methods?

Probe for specific opinions on:

- Pills
- IUD
- Condoms
- Injectables

5. What do you think about the safety and effectiveness and other attributes of traditional birth control methods?

Probe for specific opinions on:

- Withdrawal
- Safe period method (calendar/mucous check)
- Douching
- Other folk method

6. In your opinion, are abortions safe? Do you perceive them to have any longer-term health or mental health effects? Probe: As a nurse, have you had any patients develop complications or problems after having an abortion?

The role of nurse in giving information about family planning to rural community

1. How often do you discuss family planning with your community? How do they seek this information? Probe: How does the subject come up? Probe: From patients' or from you?
2. What influences your recommendations to patients for family planning/contraception options? What methods do you usually recommend? Probe: under what circumstances?
3. Do you feel your clients follow through on your recommendations? Probe: why or why not? What do they do instead?
4. In your opinion, is there a need to educate people in your community about modern methods of family planning?

Barriers to modern methods of family planning

1. Studies in other communities in Armenia have shown us that the use of modern contraceptives methods is low, in your opinion, what contributes to the low level usage of modern methods of family planning?
2. What barriers do you feel this community faces related to family planning methods (accessibility, affordability)?
3. How would you characterize women's compliance with family planning practices? What factors influence this compliance?
4. What actions can be taken to support a woman in her choice to effectively use a modern contraceptive method?

Recommendations for improving the use of modern methods of family planning by rural community

Closing

- Thank the informant for participation in the interview and for their time.
- Find out if the participants have any questions.
- Provide participants contact information, for contacting if they will have any questions related to the study.

Date of Interview: _____

Appendix C. English version of Consent form template

American University of Armenia
Department of Public Health
Consent Form Template

Title of Research Project:

Beliefs and Attitudes of Rural Nurses in Lori Marz, Armenia about Modern Contraceptive Methods.

Explanation of Research Project:

Hello, I am Hermine Poghosyan. I am a student in the Public Health Program at the American University of Armenia. You are invited to participate in a research study: “Beliefs and Attitudes of Rural Nurses in Lori Marz, Armenia about Modern Contraceptive Methods”. The purpose of this study is to explore beliefs and attitudes of rural nurses about modern contraceptive methods.

You have been included in the project because you are a nurse who works in Lori Marz and provide reproductive health care to people of that area. You are asked to participate in the interview, which will take about 40-60 minutes. Your participation is your voluntary choice. Please, feel comfortable in answering the questions. You may not answer the questions that seem sensitive or uncomfortable to you and skip those questions. Any information that you provide will be kept confidential. Any direct quotes taken from your responses will not be associated with your name and will be edited so that they cannot be used to identify you. Any other information that may identify your self will not be collected.

There is no risk for you as a participant in this study. You will not receive any monetary or other direct benefit from the participation. Your participation and the information that you will provide is valuable for our study. The results of the study may be used to improve utilization of modern contraceptive methods in the community.

You have the right not to participate or drop out from the interview anytime. Whether or not you participate in the interview will not affect you or your job. You are welcome to ask any questions about the study or about the interview. May I tape record your interview in order not to lose any information? This tape will be destroyed once the study is completed.

If you come to believe that you have not been treated fairly or have been hurt by joining the study, you may contact Dr. Yelena Amirkhanyan at the American University of Armenia (+374 10) 5125 68. If you come up with any questions related to the study, you can contact Hermine Poghosyan (+374 91 345185). Is this information clear to you or do you need additional explanations? If you agree to participate in this study, please sign your name below.

Subject's signature

____Signature of Investigator

Date

Thank you very much for your participation.

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