KNOWLEDGE OF POPULATION PLANNING AND BIRTH CONTROL IN MEDICAL STUDENTS

ALI AKBAR SIAL[1], MIRZA TASAWER BAIG[1], ALISHA SIAL[2] AND YASSER KIDWAI[2]

[1]Faculty of Pharmacy, Federal Urdu University of Science & Technology Karachi, Pakistan
[2]Ziauddin University, Karachi, Pakistan

Abstract

This research is an effort to describe medical students' knowledge about population demographics, population planning and their possible relationship. Future doctors will be required to recommend birth control and support measures of population planning in Pakistan. It is believed that a poor knowledge of population demographics is a factor in finding birth control and population planning less useful and acceptable. How birth control and population planning are perceived by these young doctors is important. In this study, medical students' views about birth control, population planning and sex selection are correlated with their knowledge about population demographics. The study showed a weak correlation indicating even medical students have poor knowledge about this topic.

Introduction

The World Health Organization (WHO) estimates that in 2005 over 500,000 women died from pregnancy- and birth-related causes Carroli *et al* (2001b). A woman in a developing country is 97 times more likely to die as a result of pregnancy than a woman in a developed country Carroli *et al* (2001a). The majority of these deaths occur during and immediately following birth: 25% are caused by severe bleeding, 15% by infection, 12% by eclampsia (a seizure disorder), and 8% by obstructed labor. The remaining deaths are due to unsafe abortion (13%), other direct causes (8%), and indirect causes such as HIV and malaria which may be aggravated by pregnancy (Bergsj and Per. 2001). The technologies needed to prevent deaths from most of these causes exist. For this reason, the World Health Organization designates such deaths as "avoidable." Additionally, World Health Organization claims that the interventions to reduce maternal mortality are cost-effective, but does not present evidence to support this claim. (Bergstrom *et al*., 2001, Koblinksy and Marjorie 2003).

Addressing the cultural and religious beliefs around the issue, the family planning has been a big challenge in developed, developing and underdeveloped countries. The concept of family planning has also raised some concerns regarding its acceptability within Muslim populations. The World Health Organization estimates that worldwide 211 million women become pregnant each year and that about two-thirds of them deliver live infants. The remaining one-third of pregnancies ends in miscarriage, stillbirth or induced abortion. Some 200 million women in developing countries have an unmet need for effective contraception (Kidney and Elaine 2009 and Grahim *et al* 2003). These statistics and the ongoing discussion surrounding family planning in the Muslim communities raise legitimate questions.

In Pakistan, family planning is considered to be a prickly topic burdened with religious overtones. For nearly a quarter century, the division in politics concerning abortion has basically hindered meaningful discussion of family planning programs and policy in the Pakistan. Research has demonstrated the undeniable relationship between birth control use, unplanned pregnancy and abortion, and such research has been attributed to the growing recognition of birth control as a critical prevention strategy. An unplanned pregnancy can have far-reaching consequences for women; families and society at large. Birth control use among Pakistani women are significantly rare. It is anticipated that though, in Pakistan family planning program has been launched since long time ago, only a fraction of population has enough knowledge about this program.

Therefore a survey is conducted to obtain information that how many medical students have enough knowledge about population planning. This was the purpose of the study.

Birth control and family planning: Here are some factors to consider when selecting a birth control method:

- **Effectiveness** -- How well does the method prevent pregnancy? Look at the number of pregnancies in 100 women using that method over a period of 1 year. If an unplanned pregnancy would be viewed as potentially devastating to the individual or couple, a highly effective method should be chosen. In contrast, if a couple is simply trying to postpone pregnancy, but feels that a pregnancy could be welcomed if it occurred earlier than planned, a less effective method may be a reasonable choice. (Johansson, 2004)
- **Cost** -- is the method affordable?
- **Health risk** -- What are the potential health risks? For example, birth control pills are usually not recommended for women over age 35 who also smokes.

- **Partner involvement** -- The willingness of a partner to accept and support a given method may affect your choice of birth control. However, you also may want to reconsider a sexual relationship with a partner unwilling to take an active and supportive role.
- **Permanence** -- Required a temporary (and generally less effective) method, or a long-term or even permanent (and more effective) method?
- **Preventing HIV and sexually transmitted infections (STIs)** -- Many methods offer no protection against STIs. In general, condoms are the best choice for preventing STIs, especially when combined with spermicides.
- **Availability** -- Can the method be used without a prescription, provider visit, or, in the case of minors, parental consent?

A- Barrier methods: Various workers described different safe methods for birth control. (Rockville, 2003).

Condoms

- A condom is a thin latex or polyurethane sheath. The male condom is placed around the erect penis. The female condom is placed inside the vagina before intercourse.
- A condom must be worn at all times during intercourse to prevent pregnancy.
- Condoms are available in most drug and grocery stores. Some family planning clinics offer free condoms. No prescription is required to obtain condoms.

Diaphragm and cervical cap (Shulman, 2003)

- A diaphragm is a flexible rubber cup that is filled with spermicidal cream or jelly.
- It is placed into the vagina over the cervix before intercourse, to prevent sperm from reaching the uterus.
- It should be left in place for 6 to 8 hours after intercourse.
- Diaphragms must be prescribed by a woman's health care provider, who determines the correct type and size of diaphragm for the woman.
- About 5-20 pregnancies occur over 1 year in 100 women using this method, depending on proper use.
- A similar, smaller device is called a cervical cap.
- Risks include irritation and allergic reactions to the diaphragm or spermicide, and increased frequency of urinary tract infection. In rare cases, toxic shock syndrome may develop in women who leave the diaphragm in too long. A cervical cap may cause an abnormal Pap test.

Vaginal sponge

- Vaginal contraceptive sponges are soft synthetic sponges saturated with a spermicide. Prior to intercourse, the sponge is moistened, inserted into the vagina, and placed over the cervix.

IUD

- The IUD is a small plastic or copper device placed inside the woman's uterus by her health care provider. Some IUDs release small amounts of progestin. IUDs may be left in place for 5 - 10 years, depending on the device used.
- IUDs can be placed at almost any time.
- IUDs are safe and work well. Less than 1 percent women per year get pregnant using an IUD.
- Risks and complications include cramps, bleeding (sometimes severe), and perforation of the uterus.
- The progestin IUD often causes irregular spotting for the first several months. In about 50% women, the periods may stop completely by the end of the first year. This effect goes away when the device is removed.

B- Hormonal Methods (Roddy, 2002 and Johansson 2004).

Birth control methods that use hormones will have either both an estrogen and a progestin, or a progestin alone.

- Both hormones prevent a woman's ovary from releasing an egg during her menstrual cycle (called ovulation). They do this by affecting the levels of other hormones the body makes.
- Progestins help prevent sperm from entering the uterus by making mucus around a woman's cervix thick and sticky.

Types of hormonal birth control methods include:

- Combination birth control pills, which combine the hormones estrogen and progestin to prevent ovulation.
- Progestin only birth control pills, also called the "mini-pill."
- Implants -- small rods implanted surgically beneath the skin, which release a continuous dose of progestin to prevent ovulation.
- Progestin injections, such as Depo-Provera, are given into the muscles of the upper arm or buttocks once every 3 months. This injection prevents ovulation.
- The skin patch is placed on shoulder, buttocks, or other convenient location. It continually releases progestin and estrogen. Like other hormone methods, a prescription is required.
- The vaginal ring is a flexible ring about 2 inches wide that is placed into the vagina. It releases the hormones progestin and estrogen.

C- Permanent methods of contraception: These methods are best for men, women, and couples who believe they never wish to have children in the future. While viewed as a permanent method, these operations can sometimes be reversed if a man or woman later chooses to become pregnant. (Mishell, 2004)

D- Unreliable methods

- **Coitus interruptus** is the withdrawal of the penis from the vagina before ejaculation. Some semen frequently escapes before full withdrawal and before ejaculation, which is enough to cause a pregnancy.
- **Douching shortly after sex** is ineffective because sperm can make their way past the cervix within 90 seconds after ejaculation.

Materials and Methods

A survey was planned targeting a population of medical students of all year groups, male and female in Ziauddin University, Karachi, Pakistan. Questionnaires were submitted by the research team. A target of 125 with 25 students of each year group was planned. But the research team was able to get a total of 93 fully filled out surveys. Efforts were made to target groups of students in classes, the cafeteria or the library so that filled questionnaires can be collected immediately. As knowledge was being tested, efforts were made to keep respondents from sharing information. The method of convenience sampling was used. The inclusion criteria were any MBBS student who is currently studying in Ziauddin Medical University. The exclusion criteria were that only those questionnaires that were not filled out completely. SPSS version 17 is used to analyze data looking for both descriptive and inferential statistics. Responses to questions about demographics are given a summative score. This is interval data as a score 0 or 1 are given to right and wrong answers and then a total is made which could be a zero or more. This means that a right answer scores a 1 and a wrong answer scores a 0 therefore more the score, more the knowledge of the student on both counts.

Respondents Profile / Descriptive Statistics

- Out of the total sample of 93,
  - GROUP "A" : 37 (39.8%) were 1st, 2nd and 3rd year students (not exposed to CHS training)
  - GROUP "B" : 56 (60.2%) were 4th and 5th year students (exposed to CHS training).

Table 1. Distribution profile of respondents of two groups (before and after CHS training)

Group	Frequency	Percent	Valid Percent
A	37	39.8	39.8
B	56	60.2	60.2
Total	93	100.0	100.0

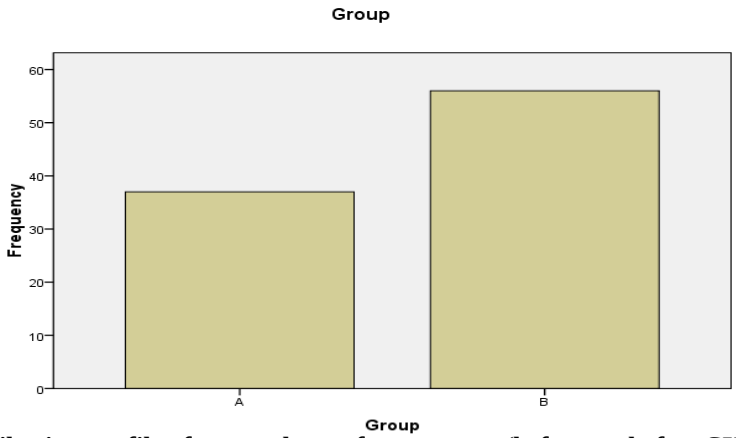

Fig.1. Distribution profile of respondents of two groups (before and after CHS training)

Table 2. Comparison and correlation of knowledge of demographic and population planning in group "A" and "B" (before and after CHS training)

Correlations		
		Total B
Total A	Pearson Correlation	.037
	Sig. (2-tailed)	.726
	N	93

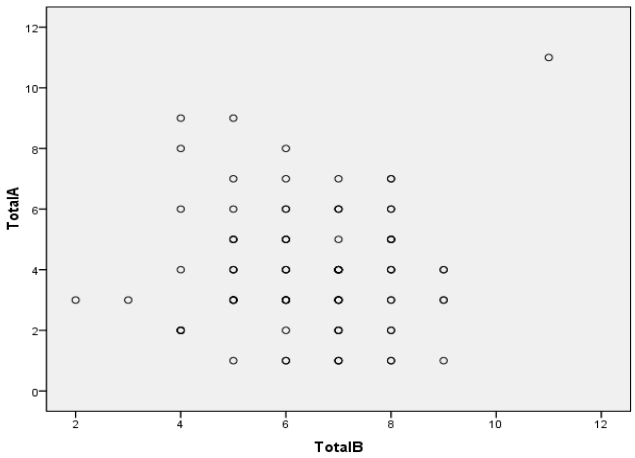

Fig. 2. Comparison and correlation of knowledge of demographic and population planning in group "A" and "B" before and after CHS training

Results and Discussion

Table 1 and Fig.1 shows the distribution profile of all the respondents, who participated in the survey. As discussed earlier, that group A was consisting of respondents from 1st year, 2nd year and 3rd year of MBBS study, having not exposed to CHS training. While group B was consisting of respondents of 4th year and 5th year MBBS, having done their CHS training. From the table, it is shown that 40% participation was of group A and 60% of group B.

Table 2 and Fig.2 shows the SPSS output of Pearson's Correlation and Test of Independence between the two variables. As the value of Correlation Coefficient (r) is found to be 0.037, which means there is very weak correlation between the knowledge of Demographic factors and population planning between the two groups of respondents, that is, CHS training is not making impact on students of MBBS. The two variables are not

strongly correlated and the correlation is statistically insignificant. This means that students views about birth control, population planning and sex selection are not correlated with their knowledge about population demographics. The correlation coefficient is 0.037; this means that there is a weak relationship between the two variables and changes in one variable are weakly correlated with changes in the second variable. We can conclude that our variables were not strongly correlated. The positive sign of the correlation coefficient (0.037) means that as one variable increases in value, the second variable also increase in value with very slow pace. However the Sig (2-Tailed) value is greater than .05, we can conclude that the model is significant. Students views about birth control, population planning and sex selection are not correlated with their knowledge about population demographics. Therefore, it is concluded that even medical students have poor knowledge of population planning and birth control. Therefore, it is suggested that in Pakistan, acceptable and effectively implementable family planning programs should be introduced.

References

Bergstrom, Staffan. and Elizabeth, G. (2001). The role of traditional birth attendants in the reduction of maternal mortality. In *Safe motherhood strategies: A review of the evidence* (PDF), Eds. Vincent De Brouwere and Wim Van Lerberghe, Pgs 77-95. Antwerp: ITG Press.

Bergsj, A. and Per. (2001). What is the evidence for the role of antenatal care strategies in the reduction of maternal mortality and morbidity? In *Safe motherhood strategies: A review of the evidence* (PDF), Eds. Vincent De Brouwere and Wim Van Lerberghe, Pgs 35-54. Antwerp: ITG Press.

Carroli, G., Rooney, J.C. and Villar, I. (2001a). WHO systematic review of randomised controlled trials of routine antenatal care. *Lancet* 357(9268): 1565-70.

Carroli, G., Rooney, J.C. and Villar, J. (2001b). How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. *Paediatr. Perinat. Epidemiol.* 15:1-42.

Graham, W., Jacqueline, S.B. and Bullough, C.H.W. (2001). Can skilled attendance at delivery reduce maternal mortality in developing countries? In *Safe motherhood strategies: A review of the evidence* (PDF), Eds. Vincent De Brouwere and Wim Van Lerberghe. Antwerp: ITG Press.

Kidney, and Elaine, (2009). Systematic review of effect of community-level interventions to reduce maternal mortality (PDF). *BMC Pregnancy Childbirth* 9(2).

Koblinsky, and Marjorie, (2003). *Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica, and Zimbabwe.* Washington, DC: The World Bank.

Johansson ED. (2004). Future developments in hormonal contraception. *Am J. Obstet Gynecol*. Apr; 190 (4 Suppl): S69-71.

Rockville, (2003). US Food and Drug Administration. *Birth Control Guide*., : FDA Office of Public Affairs.

Shulman L.P., (2003). Advances in female hormonal contraception: current alternatives to oral regimens. *Treat Endocrinol*. 2003;2(4): 247-56.

Roddy R.E., (2002). Nonoxynol-9 gel did not improve protection against sexually transmitted infections in condom users. *Evidence-based Obstetrics & Gynecology*. 2002; 4(4): 177-178.

Mishell, (2004). State of the art in hormonal contraception: an overview. *Am J. Obstet Gynecol*. 2004; 190(4 Suppl): S1-4.