Sudanese Women Perception and Attitude to Wards Contraceptives and its Relation to Child Health at Primary Health Care units in Khartoum State, Sudan

By

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B.Sc. in Nursing
Gezira University (2006)

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Submitted in Partial Fulfillment for the Requirement of the Degree of Master of Science in Community Heath Nursing Department of Nursing Faculty of Applied Medical science University of Gezira

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Sudanese Women Perception and Attitude to Wards Contraceptives and its Relation to Child Health at Primary Health Care Centers in Khartoum State, Sudan

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Abstract

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مدى إدراك الأمهات بوسائل منع الحمل وعلاقتها بصحة الطفل بوحدات الرعاية الصحية الأولية

بوالية الخرطوم، السودان

مبارك يوسف مبارك محمد

ماجستير العلوم في تمريض صحة المجتمع (2013)

قسم التمريض

كلية العلوم الطبية التطبيقية

جامعة الجزيرة

ملخص الدراسة

يرتبط تنظيم الأسرة ارتباطاً كبيراً بصحة الطفل. من الواضح أن حجم الأسرة والتباعد بين الولادات له

مزايا على صحة الطفل. أجريت هذه الدراسة الوصفية بوحدات الرعاية الصحية الأولية بمستشفى أم

درمان للولادة ومستشفى الأحفاد الجامعي في الفترة من سبتمبر وحتى ديسمبر 2011م. هدف الدراسة

لتقييم إدراك السيدات السودانيات عن وسائل منع الحمل وعلاقتها بصحة الطفل بولاية الخرطوم -

السودان. أجريت الدراسة علي عدد 100 سيدة وحن ثلاثي يمثلون أيهما المثالي أثناء فترة البحث.

استخدمت استمارة استبيان صممت من أجل الدراسة لجمع البيانات. تم تحليل البيانات باستخدام برنامج

الحزمة الإحصائية الاجتماعية (SPSS). أظهرت النتائج أن 44% من السيدات تزوجن قبل سن

العشرون وتتراوح عدد مرات الحمل لدى السيدات من 5 – 8 مرات بنسبة 26% وأن الفترة ما بين

الحمل والأخر أقل من عامين بنسبة 36%. غلبية العينات كانت معروفة صحيحة عن معنى تنظيم

الأسرة وتقبلها له (82%، 97%) على التوالي. غلبية السيدات (97%) أكدن على أهمية تنظيم الأسرة

من أجل صحة الأم والطفل معاً. كما أوضحت النتائج أن 81% من السيدات يستخدمن الوسائل

الهرمونية لتنظيم الأسرة و35% يستخدمن الوسائل الآلية ولكن أكثر من نصف العينة (59%) بين أن هناك
مضاعفات مع استخدام وسائل منع الحمل. 40% من السيدات أكدن على أهميتها من أجل نمو وتطور الطفل.
خلصت الدراسة على أن معلومات السيدات كانت كافية عن وسائل تنظيم الأسرة وكان مدى الإدراك إيجابيًا تجاه استخدام وسائل منع الحمل وتأثيرها الإيجابي على صحة الأطفال. أوصت الدراسة بضرورة عمل برامج تدريبية مستمرة للسيدات من خلال وسائل الإعلام ومراكز الرعاية الصحية الأولية مع الإشراف المستمر من خلال الزيارات والمتابعة.
Dedication

To

ALLAH

and His Apostle

All thanks to Allah

For making it Possible for

Me to complete this

Dissertation and

My Study…
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faculty of Applied Medical sciences and the whole
University staffs
In general.
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Issues relating to family planning are highly relevant to child health, it would seem that family size and birth spacing, if practiced by all yield substantial child health benefits. This descriptive study conducted at primary health care units in Omdurman maternity hospital and Alahfad University hospital in the period from September to December 2011 aimed to assess the Sudanese women perception regarding contraception and its relationship to the child’s health at Khartoum State, Sudan. The study was conducted on 100 available women during the research period. Questionnaire designed and gather the data. Data were analyzed by using Statistical Package for Social Sciences (SPSS). The results revealed that 44% of women married below the age of 20 years, the number of pregnancies were ranged from 5-8 times in 26% of the sample. The duration between pregnancies less than 2 years constituted 36%, the majority of the sample identifying the meaning of family planning and accept it (82% and 97% respectively). Almost all women reflect the benefits of family planning for both mother and child health (97%). And 40% reported the benefits for child growth and development. The results obtained that 81% of the women using the hormonal contraceptives method and 35% for mechanical methods. It was observed that more than half (59%) reported complication for contraceptives used. The study concluded that the women had adequate knowledge regarding family planning methods and had a positive perception toward contraceptives and its affect on their child health. Also, the early age of marriage and power of the family affect their decision for family planning. The study recommended that continues education programs thorough Mass-Media and PHC centers as well as continues supervision through follow-up visits.
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<td>PHC</td>
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1. Introduction

1.1 Background

Issues relating to family planning are highly relevant to pediatrics. It would seem that family size and birth spacing, if practiced by all yield substantial child health benefits. It is well known that child mortality increases when pregnancies occur in rapid way. A birth interval of 2 to 3 years is considered desirable to reduce child mortality. Family planning is, therefore, an important means of insuring the survival of all children in a family. Birth spacing and family size are important factors in child growth and development. The child likely to receive the full share of love and care, including nutrition and needs when the family size is small and births are properly spaced. In addition, family planning is effective prevention against malnutrition. Children living in large-sized families have an increase in infection, especially infectious gastroenteritis, respiratory and skin infections. (Parks, 2010).

1.2. Developing countries studies:

Study in many developing countries, official family planning programs began during the 1960 with the aim of reducing high fertility. However, in recent years, various Demographic and Health Surveys (DHS) report that women in developing countries have lower desired fertility than actual fertility, i.e., women are having more children than they want. This indicates that there is still an unmet need for family planning; there are a proportion of women of
reproductive age who prefer to avoid or postpone childrearing but who are not using any method of contraception. (WHO, 2002)

1.2.1 Studies done in Sudan

There was no research study done in Sudan in this field before.

1.3 Justification and Rationale

The overall rapid change in the socio-demographic pattern of the Khartoum community, especially the changes concerned with women’s education and work will be an important factor in changing fertility beliefs and behaviors with more tendencies to birth spacing and, consequently, the use of contraceptives for the children’s health.

1.4 Objectives

1.4.1 General Objective

To assess the Sudanese women’s perception regarding contraceptive and its relation to child health at primary health care centers in Khartoum State, Sudan, during of the study.

1.4.2 Specific Objectives

- To assess the women knowledge attitude about contraceptives (as the meaning, methods, side effects...etc) during the period of the study

- To identify the women's attitudes about contraceptive during of the study.

- To assess the women's opinion about the benefits of contraceptive on their child health during the period of the study.
2. Literature Review

2.1. Definition of Contraceptives

Contraceptive methods are by definition preventive to help women avoid unwanted pregnancies they all temporary and permanent measures to prevent resulting from coitus the last few years have witnessed a contraceptive evolution, that is, man trying to interfere with. (Parks, 2010)

The ovulation is now generally recognized that there can never be a contraceptive that is, contraceptive that is safe, acceptable, and reversible. As there is no single method likely to meet social, cultural, aesthetic and service needs of all and communities. Other search for an “ideal’ contraceptive” has been given up. The present approach planning programmes is to provide a “cafeteria choice” is to offer all methods from which an individual needs and wishes and to promote planning as a way of life. ‘A Term conventional contraceptive is used to denote methods that require action at the time of sexual course, e.g., condoms, spermicidal, etc. Each receptive method has its unique advantages and vantages. The success of any contraceptive method depends not only on its effectiveness in preventing pregnancy on the rate of continuation of its proper use. (WHO, 2002)

A variety of barrier or “occlusive” methods suitable for men. The aim of these is to prevent live sperm from meeting the ovum. Two methods have increased in popularity quite recently use of
certain contraceptive and non-contraceptive. The main contraceptive advantage is the absence of effects associated with the “pill” and Intrauterine Devices (IUD). The non contraceptive advantages include some protection family transmitted diseases, a reduction in the incidence inflammatory disease and possibly some protection from the risk of cervical cancer. Barrier methods require a high degree of motivation on the part of the user. In general they are less effective than either the pill or the loop. They are only effective if they are used consistently and carefully. (Skrine R., 2001).

2.2 PHYSICAL METHODS

2.2.1 Condom

Condom is the most widely known and used barrier device by the males around the world. In India, it is better known by its trade name NIRODH, a sanskrit word, meaning prevention. Condom is receiving new attention today as an effective, simple “spacing” method of contraception, without side effects. In addition to preventing pregnancy, condom protects both men and women from sexually transmitted diseases. Dalsimer (2001).

The condom is fitted on the erect penis before intercourse. The air must be expelled from the teat end to make room for the ejaculate. The condom must be held carefully when withdrawing it from the vagina to avoid spilling seminal fluid into the vagina after
intercourse. A new condom should be used for each sexual act. (Sherris, 2001).

Condom prevents the semen from being deposited in vagina. The effectiveness of a condom may be increased by using it in conjunction with a spermicidal jelly inserted into the vagina before intercourse. The spermicidal serves as additional protection in the unlikely event that the condom should slip off or tear. Condoms can be a highly effective method of contraception, if they are used correctly at every coitus. Failure rates for the condom vary enormously. Surveys have reported pregnancy rates varying from 2—3 per 100 women—years to more than 14 in typical users. (WHO, 2001).

The advantages of condom include: they are easily available, safe and inexpensive, easy to use; do not require medical supervision, no side effects, light, compact and disposable and provides protection not only against pregnancy but also against. While the disadvantages were it may slip off or tear during coitus due to incorrect use, and interferes with sex sensation locally about which some complain while others get used to it. The main limitation of condoms is that many men do not use them regularly or carefully, even when the risk of unwanted pregnancy or sexually transmitted disease is high. (Parks, 2010)

Condoms are manufactured in India by the Hindusthan Latex in Trivandrum, London Rubber Industries in Chennai and others.
Besides commercial outlets, condoms are supplied under social marketing programme. (Parks, 2010).

2.2.2 Female condom

The female condom is a pouch made of polyurethane, which lines the vagina. An internal ring in the close end of the pouch covers the cervix and an external ring remains outside the vagina. It is pre lubricated with silicon, and a spermicidal need not be used. It is an effective barrier to STD infection. However, high cost and acceptability are tailor problems. The failure rates during the first year use vary from 5 per 100 women-years pregnancy rate to about 21 in typical users. (Leon, 2006).

2.2.3. Diaphragm

The diaphragm is a vaginal barrier. It was invented by a German physician in 1882. Also known as “Dutch cap”, the diaphragm is a shallow cup made of synthetic rubber or plastic material it ranges in diameter from 5-10 cm (2-4 inches). It has a flexible rim made of spring or metal. It is important that a woman be fitted with a diaphragm of the proper size. It is held in position partly by the spring tension and partly by the vaginal muscle tone. This means, for successful use. The vaginal tone must be reasonable. Otherwise, in the case of a severe degree of cystocele, the rim may slip down. The diaphragm is inserted before sexual intercourse and must remain in place for not less than 6
hours after sexual intercourse. A spermicidal jelly is always used along with the diaphragm. The diaphragm holds the spermicidal over the cervix. Side effects are practically nil. Failure rate for the diaphragm with spermicidal vary between 6 to 12 per 100 women. (WHO, 2002).

The primary advantage of the diaphragm is the almost total absence of risks and medical contraindications. While disadvantages were initially a physician or other trained person will be needed to demonstrate the technique of inserting the diaphragm into the vagina and to ensure a proper fit. After delivery, it can be used only after involution of the uterus is completed. Practice at insertion, privacy for this to be carried out and facilities for washing and storing the diaphragm preclude its use in most Indian families, particularly in the rural areas. Therefore, the extent of its use has never been great. (Parks, 2010)

If the diaphragm is left in the vagina for an extended period, there is a remote possibility of a toxic shock syndrome, which is a state of peripheral shock requiring resuscitation. Variations of the diaphragm include the cervical cap, vault cap and the vimule cap. These devices are not recommended in the National Family Welfare Programme. (Hofmann, 2000).
2.2.4 Vaginal sponge

Another barrier device employed for hundreds of years are the sponge soaked in vinegar or olive oil, but it is only recently one has been commercially marketed in USA under the trade name for the sole purpose of preventing conception. It is a small polyurethane foam sponge measuring 5 cm x 2.5 cm, saturated with the spermicidal, nonoxynol-9. The sponge is far less effective than the diaphragm, but it is better than nothing (42). The failure rate in parous women is between 20 to 40 per 100 women-years and in nulliparous women about 9 to 20 per 100 women-years. (Hofmann, 2000).

2.2.5 Chemical methods

In 1960 before the advent of IUDs and oral contraceptives, spermicides (vaginal chemical contraceptives) were used widely. They comprise four categories. (Belky Raymond 2002).

Foams: foam tablets, foam aerosols, creams, jellies and pastes - squeezed from a tube, suppositories - inserted manually, and soluble films - C-film inserted manually.

The commonly used modern spermicides are “surface-active agents” which attach themselves to spermatozoa and inhibit oxygen uptake and kill sperms. The main drawbacks
of spermicides are: They have a high failure rate, they must be used almost immediately before intercourse and repeated before each sex act, they must be introduced into those regions of the vagina where sperms are likely to be deposited and that may cause mild burning or irritation, besides messiness. The spermicides should be free from potential systemic toxicity. It should not have an inflammatory or carcinogenic effect on the vaginal skin or cervix. No spermicide which is safe to use has yet been found to be really effective in preventing pregnancy when used alone. Therefore, spermicides are not recommended by professional advisers. They are best used in conjunction with barrier methods. Recently there has been some concern about possible teratogenic effects on fetuses, following their use. However, this risk is yet to be confirmed. (Hofmann, 2005).

2.2.6. Intra – Uterine Device

2.2.6.1 Types of Intrauterine Device (IUD)

There are two basic types of IUD: non-medicated and medicated. Both are usually made of polyethylene or other polymers; in addition, the medicated or bioactive LUDs release either metal ions (copper) or hormones

The non-medicated or inert RIDs are often referred to as first generation IUDs. The copper IUDs comprise the
second and the hormone—releasing IUDs the third generation IUDs. The medicated IUDs were developed to reduce the incidence of side-effects and to increase the contraceptive effectiveness. However, they are more expensive and must be changed after a certain time. (WHO 2003). Shows different types of RIDs currently in use. In India, under the National Family Welfare Programme, Cu–T–200 B is being used. From the year 2002, Cu–T–380 A has been introduced in the programme. Govt. of India (2003),

2.2.6.2 First Generation Intrauterine Device (IUD)

The first generation IUDs comprise the inert or non-medicated devices, usually made of polyethylene, or other polymers. They appeared in different shapes and sizes — loops, spirals, coils, rings, and bows. Of all the models, the Lippes Loop is the best known and commonly used device in the developing countries. (Zipper, 2004)

2.2.6.3 Lippes Loop

Lippes Loop is double-S shaped device made of polyethylene, a plastic material that is non-toxic, non-tissue reactive and extremely durable. It contains a small amount of barium sulphate to allow X-ray observation. The Loop has attached threads or “tail” made of fine nylon, which
project into the vagina after insertion. The tail can be easily felt and is a reassurance to the user that the Loop is in its place. The tail also makes it easy to remove the Loop when desired. The lippes Loop exists in four sizes A, B, C, and D, the batter being the largest. A larger sized device usually has a greater anti-fertility effect and a lower expulsion rate but a higher removal rate because of side-effects such as pain and bleeding. The larger Loops (C and D) are more suitable for IUD tiparous Women. (Clive. 2003).

2.2.6.4. Second generation IUDs

It occurred to a number of research workers that the ideal UD can never be developed simply as a result of obtaining things in the usual shape or size. A new approach was tried in the 1970 by adding copper to the IUD. It was found that metallic copper had a strong anti-fertility effect. The addition of copper has made it possible to develop smaller devices which are easier to fit, even in nulliparous women. A number of copper bearing devices are now commercially available. The newer copper devices are significantly more effective in preventing pregnancy than the earlier copper ones or the nert IUDs. The newer copper IUDs - Multiload devices and iariants of the T device-offer the further advantage of having an effective life of at least 5 years. They can be left in Place safely for the time, unless
specific medical or personal reasons call for earlier removal. (Zipper, 2004).

Advantages of copper devices were low expulsion rate, lower incidence of side-effects. e.g., pain and bleeding, easier to fit even in nulliparous women, better tolerated by nulliparous, increased contraceptive effectiveness and effective as post-coital contraceptives, if inserted within 3-5 days of unprotected-intercourse. (Parks, 2010)

2.2.6.5 Third Generation IUDs

A third generation of IUDs-based on still another principle, i.e., release of a hormone have become available on a limited scale. The most widely used hormonal device is progestasert, which is a T-shaped device filled with 38 mg of progesterone, the natural hormone. The hormone is released slowly in the uterus at the rate of 65 mcg daily; it has a direct local effect on the uterine lining, on the cervical mucus and possibly on the sperms. Because the hormone supply is gradually depleted, regular replacement of the device is necessary. Another hormonal device LNG-20 (Marina) is a T-shaped JUD releasing 20 mcg of levonorgestrel (a potent synthetic steroid); it has a low pregnancy rate (0.2 per 100 women) and less number of ectopic pregnancies. Long-term clinical experience with levonorgestrel releasing IUD has shown to be associated
with lower menstrual blood loss and fewer days of bleeding than the copper devices. The levonorgestrel releasing IUD has an effective life of 10 years. The hormonal devices would be particularly valuable for women in developing countries in who excess blood loss caused by inert devices have been shown to result in significant anemia. But these devices are more expensive, to be introduced on a wider scale. (Leon, 2000).

2.2.6.6 Mechanism of action of IUDs

At present, the most widely accepted view is that the Rid causes a foreign-body reaction in the uterus causing cellular and biochemical changes in the endometrial and uterine fluids, and it is believed that these changes impair the viability of the gamete and thus reduce its chances of fertilization, rather than its implantation. Medicated IUDs produce other local effects that may contribute to their contraceptive action. Copper seems to enhance the cellular response in the endometrial. It also affects the enzymes in the uterus. By altering the biochemical composition of cervical mucus, copper ions may affect sperm motility, capacitation and survival. Hormone-releasing devices increase the viscosity of the cervical mucus and thereby prevent sperm from entering the cervix. They also maintain high levels of progesterone in the endometrium and thus, relatively low levels of estrogen, thereby sustaining an endometrium unfavorable to implantation. (Gray, 2004).
The IUD is one of the most effective reversible contraceptive methods. The “theoretical effectiveness” of IUD is less than that of oral and injectable hormonal contraceptives. But since have longer continuation rates than the hormonal pills or injections, the overall effectiveness of and oral contraceptives are about the same in family planning programmes. (Liskin, 2006).

The IUD has many advantages as simplicity, i.e. no complex procedures are involved in insertion; no hospitalization is required, insertion takes only a few minutes, once inserted IUD stays in place as long as required, inexpensive, contraceptive effect is reversible by removal of IUD, virtually free of systemic metabolic side-effects associated with hormonal pills, highest continuation rate, and there is no need for the continual motivation required to take a pill daily or to use a barrier method consistently; only a single act of motivation is required. However, as with most contraceptive methods, the IUD can produce side-effects such as heavy menstruation and/or pain. (Leon, 2000)

2.2.6.7 Contraindications

Absolute as: suspected pregnancy, pelvic inflammatory disease, vaginal bleeding of undiagnosed etiology, cancer of the cervix, uterus or adnexia and other pelvic tambours and previous ectopic pregnancy. While relative as: anemia, menorrhagia, and history of PID since last pregnancy, purulent cervical discharge,
distortions of the uterine cavity due to congenital malformations, fibroids and unmotivated person. (WHO, 2005).

2.2.6.8 The ideal hid candidate

The Planned Parenthood Federation of America (PPFA) has described the ideal IUD candidate as a woman: Who has borne at least one child, has no history of pelvic disease, has a normal menstrual period, is willing to check the IUD tail, has access to follow-up and treatment of potential problems, and is in a monogamous relationship.

The federation does not, however, rule out women who do not conform to this profile. An important finding that has recently emerged is that the IUD is not a method of first choice for nulliparous women. They have more problems with IUD such as expulsions, low abdominal pain and pelvic infection, than other women. IUDs such as copper—T, which are smaller and more pliable are better suited to the small uterus of the nulliparous women, if they cannot use or accept alternative methods of contraception. In 1985, the American College of Obstetricians and Gynecologists stated that IUDs are “not recommended for women who have not had children or who have multiple partners, because of the risk of PID and possible infertility”. (Hutchings, 2005).
2.2.6.9 Side-effects and complications

Bleeding the commonest complain of women fitted with that increased vaginal bleeding. It accounts for 10-20 per cent of all IUD removals. The bleeding may take one or more of the following forms greater volume of blood loss during menstruation, longer menstrual periods mid-cycle bleeding. From the woman’s point of view, regular bleeding constitutes a source of personal inconvenience; from a medical point of view, the concern is son-deficiency anemia. Usually bleeding or spotting between periods settles within 1-2 months. (Liskin, 2008).

The patient with bleeding episodes should receive iron tablets ferrous sulphate 200 mg, three times daily. Studies have shown that the greatest blood loss is caused by ne larger non-medicated devices. Copper devices seem to cause s average blood loss. Menstrual blood loss is consistently lower HEH hormone-releasing devices are used. If the bleeding is heavy or persistent or if the patient develops anemia despite the iron supplement, the IUD should e removed. Since there is often a direct relationship between the bleeding and the size and configuration of the IUD. Loop to one of copper devices s advised. In most women, removal of the device is rapidly followed by a return to the normal menstrual pattern. If a subnormal pattern persists, a full gynecological examination is acquired to ensure that there is no pelvic pathology. (WHO, 2003).
Pain is the second major side-effect leading to IUD removal. WHO estimates that 15-40 per cent of IUD removals appear to be pain only. Pain may be experienced during IUD insertion for a few days thereafter, as well as during menstruation. (WHO, 2003). It may manifest itself in low back ache, cramps in the lower abdomen and occasionally pain down the thighs. These symptoms usually disappear by the third month. (Liskin, 2006).

During insertion, the pain is particularly severe, it is visible that the device may have been incorrectly placed in the uterus or there is a disparity in size between the devices the uterine cavity. Severe pain can also indicate a uterine rforation. Pain could also be due to infection. Pain is rare commonly observed in nulliparous and those who have ct had a child for a number of years (52, 53). Slight pain during insertion can be controlled by analgesics as aspirin and codeine. If pain is intolerable, the IUD mould is removed. In place of a Lippes Loop, a copper mouse can be tried. If the woman decides not to have an IUD, other method of contraception should be prescribed. (WHO, 2002).

Pelvic Inflammatory Disease (PID) is a collective term that produces acute, sub acute and chronic conditions of the tubes, uterus, connective tissue and pelvic titanium and is usually the result of infection. Risk associated ‘ IUD use is greater among women who have a number of usual partners. (Vassey, 2007).
Possibly because of greater potential for ensure to STDs. The greater risk of PID with IUD use may due to introduction of bacteria into the uterus during IUD exertion. Recent work has focused on PID as being caused by organisms ascending the IUD tail from the lower genital tract and tubes. The organisms include Gardnerella, aerobic streptococci, Bacteroides, Coliform bacilli and zinomyces. The risk of PID appears to be the highest in the few months after IUD insertion. The clinical manifestations include vaginal discharge, pelvic pain and tenderness, abnormal bleeding, chills and fever. In many cases, the infection may be asymptomatic or low grade. Even one or two episodes of PID can cause infertility permanently blocking the fallopian tubes. Therefore, young women should be fully counseled on the risks of PID before choosing an IUD. (Sparks, 2006).

When PID Is diagnosed, it should be treated promptly with broad-spectrum antibiotics. Most clinicians recommend removing IUD if infection does not respond to antibiotics within 24-48 hours. The risk of PID calls for proper selection of cases for IUD insertion, better sterilization and insertion techniques, and modified devices without tails. (Gray, 2001).

Many workers have reported uterine perforation by the IUD. The reported incidence ranges from 1 to 150 insertions (Padma Rao, 2005), depending upon the time of insertion, design of the IUD, technique of insertion and operator’s experience. In the hands
of trained physicians, it should not be higher than 0.3 per cent. (Snowden, 2001). The device may migrate into the peritoneal cavity causing serious complications such as intestinal obstruction. Copper devices produce an intense tissue reaction leading to peritoneal adhesions. Perforations occur more frequently when insertions are performed between 48 hours and 6 weeks postpartum, interestingly, the perforation may be completely asymptomatic and discovered only when searching for a missing IUD. The conclusive diagnosis of perforation is usually made by a pelvic X-ray. Evidence suggests that any IUD that has perforated the uterus should be removed because the risks of intra-abdominal inflammatory response leading to adhesions or perforation of organs within the abdominal cavity outweigh the risks associated with removal. (Hutchings, 2008).

Considering all IUDs together the actual use failure rate in the first year is approximately 3 per cent. It differs, in different types of IUDs. About 50 per cent of uterine pregnancies occurring with the device in situ end in a spontaneous abortion. (Hutchings 2008). Removal of the IUD in early pregnancy has been found to reduce this abortion rate by half. in women who continue the pregnancy with the device in situ, a 4 fold increase in the occurrence of premature births compared with other women has been reported. (WHO 2003). The earlier teaching that pregnancy with an IUD in situ is not unsafe is no longer accepted. Pregnancy with an IUD
should be regarded as a potential medical complication with the dangers of infection and spontaneous abortion. The options left open are. (Leon Speroff 2000). If the woman requests an induced abortion, this is legally available: If the woman wishes to continue with the pregnancy and the threads are visible, the device should be removed by gently pulling the threads. If the woman wishes to continue with the pregnancy and the threads are not visible, there should be careful examination for possible complications. If there are any signs of intrauterine infection and sepsis, evacuation of the uterus under broad spectrum antibiotic cover is mandatory. If the woman becomes pregnant with the IUD, she should be advised that only 25 per cent of pregnancies will have a successful outcome if the IUD is left in place. (Leon, 2000).

The possibility of ectopic pregnancy must be considered when an IUD user becomes pregnant. The ectopic pregnancy rate per 1000 women year in Levon Orgestrel TUD and Cu-T- 380A is about 0.2 as compared to non-contraceptive users, where it is about 3-4.5. With progesterone IUD it is higher- about 6.8, because its action is limited to a local effect on endometrium. With levonorgesfrel IUD the chances of ectopic pregnancy are less, because it is associated with a partial suppression of gonadotrophins with subsequent disruption of normal follicular growth and inhibition of ovulation in significant number of cycles. (Leon Speroff 2000). Women using IUDs should be taught to
recognize the symptoms of ectopic pregnancy - lower abdominal pain, dark and scanty vaginal bleeding or amenorrhea. Women at high risk of ectopic pregnancy - because of previous PID, tubal pregnancy or other ectopic pregnancy - should not use an IUD if other methods are feasible. (Hutchings, 2003).

Partial expulsion is diagnosed on speculum examination by observing the stem of the IUD protruding through the cervix. Clinical skill, timing of insertion and the age and parity of the user all influence the likelihood of expulsion. An expulsion usually occurs during the first few weeks following insertion or during menstruation. Expulsion is most common among young women, nulliparous women and women who have a postpartum insertion. Expulsion rates are somewhat lower for copper than for inert devices as many as 20 percent of all expulsions go undetected. In general, expulsion in itself is not a serious problem, but if expulsion is unnoticed, pregnancy may occur. (Hutchings, 2003).

Fertility does not seem to be impaired after removal of a device provided there has been no episode of PID, whilst the device was in situ. Over 70 pet cents of previous IUD users conceive within one year of stopping use. (Hutchings, 2004). It is now established that PID is a threat to woman’s fertility. There is no meaningful data available on the long-term use of IUD on subsequent fertility. (WHO, 2001).
There is no evidence to date that IUD use increases cancer risks. Nor is there any evidence of developmental abnormality or congenital malformations. Among the offspring of either former users of IUDs or those who conceive with an IUD in situ. (WHO, 2001).

Mortality associated with IUD use is extremely rare and has been estimated to be one death per 100,000 woman-years of use, the deaths usually following complications such as septic spontaneous abortion or ectopic pregnancy. In fact, IUD is safer than oral contraceptives in this regard, particularly in older or high-risk patients. (WHO, 2001). Of all the available spacing methods of contraception, IUDs are among the most effective, with an average pregnancy rate after one year of about 3-5 per 100 typical users. In comparison with other methods, the IUD is a relatively inexpensive form of contraception, because of its long life. Unlike use of barrier methods, IUD use is independent of the time of intercourse. IUDs have a relatively high continuation rates. Inert devices, as well as those with copper lack the systemic metabolic effects associated with oral pills. Women who cannot tolerate the adverse effects of oral plus may find the IUD an acceptable alternative; it does not interfere with lactation. However, because of expulsion and possible side effects like menstrual irregularities, IUDs should preferably be used in settings where follow-up facilities are available. Evidence to date shows
that for fully informed women, the IUD can provide a satisfactory, highly effective, relatively low-risk method of contraception. (Hutchings, 2010).

2.2.7 **Hormonal Contraceptives**

Hormonal contraceptives when properly used are the most effective spacing methods of contraception. Oral contraceptives of the combined type are almost 100 per cent effective in preventing pregnancy. They provide the best means of ensuring spacing between childbirth and another. More than 65 million in the world are estimated to be taking the “pill” of which about 9.52 million are estimated to be in India. (WHO, 2002)

2.2.7.1 **Gonadal steroids**

To physicians in general medicine, the term “steroid” refers to adrenocortical hormone, while to those in gynecology, it implies Gonadal steroids, i.e., estrogens and progestogens.

**a. Synthetic estrogens:** Two synthetic estrogens are used in oral contraceptives. These are ethinyl oestradiol and mestranol. Both are effective. In fact, methanol is inactive until converted into ethinyl oestradiol in the liver. (Wynn, 2010).

**b. Synthetic progestogens:** These are classified into three groups - pregnanes, oestranes and gonanes.

(i) Pregnanes these include megestrol, chiormadinone and medroxy-progesterone acetate. The pregnane progestogens are
now not recommended in oral contraceptives because of doubts raised by the occurrence of breast tumours in beagle dogs.

(ii) Oestranes: These are also known as 19-nortestosterones, e.g., norethisterone, norethisterone acetate, lynestrenol, ethynodiol diacetate and norethynodrel. These are all metabolized to norethisterone before becoming active. For some women, oestranes are more acceptable than gonanes.

(iii) Gonanes: The most favored gonane is levonorgestrel. (Wynn, 2010).

2.2.7.2 Classification of Hormonal contraceptives

Currently in use and/or under study may be classified as follows:

1. Oral pills: as combined pill, progestogens only pill (POP), post-coital pill, Once-a-month (long-acting) pill and male pill
2. Depot (slow release) formulations: as injectables, subcutaneous implants and vaginal rings (WHO, 2002)

A. ORAL PILLS

1. Combined pill

The combined pill is one of the major spacing methods of contraception. The “original pill” which entered into the market in the early 1960s contained 100-200 mcg of a synthetic estrogen and 10 mg of a progestogens. Since then, a number of improvements have been made to reduce the undesirable side-effects of the pill by
reducing the dose of both the estrogen and progestogens. At the present time, most formulations of the combined pill contain no more than 30-35 mg of a synthetic estrogen, and 0.5 to 1.0 mg of a progestogens. The debate continues about the minimum effective dose of the progestogens in the pill which will produce the least metabolic disturbances.

The pill is given orally for 21 consecutive days beginning on 3h day of the menstrual cycle (for a few preparations 20 or - ys are advised), followed by a break of 7 days during period menstruation occurs. When the bleeding occurs, s considered the first day of the next cycle. The bleeding occurs is not like normal menstruation, but is an episoderine bleeding from an incompletely formed endorñetrium by the withdrawal of exogenous hormones therefore called “withdrawal bleeding” rather than menstruation. The loss of blood which occurs is about half that ring in a woman having ovulatory cycle. If bleeding does the woman is instructed to start the second cycle week after the preceding one. Ordinarily, the woman struates” after the second course of pill intake. (Wynn, 2010)

2. Progesiogen-only pill (POP)

This pill is commonly referred to as “minipill” or “micropill”. It contains only progestogen, which is given in small doses throughout the cycle. The commonly used progestogens are norethisterone and levonorgestrel. The progestogen-only pills
never gained widespread use because of poor cycle control and an increased pregnancy rate. However, they have a definite place in modern-day contraception. They could be prescribed to older women for whom the combined pill is contraindicated because of cardiovascular risks. They may also be considered in young women with risk factors for neoplasia. The evidence that the progestogens may lower the high-density lipoproteins may be of some concern. (McEwan, 2009).

3. Post-coital contraception

Post-coital (or “morning after”) contraception is recommended within 72 hours of an unprotected intercourse. Two methods are available: IUD: The simplest technique is to insert an IUD, if acceptable, especially a copper device within 5 days. Hormonal: More often a hormonal method may be preferable. In India Levonorgestrel 0.75 mg tablet is approved for emergency contraception. It is used as one tablet of 0.75 mg within 72 hours of unprotected sex and the 2nd tablet after 12 hours of 1st dose. Or Two oral contraceptive pills containing 50 mcg of ethinyl estradiol within 72 hours after intercourse, and the same dose after 12 hours. Or four oral contraceptive pills containing 30 or 35 mcg of ethinyl estradiol within 72 hours and 4 tablets after 12 hours or Mifepristone 10 mg once within 72 hours. Post-coital contraception is advocated as an emergency method, for example, after unprotected intercourse, rape or contraceptive failure. Opinion is
divided about the effect on fetus, should the method fail. Although the failure rate for post-coital contraception is less than 1 per cent, some experts think a woman should not use the hormonal method unless she intends to have an abortion, if the method fails. There is no evidence that fetal abnormalities will occur. But some doubts remain. (Parks, 2010)

4. Once-a-month (long-acting) pill

Experiments with once-a-month oral pill in which quinestrol, a long-acting estrogen is given in combination with a short-acting progestogen, have been disappointing. The pregnancy rate is too high to be acceptable. In addition, bleeding tends to be irregular. (WHO, 2005).

5. Male pill

The search for a male contraceptive began in 1950. And Research is following 4 main lines of approach, preventing spermatogenesis, interfering with sperm storage and maturation, preventing sperm transport in the vas, and affecting constituents of the seminal fluid. Most of the research is concentrated on interference with spermatogenesis. An ideal male contraceptive would decrease sperm count while leaving testosterone at normal levels. But hormones that suppress sperm production tend to lower testosterone and affect potency and libido. (Ericsson, 2001).
A male pill made of gossypol - a derivative of cotton-seed oil, has been very much in the news. It is effective in producing azoospermia or severe oligospermia, but as many as 10 per cent of men may be permanently azoospermic after taking it for 6 months. Further gossypoi could be toxic. Animal studies show a narrow margin between effective and toxic doses. At present it does not seem that gossypol will ever be widely used as a male contraceptive. (Royal College, 2004).

2.2.7.3 Mode of action of oral pills

The mechanism of action of the combined oral pills is to prevent the release of the ovum from the ovary. This is achieved by blocking the pituitary secretion of onadotropin that is necessary for ovulation to occur. Progestogen-only preparations render the cervical mucus thick and scanty and thereby inhibit sperm penetration. Progestogens also inhibit tubal motility and delay the transport of the sperm and of the ovum to the uterine cavity. (WHO, 2002).

2.2.7.4 Effectiveness of Pills

Taken according to the prescribed regimen, oral contraceptives of the combined type are almost 100 per cent effective in preventing pregnancy (50). Some women do not take the pill regularly, so the actual rate is lower. In developed countries, the annual pregnancy rate is less than 1 per cent but in
many other countries, the pregnancy rate is considerably higher. Under clinical trial conditions, the effectiveness of progestogens-only pills is almost as good as that of the combination products. However, in large family planning programmes, the effectiveness and continuation rates are usually lower than in clinical trials. The effectiveness may also be affected by certain drugs such as rifampicin, phenobarbital and ampicillin. (WHO, 2002).

2.2.7.5 Risks and benefits

Historically oral contraceptives were introduced in the early 1960s. During the first decade of their use, investigations focused on the benefit of pregnancy prevention and risk of abnormal cycle bleeding. During the 1970s, following their widespread use it became apparent that the oral contraceptives had some adverse effects principally on the cardiovascular system (e.g., myocardial infarction, deep vein thrombosis, etc, and that these effects were associated with the oestrogen component of the pill. This led to a reduction of the oestrogen content of the pill until the current 30-35 mcg oral pills were developed. Until 1980, there was mention of the untoward effects of progestogens. (Parks, 2010)

2.2.7.6 Beneficial effects

The single most significant benefit of the pill is its almost percent effectiveness in preventing pregnancy and by removing
anxiety about the risk of unplanned. Apart from this, the pill has a number of none Contraceptive health benefits. (Mishall, 2010).

2.2.7.7 Adverse effects

Cardiovascular effects

Data from the earlier case control studies (1968, 1969) and the Oral Contraceptive Study of the RCGP (1968) and the Oxford Study in UK (1966, 1967) provided conclusive evidence that the use of the combined pill was associated with an excess mortality. Women who had used the pill were reported to have a 40 per cent higher death rate than women who had never taken the pill. Virtually, all the excess mortality was due to cardiovascular causes, that is myocardial infarction, cerebral thrombosis and venous thrombosis, with or without pulmonary embolus. (Stradel, 2003).

Carcinogenesis

A review prepared by WHO (WHO, 2009), concluded that there was no clear evidence of a relationship, either positive or negative between the use of combined pill and the risk of any form of cancer. However, the WHO Multicentre case-control study on the possible association between the use of hormonal contraceptives and neoplasia indicated a trend towards increased risk of cervical cancer
with increasing duration of use of oral contraceptives; this finding is being further explored. (WHO, 2007).

**Metabolic effects**

A great deal of attention has been focused recently on the metabolic effects induced by oral contraceptives. These have included the elevation of blood pressure, the alteration in serum lipids with a particular effect on decreasing high density lipoproteins, blood clotting and the ability to modify carbohydrate metabolism with the resultant elevations of blood glucose and plasma Insulin. (Knopp, 2003). These effects are positively related to the dose of the progestogen component. Family planning specialists have voiced a growing concern that the adverse effects associated with oral contraceptives could be a potential longrange problem for the users in that they may accelerate atlierogenesis and result in clinical problems such as myocardial infarction and stroke. (Kay, 2008).

**Common unwanted effects**

Breast tenderness: Breast tenderness, fullness and discomfort have been observed in women taking oral pills. ‘As engorgement and fullness are said to be dependent on estrogen; pain and tenderness are attributed to estrogen. I

Weight gain: About 25 per cent of users complain of hr gain.
It is usually less than 2 kg, and occurs during the 6 months of use. This is attributed to water retention, in case restriction of salt intake is usually effective. Headache and migraine: Migraine may be aggravated by the pill. Women, whose migraine requires ment with vasoconstrictors such as ergotamine, should take oral pills. Bleeding disturbances women using oral contraceptives may complain of bleeding or spotting in the early cycles. A few en may not have a withdrawal bleeding at the end of age. Women should be forewarned of these possibilities (WHO, 2003)

2.2.7.8 Contraindications

Absolute: Cancer of the breast or present history of thromboembolism, congenital hyperlipidaemia, abnormal uterine bleeding. Special problems requiring medical surveillance: Age-40 years; smoking and age over 35 years; chronic renal disease; epilepsy; migraine: e.g. mothers in the first 6 months; diabetes mellitus; bladder disease; history of infrequent bleeding, Drrhoea, etc. (WHO, 2002).

2.3 Medical supervision

Women taking oral contraceptives should be advised annual medical examinations. An examination before prescribing oral pills is required, to identify those with contraindications, and those with special problems that
require medical intervention or supervision. The need for depot formulations which are highly effective, reversible, long-acting and estrogenic-free for spacing pregnancies in which a single administration suffices for several months or years cannot be stressed. Injectable contraceptives, subdermal implants and vaginal rings come in this category. (Parks, 2010)

2.3.1 Injectable contraceptives

There are two types of injectable contraceptives. Progestogen only injectables and the newer once a-month combined injectables. (Parks, 2010)

2.3.1.1 Progestogen-only injectable

Thus far, only two injectable hormonal contraceptives - both based on progestogen - have been found suitable. They offer more reliable protection against unwanted pregnancies than the older barrier techniques. These are

a. DMPA (Depot-Medroxy Progesterone Acetate).

b. NET-EN (Norethisterone enantate).

a. Depot—Medroxy Progesterone Acetate (DMPA)

Depot-medroxyprogesterone acetate (DMPA or Depo-provera) has been in use since 1960s. The standard dose is an intramuscular injection of 150 mg every 3 months. It gives protection from pregnancy in 99 per cent of women
for at least 3 months. It exerts its contraceptive effect primarily by suppression of ovulation. However, it also has an indirect effect on the endometrium and direct action on the fallopian tubes and on the production of cervical mucus, all of which may play a role in reducing fertility. DMPA has been found to be a safe, effective and acceptable contraceptive which requires a minimum of motivation or none at all. Another advantage is that it does not affect lactation. Therefore in the experience of several countries, DMPA has proved acceptable during the postpartum period as a means of spacing pregnancies. The side-effects of DMPA are weight increase, irregular menstrual bleeding and prolonged infertility after its use (WHO, 2002).

b. NET-EN

Norethisterone Enantate (NET-EN) has been in use as a contraceptive since 1966. However, it has been less extensively used than DMPA. It is given intramuscularly in a dose of 200 mg every 60 days. Contraceptive action appears to include inhibition of ovulation, and progestogenic effects on cervical mucus. A slightly higher (0.4) pregnancy rate (failure rate has been reported as compared to DMPA. The initial injection of both DMPA and NET-EN should be given during the first 5 days of the menstrual period. This timing is very important to rule out the possibility of pregnancy,
both given by deep intramuscular injection into the gluteus maximums. The injection site should never be massaged following injections. Although compliance with regular injection intervals should be encouraged, both DMPA and Net-EN may be given two weeks early or two weeks late.

2.3.1.2 Side-effects

Both DMPA and NET-EN have similar side effects, the most common being disruption of the normal menstrual cycle, manifested by episodes of unpredictable bleeding, at times prolonged and at other times excessive. In addition, many women using DMPA or NET-EN may become amenorrheic. The unpredictable bleeding may be very inconvenient to the user; and amenorrhea can be alarming, causing anxiety. Studies showed that women discontinuing DMPA became pregnant some 5.5 months (average) after the treatment period. At 2 years, more than 90 per cent of previous users became pregnant. (WHO, 2006)

2.3.1.3 Contraindications

These include cancer of the breast; all genital cancer and abnormal uterine bleeding. Women usually should not start using a not only injectable if they have very high blood pressure 160 mm Hg or diastolic 100), certain conditions OF THE Heart, blood vessels, or liver including history of
stroke-attack and current deep vein thrombosis. Also, a breastfeeding a baby less than 6 weeks old should not resistance-only injectables into. Particular advantage of DMPA and NET-EN is highly effective, long-lasting and reversible fives. Checklists have been developed for auxiliaries for the screening of women who can be given contraceptive injectables without being examined by the: they can also be utilized in follow-up visits. (WHO, 2002)

2.3.1.4 Combined Injectable Contraceptives

These injectables contain a progestogen and an estrogen given at monthly intervals, plus or minus three days. Injectable contraceptives act mainly by suppression lation. The cervical mucus is affected, mainly by, and becomes an obstacle to sperm penetration. are also produced in endometrium which makes it is less suitable for implantation if fertilization occurs, which is unlikely. inicai trials, Cyclofem or Cyclo-provera and Mesigyna itcZH been found to be highly effective with 12 month a:es of 0.2 per cent or less for Cyclofem or Cycloprovera 4 per cent for Mesigyna. The side-effects are similar to en only injectables, but are much less. Data on ovulation and fertility are limited. The contraindications are confirmed or suspected; past or present evidence of thromboembelic cerebrovascular or coronary artery disease; focal
malignancy of the breast; and diabetes with vascular. Combined injectables are not suitable for ho are fully breast feeding until 6 months post-It is less suitable for women with risk factors for. (Parks, 2010)

2.4 Subdermal Implants

Population Council, New York has developed a implant known as Norplant for long-term. It consists of 6 silastic (silicone rubber) containing 35 mg (each) of levonorgestrel i’85). More devices comprise fabrication of levonorgestrel into 2 uds, Norplant (R)-2, which are comparatively easier and remove. The silastic capsules or rods are beneath the skin of the forearm or upper arm. C contraception is provided for over 5 years. The negative effect of Norplant is reversible on removal of a large multicentre trial conducted by International for Contraception Research reported a pregnancy rate of the main disadvantages, appear to be irregularities of menstrual bleeding and procedures necessary to insert and remove implants. (Parks, 2010)

2.5 Vaginal rings

Vaginal rings containing levonorgestrel have been found. The hormone is slowly absorbed through the mucosa, permitting most of it to bypass the digestive
system and liver, and allowing a potentially lower dose. The ring is worn in the vagina for 3 weeks of the cycle and removed for the fourth. (WHO 2008).

2.6 Family Planning

2.6.1 Definition

There are several definitions of family planning. An Expert Committee (1971) of the WHO defined family planning as of thinking and living that is adopted voluntarily, upon basis of knowledge, attitudes and responsible decisions by individuals and couples, in order to promote the health and welfare of the family group and thus contribute effectively social development of a country”. Expert Committee. WHO (2001) defined and described family planning as follows: “Family planning refers to practices that help individuals or couples to attain certain objectives: to avoid unwanted births, to bring about wanted births, to regulate the intervals between pregnancies, to control the time at which births occur in relation to the ages of the parent; and to determine the number of children in the family. (WHO, 2000).

2.6.2 Basic human rights

The United Nations Conference on Human Rights at Teheran in 1968 recognized family planning as a basic

On the World Population in August 1974 endorsed the same view and stated in its 'Plan of Action’ that “all couples and individuals have the basic human right to decide freely and responsibly the number spacing of their children and to have the information, education, and means to do so”. The World Conference of the International Women’s Year in 1975 also declared “the right of women to decide freely and responsibly on the number and spacing of their children and to have access to the information and means to enable them to exercise that right, (United Nations 2001).

Thus during the past few decades, family planning has emerged from whispers in private quarters to the focus of international concern as a basic human right, and a component of family health and social welfare. (Parks, 2010)

2.6.3 Scope of family planning services

Family planning is not synonymous with birth control more than mere birth control. A WHO Expert Committee (1970) has stated that family planning includes in its.

(1) The proper spacing and limitation of births.
(2) Advice or sterility.
(3) Education for parenthood.
(4) Sex educated.
(5) Screening for pathological conditions related to their reproductive system (e.g., cervical cancer).
(6) Genet counseling.
(7) Premarital consultation and examination.
(8) Carrying out pregnancy tests.
(9) Marriage counseling.
(10) The preparation of couples for the arrival of their first child.
(11) Providing services for unmarried mothers.
(12) Teaching home economics and nutrition, and.
(13) Providing adoption services. (WHO 2000).

These activities vary from country to country according to national objectives and policies with regard to family planning. This is the modern concept of family planning. (WHO, 2000).

2.6.4 Health aspects of family planning

Family planning and health have a two-way relationship. The principal health outcomes of family planning listed and discussed by a WHO Scientific Group on the Health Aspects of Family Planning. These can be summarized under.
a. **Women's health**: Maternal mortality, morbidity of women of childbearing age, nutritional status (weight changes, hemoglobin level, etc.) preventable complications pregnancy and abortion.

b. **Fetal health**: fetal mortality (early and late fetal death); abnormal development.

c. **Infant and child health**: Neonatal, infant and preschool mortality, health of the infant at birth (birth weight), and vulnerability to diseases.

**2.7 Women’s Health:**

Pregnancy can mean serious problems for many women. It may damage the mother’s health or even endanger her life. In developing countries, the risk of dying as a result of pregnancy is much greater than in developed countries. The risk increases as the mother grows older and after she has had 3 or 4 children. Family planning by intervening in the reproductive cycle of women, helps them to control the number, interval and timing of pregnancies and births, and thereby reduces maternal mortality and morbidity and improves health. The health impact of family planning occurs primarily through: The avoidance of unwanted pregnancies, limiting the number of births and proper spacing, and timing the births, particularly the first
and last, in relation to the age of the mother. It is estimated that guaranteeing access to family planning alone could reduce the number of maternal deaths by 25 per cent and child mortality by 20 per cent. (WHO, 2008).

2.8 The welfare concept

Family planning is associated with numerous receptions - one of them is its strong association in the people with sterilization. Others equate with birth. The recognition of its welfare concept came only and half after its inception, when it was named Family Programme. The concept of welfare is very comprehensive and is related to quality of life. The Family Welfare aims at achieving a higher end - that is, to -s the quality of life of the people. (Parks, 2010)

2.9 Small family norm

Small differences in the family size will make big differences in the birth rate. The difference of only one child per family over a decade will have a tremendous impact on the population growth. The objective of the Family Welfare Programme in India is that people should adopt the “small family norm” to stabilize the country’s population at the level of some 1,533 million by the year 2050. Symbolized by the inverted red triangle, the programme initially adopted
the model of the 3-child family. In the 1970s, the slogan was the famous. In view of the seriousness, of the situation, the 1980s campaign has advocated the 2-child norm. The current emphasis is on three themes: “Sons or Daughters - two will do”; “Second child after 3 years”, and “Universal Immunization”. A significant achievement of the Family Welfare Programme in India has been the decline in the fertility rate from 6.4 in the 1950s to 2.8 in 2006. The national target was to achieve a Net Reproduction Rate of ‘1’ by the year 2006, which is equivalent to attaining approximately the 2-child norm. All efforts are being made through mass communication that the concept of small family norm is accepted, adopted and woven into lifestyle of the people. (Parks, 2010)

2.10 Problem statement

Studies done worldwide indicated that the total fertility rate of a nation is inversely related to the prevalence rate of contraceptive use. The overall rapid change in the socio-demographic pattern of the Sudanese community, especially the changes concerned with women’s education and work will be an important factor in changing fertility beliefs and behaviors with more tendencies to birth spacing and consequently the use of the contraceptives. Nahedh (2005).
2.10.1 Worldwide studies

Contraceptive technologies are one of the most extraordinary advances of the twentieth century, enabling women and men to prevent unwanted pregnancy. They have also been criticized for giving rise to abusive practices in the name of population control. Some people have even argued that contraceptive methods which have a potential for abuse should not be developed. We maintain that eliminating research on such methods does not address the problem of abuse. Abuse has been defined as the violation of the worldwide use of canter to right to liberty and security of the person, which requires that an individual's free and informed consent be given before research is done on, or treatment is provided to, that individual. A number of international guidelines on the ethical conduct of research involving human subjects, and on the provision of medical services, emphasize the importance of informed consent as part of informed decision-making of individuals. Irrespective of the contraceptive methods already available or under development, much public education is needed to ensure that investigators, health providers, users of services and research participants fully understand what informed consent means, what it implies and how it should protect people. Non-governmental organizations and others can use the various national and international mechanisms that exist to investigate cases of alleged abuse and to bring redress in such situations. The
international community has a duty to foster and strengthen ethical practices in research and service provision of contraceptive methods. (Parks, 2010)

2.11 Previous studies

Contraceptive technologies are one of the most extraordinary advances of the twentieth century, enabling women and men to prevent unwanted pregnancy. They have also been criticized for giving rise to abusive practices in the name of population control. Some people have even argued that contraceptive methods which have a potential for abuse should not be developed. We maintain that eliminating research on such methods does not address the problem of abuse. Abuse has been defined as the violation of the world wide use of canter to right to liberty and security of the person, which requires that an individual's free and informed consent be given before research is done on, or treatment is provided to, that individual. A number of international guidelines on the ethical conduct of research involving human subjects, and on the provision of medical services, emphasize the importance of informed consent as part of informed decision-making of individuals. Irrespective of the contraceptive methods already available or under development, much public education is needed to ensure that investigators, health providers, users of
services and research participants fully understand what informed consent means, what it implies and how it should protect people. Non-governmental organizations and others can use the various national and international mechanisms that exist to investigate cases of alleged abuse and to bring redress in such situations. The international community has a duty to foster and strengthen ethical practices in research and service provision of contraceptive methods. (wynn, 2010)

Study In many developing countries, official family planning programmes began during the 1960s with the aim of reducing high fertility. However, in recent years, various Demographic and Health Surveys (DHS) report that women in developing countries have lower desired fertility than actual fertility, i.e. women are having more children than they want. This indicates that there is still an unmet need for family planning; there are a proportion of women of reproductive age who prefer to avoid or postpone childbearing but who are not using any method of contraception. Despite official family planning programmes being in existence for more than 40 years, the contraceptive prevalence rate (CPR) is still low in many countries. The optimum level for contraceptive prevalence is regarded as 80-85% as this level is quite consistent with replacement level fertility (approximately two children per women) i.e. this level of CPR will ensure that sufficient numbers of
children will be born and survive to maintain existing population levels. Although increased from the level seen in the 1960s (9%), according to the United Nations Population Division, the contraceptive prevalence for the developing world in 2007 was 61.7%, and there were huge variations in CPR within the developing countries. An unmet need for family planning can have many undesired consequences in the areas of health, population growth and development. In developing countries, unintended pregnancies (either mistimed or unwanted at the time of conception) are one of the major consequences of an unmet need for contraception. This contributes towards accelerated population growth by unwanted fertility and closely spaced births. Further, unintended pregnancies often lead to closely spaced pregnancies and child births, early child bearing, and abortions, which in turn lead to high maternal and infant mortality. Moreover, the need for family planning is generally high in societies where poverty, illiteracy, and gender inequality are high. In such societies, unintended and repeat pregnancies make it difficult for women to participate in economic development and self-development. This causes a cycle of ill health and poverty which, if uninterrupted, could transfer to future generations. Thus, there is a strong health rationale for addressing the unmet need for family planning services in developing countries and thereby contributing to the achievement of the United Nation’s Millennium Development Goals.
Although studies suggest that increasing the number of methods of contraception available to women (and their partners) increases contraceptive prevalence, it is important to examine the impact the contraceptives individuals have access to (either individually or in combination) have on contraceptive prevalence or unmet need for family planning, and ultimately on rates of unintended and unwanted pregnancies. Research suggests that the context in which contraceptives are available (and accessible) affects these outcomes. Hence, where possible, there is a need to examine the impact of different contraceptives (and combinations of contraceptives) on such outcomes in the context of each developing country. Systematic reviews have been conducted in this area, but this evidence has not been brought together, and has not always been examined taking into account contextual factors. An overview of Systematic Reviews will enable policy makers to identify those contraceptive methods. (www.dfid.gov.uk/r4d/.../Default.aspx).
3. MATERIALS AND METHODS

3-1 Study design

This descriptive cross-sectional community based study carried out to assess the perception of Sudanese women in primary health care in Khartoum state. Sudan about contraception and its relation to child health during the period from November to December 2011.

3-2 Study area

This study was carried out in primary health care units in Khartoum state, at Omdurman maternity hospital, and in Alahfad University hospital and total patient in Omdurman maternity hospital 15 patient daily and total patient in university Alahfad hospital 7 patient daily, provider health education and follow up and prevention services and treatment services.

3.3 Study Population

Women who attending to P.H.C centers (maternity department) at Omdurman maternity hospital and Alahfad University during the period from November to December 2011.

3.3.1 Inclusion Criteria

The women attending the selected P.H.C centers at maternity department for family planning services.
3.3.2 Exclusion Criteria

Other women’s attending PHC centers outside the selected department

3.4 Sample Size

The available women (100) at P.H.C in Omdurman maternity hospital and in Alahfad University during the period of the study from November to December 2011.

3.5 Sample technique

1. Permission was taken through official letters from the directors of primary health care centers at Omdurman maternity hospital and Alahfad University to carry out the study.
2. Polit study on 10 women was carried out to assess the validity of the tool used and modification was done.
3. Simple explanation was carried out to the study sample about the research topic and the sheeting that data was confidential.
4. Each woman filled the questionnaire under guidance of the researcher.

3.6 Data Collection tools

A structured interview questionnaire was designed by the researcher included the following.
• **Section 1**: socio-demographic data of the study sample, e.g. (age, sex, educational level, marital status, occupation, number of the children in the family).

• **Section 11**: closed end questions related to the women’s knowledge about the uses of contraceptive methods as (meaning, methods, benefits and complication of each method etc......).

**Section III**: Closed end questions regarding the benefits of contraceptive on their child health.

**3.7 Data analysis:**

The data collected were fed into computer for analysis and presentation. Data presentation was done using the suitable tables by number and percentage. Test of significance was done (Chi-square and the P. value).
4. RESULTS AND DISCUSSION

4.1 Results

Table (4.1) socio-demographic characteristics of the study sample (n=100).

<table>
<thead>
<tr>
<th>Mother Age</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 30 years</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>31 - 40 years</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>&lt; 40 years</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Mean +SD</strong></td>
<td><strong>1.48+0.627</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age at which the mother marriage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>less - 20 years</td>
<td>44</td>
</tr>
<tr>
<td>21 - 30 years</td>
<td>53</td>
</tr>
<tr>
<td>31 - 40 years</td>
<td>3</td>
</tr>
<tr>
<td><strong>Mean+ SD</strong></td>
<td><strong>1.59+0.552</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Women Job</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working</td>
<td>22</td>
<td>22%</td>
</tr>
<tr>
<td>House wife</td>
<td>78</td>
<td>78%</td>
</tr>
<tr>
<td>Educational level</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Illiterate</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Primary school</td>
<td>21</td>
<td>21%</td>
</tr>
<tr>
<td>Secondary school</td>
<td>24</td>
<td>24%</td>
</tr>
<tr>
<td>University</td>
<td>52</td>
<td>52%</td>
</tr>
<tr>
<td>Number of person in the family</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>3 to 5 persons</td>
<td>58</td>
<td>58%</td>
</tr>
<tr>
<td>6 to 9 persons</td>
<td>40</td>
<td>40%</td>
</tr>
<tr>
<td>10 to and more</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Mean +SD</strong></td>
<td><strong>1.44+0.538</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 showed. That the age of the women attending PHC ranged between 20 - 30 years (59%) and the age of marriage ranged between 21 - 30 years (53%) and also showed that (78%) of women not working and (52%) of study sample was highly educated (university level & post graduate). More than half of the sample (58%) the family consisted of 3 to 5 persons.
Table (4.2): Distribution of the subjects regarding number of pregnancies and the duration between each pregnancy (n=100).

<table>
<thead>
<tr>
<th>Number of Pregnancies</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>70</td>
<td>70%</td>
</tr>
<tr>
<td>5-8</td>
<td>26</td>
<td>26%</td>
</tr>
<tr>
<td>More than 8</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Mean +SD</td>
<td></td>
<td>1.34 ±.555</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration between each pregnancy</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is the first pregnancy</td>
<td>8</td>
<td>8%</td>
</tr>
<tr>
<td>&gt;2 years</td>
<td>36</td>
<td>36%</td>
</tr>
<tr>
<td>2-3 years</td>
<td>45</td>
<td>45%</td>
</tr>
<tr>
<td>&lt;3 years</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td>Mean +SD</td>
<td></td>
<td>1.73 +.665</td>
</tr>
</tbody>
</table>

Table (4.2) showed (70%) of women their of pregnancy ranged between 1 – 4 time and the common periods between each pregnancy from 2 to 3 years (45%).
Table (4.3) Knowledge of women about family planning meaning and their acceptance in the study sample (n=100).

<table>
<thead>
<tr>
<th><strong>Items</strong></th>
<th><strong>NO</strong></th>
<th><strong>%</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spacing between pregnancy</td>
<td>82</td>
<td>82%</td>
</tr>
<tr>
<td>Limitation of birth</td>
<td>18</td>
<td>18%</td>
</tr>
<tr>
<td>Mother acceptance to family planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accept</td>
<td>97</td>
<td>97%</td>
</tr>
<tr>
<td>Not accept</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Reasons of not accept the family planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear from infertility</td>
<td>1</td>
<td>33.3%</td>
</tr>
<tr>
<td>Desire to more child</td>
<td>2</td>
<td>66.7%</td>
</tr>
</tbody>
</table>

**Table (4.3)** showed that the majority of women (82%) identified the family planning as spacing between pregnancies and almost all acceptance the family planning (97%), (3%) of the women not concept the family planning methods.
Table (4.4): Distribution of the sample according to their husband accepting family planning methods (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons of husband reject the family planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need more children</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>In effectiveness of the family planning methods</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>The husband accept the family planning</td>
<td>NO</td>
<td>%</td>
</tr>
<tr>
<td>Accept</td>
<td>93</td>
<td>93%</td>
</tr>
<tr>
<td>Not accept</td>
<td>7</td>
<td>7%</td>
</tr>
</tbody>
</table>
Table (4.5): The benefits of family planning in the study sample (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit of family planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economical values</td>
<td>37</td>
<td>37%</td>
</tr>
<tr>
<td>Healthy for both child and mother</td>
<td>97</td>
<td>97%</td>
</tr>
<tr>
<td>Social values</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td>Political values</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Educational values</td>
<td>46</td>
<td>46%</td>
</tr>
</tbody>
</table>

This table showed that the essential benefit of family planning for the (97%) were healthy for women and their children followed by (37%) for economical values.
Table (4.6): The source of information about contraceptives in the study sample (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sources of information about contraceptives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health educated from books</td>
<td>33</td>
<td>33%</td>
</tr>
<tr>
<td>Health staff members</td>
<td>12</td>
<td>12%</td>
</tr>
<tr>
<td>Mass-media</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Relatives</td>
<td>40</td>
<td>40%</td>
</tr>
</tbody>
</table>

This table showed that (33%) of information about contraceptives due to the health educated from books and (15%) from mass-media, while (40%) of the women their information acquired from the relatives.
Table (4.7): Distribution of the study sample according to the method of contraceptives used (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses of contraceptives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>90</td>
<td>90%</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Methods used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hormonal</td>
<td>81</td>
<td>81%</td>
</tr>
<tr>
<td>barrier</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Natural</td>
<td>33</td>
<td>33%</td>
</tr>
<tr>
<td>Chemical</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Mechanical</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>Permanents</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

More than answer was observed.

The table showed that (90%) of women used family planning methods and only (10%) of them not used any family planning. 81% of the women used the hormonal method, followed by (19%) used the mechanical methods.
Table (4.8): The complication associated with contraceptives methods in the study sample (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>NO</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication of contraception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>59</td>
<td>59%</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>31%</td>
</tr>
</tbody>
</table>

Table (4.8) showed that about (59%) of the sample developed complication due to use the family planning method this is high percentage and 31% of mother use this method without complication.
Table (4.9): Explained the correlation between women education and using of family planning methods in the study sample (n=100).

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Use of family planning</th>
<th>Not use of family planning method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Primary school</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Secondary school</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>University</td>
<td>46</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Chi-squired</td>
<td>0.337</td>
<td>df, 3</td>
</tr>
<tr>
<td>p.value</td>
<td>0.05</td>
<td></td>
</tr>
</tbody>
</table>

This table explained more women that used the family planning methods were university level (46%) followed by secondary school (23%). The table showed that there was a strong statistical relationship between women education and family planning methods. Since P.value 0.05, chi-squire 0.337 and Df. 3.
Table (4.10): The relationship between source of information and birth spacing the study sample (n=100).

<table>
<thead>
<tr>
<th>Source of information</th>
<th>&gt; 2 years</th>
<th>2 - 3 years</th>
<th>&lt; 3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>10</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Work in health filed</td>
<td>3</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Information system</td>
<td>8</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>From the relative</td>
<td>15</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>45</td>
<td>11</td>
</tr>
<tr>
<td>Chi-square</td>
<td>1.680</td>
<td>df, 2</td>
<td>p.value 0.05</td>
</tr>
</tbody>
</table>

Table (4.10) showed that there was a string significances statistical relationship between the source of information and period between every child women education find that the mother work in health filed more aware about spacing 3 mother the interval less than 2 years but the information system is not effective the 8 mothers the interval less than 2 years. Since P.value 0.05, chi-squire 1.680 and Df. 2.
Table (4.11): Relationship between contraceptives and its effect child health

<table>
<thead>
<tr>
<th>Contraceptives</th>
<th>Growth and development</th>
<th>Education</th>
<th>Good health</th>
<th>Non role in child health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condon</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Safe period</td>
<td>60</td>
<td>10</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Pills</td>
<td>50</td>
<td>10</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Breast feeding</td>
<td>40</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Hormonal</td>
<td>50</td>
<td>10</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Others</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Table (4.11) showed that there was a strong relationship between the contraceptives and child health at the level of significances P.value 0.05, Df. 2 and chi-square 0.861 the duration of pregnancy has a pig percentage (60%).
Table (4.12): Distribution of the study sample according to their opinion about contraceptives and helping in child health (n=100).

<table>
<thead>
<tr>
<th>Contraceptives its helping in child health</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good growth and development</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>Good health</td>
<td>40</td>
<td>40%</td>
</tr>
<tr>
<td>Better education</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>Have no relation</td>
<td>10</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table (4.13) showed that the contraceptives helped in child health with percentage (40%) while only (10%). reported that their was no relation.
Table (4.13): Distribution of the study sample according to contraceptives affects breast feeding and child health (n=100).

<table>
<thead>
<tr>
<th>contraceptive affect breast feeding</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>No</td>
<td>80</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>child health affect negative by contraceptives</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>No</td>
<td>90</td>
<td>90%</td>
</tr>
</tbody>
</table>

This table showed that the contraceptive can affect negatively breast feeding (20%), and (10%) affect negative for child health.
4.2 Discussion

Issues relating to family planning are highly relevant to pediatrics. It would seem that family size and birth spacing, if practiced by all, will yield substantial child health benefits. Birth spacing and family size are important factors in child growth and development. The child likely receives his full share of love and care, including nutrition and needs when the family size is small and births are properly spaced. In addition family planning is effective prevention against malnutrition. Children living in large-sized families have an increase in infection, especially infectious gastroenteritis, respiratory and skin infections. (Parks, 2010).

The aim of this study was to assess the women’s perception regarding contraceptives and its relation to child health at primary health care centers in Khartoum state, Sudan. The sample size consisted of 100 women selected randomly from the PHC in Omdurman maternity hospital and Alahfad University during the period of the study from September to December 2011.

The results found a limited role of the health workers in providing the information about contraception, which reflected the conservative culture of the awareness and use of contraceptives among Sudanese Women attending
primary health care centers in Khartoum community and the family, as shown in table (4.1) that the age of the women attending PHC ranged between 20 - 30 years (59%) and the age of marriage ranged between 21 - 30 years (53%).

Table 4.2 showed that (78%) of women not working and (52%) of study sample was highly educated (university level & post graduate). More than half of the sample (58%) the family consisted of 3 to 5 persons.

Recent population surveys have reported that in 37 out of 60 developing countries surveyed, 95% of married women knew at least one contraceptive method (modern or traditional). And this result contradicted with this study where the results showed that 82% of the women (Table 4.4). So, the knowledge gap restricts women's choice for the use of contraceptive, as mentioned the international contraceptive knowledge and awareness study. (Farrag, 2002).

Two opposite attitudes regarding contraceptive use were detected by the participants during the current study as shown in table (4.4) one hand a very high acceptance rate of the participants and their husbands for the use of contraceptives for birth spacing, mainly to preserve maternal and child health.
A period from 2-3 years was the preferred birth interval. This period coincides with the Islamic teachings regarding the birth rate. Few recent studies have discussed the birth intervals among the Sudan population and have concluded similar results. The first study was a house-to-house survey conducted in a rural area north west of Riyadh in the year 1995, and reported the existing mean birth interval of 31.2±10.1 months that increased with the increasing age of the women. (WHO, 2002).

The other studies, conducted in Alkhobar, the urban Eastern Region, reported that the existing mean preceding and succeeding birth intervals of studied children were 26.2 and 28.2 months respectively.

A birth interval of 2-3 years was indicated as the preferred interval by another study. One study that used Demographic and Health Survey (DHS) program data from 18 countries found that children born 3 years or more after a previous birth were healthier at birth and more likely to survive at all stages of infancy and childhood through age five.

On the other hand the participants that responded to the question about the number of children they intended to have, the majority indicated to have at least 5 and up to 10 children, which means that the woman would not stop
having children throughout her reproductive life. Although they accept the concept of birth spacing and the use of contraceptives in order to have the desired interval, this does not mean having fewer children. This high fertility attitude was attributed to the indigenous culture in favor of large families; it also coincides with the Islamic religion which rejects the concept of limiting the family size. However, globally, a growing percentage of married women want to stop having many children; the family size that women consider ideal is falling. (WHO, 2002)

The present study results showed 81% of the participants as shown in table (4.8) used modern as contraceptives as hormonal method for at least one continuous year, which was a higher percentage of contraceptive use than the recent reports about Sudan.

The choice of contraceptives was free among the Sudanese population who obtained a different variety of contraceptive health services. Moreover, the contraceptives are available over the counter in the State. This might add to underestimation of the realistic contraceptives use. However, the user’s rates of the studied participants were still lower than the world reported rates (63.1%) and lower than those reported in developed countries (67.4%). Children are a blessing from God was the main reason for
the refusal of contraceptives use. This reflects the impact of the Islamic culture; however, table (4.8) nearly one third of the participants raised the question of the impact of contraceptives use on women’s health and marital life, which directs our attention to the misconceptions regarding contraceptives in the culture.

Study in many developing countries, official family planning programs began during the 1960s with the aim of reducing high fertility. However, in recent years, various Demographic and Health Surveys (DHS) report that women in developing countries have lower desired fertility than actual fertility, i.e., women are having more children than they want. This indicates that there is still an unmet need for family planning; there are a proportion of women of reproductive age who prefer to avoid or postpone childrearing but who are not using any method of contraception. (WHO, 2002)

This variation could be attributed to the variation in the local culture of these countries towards contraceptive use. Concerning the ranking of the most commonly used methods, our results are consistent with the reported data about Saudi Arabia4 in which oral contraceptives came on the top followed by intrauterine devices (IUDs), female
sterilization and the use of the male condom. However, female sterilization was not reported in this study.

In developing countries, four modern contraceptive methods, oral contraceptives, IUDs, injectables, and female sterilization are the most widely used methods among married women.

The last two methods were not reported by our participants, which could be attributed to the participants’ traditions and Islamic culture that accept only temporary delay of pregnancy and reject permanent sterilization. The official data reports are usually dependent on hospital based records.

Concerning the male use of contraceptives, the results showed a discrepancy between the husbands’ acceptance of the birth spacing and the low use of male contraceptives (condoms), as Jordan table which could be attributed to the traditional cultures or may reflect underreporting due to shy users.

In developing countries, condoms and male sterilization are among the least used of all contraceptive methods. The reverse is true in developed countries, in which condoms are the major method of family planning. However, the recent United Nation’s report (2007) about
contraceptive use worldwide showed more use of condoms among the Saudi population and to be the second most common used method after pills, which matches the trend of developed countries.

There was a strong association between the participants’ age (30+ years) and the use of contraceptives. This could be suggested that the mother may be satisfied by the number of children she has had and in design feels that she for more spacing for preserving her health. This notion was consistent with the results of the indigenous study in a rural area near Riyadh. Nahedh NNA (2002).

Which reported that parity and current age of the mother were the only significant predictors of birth intervals? The use of modern contraceptive methods has been successfully promoted for child spacing and limiting family size among older married women with children in developing countries.

The use of contraceptives by women younger than 30 years could be attributed to their desire to complete their studies or to keep working which were the reported reasons for contraceptives use by more than one third of the study participants.
The results of this study were also consistent with published reports showing more contraceptives use among women at the higher economic level. 

Significantly more use of contraceptives was reported by the participants with higher education, better knowledge, and those working. It was confirmed that education generally exerts a negative influence on fertility; secondary analyses of the data of one Egyptian Demographic Health Survey (EDHS) documented the negative impact of maternal lack of education on the low use of contraceptive services. Through education, women have acquired the cognitive and communication skills that shape their attitudes, family style and interactions with the modern world. These appeared in a strong association between the use of services and education (table 4.10).

The secondary analysis of a sub-sample of a national demographic survey (Zaire, 2002) concluded that age at marriage and a woman’s education are apparently the most important determinants of low fertility behavior. (Nahedh NNA, 2009).

Multivariate analysis revealed women’s work and education had an overwhelming impact over other variables introduced in the model. A rapid change in the community in the last decade with great expansion in
women’s education, and consequently women’s work could explain the evolution of these two variables as the main determinants of contraceptive use. (Nahedh NNA, 2007).

This study revealed that there is a strong relationship between the family planning and child health the duration of pregnancy has a pig percentage (60%). Table (4.12)
5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The results concluded that most of women were adequate in their knowledge about contraceptive methods and the participants showed high intention to use contraceptives to prolong birth intervals. The majority of women received their knowledge from relative. Also there were a positive attitude in their perception regarding the relation between contraceptive use and their children health.
5.2. Recommendations

The STUDY recommended the following:

- Sustained efforts to raise awareness and motivation of the women for proper contraceptive by education programs and communication with the couples at primary health care center by competent community nurses HEALTH WORKER.
- Encourage continuous supervision for women that using contraceptive methods through follow-up visits.
- National protocol on contraceptive methods should be formulated to be standard for use.
- Mass-media in local Sudan Television Channels should enroll this topic to improve the Sudanese women perception about contraceptives and its relation to their children's health.
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بسم الله الرحمن الرحيم

استمارة إستبيان لجمع بيانات لتقويم إدراك السيدات السودانيات عن
استعمال موائع الحمل وعلاقتها بصحة إطفالهن بوحدة الرعاية الصحية
الأولية بجامعة الأحفاد ووحدة الرعاية الصحية الأولية بمستشفى الولاية
أم درمان. ولاية الخرطوم. السودان.

اختي أرجو كريم تفضلك بملء هذه الاستمارة بغرض أجراء بحث
تكميلي لنيل درجة الماجستير في تقييم صحة المجتمع. علماً بإن هذه
المعلومات سوف تستخدم لغرض البحث فقط.

أ) بيانات شخصية:

1/ العمر الحالي:
2/ العمر عند الزواج

أ) أقل من 20 سنة ( )
(   ) من 21-30 سنة ( )
(   ) من 31-40 سنة ( )
(   ) فوق 40 سنة ( )

3/ المهنة: أ) تعمل ( )
(   ) ربة منزل ( )

4/ المستوى التعليمي:

أ) غير متعلمة ( )  
(   ) تعليم أساسي ( )
(   ) تعليم ثانوي ( )
(   ) تعليم جامعي ( )

5/ عدد أفراد الأسرة:

أ) من 2 - 5 أفراد ( )
(   ) من 6 - 9 أفراد ( )
(   ) أكثر من 10 أفراد ( )
6/ عدد مرات الحمل: 

7/ عدد الأطفال في الأسرة:

<table>
<thead>
<tr>
<th>العمر</th>
<th>عدد الأطفال</th>
</tr>
</thead>
<tbody>
<tr>
<td>أقل من 5 سنوات</td>
<td></td>
</tr>
<tr>
<td>من 6 - 10 سنوات</td>
<td></td>
</tr>
<tr>
<td>أكبر من 10 سنوات</td>
<td></td>
</tr>
</tbody>
</table>

8/ ما هي المدة (الفترة) التي تفصل بين كل حمل وآخر:
   (أ) أقل من 2 سنة (ب) من 2-3 سنة (ج) أكثر من 3 سنة

ب- معرفة إدراك واتجاهات السيدات عن تنظيم الأسرة والوسائل المستخدمة

1: لماذا يعني لنا تنظيم النسل
   (أ) تباعد الأحمال (ب) تحديد النسل (ج) أخرى تذكر

2: ما مدى تقبلك لفكرة تنظيم الأسرة:
   (أ) أوافق (ب) لا أوافق

3: إذا كان الجواب لا أوافق الأسباب هي
   (أ) خوف من العقم والأعراض الجانبية (ب) لا أعلم عن وسائل تنظيم الأسرة
ج) عدم فعالية وسائل تنظيم الأسرة
( )

د) الرغبة في كثرة الأولاد
( )

ه) أخرى اذكرها

إذا كن الجواب لا ما هي الأسباب:

أ) يريد كثرة الأطفال
( )

ب) يعتقد بحرية تحدد النسل
( )

ج) ليس مقتنع بفعالية الوسيلة
( )

د) لا يرضى بالوسيلة المتاحة
( )

ه) أخرى اذكرها

إذا هي الفوائد المرجوة من استخدام وسائل تنظيم الأسرة:

أ) فوائد اقتصادية
( )

ب) فوائد صحية للام
( )

ج) فوائد صحية للطفل
( )

د) فوائد صحية للام والطفل
( )

ه) فوائد سياسية
( )

و) فوائد تعليمية
( )

ز) فوائد اجتماعية
( )

ح) أخرى اخرى
( )
7: ما هو مصدر معلوماتك عن موضوع تنظيم الأسرة

(أ) منفعة صحية
(ب) الفريق الصحي
(ج) وسائل الإعلام
(د) الأقارب والآهل
(ه) أخرى ذكرت

8: في رأيك ما هي الطرق الأكثر امتنانًا لانجاح طفل سليم

(أ) اللوب
(ب) حبوب منع الحمل
(ج) الأبر
(د) الواقي الذكري
(ه) الكبسولة
(و) الرضاعة
(خ) فترة الأمان
(ذ) اخرى ذكرت

9: هل في رأيك توجد وسيلة منع حمل تؤثر على الام اثناء الرضاعة

(أ) نعم
(ب) لا

إذا كن الاجابة نعم في رأيك ما هي الوسيلة التي تقلل لـ اثناء الرضاعة

(أ) لا يوجد
(ب) حبوب منع الحمل
(ج) الأبر
(د) الكبسولة
(و) اخرى ذكرت
(هـ) اللوب
10: هل صحة طفلك تأثرت سلبًا نتيجة لاستخدامك وسيلة لمنع الحمل قبل الإنجابه

أ) نعم ( ) ب) لا ( )

11: الي أي مذي تساعد وسائل منع الحمل في صحة الأطفال

أ) نمو وتطوير أفضل ( ) ب) تعليم أفضل ( )

ج) صحة جيدة ( ) د) لا دور لها دور في صحة الطفل ( )

هـ) اخري يذكر ( ) و) لا أعرف ( )

12: هل تسبب استخدام وسيلة منع الحمل في تأخر الحمل إذا رغبت فيه ذلك بعد نزوع هذه الطريقة

أ) نعم ( ) ب) لا ( )

3- بيانات تطبيقية

1: هل تستخدمين أي وسيلة لتنظيم الأسرة؟

أ) نعم ( ) ب) لا ( )
2: إذا كانت الإجابة بنعم فما هي الوسيلة المستخدمة والفترة الزمنية لاستخدامها؟

<table>
<thead>
<tr>
<th>فترة الزمنية</th>
<th>لا</th>
<th>نعم</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1 حبوب منع الحمل</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-2 الإبر</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-3 اللولب</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-4 الواقي الذكري</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-5 الكبسولة تحت الجلد</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-6 الرضاعة الطبيعية</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-7 الوسائل الموضعية</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-8 فتة الأمان</td>
<td></td>
<td></td>
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3: هل حصلت لديك أي مضاعفات خلال استخدامك وسائل تنظيم النسل؟

( ) نعم ( ) لا
إذا كانت الإجابة بنعم ما هي المضاعفات

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4/هل هذه المضاعفات أعاقت عن تربية أولادك بصورة جيدة

أ) نعم ( )
ب) لا ( )

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