African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 7, Issue 4, 2024 (pp. 175-186)
www.abjournals.org

SUBDERMAL CONTRACEPTIVE DEVICE: THE IMPLICATIONS FOR REPRODUCTIVE HEALTH

Oparanma Florence Uche[1], Chinemere Onyema[2], and Damiete Maxwell Amachree[3]

[1]Department of Nursing Sciences, Faculty of Basic Medical Sciences, Rivers State University.
Email: uche.florence2015@gmail.com

[2]Department of Nursing Sciences, Faculty of Basic Medical Sciences, Rivers State University.
Email: Chinemere.onyema@ust.edu.ng

[3]Department of Nursing Sciences, Faculty of Basic Medical Sciences, Rivers State University.
Email: damietekp@gmail.com

Cite this article:

Oparanma, F. U., Onyema, C., Amachree, D. M. (2024), Subdermal Contraceptive Device: The Implications for Reproductive Health. African Journal of Health, Nursing and Midwifery 7(4), 175-186. DOI: 10.52589/AJHNM-UTD5GZQV

Manuscript History

Received: 27 Jun 2024

Accepted: 28 Aug 2024

Published: 29 Nov 2024

ABSTRACT: *The need to control population growth rate, meet families and improve health care status were among the reasons for the introduction of contraceptive devices such as subdermal implant. The effectiveness of subdermal devices tends to surpass other forms of contraceptive and family planning methods as it guarantees pregnancy prevention. This paper addresses contraceptive devices such as subdermal implant and the role in reproductive health to promote the use of this device. The advantages of these subdermal implants include the long-term contraceptive action, low dose of highly effective contraception, and quick reversal to fertility after the removal of implants. It explains the mechanism of action of subdermal implant as it can be implanted in the upper arm of a woman to exhibit long-term contraception. Some of the benefits of subdermal implant are that it lasts for 3-5 years, pregnancy can occur after removal, it does not affect breastfeeding and it is inexpensive and highly effective among others. The most common adverse effects of using subdermal implant are irregular vaginal bleeding, amenorrhea, headache while the disadvantages of contraceptive subdermal implant are inability to prevent sexually transmitted infections and contraindication with the use of antibiotics. It was concluded that contraceptive use such as subdermal devices reduces the need for unsafe abortion by preventing unwanted pregnancies, thereby minimizing the cases of unsafe abortion that causes death. With regard to this, it was recommended that health providers and family planning professionals should provide couples with contraceptive information to improve reproductive health. The paper recommended that couples should make joint decisions on the choice of birth control device use such as subdermal implant. In addition, women should go for contraceptive counselling on the suitable type of long-lasting birth control method to reduce the risk of complications and side effects.*

KEYWORDS: Contraceptive, subdermal implant, women, reproductive health.

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 7, Issue 4, 2024 (pp. 175-186)

www.abjournals.org

INTRODUCTION

Nigeria like any other developing nations has very high growth rate and only uptake of optimal birth spacing is a way to win this battle. One of the modern contraceptive methods is long term hormonal birth control implant. Sustained released progestin-containing subdermal implants, the first new contraceptives to be released in 30 years, have the advantages of being easy to use, completely reversible, highly effective, and free of some of the health risks associated with combined oral contraceptives. It releases progestin hormone into the body to prevent pregnancy (Maya, 2022). The implant itself is a very small plastic rod about the size of a matchstick. The implant slowly releases a progestin hormone called etonogestrel into the body. Progestin helps to prevent pregnancy by blocking the release of eggs from the ovaries. It also thickens cervical mucus to prevent sperm from entering the uterus. Contraceptive implants are subdermal contraception methods involving the delivering of a steroid progestin from polymer capsules or rods which are inserted under the skin. The hormone diffuses gradually and slowly at a stable rate, providing effective contraception within five (5) years. The safe period depends upon the precise progestin and therefore the sort of polymer. The advantages of these implants include the long term contraceptive action, low dose of highly effective contraception, and quick reversal to fertility after the removal of implants. This contraceptive is acceptable for women (14–49 years) who desire long-acting reversible contraception (LARC). It must be removed and replaced every three (3) or five (5) years. Ovulation returns within three (3) to six (6) weeks after the removal of Implanon. Implantable contraceptives provide no protection against Sexually Transmitted Infections (STIs) or Human Immunodeficiency Virus (HIV) (Ward et al., 2016).

Objectives of the Study

The aim of this paper is to examine subdermal contraceptive devices: the implications for reproductive health. Specifically, the objectives are to:

1. Examine the concept of subdermal contraceptive implant, mechanism of action, constituent and use.
2. Examine those who can and cannot use contraceptive implant.
3. Examine the advantages and the disadvantages of subdermal contraceptive implant.
4. Examine the health benefits of subdermal contraceptive implant.
5. Examine the implications on reproductive health.
6. Examine the prevalence of subdermal contraceptive implant in Nigeria.

Subdermal Contraceptive Implant

A subdermal implant is a body modification placed under the skin, allowing the body to heal over the implant and creating a raised design. Such implants fall under the broad category of body modification. The contraceptive implant is a plastic matchstick-sized device that is placed under the skin of the inner upper arm. The implant slowly releases a hormone (progestin) to suppress ovulation and provides effective contraception for up to 5 years (Stark et al., 2022). The implant is immediately effective for contraception if inserted within the first 5 days of menstruation (a period). If the implant is inserted more than 5 days after the start of a period,

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

additional contraception or abstinence from sexual intercourse is advised for the next 7 days (Averbach & Hofler, 2022). Contraceptive implant placement and implant removal are performed after injection of a numbing medication in the upper arm; this usually takes less than 5 minutes during an office visit (Stark et al., 2022). Stark et al. (2022) reported that while a contraceptive subdermal implant is in place, approximately 30% of people experience unpredictable period-like bleeding, and approximately 20% of people have no periods.

Mechanism of Action

Mechanism of action of subdermal implant is by ovulation inhibition and increase in viscosity of cervical mucus (Bhatia et al., 2011). The main processes of action of subdermal implant are to inhibit ovulation. It also thickens the cervical mucus, inhibiting the passage of sperm to the uterus, and thins the endometrium, preventing implantation in case an egg gets fertilized. Subdermal implantable contraceptives are highly effective, easy to use and they carry a low risk of side effects. These features make them a good option for women in under-resourced settings. However, data are lacking on the performance of contraceptive implants compared with other contraceptive methods. Women of diverse cultural and socioeconomic levels choose available contraceptive implants because of long-term contraception, safety, effectiveness, reversibility, and lack of estrogenic side effects. Contraceptive implants are a long-term birth control option for women. A contraceptive implant is a flexible plastic rod about the size of a matchstick that is placed under the skin of the upper arm.

It releases a low, steady dose of a progestational hormone to thicken cervical mucus and thin the lining of the uterus (endometrium). Contraceptive implants typically suppress ovulation as well. Subdermal contraceptive implants deliver progestin from polymer capsules or rods placed under the skin. Diffusing slowly from the polymer containers at a stable rate, the hormone provides contraception for 1-5 years, with the period of protection conferred dependent upon the specific progestin and type of polymer employed. Once inserted, the device allows a woman to have sexual intercourse over a certain period of time without any significant risk of becoming pregnant. Protection is ensured with a low drug dosage and no estrogen, and fertility is readily reversible once the implants are removed. Trained and skilled personnel can provide adequate counseling that complements any public education effort and also provides effective services. Because contraceptive implants offer no protection against sexually transmitted infections, those who engage in high-risk sexual behavior should be encouraged to use condoms as well.

A subdermal implant may be inserted at any time during the menstrual cycle. However, if unprotected intercourse has occurred within the past month, another contraceptive method should be used concurrently until pregnancy can be reliably excluded by a negative pregnancy test or by the subsequent occurrence of menses (Casey, 2022). If the implant is inserted during the first 5 days of the menstrual cycle, no backup contraceptive method is needed. If it is not inserted during this time frame, a backup contraceptive method should be used concurrently for at least 7 days. The implant may be inserted immediately after spontaneous or induced abortion or immediately postpartum regardless of breastfeeding status. The most common adverse effects are similar to those of other progestins (irregular vaginal bleeding, amenorrhea, headache). Removing the implant, which is usually done when the implant is no longer effective, requires a skin incision. After implant removal, ovarian activity normalizes immediately.

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

African Journal of Health, Nursing and Midwifery
ISSN: 2689-9418
Volume 7, Issue 4, 2024 (pp. 175-186)
www.abjournals.org

Subdermal Implants: Constituent and Use

Several types of subdermal implants containing only progestins are effective long-acting methods of contraception. The initial formulation that was marketed consisted of six 3.4-cm polydimethylsiloxane (Silastic) capsules, each containing 36 mg of levonorgestrel, and it was very effective. A formulation containing levonorgestrel in two 4-cm Silastic rods has a pharmacologic pattern similar to that of the six capsules with similar effectiveness and side effects.

Implanon, a single 4-cm by 2-mm ethylene vinyl acetate rod containing 68 µg of etonogestrel, the active metabolite of desogestrel, provides effective contraception for 3 years (Courtney & Schreiber, 2014). This rod is packaged in a disposable metal trocar inserter and does not require a skin incision for insertion, only for removal. Ovulation is inhibited by the circulating etonogestrel levels, and no pregnancies were reported in three large clinical trials. As with other progestin-only implants, irregular bleeding is the most common clinical complaint.

For **Jadelle**, the two rods are easier to insert and to remove than the **Norplant** with six capsules and are effective for 5 years.

Fig 1: Implanon **Jadelle** **Norplant**

Images from science source

Hormonal Implant: Etonogestrel

Subdermal implant, which became available in 1999, is a subdermal implant that contains 68 mg of etonogestrel, the active metabolite of desogestrel. During the first 2 years after implantation, there is no ovulation; ovulation occurs occasionally in the third year, and it is recommended that the implant be removed after this time. As with Norplant, the principal problem is the occurrence of irregular bleeding, which leads some 25–30% of users to ask that the implant be removed. After some time, amenorrhea occurs in some 20% of users. There was a clinically significant increase in body weight in 20% of women carrying the implant. There may also be some local irritation from the implant, and minor scarring at the implantation site. In clinical trials the implant had no effect on coagulation measures, hemostasis, fat metabolism, or hepatic function, but according to the approved product information sheet the possibility of a slight increase in insulin resistance cannot be excluded. Implanon functions to prevent or delay pregnancy by suppressing and/or interrupting ovulation and thickening the cervical mucus which hinders sperm penetration. Etonogestrel is processed by the liver through hepatic-enzyme inducers and some anti-epileptic substances may interfere with the effectiveness of contraceptives. The side effects include bleeding irregularities which frequently occur several months after insertion; amenorrhoea becomes more common with increasing duration of use. Other symptoms include emotional lability, weight increase, headache, depression,

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

dysmenorrhoea and acne. The effectiveness rates approach is 100% (Kolawole et al., 2018; Ward et al., 2016).

Advantages of Subdermal Contraceptive Implants

The following advantages of contraceptive implants were identified by Tomori and Alabi, (2021):

1. High effectiveness of up to 99 percent within seven days of implant insertion.
2. Very inexpensive method of long-term contraception.
3. It is convenient to use or adopt by all women of childbearing age (i.e., from age 14–49 years).
4. It is very safe for women of childbearing age.
5. It is very efficacious for three years.
6. It could be easily removed when pregnancy is expected by women.
7. It provides continuous contraception.
8. The anonymity of use is provided.
9. It is safe during breastfeeding for women.
10. It relieves excessive and difficult menstruation in some women.
11. Amenorrhoea which is experienced in some women using contraceptives is often perceived to be a benefit.
12. It reduces the risk of pelvic inflammatory disease in women due to the thick cervical mucus, which prevents microbes from ascending from the vagina into the uterus.
13. It is good for conditions which prevent the use of combined hormonal contraceptives.
14. There is a quick return of fertility within 3 weeks after the implant is removed.
15. Some women experience improvement in acne following the use of the implant.
16. Some protection against endometrial cancers.

Disadvantages of Subdermal Contraceptive Implants

The following are the disadvantages of subdermal contraceptive implants Ilegbusi et al. (2021):

1. There is no protection against sexually transmitted infections (STIs) when using contraceptive implant.
2. There is a contra-indication with anticonvulsants, and some antibiotics.
3. It does not proffer immediate protection when inserted; hence, another type of effective contraceptive must be used for at least seven days following the insertion.

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

4. It has some nauseating side effects.
5. It diminishes sexual pleasure in some frigid women.
6. It encourages promiscuity in some sexually active women.

Health Benefits of Subdermal Contraceptive Implants

The benefits of implantable contraceptives are: it helps protect against risks of pregnancy, including ectopic pregnancy; it protects against symptomatic pelvic inflammatory disease; it helps to protect against iron-deficiency anaemia. Contraceptives prevent pregnancy; reduce unintended pregnancy and abortion; reduces pregnancy-related morbidity and mortality; improve birth outcomes; help women and couples to time and space their pregnancies; improve maternal health behaviours; reduce cancer risk; improve mental health-related outcomes; and treat menstrual-related symptoms and disorders (World Health Organization, 2018). Furthermore, it was observed that the use of contraceptive implants brings harmony between couples, which invariably promotes their mental health, and contraceptive implants are the most cost-effective method of family planning because it prevents unintended pregnancies and abortion among women of childbearing age (Tomoro & Alabi, 2021).

Those Who Can and Cannot Use Contraceptive Implants

It has been stated that almost all women of childbearing age can use implantable contraceptives safely and effectively, including women who: (a) have or have not had children; (b) are married or unmarried; (c) are of any age (e.g., adolescents and women over 40 years old); (d) have just undergone an abortion, miscarriage, or ectopic pregnancy; (e) smoke cigarettes; (f) are breastfeeding; (g) have anaemia; (h) have varicosities; (i) and are living with HIV (Tomoro & Alabi, 2021).

In furtherance to the above reports, implantable contraceptive should be considered for women who: (a) desire a long-acting and highly effective contraception; (b) experience serious or minor side effects of estrogen and/or estrogen-progestin contraception; (c) are interested in a contraceptive method that does not require continuous adherence; (d) love a non-coitus-related type of contraceptive; (e) have completed childbearing but are not ready for permanent sterilization; (f) have a history of anaemia with abnormally heavy bleeding at menstruation; and (g) have chronic illnesses which threaten pregnancy (French, 2016). However, contraceptive implants should not be considered for women: known or suspected of pregnancy; having current or past history of thrombosis or thromboembolic disorders; having hepatic tumour or active liver disease; having undiagnosed abnormal genital bleeding; having known or suspected breast cancer or history of breast cancer; and having hypersensitivity to any component of the method.

Prevalence of Subdermal Contraceptive Implant in Nigeria

Prevalence of subdermal contraceptive implant is a highly effective method of contraception, but its prevalence in Nigeria remains low. Few women in Nigeria use the implant, despite its convenience and high efficacy. Limited awareness and knowledge about the method, as well as cultural and religious beliefs, contribute to its low uptake. Many women are unaware of the implant's benefits, and misconceptions about its safety and side effects are common. Access to healthcare providers who can insert the implant is also a significant barrier, particularly in rural

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

areas where healthcare facilities are scarce. Even when available, the cost of the implant can be a deterrent for many women, especially those from low-income backgrounds. As a result, the implant is often overlooked in favor of more traditional or familiar contraceptive methods.

The prevalence of use has remained persistently low despite its overwhelming benefits and effectiveness. Contraceptive prevalence in Nigeria is 15.1% and implants account for only 0.4%. Ghana has a contraceptive prevalence of 17% with also a very low implant use. In Great Britain, in 2008, 1–2% of women of childbearing age were using the implant. A lot of countries are yet to start using contraceptive implants and countries that have succeeded in raising the prevalence beyond 3% are Burkina Faso, Colombia, Ethiopia, Norway, and Rwanda. Implants can be biodegradable/non biodegradable, LNG/etonogestrel based or female/male implants. Female implants include Norplant, Norplant-2 (Jadelle), Implanon, Nexplanon, and Capronor.

Contraceptive implants differ based on the progestin content and whether they are degradable or nondegradable. Norplant and Jadelle contain LNG that is a second generation progestin whereas Implanon and Nexplanon contain etonogestrel that is a third generation progestin.

Reasons for Low Uptake of Subdermal Contraceptive Implant

Reason	**Percentage of Women**
Lack of awareness	**60%**
Cultural/religious beliefs	20%
Limited access to healthcare providers	10%
Cost	5%
Other	5%

Sources: *Nigeria Demographic and Health Survey (NDHS)*

The Nigerian healthcare system's limited capacity to provide comprehensive contraceptive services, including counseling and insertion of the implant, hinders its uptake. However, efforts are being made to address these challenges, including training healthcare providers and educating women about the implant's benefits. If successful, these initiatives could increase the prevalence of the implant and provide Nigerian women with a wider range of contraceptive options.

RELATED EMPIRICAL STUDIES ON SUBDERMAL IMPLANT DEVICES

Studies of Mubarik et al. (2016) examine the knowledge, attitude and utilization of subdermal birth control implants among married rural women of Pakistan. This descriptive cross-sectional study was conducted at the reproductive health services center at Pano Aqil, Sindh, Pakistan. A sample of 120 married women of age 18-45 years, who attended RHS center, were included in the study. Data was collected through a standardized questionnaire and analyzed using IBM SPSS version 22 and Microsoft excel. The mean age of the sample was 29.48±5.05 years, almost half (44.2%) were illiterate, and 39% were educated up to primary level. Three-fourth (73%) were housewives and 91.7% were poor. Majority (80%) had heard about one method but only one-fourth (26%) have used one while Implant was used by only 21.9% women. About two-third (68%) did not know about Implant while 14.2% had good knowledge about Implant. Overall attitude was positive as 85% continued the method but 14.29% quitted due to side effects. Among never users, half (46%) would go for Implant if they would be provided with

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

the insertion services. This study concludes that knowledge about subdermal Implant among women of reproductive age reaching the optimum level.

Studies of Gebre-Egziabher, et al. (2017) identified the prevalence and predictors of Implanon utilization among women of reproductive age group in Tigray Region, Northern Ethiopia. A cross-sectional community-based survey was conducted in May and June 2014. A multistage sampling technique was used to randomly select 524 reproductive aged women (15–49 years). Data was collected through an interview using a pre-tested and structured questionnaire. Univariate analysis was done to determine the prevalence for Implanon use, to assess general characteristics of respondents, and to produce summaries. Bivariate analysis was conducted to examine the relationship between each independent variable with the dependent variable. Multivariate logistic regression was conducted to identify factors influencing Implanon use by controlling the effect of confounding variables. Of all the women, 444 (84.7%) had heard of Implanon. Health extension workers were the primary source of information on Implanon, as mentioned by 376 (71.8%) of the respondents. Little more than seven women in every ten, 319 (71.8%), had good knowledge of Implanon and 248 (55.5%) of the women had supportive attitudes towards Implanon use. Among the sample, 10.1% women were using Implanon, 33 (62.3%) reported having received their Implanon at a health post from a health extension worker. Women's employment (AOR: 2.73, 95% CI: 1.20–6.21), the number of modern contraceptive methods known (AOR: 2.24, 95% CI: 1.09–4.62), and the number of contraceptive methods ever used (AOR: 11.0, 95% CI: 5.06–23.90) were positively associated with Implanon use. Trained health extension workers played a major role in information and service provision of Implanon. However, this study revealed that a significant number of women had incorrect information regarding Implanon. Hence, health extension workers and other health professionals should provide appropriate counseling and education regarding Implanon and other contraceptives.

Abasiattai et al. (2014) studied subdermal contraceptive implants: profile of acceptors in a tertiary hospital in Southern Nigeria. This study determines the socio-demographic characteristics of acceptors of subdermal implants, the timing of their use and their complications at the University of Uyo Teaching Hospital, Uyo. The record cards of all clients that accepted subdermal contraceptive implants over a four year period were reviewed. There were a total of 1,057 new contraceptive acceptors out of which 197 (18.6%) accepted contraceptive implants. The modal age group of the clients was 30-34 years (38.0%). One hundred and fifty-six patients (79.2%) were multiparous, 97.5% of the patients had attained secondary level of education while 92.4% were Christians. About 56.9% of the clients preferred to use implants to space child births, most of the implants were inserted during the first week of the menstrual period, and majority (78.2%) of the clients obtained their information concerning implants from clinic personnel. The most common complication was abnormal vaginal bleeding. Contraceptive implants are very effective contraceptive methods that are mostly accepted and used by young, educated parous women who mostly preferred to space births. There is also a high continuation rate among acceptors, so increasing availability of implants in family planning units nationwide could increase the number of women who utilize this method of contraception.

Reiss et al. (2018) compared the safety, quality, and acceptability of contraceptive subdermal implant provision by community health extension workers (CHEWs) versus nurses and midwives in Nigeria. The quasi-experimental, non-inferiority study was conducted in public sector facilities in Kaduna and Ondo States. Sixty facilities in each state were selected,

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

involving 30 nurses and midwives and 30 CHEWs. Providers were trained to offer implant services and recruited at least 8,125 women aged 18-49 requesting implants. Data on the insertion process and adverse events were recorded, and 14 days post-insertion, 4,410 clients were surveyed about adverse events. Supervisors observed 792 insertions to assess service quality and client satisfaction. Non-inferiority would be concluded if the CI for the adverse event difference between CHEWs and nurses/midwives was to the right of −2%. Training occurred in September and October 2015, with recruitment from November 2015 to December 2016. Data analysis was expected to conclude in March 2018. The study's strength lies in comparing CHEW provision with standard care and building on existing training procedures, enhancing sustainability. Limitations include the lack of randomization and self-assessment by providers. The short study duration precluded adequate comparisons for implant removals.

IMPLICATIONS ON REPRODUCTIVE HEALTH

Reproductive health education is a major global means of promoting and maintaining good health through informed contraceptive decision making, and has contributed to maternal and good reproductive health, thereby promoting well-being of the family and individuals. Subdermal contraceptive device allows women, especially postnatal mothers and couples, to have the desirable number of children and to enable them to resume coital activities. It promotes women and family empowerment through building economic stability, increasing their ability to improve their income or wealth status and standard of living. There is a need for reproductive health to improve contraceptive use such as subdermal devices, as stated by the World Health Organization (2022 & 2018), and Guttmacher Institute (2021).

Subdermal contraceptive implant helps to decrease unplanned pregnancy, mortality, high-risk of abortion, reduces the potential of developing certain reproductive cancers and is used to treat many menstrual related symptoms and outcomes (Guttmacher Institute, 2021).

1. Contraception through reproductive health provides a wide range of healthcare services which are available to individuals and families at the FP clinic. The contraception service helps to prevent, diagnose and treat disease outcomes such as sexual transmitted infection which includes HIV, Chlamydia, Syphilis, Gonorrhoea, Candidiasis, cervical cancer, and HPV, among others, as well as to address intimate client violence. The World Health Organization (2018) added that male and female condoms have dual protection action against unwanted pregnancies and against STI like HIV (WHO, 2015; Guttmacher Institute, 2021).

2. The ability to determine when to become pregnant has a direct influence on the woman's health and general well-being. Subdermal contraceptive implant allows for birth spacing of pregnancies, delays pregnancies, and prevents death resulting from early child-bearing. Evidence reported that there are increased chances of maternal mortality among mothers who have more than four children. Through the reduction of unplanned pregnancies, contraceptive use decreases the need for unsafe abortion (World Health Organization, 2018).

3. Enhancing people empowerment and quality education: Family empowerment predicts good education and increases the level of literacy through reproductive health. Contraceptive use enables individuals and families to make informed choices about their

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

sexual and reproductive health. It encourages women empowerment, opportunity for additional education, good standard of living and pursuit for employment or job status. Having reasonable family size allows fathers and mothers to invest more in each child through education and training (WHO, 2018).

4. Slowing of population growth: Reproductive health also provides women of childbearing age and the entire population basic information to improve the health of the population by reducing increase in growth rate. The major challenges of globalization are rapid population growth. Contraceptive use plays a vital role to retard unsustainable growth of population (WHO, 2018).

5. Reduced adolescent pregnancies: Reproductive health teaches and counsels women and adolescents on the choice of adopting subdermal contraceptive devices since the chance of pregnancy prevention is very high. Early childbearing contributes to death, poverty, low social status, poor health condition, low-birth weight of babies, disease tendencies, and even depression. Babies born to adolescents have higher rates of neonatal mortality; most adolescent girls with pregnancy have to drop out of school. All contribute to long-term physical, social, economic, psychological implications on the individual, family and community.

7. Contraceptives aimed at planning, delaying and spacing pregnancies are linked to improved birth outcomes for babies, either directly or through healthy maternal behaviour modification during pregnancy, which was supported through reproductive health services.

8. Contraceptive use such as subdermal devices reduces the need for unsafe abortion by preventing unwanted pregnancies, thereby minimizing the cases of unsafe abortion causing death.

9. Contraceptive use prevents child mortality: Family planning use can reduce closely spaced and ill-timed pregnancies and births, which leads to some of the worldwide highest death rates. Infants of mothers who die as a result of giving birth also have a greater risk of death and/or poor health (WHO, 2018).

CONCLUSION

One of the safer means of birth control and prevention is the use of subdermal contraceptive implant. The benefits of implantable contraceptives are: it helps to protect against risks of pregnancy, including ectopic pregnancy; it protects against symptomatic pelvic inflammatory disease; it helps to protect against iron-deficiency anaemia; and it reduces the risk of ectopic pregnancy. It was observed that a good proportion of women who knew about contraceptive implants had successful pregnancy.

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

RECOMMENDATIONS

With regards to this paper, the following recommendations were made:

1. Couples should make joint decisions on the choice of birth control device use, such as subdermal implant.
2. Women should go for contraceptive counselling on the suitable type of long-lasting birth control to reduce the risk of complications and side effects.
3. Health providers and family planning professionals should provide couples with contraceptive information to improve reproductive health.
4. Government through the ministry of health should provide a health insurance scheme for postnatal and women of childbearing age that will cover the cost of contraceptive devices like Implant, in order to control population growth rate.

REFERENCES

Averbach, S., & Hofler, L. (2022). Long-acting reversible contraception with contraceptive implants and intrauterine devices. *JAMA.* 327(20): 2013-2014. doi:10.1001.

Bhatia, P., Nangia, S., Aggarwal, S. & Tewari, C. (2011). Implanon: Subdermal Single Rod Contraceptive Implant. *Journal of Obstetrics and Gynaecology of India*, 61(4): 422–425. doi: 10.1007.

Casey, F. E., (2022). *Subdermal Contraceptive Implants.* MSD manual version

Courtney, A., & Schreiber, K. B., (2014). *Contraception. in Yen & Jaffe's Reproductive.* Endocrinology (7th Edition), 2014

French, V, & Darney, P. D. (2015). Implantable contraception. *The Global Library of Women's Medicine.* Doi: 10.3843.

Gebre-Egziabher, D., Medhanyie, A. A., Alemayehu, M. & Tesfay, H. F., (2017). Prevalence and predictors of implanon utilization among women of reproductive age group in Tigray Region, Northern Ethiopia. *Reproductive Health,* 14: 62. doi: 10.1186.

Guttmacher Institute, (2021). *Contraceptive use in the United States by demographics.* www.Guttmacher.org.factsheet.

Ilegbusi, P. H., Tomori, M. O., & Alabi, B. Y. (2021). Knowledge, attitude and practice of women of childbearing age towards the acceptance of contraceptive implants in Akungba-Akoko, Ondo State. *International Journal of Pharmaceutical Sciences and Medicine,* 6(6):64-97

Kolawole, O. O., Sowemimo, O. O., Ojo, O. O., & Fasubaa, O. B. (2018). Contraceptive implants: A review and current perspective in Southwest Nigeria. *Tropical Journal of Obstetrics and Gynaecology*, 35(2):108

Leung S. (2015). *Norplant removals spur suits*. Assessed Sept 18, 2015.

Maya, C., (2022). *What is a birth control implant?* www.healthline.com

Mubarik, M., Jameel, N., & Khalil, R., (2016). Knowledge, attitude and utilization of sub-dermal birth control implants among married rural women of Pakistan. *International Journal of Research in Medical Sciences,* 4(6).

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV

Shoupe, D. (2016). Long-Acting Reversible Contraceptive methods: entering a new age of contraception and reproductive health. *Contraceptive and Reproductive Medical,* 1, 4 doi.10.1186.

Stark, L. E., Gariepy, A. M., & Son, M., (2022). What is long-acting reversible contraception? *JAMA*, 328(13):1362. doi:10.1001

Ward, S. L., Hisley, S. M., & Kennedy, A. M. (2016). *Maternal-child nursing care: Optimizing outcomes for Mothers, children, and families.* Philadelphia, PA: F.A. Davis Company WHO (2022). Contraception. Factsheet www.who.int.org...

World Health Organization (2018). *A global handbook for providers: Evidence-based guidance developed through worldwide collaboration.* Geneva: In Meyler's Side Effects of Drugs (Sixteenth Edition), 2016.

World Health Organization (2018). *Contraception: unsafe abortion prevention.* Geneva.

World Health Organization, United Nation Children Fund, & World Bank, UNAF (2015). *Trend Maternal Mortality*.

Article DOI: 10.52589/AJHNM-UTD5GZQV
DOI URL: https://doi.org/10.52589/AJHNM-UTD5GZQV