

VARIATIONS IN THE CLINICO-DEMOGRAPHIC PROFILE AMONG PROGESTIN SUBDERMAL IMPLANT ACCEPTORS

*Wilfredo D. Quijencio Jr.

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Corresponding Author: Wilfredo D. Quijencio Jr.; Email: wquijencio@feu.edu.ph; doi:10.46360/globus.met.320212003

Abstract

Background and Objective: The passage of the Responsible Parenthood and reproductive health (RPRH) Act of 2012 (RA 10354), mandated the universal provision of reproductive health services, particularly family planning and safe delivery services, as a means to reduce maternal mortality. This study aimed to assess variations in the clinico-demographic profile among progestin subdermal implant acceptors in Pasig City as an input for health care delivery system.

Methods and Findings: The study utilized cross-sectional descriptive analytical research design from a rural residential area to a growing commercial center with an estimated population of 797,054. Maternal mortality rate is 46.03 per 100,000 live births. Contraceptive prevalence rate is 42.83% among eligible population of 98,237. The findings of this study confirm the fact that there is variation in the progestin subdermal implant type of client in Pasig City.

Conclusion: There was an increased percentage of new acceptors compared to contraceptive users. There is sufficient evidence to say that frequencies of patients at different types of client groups vary with year.

Keywords: Progestin Subdermal Implant Acceptors, Clinico-demographic Profile, Health Care Delivery System

Introduction

The Philippines continues to have a high level of maternal mortality and has low likelihood of meeting its Millennium Developmental Goals of reducing maternal deaths by three quarters and in providing universal access to reproductive health services (5th MDG Progress Report, 2014). Despite the increasing number of facility-based births, the number of maternal deaths has remained essentially the same in the past 50 years (Philippine Civil Registry and Vital Statistics 1960-2010). The high level of maternal mortality could be driven by high unmet need for modern family planning services. It is estimated that 5.7 million Filipino are at risk from unplanned, mistimed pregnancies due to unmet needs for modern FP (NDHS, 2013).

According to the latest data of the Philippine Statistics Authority (PSA) on its 2017 National Demographic and Health Survey, Filipino women of fertile age are now giving birth to fewer children. Filipino women's fertility rate went down to 2.7 live births in 2017 from exactly three in 2013. This drop is attributed to the increase in married women's use of modern family planning methods by over 40 percent over the past few years.

The passage of the Responsible Parenthood and reproductive health (RPRH) Act of 2012 (RA 10354), mandated the universal provision of reproductive health services, particularly family planning and safe delivery services, as a means to reduce maternal mortality. Pursuant to its mandate in Section 19.2 of the RPRH Law and Rule 12 of the IRR, the Department of Health shall ensure access to modern FP services which include the inclusion of new and modern methods of FP in its national program. By broadening the range of effective modern FP methods available for clients, the DOH provides a wider set of options for couples to choose from that is consistent with their beliefs and appropriate to their health status, in order to achieve their desired family size.

Among the new and modern methods are progestin subdermal implants. These are long acting reversible hormonal contraceptives that inhibit ovulation by suppressing the luteinizing hormone surge. It also increases cervical mucus viscosity, making it difficult for the sperm cells to pass through. The

method is effective for three years upon application and has a low failure rate of 5 per 10,000 users. Progestin subdermal implants also have a high continuation rate of 84%.

Department of Health Administrative Order No. 2015-0006 provides for the inclusion of progestin subdermal implants in the list of modern FP methods deemed to be safe and effective by the National Family Planning Program. This study aimed to assess variations in the clinico-demographic profile among progestin subdermal implant acceptors in Pasig City as an input for health care delivery system. This study could expand our understanding of the progestin subdermal implant acceptors.

Research Methodology

1. Research design

The study utilized cross-sectional descriptive analytical research design.

2. Study setting

Pasig City in the Philippines which has come a long way from a rural residential area to a growing commercial center. It has an estimated population of 797,054. Maternal mortality rate is 46.03 per 100,000 live births. Contraceptive prevalence rate is 42.83% among eligible population of 98,237.

3. Sampling design

The sampling design that the researcher employed is a simple random sampling technique. The study included progestin subdermal implant acceptors from 1st January 2016 - 31st December 2018. Excluded in the study are acceptors of other family planning methods.

4. Sampling method

Computation of the sampling size. According to the data gathered from the Field Health Service Information System - Health Status Statistics Annual Report 2016, Pasig City, a municipality in Metro Manila have a contraceptive prevalence rate of 42.83% with total current end users of 42,077. Using the Slovin's Formula ($n = N / (1 + Ne^2)$) with confidence level of 95% and margin of error of 5%.

$$\begin{aligned}n &= \text{minimum size required} \\N &= \text{population size} \\e &= \text{margin of error} \\n &= 42,077 / (1 + 42,077 * 0.05^2) \\n &= 42,077 / 1 + 105 \\n &= 42,077 / 106 \\n &= 397\end{aligned}$$

The computed sample for the study was 397.

5. Data collection procedure

The researcher followed a step-by-step procedure to be organized in conducting the study. A letter of request was sent to the city health office of Pasig City to ask permission to conduct the study. Once approved, the researcher coordinated with the Family Planning program officer to identify the progestin subdermal implant acceptors. Medical Record Registration numbers of clients that accepted progestin subdermal implants from 1st January 2016 to 31st December 2018 was obtained from the family planning register. Medical Record and the DOH Family Planning Form 1 of the client were retrieved using their registration numbers. Data were collected from selected private midwife clinics and health centers providing subdermal implants. The data were checked for completeness and then collation and tallying followed. Information extracted included the following: age, parity, number of living children, educational attainment, religion, marital status, occupation, average monthly income, type of client, previously used method and reason for family planning, the medical history, obstetrical / gynecological history, risks for sexually transmitted infection; risks for violence against women and physical examination. To ensure data privacy of the respondents, personal information such as name, address and contact details was excluded by the researcher. The information obtained was recorded and encoded. The encoded data was fed into the computer using excel. The data was analyzed using frequency distribution and percentage.

Research Instruments and Materials

The study utilized the Family Planning (FP) Form 1 of the progestin subdermal implant acceptors. The FP Form 1 is the basic record form used in the FP program, which corresponds to the individual treatment record form used in other programs. It contains essential information about the client that enables the health worker to provide quality FP service. It is filled out by the service provider and is updated every time the client returns for a follow-up visit. A profiling of the demographic profile and the clinical factors of the respondents based on the Family Planning (FP) Form 1 was used.

1. Statistical treatment

All of the information from the Family Planning Form I obtained was recorded and the coded data was fed into the computer using Excel and analysis was done. The frequency, simple percentage, Chi square test and Phi correlation coefficient were done and the $P < 0.05$ was considered significant. Frequency distribution which is a systematic arrangement of numeric values that displays the frequency of various outcomes in a sample was used to describe the demographic data as well as the clinical data of the progestin subdermal implant acceptors. The Chi-Square Test for Association, a

hypothesis test of independence was used to determine if there are variations of the age, parity, and type of client of progestin subdermal implant acceptors according to year. The chi-square test for association, also called Pearson's chi-square test or the chi-square test of independence, is used to discover if there is a relationship between two categorical variables. Phi correlation coefficient was done to confirm the result of the Chi Square and check for strong association or relationship.

2. Ethical consideration

In preventing violation of human rights and ensuring the safety of respondents, permission to conduct the study was sought from the City Health Office officials covered by this study. The researcher secured the signed confidentiality agreement from the City Health Office after explaining thoroughly the purpose and objective of this study. Further, the researcher followed ethical principles of beneficence, respect for human dignity, justice, and confidentiality of the participants. The researcher ensured anonymity and confidentiality by excluding the respondent's personal data such as name, contact number and address in the questionnaire. Maintaining privacy, confidentiality, and anonymity throughout the completion of questionnaires prevented any psychological harm to the respondents. There was no conflict of interest declared by the researcher. Respondents' information was coded in a questionnaire instrument. The research safeguard entrusted information and delineated figures, statistics, and discussions without giving any names. The researcher and the adviser of this study was the only one who can access the data of the respondents. Furthermore, a confidentiality agreement was signed by the researcher and the officer where the data was collected.

Results

The respondents in this study were progestin subdermal implant acceptors in Pasig City, Philippines. The result shows that there were 397 progestin subdermal acceptors included in the study. Majority of the clients are within the age group range of 21-25 years old, comprising 33.50%; n = 397 of the sample. There is no progestin subdermal implant acceptor below 15 years old. The mean age in the study was 29.57 (n=397). The minimum age was 16 years old and the maximum age was 42 years old. Mean parity in the study was 2.09 and ranged between Para 0 and 9. Parity distribution of the acceptors indicates that most of them have been pregnant at least two times (54.16). This is followed by 33.25% of them being multiparous having given birth 3 - 4 times. 10.08% are grand multiparous who have given birth more than 5 times broken down as follows: 9.07% (5-6 parity), 0.76% (7-8 parity) and 0.25% (9-10 parity). 2.52% acceptors (10) has never

carried a pregnancy beyond 20 weeks. There were 215 acceptors (54.16%) with 1 - 2 children. This is followed by 33.27% of them with 3 - 4 children. Also, 9.07 % of them have 5 - 6 children, 0.76% have 7 - 8 children, and 0.25% have 9 - 10 children.

Most 304 of 397 progestin subdermal implant acceptors (76.57%) are Roman Catholic. This is followed by 14.86% of them belonging to other forms of religion namely: Aglipayan, Buddhists, Protestant Episcopal Church, Jehovah's Witnesses and Seventh Day Adventists. In the study, there are 5.29% Christians, 2.52% Iglesia ni Cristo, and 3 of the 397 (0.76%) are Muslims. The demographic profile of the progestin subdermal implant acceptors shows 78.59% of the mothers refused to divulge their average monthly income. Moreover, 20.65% have an average monthly income below 40,000, followed by 0.76% with an average monthly income of 40,000 - 59,000. There are no progestin subdermal implant acceptors with an income above 60,000. The study revealed that 55.72% of progestin subdermal implant acceptors are single. This is followed by 39.76% of progestin subdermal implant acceptors are married while the rest are partnered or living-in together (4.52%).

It can be noted that most of the progestin subdermal implant acceptors (37.58%) were new acceptors. This is followed by 25.44% who are current users. There are 16.12% who are changing methods, and 14 out of 397 were drop outs (3.53%) and 1 out of 397 were changing clinic. As revealed, most (42.14%) previously used combined oral contraceptives. This is followed by 39.62% of them who used injectable/DMPA. Other methods used were progestin only pills (8.18%), 5.03% implant (5.03%), Lactation Amenorrhea Method (3.14%), Condom (1.26%), and postpartum IUD (0.63%). No acceptors previously practiced natural family planning methods i.e. billings method or cervical mucus method (BM / CMM), basal body temperature (BBT), symptothermal method (STM), and standard days method (SDM). The pill was generally the dominant method previously used by the progestin subdermal implant acceptors. In addition, most (36.27%) wants to space pregnancy while 35.01% have other reasons or were not certain why they wanted to use contraceptive method of family planning and 28.71% wants to limit her pregnancy.

Clinical Factors of Progestin Subdermal Implant Acceptors

The second research problem delves on determining the clinical factors of progestin subdermal implant acceptors including its medical history, gynecological history, risks of sexually transmitted infections, risks for violence against women and their physical examination findings.

Table 1: Medical History of the Progestin Subdermal Implant Acceptors

MEDICAL HISTORY		Frequency (n=)	Percentage
Severe Headache	YE S	8	2.01
Migraine	NO	389	97.98
Stroke / Heart Attack	YE S	4	1.01
/ HPN	NO	393	98.99
Non-Traumatic Hematoma	YE S	0	0
Breast Cancer	NO	397	100
Breast Mass	YE S	1	0.25
Severe Chest Pain	NO	396	99.75
Cough More Than 14 Days	YE S	2	0.50
Jaundice	NO	395	99.50
Unexplained Vaginal Bleeding	YE S	0	0
Abnormal Vaginal Discharge	NO	397	100
Phenobarbital / Rifampicin	YE S	2	0.50
Smoker	NO	395	99.50
With Disability	YE S	1	0.25
	NO	384	96.73
	YE S	0	0
	NO	397	100

Medical history was taken on progestin subdermal implant acceptors and the common complaints are as follows: migraine (8/389), 4 patients suffered from either stroke, heart attack or hypertension (1.01%). One (1) has developed either breast mass or malignancies, 2 complained of severe chest pain and abnormal vaginal discharge. One (1) patient is on rifampicin and phenobarbital (which are enzyme inducers) and 13 were smokers. Moreover, the respondents do not show any non-traumatic hematoma, no history of 14 days coughing, jaundice, vaginal bleeding and no visible disability.

Table 2: Gynecological History of the Progestin Subdermal Implant Acceptors

GYNECOLOGICAL HISTORY		Frequency (n=)	Percentage
Scanty		75	18.89

Menstrual Flow	Moderate	311	78.33
	Heavy	11	2.78
Dysmenorrhea	Yes	21	5.57
	NO	377	94.43
Hydatidiform Mole	Yes	1	0.25
Breast Cancer	NO	396	99.75
Breast Mass	Yes	0	0
Ectopic Pregnancy	NO	397	100

In this study, gynecological history was identified; 78.33% of the respondents have moderate menstrual flow. Most of the subjects do not experience dysmenorrhea (94.43%). One patient was identified with hydatidiform mole and no reported case of breast cancer neither mass nor ectopic pregnancy.

Table 3: Risks of Sexually Transmitted Infections of the Progestin Subdermal Implant Acceptors

RISKS OF SEXUALLY TRANSMITTED INFECTIONS		Frequency (n=)	Percentage
Abnormal Discharge	Scanty	397	100
	Moderate	0	0
Sores Or Ulcers	Yes	0	0
	No	397	100
Pain Or Burning Sensation	Yes	0	0
	No	397	100
History Of Treatment For STI	Yes	0	0
	No	397	100
HIV / AIDS / PID	Yes	0	0
	No	397	100

Table 4: Risks for Violence Against Women of the Progestin Subdermal Implant Acceptors

RISKS OF VIOLENCE AGAINST WOMEN		Frequency (n=)	Percentage
Unpleasant Relationship	Yes	0	0
	No	397	100
No Approval to FP Clinic Visit	Yes	0	0
	No	397	100

History of Domestic Violence	No	397	100
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Table 5: Physical Examination Findings of the Progestin Subdermal Implant Acceptors

PHYSICAL EXAMINATION		Frequency (n=)	Percentage
Skin	Normal	394	99.24
	Pale	3	0.76
	Yellowish	0	0
	Hematoma	0	0
Conjunctiva	Normal	397	100
	Pale	0	0
	Yellowish	0	0
Neck Mass	Normal	396	99.75
	Neck	0	0
	Mass	0	0
Lymph Node	Enlarged	1	0.25
	Lymph	1	0.25
	Node	1	0.25
Breast	Normal	396	99.75
	Mass	0	0
	Nipple	1	0.25
Abdomen	Discharge	1	0.25
	Normal	397	100
	Abdominal Mass	0	0
Extremities	Varicosities	0	0
	Normal	397	100
	Edema	0	0
	Varicosities	0	0

Table 3 to 5 shows the risks for sexually transmitted infections, risks for violence against women and physical examination findings of progestin subdermal implant acceptors. There are no known risks of sexually transmitted infection among progestin subdermal implant acceptors for the past three years. Moreover, there are no reported risks of violence among progestin subdermal implant acceptors. To ensure the quality of life of progestin subdermal implant acceptors, physical examination were conducted and all variables are within acceptable limits.

Discussion

Data shows that the progestin subdermal implant acceptors are represented by young adults in terms of age, who have given birth at least once or twice, Roman Catholic, single, new family planning acceptors that wants to space their child with uneventful normal clinical factors.

More than one third of the clients in this study were in their early twenties. This is different from what

was documented from a research conducted in Nigeria where the average age of women who accepted progestin subdermal implant was 32.9 years (Igwe, 2017) and in Malaysia, where the mean age of users was 34.7 years. This means that progestin subdermal implant acceptors are becoming younger outweighing the older population. It can be attributed to the increase in the women's knowledge on the use of modern family planning methods over the past few years. 10.8% of the clients in this study population were adolescents, in contrast to results of some studies where there were no adolescent acceptors. In the Philippines, adolescents have been shown to be at very high risk of unintended pregnancies, safe abortion and its adverse consequence including mortality. The nationwide Young Adult Fertility and Sexuality Study among adolescents aged 15 - 24 have reported that adolescents engaged in premarital sex (YAFS4, 2013) and only 14.5 females used contraception during the first sexual contact (De Jose, 2013). One in ten young Filipino women aged 15 - 19 has begun childbearing (Rivera, 2004).

Most of the clients were multiparous showing that there may be fear of the effects of non-family planning on future reproduction among the people. According to the Philippine National Demographic Health Survey (NDHS) 2013, Filipino women have a total fertility rate of 3 that on average, Filipino families wanting 2 children ended up having 3 instead. On the other hand, forty-three percent (43%) of women in the Philippines consider two children as the ideal family size, while 28% prefer three children, 13% prefer four children and 8% prefer five or more children (DOH, 2017). These can be anchored on the principles of respect for life, informed choice, and respect for the rights of the clients to determine their desired family size.

In terms of religion, catholic is the most dominant religion since Roman Catholicism was the largest religious following in the Philippines (Anthony, 2017). The religion of the respondents varies. This shows that in general, religion is not a factor in choosing family planning and religious freedom is respected in the Reproductive Health law. In a report from Dr. Esperanza Cabral, most Filipinos, regardless of religion were reported to be in favor of reproductive health. The Social Weather Stations in 2011 reported that 73% of Filipinos wanted information from government on all legal methods of family planning, while 82% said family planning was a personal choice of couples and no one should interfere with it (Cabral, 2019). All other major religions in the Philippines supports the RH bill and even Muslim gives couples a free choice on whether to practice family planning based on their ruling called "Call to Greatness." Religion-based opposition to family planning is low, and it appears

that other issues are more^{SEP} important to women even though majority of them belong to the Catholic faith. Around fifty five percent of the respondents are single with the ability to space and limit their pregnancies. It has a direct impact on their health and well-being as well as on the outcome of each pregnancy. Some of the clients used hormonal contraceptives and therefore changing to implants as another form of hormonal contraception was not a problem which means that their level of understanding during counselling must have been good. Continuation rates for implant use were high among those who have used progesterone-based contraceptives before (such as pill, injectable and even implants). The result shows that those who have had other hormonal contraceptive were not discouraged to continue implants.

Since the RH law was implemented in 2014, women have had the opportunity to choose modern family planning methods. About a third of the patients (36.00%) preferred to use implants to space pregnancy. This is not surprising as due to religious reasons many women have reservation to limit family size. This suggests that progestin subdermal implant as a method is highly acceptable to our women for short term contraceptive purposes. The Responsible Parenthood & Family Planning (RPPF) is aimed to help couples realize their desired timing, spacing, and number of children in accordance with the family's socio-economic, emotional, psychological capacity, and religious beliefs.

The research delves on determining the clinical factors of progestin subdermal implant acceptors including its medical history, gynecological history, risks of sexually transmitted infections, risks for violence against women and their physical examination findings all of which are within uneventful normal patterns. The Medical Eligibility Criteria (MEC) screening checklist for subdermal implants was strictly used to determine the eligibility/suitability of the method to the client. The FP Service Record or FP Form 1 required information were strictly filled up except for wherein the respondents inadvertently did not give any information. Those information is beneficial to provide the family planning worker with background information about the client that may indicate or contraindicate suitability with regards to the progestin subdermal implant.

Conclusion

In the study, there was an increased percentage of new acceptors compared to contraceptive users. There is sufficient evidence to say that frequencies of patients at different types of client groups vary with year. The findings of this study confirm the fact that there is variation in the progestin subdermal

implant type of client in Pasig City. The Phi correlation coefficient of 0.243, which is above the threshold, also suggests that type of client and year are associated or vary with each other. This study reflects the efforts in reaching out and educating women on the use of more effective contraceptive methods.

The findings of this study confirm the fact that there is variation in the progestin subdermal implant type of client in Pasig City. Notably, new acceptors showed the highest percentage distribution. Implants are effective contraceptive methods that are mostly accepted and used by young parous women who mostly preferred to space births. Thus, increasing the availability of implants in family planning units nationwide could increase the number of women who will utilize this method of contraception.

Conflicts of Interest

The author declares there are no significant competing financial, professional, or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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