

Original Article

Knowledge, Attitude and Practices of Hormonal Contraceptives and Incidences of ADR among Users

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Abstract: Hormonal birth control interferes with the feedback loop that regulates progesterone and oestrogen release, affecting ovulation, fertilisation, implantation, or all three. Proper contraceptive use and counselling could prevent unwanted births and their harmful repercussions. This study evaluated the consumer and dispenser knowledge and common practices about hormonal contraceptive usage and side effects. The descriptive cross-sectional study included N=376 married reproductive-age women from two health institutions and one family planning clinic. A study of 50 retail pharmacies described their dispensing practices. Injection users made up 51.1%, oral contraceptives 23.9%, and implants 25%. 56.6 percent used contraception after first child. 0.8% of users had 5 children and 8.5% had none. 38% of respondents select a hormonal contraceptive for its efficacy. 27.9% available 0.3% cost-choice. 26.6% of respondents got hormonal contraceptives from pharmacies (community shops) and 21.3% from government health organisations. For hormonal contraceptives users, less than 50% got counselling. Missed dosage information was incorrect in 6% of women. As side effects, implant, injection, and pill women encountered weight increase (50.5%, 33.5%, and 33.5%, respectively) and prolonged bleeding (33.3%, 79.7%, and 41.1%). Headaches affected 42% of pill users. 62.7 percent of users sought a doctor or health worker after adverse effects, whereas 2.0 percent switched devices. Side effects drove 84.1% of implant users away. The dispensers advised users on side effects 86% of the time. After studying hormonal contraceptives, tablets were chosen for their availability and efficacy. Users of hormonal contraceptives are more sensitive to side effects, but their awareness and practices are good.

Keywords: hormonal contraceptives, dispenser, knowledge and practice

1. INTRODUCTION

Contraception is the intentional use of temporary, long-term, or permanent methods to prevent pregnancy during sexual activity by preventing viable sperm from contacting a mature ovum or preventing a fertilised ovum from implanting in the endometrium [1]. Lowering unwanted pregnancy in all ages, some abortions, spacing families, and improving women's health require contraception. Contraception greatly reduces pregnancy-related health concerns [2]. Unintended pregnancies harm women, reduced unplanned pregnancies proportionally lower unsafe abortion rates. Contraception delays and spaces pregnancies in young women at risk of health issues and maternal mortality from early childbearing and prevents high-risk pregnancies in older women [3]. Contraceptive methods are modern or archaic. Modern methods include combined oral contraceptives (CoCs/pill), progestin-only pills (PoPs/minipill), combined injectable contraceptives (CiCs/monthly injectables), POICs, copper IUD, levonorgestrel IUD, male and female condoms, sterilisation, lactation amenorrhoea method (LAM), and emergency contraception [4]. Each technique affects emotional, physical health, and well-being, women use contraceptives to prevent fertilisation for family planning, pregnancy prevention, and child spacing [5]. They also cure acne, hirsutism, menorrhagia,

endometriosis, migraine, hyperandrogenism, premenstrual syndrome, polycystic ovarian syndrome, and dysmenorrhea. A quarter of women globally use contraceptive pills, contraceptive use has increased rapidly worldwide, with 72.8% of women using in 2022 in the US, 39.6% in Pakistan, 69.4% in Indonesia, and 37.7% in Iran in 2019 [6]. From 1996 to 2011, Nepal's fertility rate fell from 4.6 to 2.6 births per woman. Modern contraception use rose 66% [7]. In 2011, 50% of married women and 38% of all women used contraception. Government-run, nongovernmental, private, and pharmacy-run health care facilities in Nepal provide family planning services. All government levels distribute condoms, tablets, and injectables, including hospitals, health care centres, health posts, health professionals, and volunteers [8]. The government funds contraceptives, and 70% of women received them for free in 2006. Common means of contraception include sterilisation, condoms, Depo-Provera® injections, and oral contraceptives [9]. Most people (83% for intrauterine copper devices and 90% for subcutaneous progestin implants) know about long-acting reversible methods, whereas just 29% know about emergency contraception [10]. The national health study found that 99% of Nepalese women of fertile age, including abortion seekers, know about at least one modern contraception method [11]. Most people (83% for intrauterine copper devices and 90% for subcutaneous progestin implants) know long-acting reversible methods, whereas just 29% know emergency contraception. Even though contemporary contraceptives are well-known, almost a fourth of married women need them [12]. Over 50% of Nepalese women cease using birth control within 12 months, frequently owing to negative effects like poor bleeding control [13]. Hormonal birth control uses the endocrine system, most methods contain steroid hormones. Hormonal contraception reduces the risk of conception and treats polycystic ovary syndrome, dysmenorrhea, menorrhagia, and hirsutism [14]. Interfering with the feedback loop that governs progesterone and oestrogen release interferes with ovulation, fertilisation, implantation, or all three [15]. Combination hormonal contraceptives contain both an oestrogen and a progestin, while progestogen-only treatments contain only progesterone or one of its synthetic counterparts [16]. Combined techniques decrease ovulation and thicken cervical mucus, while progestogen-only methods reduce ovulation but rely more on cervical mucus changes. Contraceptive failure and non-use cause most unintended births [17]. Many reproductive-age women use hormonal contraception, regular hormonal contraceptive use can cause weight gain, depression, emotional disorders, liver tumours, and various malignancies [18]. Improved contraceptive use and counselling could avoid unwanted pregnancies and their harmful repercussions. The National Health Survey found that 99% of fertile Nepalese women know about at least one modern contraceptive [19]. Three DHS surveys in Nepal over the past decade reveal a remarkable increase in modern contraception use from 20% to 44%. The use of hormonal contraceptives as primary contraception has increased dramatically [20].

2. MATERIALS AND METHODS

The study followed the descriptive cross sectional study design, where data has been collected with the help of primary data collection technique. Interviewer-administered questionnaire used to collect the required information from the participants. All the married women of reproductive age who were encountered on the day of data collection and provided their consent to participate in the study. All together N=376 women were interviewed. Similarly 50 medicine retailers were also included in the study. The selection of retailer was random and of the convenient location. The retailers of Kathmandu Metropolitan Ward No. 6 was selected on the convenient basis. All the retailers were included in the study to reach 50 sample. The data was collected only once and the data collection was done for 4 months. And the collected data was analyzed & each variables were described. On the basis of analysis this was a descriptive cross-sectional study. After completion of data collection, the data was cleaned, coded, entered and analyzed using the International Business Machines Corporation (IBM), Statistical Package for Social Sciences (SPSS).

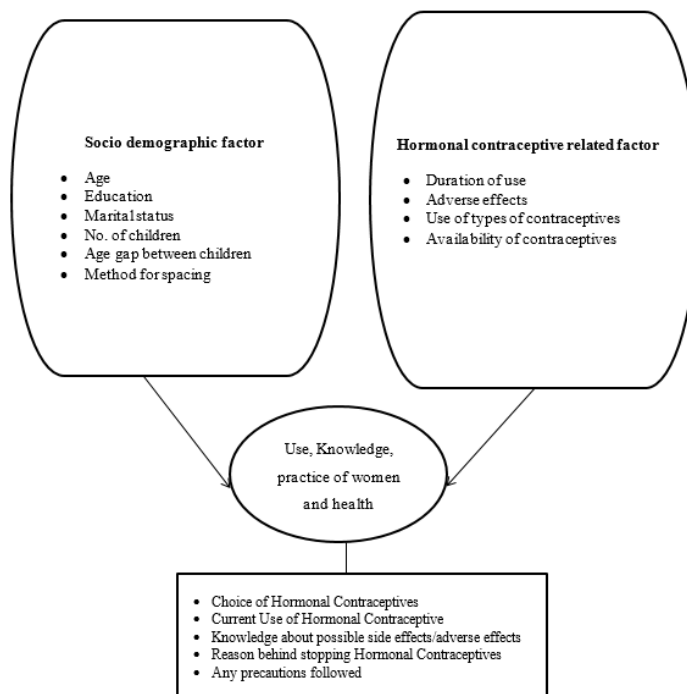


Figure 01: Theoretical framework of the study

3. RESULTS AND DISCUSSION

3.1 Socio-demographic characteristics of the patients

The age of respondents was in the range of 18-49 years. However, the age group 21-25 years was greater in proportion (37.5%). The respondents representing 46-50 years of age were very low (1.3%). There were total of 376 respondents in our study. Among them, 45.2 percent were housewives, 41.2 into skilled work. The respondent representing unskilled work was (13.6%). In total 17.8% percent respondents were graduate. Among them, most of the women completed the higher secondary (26.3%), intermediate level (20.5%) and primary (13.0%). Respondents who were literate was (9.6%) while illiterate respondents were 12.8%. Out of 376 respondents, 56.6% respondents have 1 child, 44.7% respondents have 2 children 28.5% and 15.6% respondents have 3 children, 4% respondents have 4 children, 0.8% have 5 children and 8.5% respondents don't have any children. In total, higher number of respondent are married for 0-4 years, followed by 5-9 years. Respondents who are married for 10-14 years and 15-19 years are 7.2% and 5.6%. Respondents who are married for 20-25 years and 25-29 years are 4.5 % and 2.1%. While respondents who have been married for 30-34 are least in number.

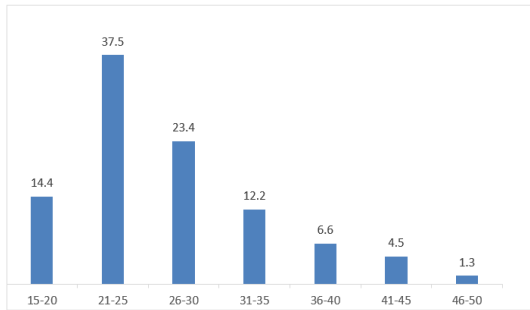


Figure 02: Age

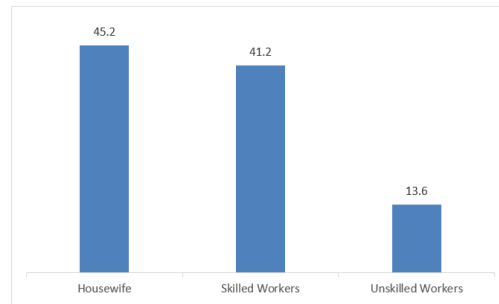


Figure 03: Occupation

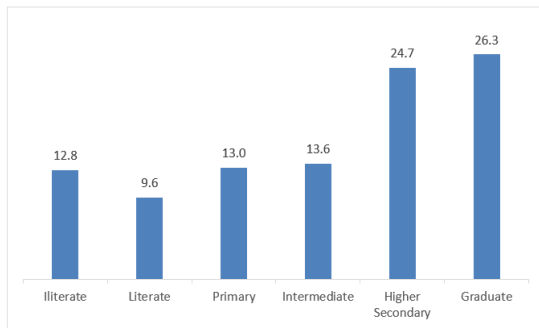


Figure 04: Educational Status

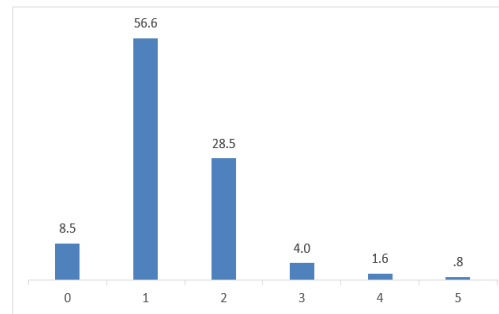


Figure 05: Number of Living Children at Household

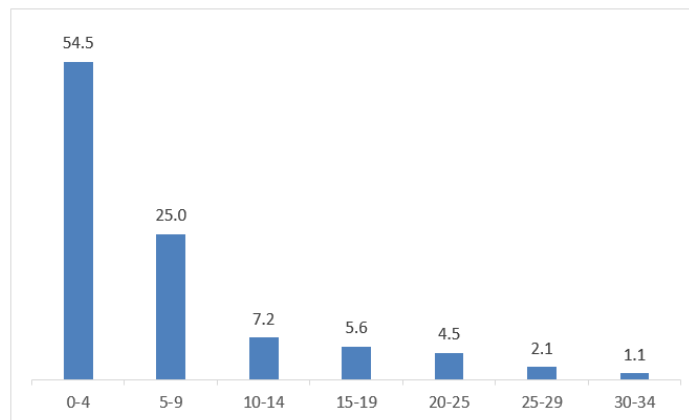


Figure 06: Passed Years from Marriage

The respondents, who had heard about hormonal contraceptives, were asked whether they knew any devices. Regarding the method specific, 91 percent respondents know about injectables, followed by OCP 74.7 percent and implants 49.2 percent.

Table 01: Types of Hormonal Contraceptives Heard

Hormonal Contraceptives	N	Percent (%)
Pills	281	74.7
Injectables	342	91
Implants	185	49.2

Out of 376 respondents, 51.1 percent of respondents were injection user followed by OCP 23.9 percent while the implants user was 25%. Highest proportion 37.8% of respondents chooses particular type of hormonal contraceptives due to its effectiveness followed by easy use 27.9% and readily available 23.1%. Very low Respondents (0.3%) chooses particular hormonal contraceptive because of low cost.

Table 02: Reason for Choosing Particular Hormonal Contraceptives

Reason of Choice	Pills	Injectables	Implant	Total
Effectiveness	4.0%	18.9%	14.9%	37.8%
less side effects	1.6%	4.0%	5.3%	10.9%
Being Cheap	0.0%	.3%	0.0%	.3%
Readily Available	8.0%	14.9%	.3%	23.1%
Easy to use	10.4%	13.0%	4.5%	27.9%
Total	23.9%	51.1%	25.0%	100.0%

Highest proportion 54.5% of respondents obtain knowledge from health worker followed by family and friends 44.4% and advertisement 1.1% (Table: 4.3)

Table 03: Source of Knowledge of Hormonal Contraceptives

Source of knowledge	Pills	Injectables	Implant	Total
Various Advertisements & Media	.3%	.8%	0.0%	1.1%
Family & Friends	16.5%	20.5%	7.4%	44.4%
Health Worker	7.2%	29.8%	17.6%	54.5%
Total	23.9%	51.1%	25.0%	100.0%

Most of the respondents (35.1%) obtained particular type of hormonal contraceptives from health post while 26.6% of the respondents obtained from pharmacy (community shop) and 21.3% from government health organization. Only 17% of the respondents obtained from Private Health Facilities.

Table 04: Source of Hormonal Contraceptives

Source of HC	Pills	Injectables	Implant	Total
Health Post	8.8%	19.1%	7.2%	35.1%
Community Shop	8.5%	12.0%	6.1%	26.6%
Government Health Organization	5.3%	12.0%	4.0%	21.3%

Private Health Facility	1.3%	8.0%	7.7%	17.0%
Total	23.9%	51.1%	25.0%	100.0%

The study showed that out of 376 respondents 43.90% of injectables receive counseling followed by Implant users 24.20% and 20.20% Pill users receive counseling i.e. 4.1%.

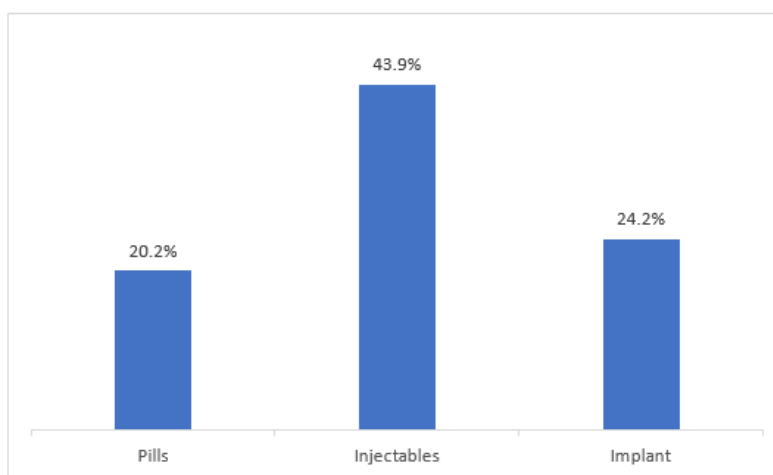


Figure 07: Counseling Received

Highest proportion of the respondents were counseled on side effects (62.0%) followed by regular health checkup 41.8% and using practice 31.4%. 26.3% respondents were counseled on avoiding heavy work whereas 12.2% on effect of disease on drug.

Table 05: Counseled Received On

Counseling	Pills	Injectables	Implant	Total
Side Effects	12.8%	31.9%	17.3%	62.0%
Regular Health Checkup	9.3%	21.8%	10.6%	41.8%
Using Practice	8.8%	15.4%	7.2%	31.4%
Effect of Disease	1.6%	8.0%	2.7%	12.2%
Avoid Heavy Work	7.7%	10.9%	7.7%	26.3%
Total	23.9%	51.1%	25.0%	100.0%

The study showed that in counseling involvement of Health worker is maximum i.e.70.0% as compared to the other healthcare provider. The entire health care providers provide information about side effects, using practice, health checkup, and life style modification respectively.

Table 06: Involvement of Health Care Provider in Counseling

Counseling	Health Worker	Doctor	Nurse	Pharmacist	Total
Side Effects	49.5%	6.0%	9.3%	5.1%	70.0%
Regular Health Checkup	33.9%	5.7%	6.0%	1.5%	47.1%
Using Practice	25.8%	3.6%	4.2%	1.8%	35.4%
Effect of Disease on drug	9.9%	.9%	1.8%	1.2%	13.8%

Lifestyle	20.7%	2.7%	2.7%	1.2%	27.3%
Avoid HeavyWork	22.5%	2.4%	3.9%	.9%	29.7%
Total	70.9%	9.9%	14.1%	5.1%	100.0%

The study showed that maximum Injection users counseled on Menstrual disorder and weight changes while Pill users on menstrual disorder and Implant users on weight changes.

Table 07: Received Counselling on Side Effects

S/E	Pills	Injectables	Implant	Total
Menstruation Disorder	7.2%	15.7%	9.6%	32.4%
Weight Changes	6.6%	12.2%	8.5%	27.4%
Headache, N/V & Dizziness	1.3%	4.8%	1.1%	7.2%
Breast pain & Pelvic Pain	1.9%	1.9%	1.6%	5.3%
Backpain	2.4%	.3%	1.9%	4.5%
Allergy	1.9%	3.5%	2.4%	7.7%
Loss of Appetite	.3%	4.3%	1.6%	6.1%
Total	23.9%	51.1%	25.0%	100.0%

The study showed that out of 87 Respondents, 73% starts taking pills 5 days of menstruation and 25% started taking pills from the same day and 2% at any day.

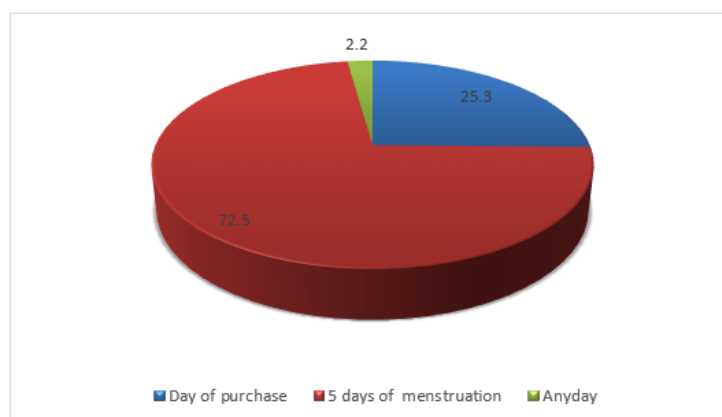


Figure 08: Starting Time of Pills

The study showed that 52% of respondents had use OCPs on same time, 45% of respondents always in the evening, 2% when ever remember and only 1% respondent use OCPs always in the morning.

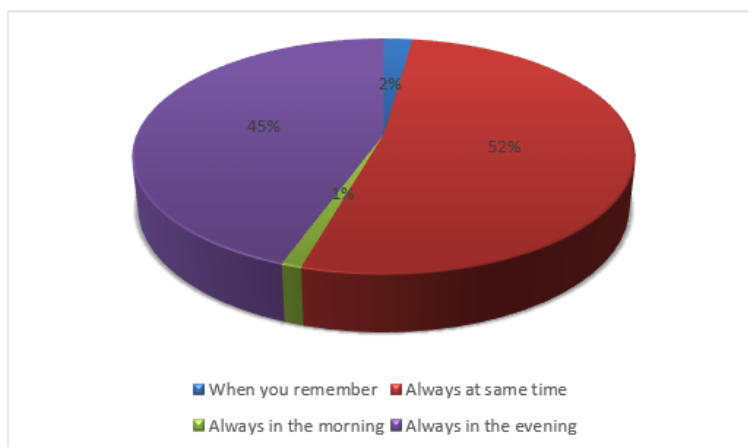


Figure 09: Use of OCP

Highest proportion of pills user i.e. 43% did not miss any dose , 28% takes 1 tablet as soon as possible, 22% administer ECP, 2% takes two tablets as soon as possible whereas 6% didn't do anything if they missed the dose

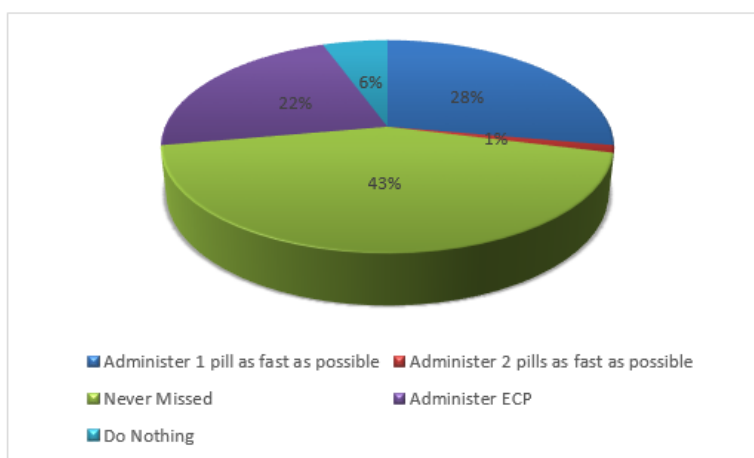


Figure10: Practice on Missed Dose of OCP

Out of 192 respondents, 34.4% respondents administered injection on time, 26.6% used temporary mens of family planning whereas 18.8% didn't involve in sexual activities. 15.6% respondents didn't do anything while less than 4.7% use emergency contraceptives.

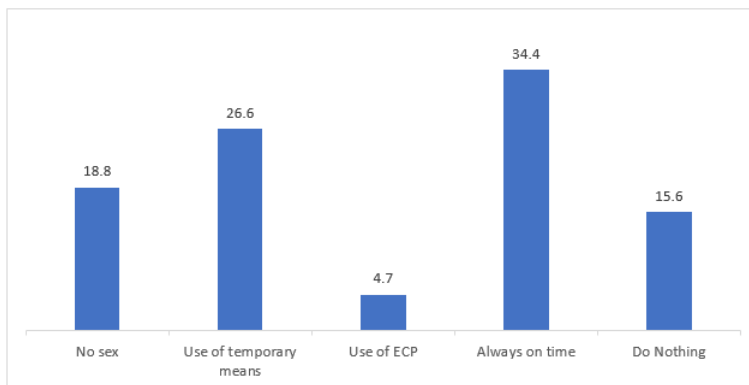


Figure 10: Practice on Missed Dose of Injection

3.2 Knowledge of Contraceptives among Users

The study showed that 100% of respondents responded with 5 years of effectiveness. Out of 93 respondents 55.9% respondents leave 7 days for drying, 39.8% didn't know about the duration of dryness while 2.2% leave three days for drying. Only 2.2% leave 2 days for drying. Highest proportion of the respondent i.e. 63% dispatches the adhesive tape after 3 days while 19% didn't about it. Similar percent of respondent dispatch the adhesive patch in 5 days i.e 18%. In a multiple response, highest proportion of side effects experienced by pills users was Headache (42.2%), prolong bleeding (41.1%), weight gain (33.3%). 79.7% injection users experienced side effect prolong bleeding followed by weight gain (33.3%) and light few days bleeding (13.3%) while only 1% experienced allergy. Maximum percent of the implant user i.e. 57% experienced irregular menstruation, Weight gain (50.5%), Light bleeding (33.3%) and amenorrhoea (%).

Table 08: Experienced Side Effects of Particular Hormonal Contraceptives

Effects	Pills	Injectables	Implants
Passage of white fluid	12.4%	9.40%	0%
Light Bleeding	1.1%	15.10%	24.70%
Prolong Bleeding	41.10%	79.70%	33.30%
Irregular Menstruation	15.60%	27.70%	57%
Amenorrhoea	13.30%	31.30%	9.70%
Weight Gain	33.30%	33.50%	50.50%
Pigmentation	14.40%	15.60%	12.90%
Mood Swings	1.10%	3.10%	2.20%
Breast Tenderness	15.60%	16.10%	8.60%
Dizziness	14.40%	0.00%	0.00%
Irregular BP	7.80%	5.70%	24.70%
Backache	18.90%	21.90%	19.40%
Allergy	0.00%	1.00%	11.80%
Total	100%	100%	100%

The study showed that among the injection users 10.6% also used pills, 2.7% Injection and implants (6.8%) while only 3.8% pills users used injection. Out of total implant users, 6.8% also used pills and 1.7% used injection respectively.

Table 09: Other Hormonal Contraceptives Used by Same Respondents

Hormonal Contraceptives	Pills1	Injection1	Implants1	Total
Pills	0.3%	3.8%	0.7%	4.8%
Injection	10.6%	2.7%	1.4%	14.70%
Implants	6.8%	1.7%	0.0%	8.5%
Total	17.70%	8.20%	2.10%	100.0%

Pills1: pills previously used by the respondents, Injection1: injection previously used by the respondents

Implants1: implants previously used by the respondents The study showed that 51.9% respondents used Hormonal Contraceptives for 2-10 years. Respondents using Hormonal Contraceptives around 1 year were 43.6% and 10-15 years were 3.5% and 1.1% around 15-20 years.

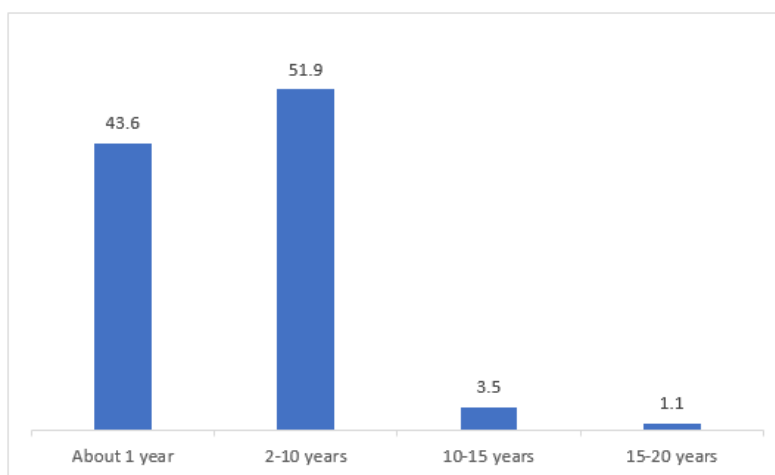


Figure 11: Total Duration of Use of Hormonal Contraceptives

In overall highest proportion of the hormonal contraceptive users stop using particular device due to its side effects i.e. implants (84.10%), Pills (49.50%) and injectables (25.20%). Respondents who disliked previous device and stopped using were in range as pills (7.5%), injection (2.8%) and implant (10.3%).

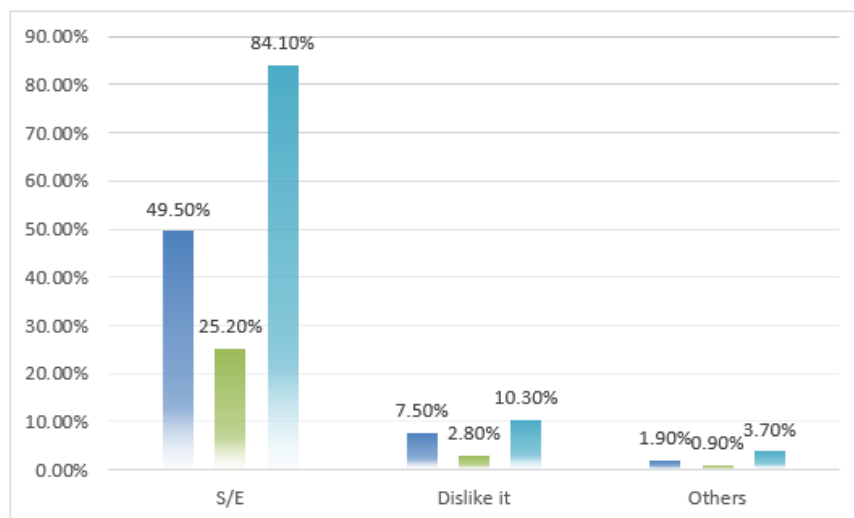


Figure 12: Reason behind stopping use

Highest proportion (62.7%) users consult the physician or health worker after experiencing side effects while 2.0% users switched another device. Similarly 31.4% users stopped using and 3.9% users didn't do anything.

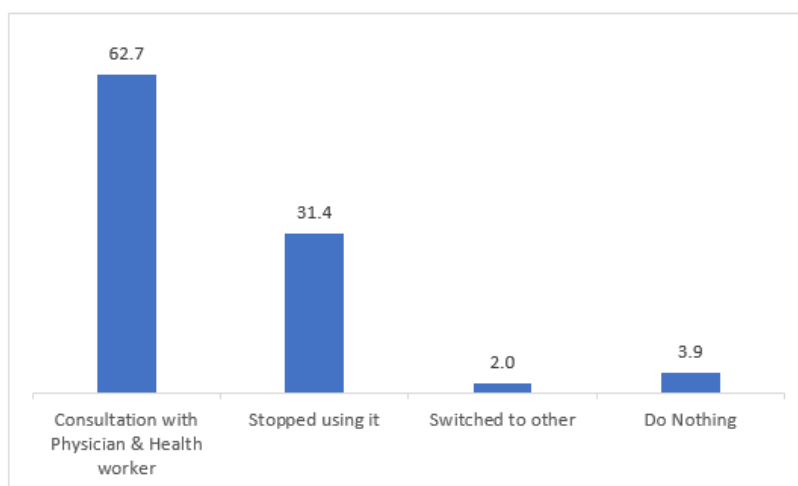


Figure 13: Activities of Respondents after Experiencing Side Effects

3.3 Practice of Hormonal Contraceptive among Dispensers

In the study, about 94% of respondents were from Diploma pharmacy and 2% from Bachelor Pharmacy background while only 4% of respondents were from CMA background.

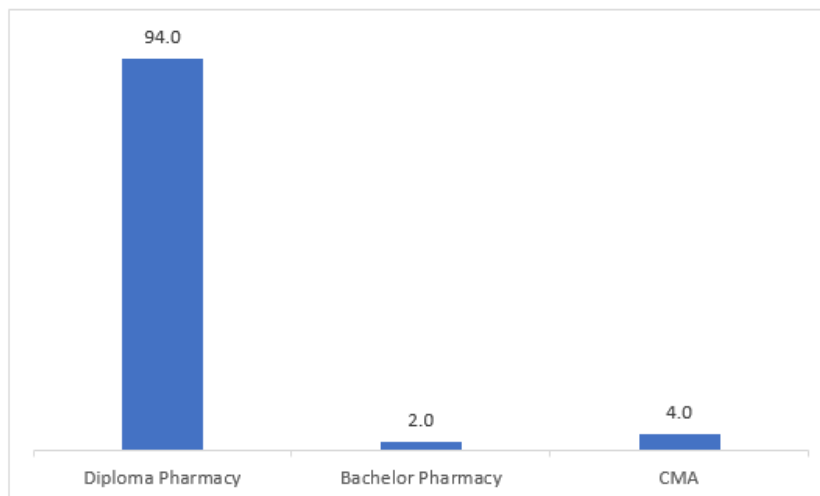


Figure 14: Education status of Dispenser

There were three types of hormonal contraceptives available in the pharmacy.

They were:-

- Oral contraceptive pills:
- Nepali brand: NILOCON WHITE and SUNAULO GULAB,
- Indian brand: PROGYMAN and OVOREST
- Emergency contraceptive pills: I PILLS, ECON, UNWANTED
- Injection: - Sangini Sui

The prices of the hormonal contraceptives were similar in all the pharmacies. Only some variation was found on Indian brand of hormonal contraceptives. The most selling device out of those hormonal contraceptives was I PILL (56%) and ECON (24%) followed by Unwanted 72 (8%), Sangini Sui & Nilocon White (6%). The study showed that 98% dispensers suggest taking one tablet as soon as possible while only 2% suggest using ECP if unsafe sexual intercourse occurs. Highest proportion of dispenser suggests while 98% dispensers suggest to use temporary means. Only 2% suggest Not to have physical relationship. The study showed that in all of the pharmacies few of the users ask about the information of the device. The study showed that 88% of the dispensers counsel the users. The study showed most of the dispenser counsels on Indication & Time i.e 86% and side effects i.e. 78% followed by only method of use 22%. In overall few users complain about the side effects of the particular hormonal contraceptive after using it. Maximum users complain about irregular menstruation, stomach cramps followed by dizziness and anorexia.

3.4 Discussion

The data collector checked and briefed all women attending the study location about the study goal and asked for consent. She answered the questions and recorded her response for study participants. The biggest frequency of respondents were 21-25 and 26-30 years old, maybe due to cultural factors as many women marry late. According to Demographic & Health Survey (DHS)(Ministry of Health, 2017a), women with a secondary education or higher are less likely (34%) to use modern contraceptive methods than women with no education (52%). The high usage of hormonal contraceptives with injection may be attributable to its effectiveness, availability, and source of acquisition, as many of our study participants received the device from health post [21]. Similar, married women utilise female sterilisation (15%), injectables (9%), male sterilisation (6%), the pill (5%), male condoms (4%), implants (3%), and IUDs (1%) [22]. Since indication & time, side effects, using practice, and device follow-up are more well-known, consumers received counselling on these [23]. Health Post provided most of the counselling in this study because many Nepalese users interact with them. Pill and injectable users received menstruation disorder, weight fluctuations, headache, and dizziness advice. Since WHO recommends using OCP after five days of menstruation, most pill users start using them then [24]. Many pill users always took an active pill, this study found that just 29% of respondents realised they should take an active pill if they forget [25]. This study found that pill users reported prolonged bleeding, weight gain, and headache. The majority of injection users are always on time and take interim measures if they miss a dosage to avoid pregnancy. Implant users experienced weight gain, irregular menstruation, prolonged bleeding, and fluctuating blood pressure. Our study also found that most respondents stopped using the device owing to adverse effects, dislike, and fear [26].

Our study found that many users knew about and utilised emergency contraceptive tablets. 82.6% of ECP users used it within 24 hours following risky sexual contact, as recommended. The chemists knew about pills, injections, implants, emergency contraceptive tablets, adverse effects, and use [27]. No chemist questioned about last menstrual period or advised consumers about STDs. Similar most chemists advised clients on side effects, use, and dosing [28]. Dispensers said a few customers reported irregular menstruation, stomach cramps, dizziness, and anorexia, but most did not [29]. Similar most chemists advised clients on side effects, use, and dosing, pharmacy customers favoured tablets, followed by injectables, for hormonal contraceptives [30]. Despite its most common negative effects irregular menstruation, headache, weight gain young people are using emergency contraceptives more and more [31].

4. CONCLUSIONS

The study evaluated consumers' and dispensers' knowledge and practice of hormonal contraceptive uses and side effects. The globe has various hormonal contraceptives, but Nepal only has pills, injections, and implants. Pharmacy sells just pills and injections. No drug is without side effects and adverse drug reactions include dizziness, headache, irregular menstruation, weight change, blood pressure change, etc. The study sought to understand hormonal contraception use, side effects, and dispenser practice. This descriptive cross-sectional study includes respondents using hormonal contraceptives who consent to the study, excluding those who had stopped using them for more than a year and those not interested in the 4-month study. On the basis of the information collected from the 376 respondents and taking in consideration on all the methodological pitfalls of census conducted, the study has come up with the conclusion that the users prefer particular types of HC due to its easy availability. Health post is the most common source, almost all the health care provider provides information about the side effects and other factors related to the use of the particular device. The side effects experienced by pills users was headache, prolonged bleeding, weight gain. Injection users experienced side effect prolonged bleeding, weight gain followed by amenorrhea. Maximum implant users experienced weight gain, irregular menstruation. The prevalence of side effects of hormonal contraceptives is high with majority of the users experiencing them. Less than 50% respondents received counselling for all HC users. During initiation and subsequent continued use, hormonal contraceptive users should be taken through the instructions of use and possible side effects and how to cope with them taken through the instructions of use and possible side effects and how to cope with them.

5. RECOMMENDATIONS

On the basis of the findings some of recommendations can be made to the policy makers, that the alternate method of birth spacing should be encouraged to mitigate possible side effect from the hormonal contraceptives. Proper counseling about the possible side effects among the various choices of HC should be mandatory to the retailers as well as health workers. Further studies should be done to find out the causes of the gap between contraceptive knowledge and contraceptive use and how to overcome them.

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