



**UNIVERSITI KUALA LUMPUR**  
**ROYAL COLLEGE OF**  
**MEDICINE PERAK**



**RESEARCH REPORT:**  
**A RETROSPECTIVE STUDY OF THE PRACTICE OF**  
**CONTRACEPTION USAGE AND THE FREQUENCY OF**  
**SIDE EFFECTS AMONG WOMEN IN CHEMOR**  
**HEALTH CLINIC IN THE YEAR 2011**

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## 2. ABSTRACT

**BACKGROUND:** Many studies had been done showing significant pattern in the usage of contraception. These patterns are very useful in determining the types of contraceptive methods according to population's needs.

**OBJECTIVE:** This study aims to determine the practice of different type of contraception among patients attending family planning clinic at Chemor Health Clinic in the year 2011 and its relation to the patient's socio-demographic data and pregnancy history

**MATERIALS AND METHODS:** This is a retrospective studies conducted among women who were taking contraception in 2011 at Chemor Health Clinic. The data of those who fulfilled the criteria's were taken and analysed by SPSS software.

**RESULTS:** The highest percentage of contraception were OCP and injection with 38%, each, followed IUCD with 16% and condom with 8%. There is a decreasing trend in OCP usage with decrease in age with the age less than 25 was 45.2% and age more than 35 was 28.1% and an increasing trend of IUCD usage with increasing age which from 9.7% to 31.3%. Majority of Malays prefer using OCP and injection as a method of contraception with 40.1% and 36.9%, similar to Indians with OCP 36.8% and Injection 31.6%. Majority of Chinese preferred to use IUCD (31.2%) and condom (31.2%). In comparing level education of wives, IUCD users was high among primary (22.7%) and lower secondary (20.9%) compared to upper secondary (13.8%) and tertiary (13.9%) but they shows the highest in condom usage with 11.6% in upper secondary and 5.6% in tertiary education level. The most common side effects in patient using OCP is weight gain which is 73.9%.

**CONCLUSIONS AND RECOMMENDATIONS:** The highest percentage of contraception users among was OCP and injection and there are strong association between type of contraception and age, ethnicity and level of wife education. The contraceptive method that presented with most side effects was OCP. This patient mostly presented with weight gain. Not many studies done in psychosocial aspect of the ethnicity preference in contraception method thus this study is hoped to be a stepping stone for more studies that look into the types of contraception usage pattern in relation with ethnic's psychosocial

### **3. INTRODUCTION**

According to World Health Organization (WHO), an estimated 200 million couples in developing countries would like to delay or stop childbearing but are not using any method of contraception. Family planning are very important in preventing pregnancy-related health risks in women, reducing the infant mortality, helping to prevent HIV/AIDS, reducing the need for unsafe abortion, empowering people, reducing adolescent pregnancies and also slowing population growth. <sup>[1]</sup>

In Malaysia, family planning became an official policy with the launching of the National Planning Program in conjunction with the First Malaysia Plan in 1966. The National Family Planning Board was established to plan, execute and coordinate all family planning activities in the country. In 1984, the Board was renamed the National Population and Family Development Board (NPFDB). <sup>[5]</sup>

A few researches have been done in other states but none in Perak. We have chosen to conduct this research in Chemor due to our familiarity with the town from our previous experiences. Chemor is one of the main town in Kinta district Perak, Malaysia. The population in Chemor was estimated to be 75,470 in 2008 and it is expected to grow. Chemor Health Clinic is situated at the rural area of Kinta district. In 2011, the number of patients who came to Chemor Health Clinic was about 58,358 and the number of patients who came for the family planning clinic was around 285. It was estimated that the total number of female population aged from 15 – 44 years old was 18322 <sup>[2]</sup> and the percentage of women taking contraception in Chemor Health Clinic was around 1.5%.

There are many types of contraceptive methods that are available for women. However in Chemor health clinic, they provide only 4 different types of contraception. They are oral contraceptive pills (combined oral contraceptive pills and progesterone only pills), depo – provera injection, male condom, and intrauterine device (cu 250 and cu 375).

#### **4. LITERATURE REVIEW**

The oral contraceptives are the first choice among women who practiced contraceptive methods. From the survey conducted among couples in the United States 2002, 61.9% of women aging 15 years old to 44 years old practiced contraception. 18.9% of them chose oral contraceptives as their first choice followed by female sterilisation 16.7%, condom 11.1% and the least preferred method was periodic abstinence (natural family planning) 0.2%. The percentage of women using pills declined as the age increased whereas the percentage of women who chose sterilisation increased with age. <sup>[3,4]</sup>

According to the same survey, the women of 20-24 age group are the major users of condom (21.8%), pill (31.9%) and depo-provera injection (6.2%) as their methods of contraception whereas intrauterine device is mostly used by the women aged 30-34years old (2.6%).<sup>[4]</sup>

A different study was done among the rural population in Kelantan, Malaysia 1990 showed that out of 44.9% of people who practiced contraception, 55% of them used pills followed by traditional method such as herbs 19%, tubal ligation 18%, safe period 14%, injections 5.5%, IUD 4.7%, and the least preferred contraceptive method was condom 2.3%. Among these population, Chinese showed the highest number of people who practiced contraception meanwhile the Indians was the least.<sup>[10]</sup> However, in a survey by Malaysian Population and Family Survey, Malay showed the lowest number of people who practice contraception (28.2%) followed by Indians (32.2%) and Chinese are the major ethnic that has the highest percentage of contraception usage (45.6%). <sup>[5]</sup>

Women with higher education level tend to use contraceptive methods for family planning. A study conducted on women's autonomy, education and employment in Oman and their influence on contraceptive use showed that unmet contraceptive need for women exposed to pregnancy was nearly 25%, but decreased significantly with educational level and paid employment. <sup>[6]</sup>

It is also supported by another studies done in Nepal (1996-2006), although the wife's education level was associated with the type of method used by the couple, the husband's education level had more influence on the use of male sterilization and condoms. For example, men with any secondary or higher education were more likely than those with none to rely on either of these methods <sup>[7]</sup>

According to study on current use of contraception among women aged 15-49 years old by level of education and by type of method, Rwanda 2000 - 2007/08, women with higher level of education tend to use any types of modern contraceptive methods for family planning. 18.2% of them use injectables for contraception followed by pills 9.5% and condom 4.5%. The same study also reveals that women with higher income showed the same pattern of types of contraceptive method preference with injectables leading at 18%, pills 8.9% and condoms 4%. <sup>[8]</sup> However a survey done in United State reveals that pills and condom showed the highest percentage usage among women that falls in poverty group compared to the other group whereas the higher income level group dominating the other methods as contraception(including intrauterine device, contraceptive patch, emergency contraception, norplant, diaphragm, female condom, foam, cervical cap and some other methods). <sup>[4]</sup>



Each type of contraceptive method has its side effects. Therefore, patients need to be briefed on the benefits and risk of taking any of the contraceptive methods. A study in United States on 2002 showed that depo-provera was the method that give most side effects, 72.3% followed by norplant 70.6%, pills 64.6% and condom 17.9%.<sup>[4]</sup> Due to these side effects many users switch to different type of contraception. From another study that compare between IUD and pills done in 1973, patients of the pills group complaint of more side effect compared to the IUD group. The most common side effects for pills are weight gain, break-through inter-menstrual bleeding and also headache, whereas in IUD group complaints are mostly due to menorrhagia.<sup>[9]</sup>

There is a correlation between types of contraceptive method and number of parity. A study done on characteristics of users of intrauterine devices and other reversible contraceptive methods in the United States showed that most of women with high parity prefer intrauterine device as a mode of contraception. IUD use was especially uncommon among nulliparae.<sup>[11]</sup> It is also supported by a survey in 2002 where a significant reduce in pills usage from nulliparae to parity of 3 or more birth (56.8% - 9.8%).<sup>[4]</sup>

## **5. OBJECTIVE**

### **General objective:**

This study aims to determine the practice of different type of contraception and frequency of its side effects among patients attending family planning clinic at Chemor Health Clinic in the year 2011 and its relation to the patient's socio-demographic data and pregnancy history

### **Specific objectives:**

1. To describe the socio-demographic characteristics of the study population: age, ethnicity, education level (husband and wife), household income and number of parity
2. To determine the percentage of different type of contraception taken by patient in this population
3. To determine the frequency of women with side effect(s) of using different type of contraception
4. To study the association between the type of contraception taken with the age, ethnicity, education level, household income and number of parity

## **6. METHODOLOGY**

### **Study design**

The study was designed as a retrospective study

### **Study population**

The study populations were the women who attended family planning clinic at Chemor Health Clinic in the year 2011

### **Study field**

The study were conducted at Chemor Health Clinic

### **Sample Size and Sampling Method**

All the patient who came to family planning clinic in Chemor Health Clinic to take contraception in the year 2011

- Inclusion criteria:
  - New or follow-up patients who attended family planning clinic in the year 2011 for more than 3 months
  - Patients taking any form of contraception provided by the clinic
  - Patients whose their data is recorded and available in the clinic
- Exclusion criteria:
  - Patients who came to the clinic but did not take any form of contraception
  - Patients whose their data was lost or missing from the clinic

## Methods of Data Collection and Instruments Used

Data was collected from the patient's family planning record book and tabulated (refer dummy table)

IC	Ethnicity	Age	Education		Household Income(RM)	Parity	Contraception	Side effect(s)	
			Wife	Husband				Present/absent	Complaint(s)
1111	Malay	30	Secondary	Tertiary	1900	3	IUCD	Present	Vaginal spotting

## Variables

Variables	Operational Definition	Categories	Scale
Age	Age of subject as of completed year	<19, 20-24, 25-29, 30-34, 35-39, 40-44, >44	Nominal
Race	Ethnicity of subject	Malay/Chinese/Indian/ Others	Nominal
Education level (husband)	Educational level of subject	Primary, Secondary, Tertiary	Nominal
Education level (wife)	Educational level of subject	Primary, Secondary, Tertiary	Nominal
Family income	Total family income	<1001, 1001-2000, 2001-3000, 3001-4000, >4000	Nominal
Parity	Number of total birth	0, 1-2, 3-4, >4	Nominal
Type of contraception	Type of contraception currently using	OCP/Injection/IUCD/ Condom	Nominal
Side effect	Any side effect from the contraception given	Amenorrhoea, Dysmenorrhoea, Menorrhagia, Pervaginal Spotting, Vaginal Discharge, Weight Gain, Others	Nominal

**Plan for Data Analysis and Statistical Tests**

All necessary information was coded and entered into computer and analysed using SPSS software version 20.0.

A univariate analysis was done to describe the study population in percentage and proportion by demographic compositions, parity, type of contraception used and side effect from the contraception used.

A bivariate cross tabulation was done between the type of contraception used and demographic compositions and pregnancy history to explore any possible association. A Chi Square test was performed to determine statistical significance (p value less than 0.05) of the association if present.

## 7. RESULT

### Sociodemographic Characteristics of the Study Population

**Table 1 Socio-demographic data**

<b>Demographic Characteristic</b>	<b>Number</b>	<b>Percentage (%)</b>
<b>Age</b>		
<25	62	21.8
25-35	159	55.8
>35	64	22.5
<b>Race</b>		
Malay	225	78.9
Chinese	19	6.7
Indian	24	8.4
Others	17	6.0
<b>Education Level (Wife)</b>		
Primary	22	7.7
Lower secondary	43	15.1
Upper secondary	181	63.5
Tertiary	36	12.6
<b>Education Level (Husband)</b>		
Primary	20	7.0
Lower secondary	60	21.1
Upper secondary	167	58.6
Tertiary	33	11.6
<b>Household Income</b>		
<1000	90	31.6
1000-2000	126	44.2
2000-3000	29	10.2
3000-4000	16	5.6
>4000	22	7.7
<b>Parity</b>		
0-1	97	34.0
2-3	120	42.1
>4	66	23.2

**Figure 1: Type of Contraception Use in Chemor Health Clinic in year 2011**

**Type of Contraception Use in Chemor Health Clinic in year 2011**

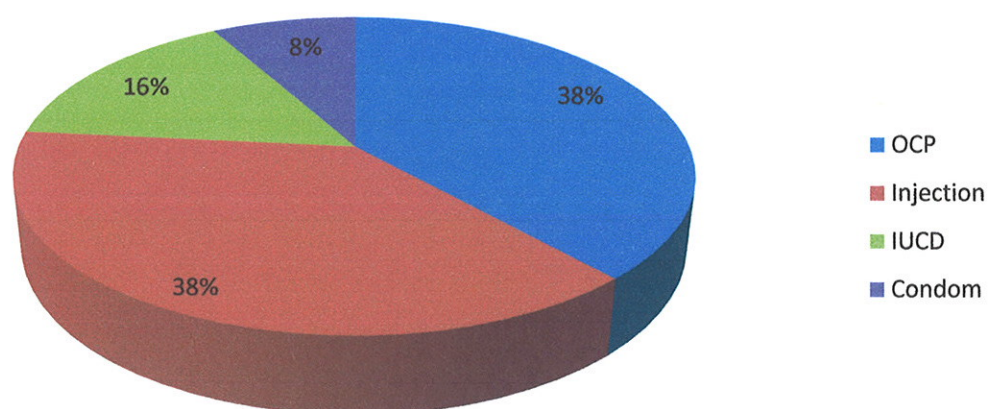


Figure 1 shows that the highest percentage of contraception users in Chemor Health Clinic in 2011 are OCP and injection with 38%, followed IUCD with 16% and condom with 8%

**Figure 2 : Association between age and type of contraception**

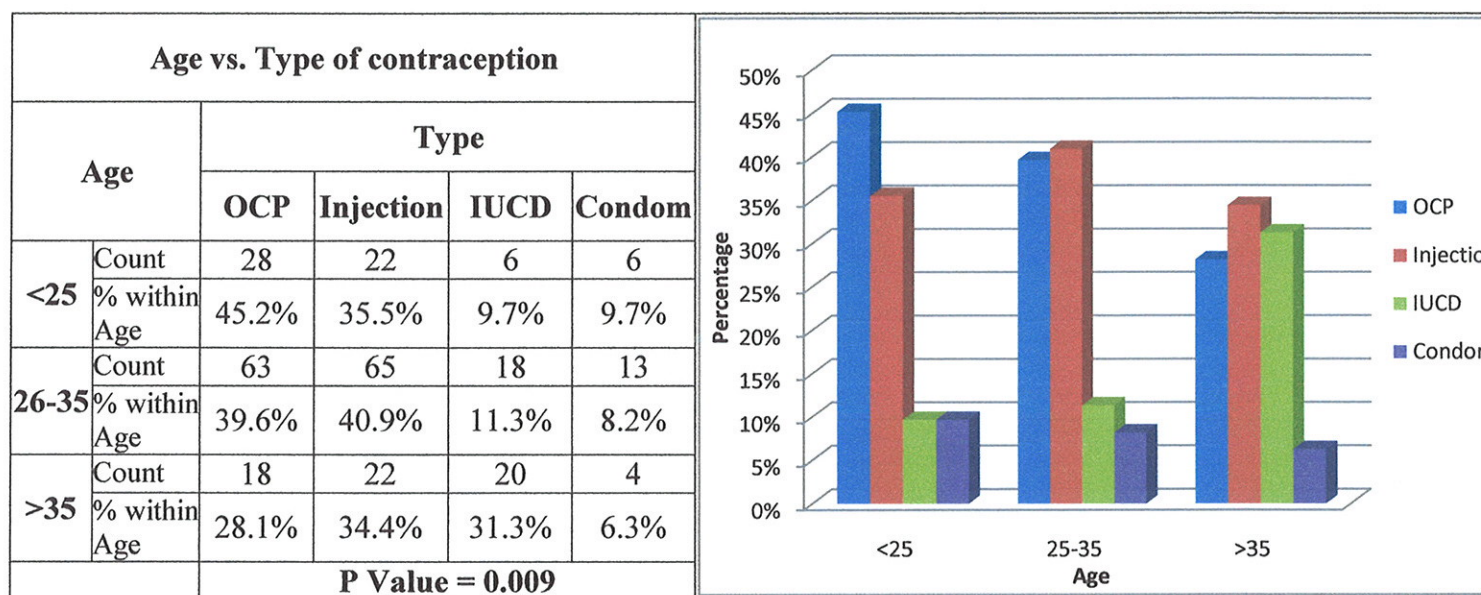


Figure 2 shows the association between age and type of contraception use in Chemor Health Clinic. There is a decreasing trend in OCP usage with <sup>?increase</sup> decrease in age with the value of OCP users in the age less than 25 was 45.2% and age more than 35 was 28.1%. An increasing trend of IUCD usage with increasing age can also be seen with the value of IUCD users in the age less than 25 was 9.7% and age more than 35 was 31.3%. The use of condom was also decreasing from 9.7% in age less than 25 to 6.3% in age more than 35. Injection users show not much difference with age. There is a significant association between age and type of contraception with p value 0.009.

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**Figure 3 : Association between race and type of contraception**

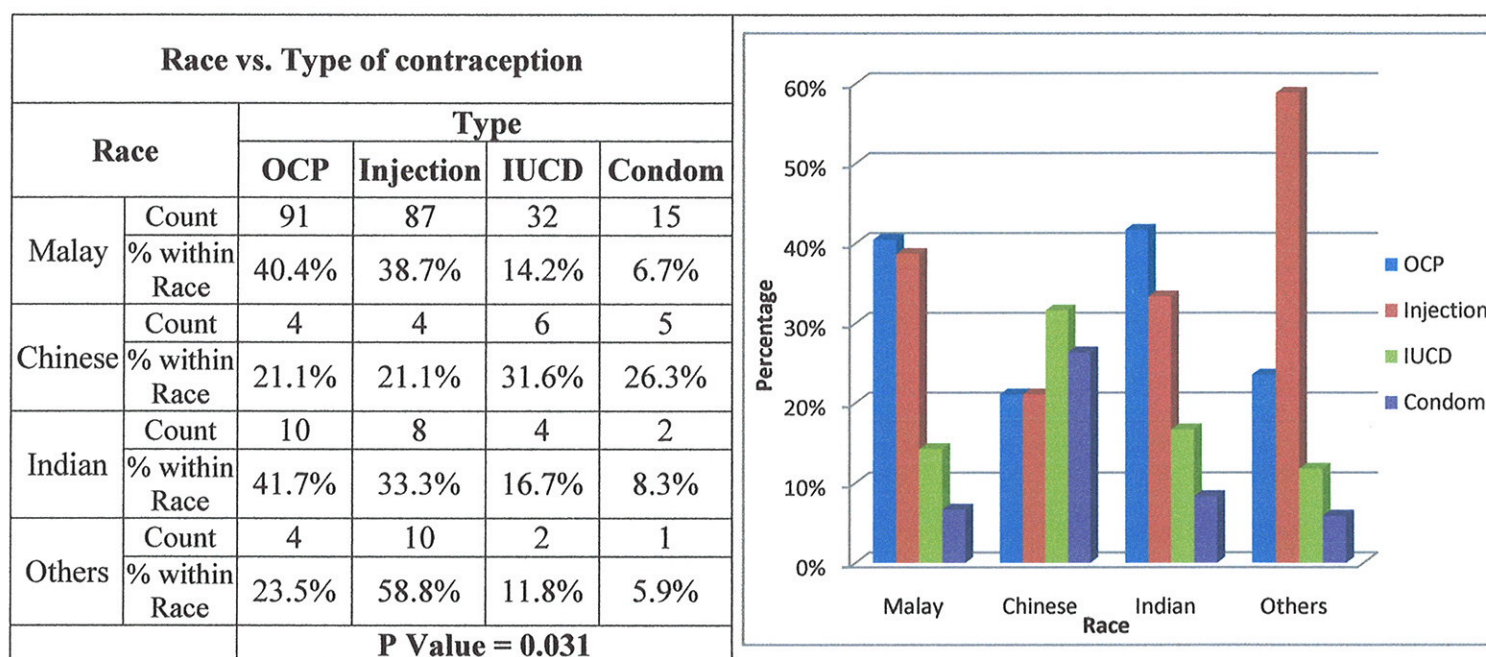
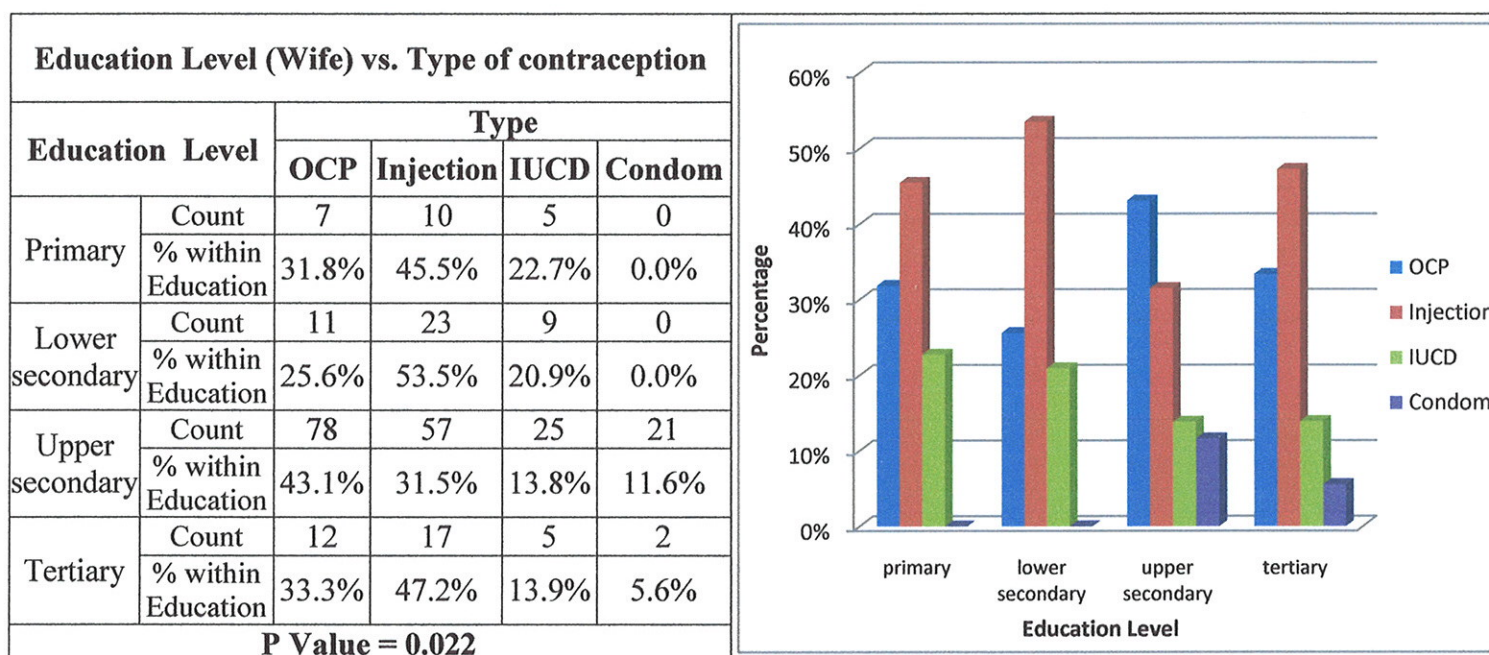


Figure 3 shows that majority of Malays prefer using OCP and injection as a method of contraception with 40.1% used OCP and 36.9% used Injection almost similar to Indians with OCP 36.8% and Injection 31.6%. Majority of Chinese preferred to use IUCD (31.2%) and condom (31.2%) as a method of contraception. The other races, consist of Orang Asli, Indonesians, and Philippines, prefer using injection (64.3%) as a method of contraception. This association is found to be statistically significant by the chi-square test with  $p=0.031$ .

**Figure 4 : Association between wife's education level and type of contraception**

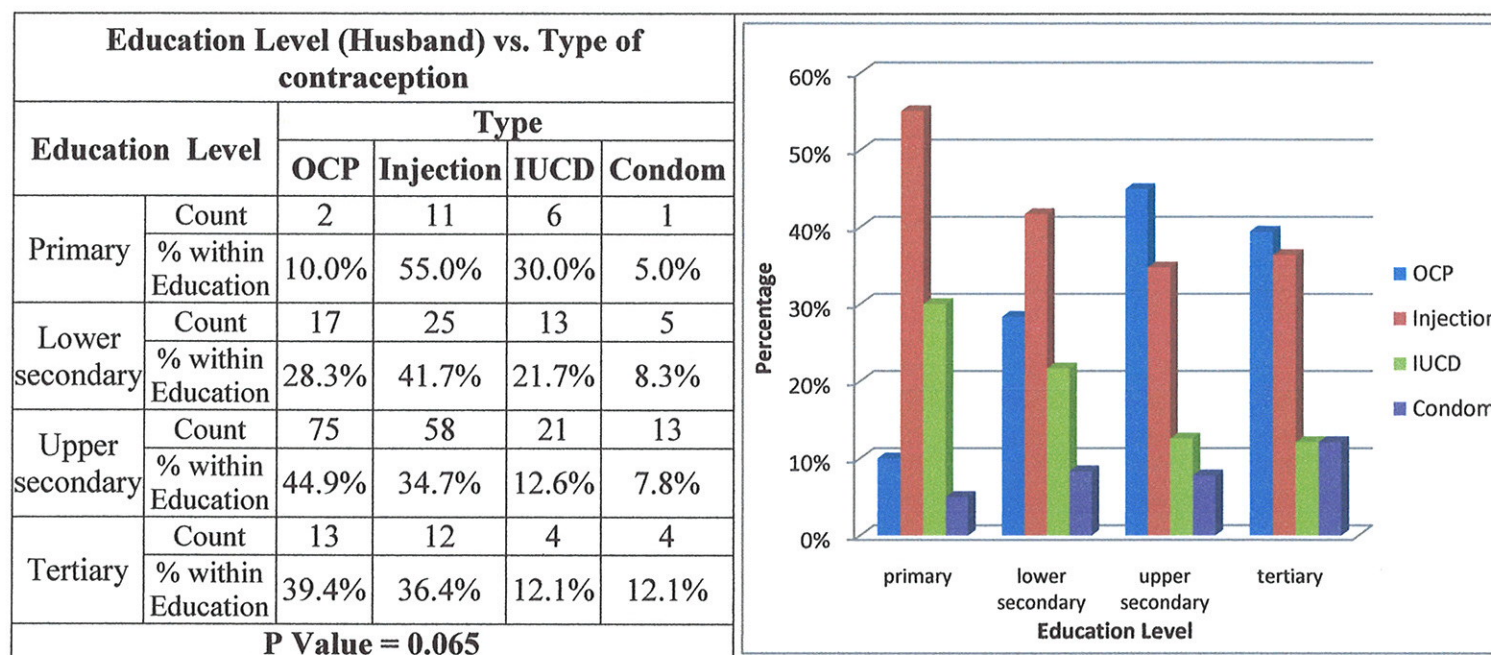


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The relationship between wife's level of education and type of contraception was analysed and tabulated. The use of injection as method of contraception was the preferred choice for the wives with primary (45.5%), lower secondary (53.5%) and tertiary (47.2%) level of education while wives with upper secondary preferred OCP (43.1%). Percentage of IUCD users was high among primary(22.7%) and lower secondary(20.9%) compared to upper secondary (13.8%) and tertiary(13.9%) but they shows the highest in condom usage with 11.6% in upper secondary and 5.6% in tertiary education level. This association is found to be statistically significant by the chi-square test with  $p=0.022$ .



**Figure 5 : Association between husband's education level and type of contraception**



The relationship between husband's level of education and type of contraception was analysed and tabulated. Different from before, the use of injection as method of contraception was the preferred choice for the wives with primary (55.0%), lower secondary (41.7%) level of education while upper secondary (44.9%) and tertiary (39.4%) preferred OCP. Surprisingly, percentage of IUCD users was in a decreasing trend with increase in level of education from 30% in primary education level to 12.1 % in tertiary level of education. Condom usage was the highest among the tertiary level of education with 12.1% and the least was primary education level with only 5%. This association is found to be statistically not significant by the chi-square test with  $p=0.065$ .

**Figure 6 : Association between household income and type of contraception**

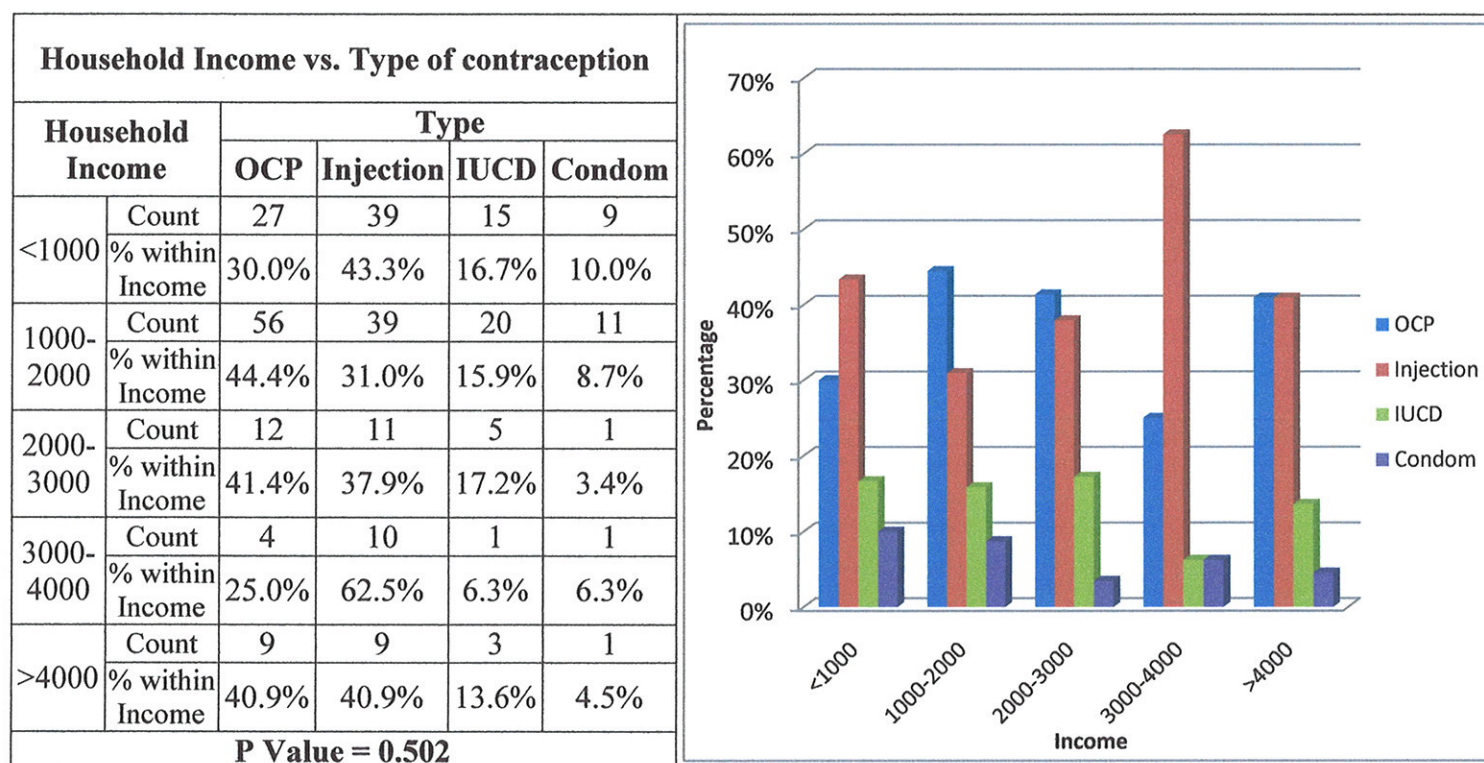


Figure 6 shows the association between household income and type of contraception. The result varies between the type of contraceptive methods and also the household income. It is statistically not significant with the p value = 0.502.

**Figure 7 : Association between number of parity and type of contraception**

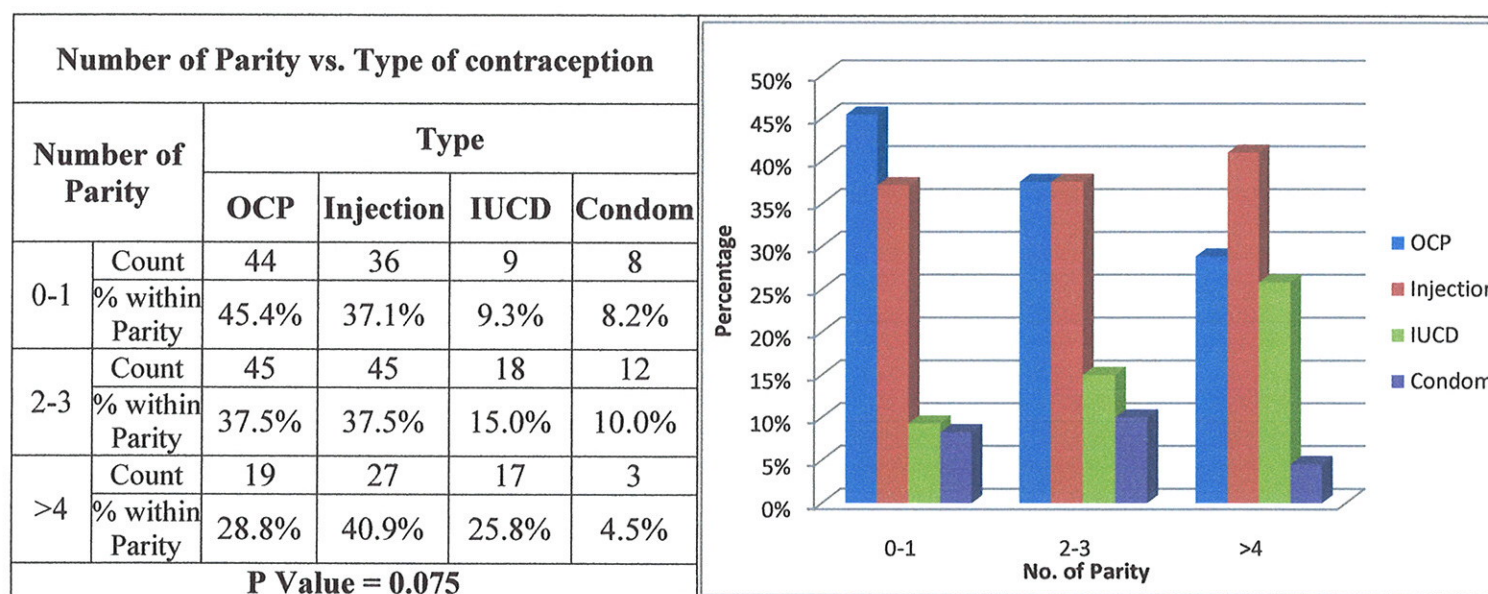


Figure 7 shows the association between number of parity and type of contraception. There is an increasing usage of IUCD with increasing number of parity from 9.3% to 25.8% and decreasing in OCP from 45.4% to 28.8%. But it is statistically not significant with the p value = 0.075.

**Table 2 : Frequency of women with side effects of using different type of contraception**

Type		Side effect	
		Present	Absent
OCP	Count	22	64
	% within Type	26%	74%
Injection	Count	30	58
	% within Type	34%	66%
IUCD	Count	21	18
	% within Type	54%	46%
Condom	Count	0	23
	% within Type	0%	100%

Type		Patient who did not come for follow-ups (%)
OCP	Count	23
	% within Type	21.1%
Injection	Count	21
	% within Type	19.3%
IUCD	Count	5
	% within Type	11.4%
Condom	Count	0
	% within Type	0.0%

*Join both into one*

Table 2 shows the highest percentage of side effects was among OCP users with 21.1% followed by Injection with 19.3%, IUCD with 11.4 % and the lowest is condom with 0%.

**Table 3 : Type of side effects with its frequency among different type of contraception**

Type		Side effect						
		Amenorrhoea	Dysmenorrhoea	Menorrhagia	PV spotting	Vaginal discharge	Weight gain	Others
OCP	% within Type	8.7%	0%	0%	0%	4.3%	73.9%	13%
Injection	% within Type	24.2%	0%	3%	30.3%	3%	27.3%	12.1%
IUCD	% within Type	36%	12%	24%	0%	20%	0%	8%
Condom	% within Type	0%	0%	0%	0%	0%	0%	0%

The most common side effects in patient using OCP is weight gain which is 73.9%. For injections, patients are mostly presented with PV spotting, 30.3%. In IUCD, the most common side effects are amenorrhea and there are no side effects in patients who used condoms.



## 8. DISCUSSION

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The correlation between age and type of contraception was not statistically significant with p value more than 0.05. However, we can see there is a trend of usage in each type of contraceptive methods with age. There are significant decrease in number of OCP users as the age increase and increase in total of IUCD users with increase age. According to the result obtained, the number of women using the OCP decreases from 45.2 % to 28.1% with increase in age whereas the total number of IUCD users increase from 9.7% to 31.3% with increase in age. This is supported by the survey done in United States regarding users of contraception which show that use of the pill declines as age increases: 54% of contraceptors under 20 years were currently using the pill compared with 11% at age 40–44<sup>[5]</sup>.

There is a significant association between race and type of contraception use. Majority of Malay and Indian prefer using OCP whereas Chinese prefer IUCD. An article on family planning status in Malaysia in 2010 stated that the highest proportion of wanting to stop children was among the Chinese (80%) as compared to the Malays (48%).<sup>[6]</sup> This can attribute to high IUCD users among the Chinese as IUCD does provide long-term and effective birth control method compare to OCP which only provide short term.<sup>[13]</sup> Based on a study on IUCD acceptors at the Central Clinic of Family Health in New Orleans, comparison to patients whom continue using IUCD, the terminators consistently choose a more pro-pregnancy response<sup>[14]</sup>. But from our study, most of the respondents are Malays (78.9%) compared to Chinese (6.7%), Indians (8.4%) and others races (6%), thus it does not resembles the true result of that population as a whole.

In comparing education level of both husband and wife with the type of contraception use, surprisingly the number of IUCD users was highest with primary and lower secondary education level and lowest in secondary and tertiary education level. In contrast with other

studies done, in United States, IUCD use was positively associated with the highest education level of respondent's mother.<sup>[15]</sup> The difference between these two studies probably due to the increase in education and awareness towards IUCD given from the doctors at the clinic helping them to choose IUCD as the method of choice. In a study on attitude and knowledge on IUCD toward young adult women shows that most young women were unaware of IUCDs but were likely to think positively about IUCDs after being educated about them.<sup>[15]</sup> Husband's education level shows a positive relation towards the use of male contraception, in this case, condom. This is supported by a study done on the differential impact of wives' and husbands' education on contraceptive method choice in Nepal in 2006 which stated that condom usage is higher in husband with high education level<sup>[8]</sup>.

Although the result had shown that the association between type of contraception used and the number of parity is not statistically significant, there is a decreased trend of oral contraceptive method with increased parity and increased IUCD usage with increased parity. In a study conducted in USA regarding characteristics of IUCD users and other reversible contraception method, clearly shows that IUCD use was especially uncommon among nulliparae<sup>[12]</sup>. This is also justified clearly in a survey done in United States 2002 which showed most women with higher parity tend to use IUCD as contraceptive method. In the same survey, the number of women using pills decreased as the number of parity increased from 58.9% to 9.8%.

The association of social income and type of contraception used in this study is statistically not significant. It is because despite whatever the method used, it is supplied free of cost by the health clinic. A similar study done in India evaluating contraceptive choice through the method-mix approach done in the year 2000 also showed negative influence between social



income and type of contraceptive method chosen when the supply is subsidised.<sup>[16]</sup> However, a research conducted in 1976-1977 among the Malaysian women (taking into account the use of sterilisation, pills and condoms were the modern contraceptive method at that time) showed that Malaysia's impressive income growth over this period did contribute to the increase in use of modern contraceptive method and decrease in traditional methods.<sup>[17]</sup> This is also supported by another study carried out in 1988 by Population Council based in United States of America regarding prevalence of contraceptive use: trends and issues worldwide showed that contraceptive prevalence were very low in developing countries comparing to the developed countries. The report also stated that increased attention to the dynamics of population growth and the socioeconomic development and activities had led to the increased in modern contraceptive methods in Asia and Latin America.<sup>[18]</sup> These studies had proven that the social income does play a role in the type of contraceptive method used.

In this study, the contraceptive methods that give most side effects are IUCD with 54 %. Out of this, 36% cause amenorrhoea followed by menorrhagia 24%, vaginal discharge 20%, dysmenorrhoea 12% and others 8%. Unlike any other studies, this study has shown a very interesting trend in IUCD side effect's trend whereby majority of patients using IUCD complained of amenorrhoea rather than menorrhagia. A study conducted in India to compare menstrual pattern and body iron stores between levonorgestrel and copper releasing intrauterine device showed that in the first 3 months of insertion of both type, patients will experienced increased in bleeding days.<sup>[19]</sup>

## **9. LIMITATIONS OF THE STUDY**

1. The population in Chemor is mostly predominated by Malays which make up almost 80% of the total population in Chemor thus the dynamic of contraceptive usage pattern cannot be appreciated.
2. Patient's awareness and exposure regarding each contraceptive method is not known since the datas were obtained from the medical records.
3. Patients with lower education level are also associated with lower social income. Since contraceptive devices and medication are given free in cost, it does not reflect the accurate contraceptive methods choice pattern among patients with lower education level and lower social income group. In addition we do not know the level of exposure and knowledge among these women regarding contraception.
4. In this study also, patients' preference in children gender and whether or not they have completed their family despite the number of parity are not taken into account.
5. Since this is a retrospective studies, thus all the information gathered mainly from medical records. Therefore the data obtained are limited.

## **10.CONCLUSION**

1. The highest percentage of contraception users among women in Chemor Health Clinic in the year 2011 were the OCP and injection.
2. There are strong association between type of contraception and age, ethnicity and level of wife education.
3. There is a pattern of contraception usage between type of contraception and husbands level of education and number of parity although they are not statistically significant.
4. There is no association noted between type of contraception and social income among the women who came to Chemor Health Clinic in 2011.
5. The contraceptive method that presented with most side effects is OCP. This patients mostly presented with weight gain.

## **11.RECOMMENDATIONS**

1. Not many studies done in psychosocial aspect of the ethnicity preference in contraception method thus this study is hoped to be a stepping stone for more studies that look into the types of contraception usage pattern in relation with ethnic's psychosocial.

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### **13. CONTRIBUTIONS**

<b><u>No.</u></b>	<b><u>Title</u></b>	<b><u>Prepared by</u></b>
1.	Acknowledgement	Both members
2.	Abstract	Both members
3.	Introduction	Both members
4.	Literature Review	Both members
5.	Objective	Qhairyl Iylman
6.	Methodology	Syarifah Aiesyah
7.	Result	Qhairyl Iylman
8.	Discussion	Both
9.	Limitation of The Study	Syarifah Aiesyah
10.	Conclusion	Qhairyl Iylman
11.	Recommendation	Syarifah Aiesyah
12.	Reference	Both

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