

# Knowledge and Acceptability of Intrauterine Contraception Device Among Teenagers and Young Women

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## 1. Abstract

**1.1. Purpose:** This study investigates the contraceptive methods used by adolescent and young women and their knowledge and attitudes on the IUD (Intrauterine Device).

**1.2. Materials and Methods:** A structured questionnaire was filled by 100 participants attending a Pediatric and Adolescent Gynecology clinic. Questions were asked on demographics, relationships, methods of contraception used and perceived effectiveness with emphasis on the IUD and issues associated with it.

**1.3. Results:** The Male condoms are the most frequently used form of contraception from young women in Greece and 2/3 of them believe that it is very reliable although one third of them uses it consistently. Age, sexual experience and also the nature of the relationship did not appear to affect their option on its efficacy. The younger and less experienced would consider IUD as a choice of contraception compared to the older ( $p=0.018$ ). Regarding IUD most of participants were worried about the procedure (mainly pain) and few were worried of the complications that are associated with it.

**1.4. Conclusion:** Currently condom appears to be the main form of contraception among participants of the study. This is a convenience sample of participants however analyzing the results it seems that adolescent women want safe and very effective contraception and they are positive to discussion of IUDs, although they are unwilling to use it, mainly because of concerns for the insertion procedure.

## 2. Introduction

The use of safe and effective contraception by adolescents and young women is a very important aspect of health care in these ages. Adolescents are starting sex at increasingly earlier age and at least 10% of them do not use any contraceptive method or use unreliable methods as the condom. Unplanned pregnancy at these ages often results in induced abortion, pregnancy and neonatal complications and is related with high school dropout and decreased socioeconomic status. Contraceptive habits in Greece reflect the lack of sexual education at schools, misconceptions and misbeliefs on the pill or IUD (Intrauterine Device) combined with lack of dissemination of modern contraception. Many contraceptive methods such as injections, patch, implants, LNG small sized IUDs and some types of combined oral contraceptives (COC) are not marketed in Greece. Previous studies on contraceptive practices of Greek adolescents have shown that condoms and coitus interruptus were the methods most often used. Emergency contraception was used by about 10% and hormonal contraception with or without condom was low. In most studies, hormonal contraception actual use is below 7% in general female population and in adolescents even less than that. In the same study condoms (50-60%) and emergency contraception (30-50%) were the most common methods used. The number of induced abortions in Greece is not known because 98% of them are done in private sector. An older study showed that 1 in 10 women 16-24 years old had an abortion. A recent cross-sectional study of women at different age groups con-

cluded that overall abortion rate at age 15-19 years was 9.7% in the 90's but has declined to 7.5% at younger age group. Implementing a contraceptive method that needs to be planned and remembered, as the pill or applied properly as the condom, is difficult in early adolescence (less than 15 years old). The most possible explanation is the fact that adolescents cannot foresee the consequences of unprotected intercourse and they live to the moment. After that age higher level planning is possible. Furthermore, women desire to delay childbearing to their 30s. All these factors point to the use of Long Acting Reversible Contraception (LARC) that will provide long term effective protection from pregnancy as opposed to Short Acting Contraception (SARC) that should be remembered and planned. Both types should be combined with the condom for protection of STIs. Main forms of LARC are progesterone injections, implants and intrauterine contraceptive devices (IUD). Most authorities promote these methods as more appropriate in younger population. There is concrete evidence that IUD meets all the criteria to be an appropriate choice for contraception in younger female population although for nulliparous women it marks 2 in Medical Eligibility Criteria according to WHO for contraception. This study aims to identify the most common contraceptive method in adolescence and young women in Northern Greece. In addition, to provide evidence on the use of IUD at that group of age, the motivating factors or barriers that are associated with it.

### 3. Materials and Methods

This is a descriptive cross-sectional study based on an anonymous structured questionnaire originally developed by the authors. It was answered by adolescents and young women aged 16-24 that attended a Pediatric and Adolescent Gynecology (PAG) clinic in a University Hospital of Ioannina after approval of the ethical committee. The population of study was demographically similar, originate most of students. The questions were related to contraceptive methods used and attitudes on the condom, the pill and the IUD. Perceived advantages, disadvantages and fears on each method were asked too. Answers were analyzed statistically by parametric and non-parametric methods. Results are presented as frequencies for the non-continuous variables (ordinal and nominal variables) and as mean  $\pm$  standard deviation for the continuous variables. The effect of the various factors on the continuous variables was assessed using the t-test for independent samples. Differences between mean values of specific groups were evaluated using post-hoc multiple comparison tests; namely the Tukey test. Moreover, for the statistical evaluation of the dependence between non-continuous variables, the chi-square test of independence was

implemented. All analyses were conducted using the statistical software program SPSS (v. 20.0). Significance was declared at p-value  $\leq 0.05$ , unless otherwise noted.

### 4. Results

One hundred women filled the questionnaire. Some questions were not answered by all participants. The population characteristics are presented in Table 1. Mean age was  $21 \pm 3.1$ . Two thirds of the patients were below 20 years and the mean age at first intercourse was at  $17.7 \pm 2.05$  years. The majority (87%) used the condom as the only contraception method and about 75% used it in more than 50% of the times they had sexual intercourse. Most of them (74%) feel that it is an effective or very effective method, and this did not depend on their age, years since initiation of sexual activity or relationship status. In table 2 no association was found between the choice of method and of the variables examined (age, stable relationship, history of unwanted pregnancy) but there was only one patient that used the combined pill and only one that had an unwanted pregnancy. The opinions on the IUD being practical were divided but they were not different among the age groups or the years of sexual experience. In table 3 some issues related to the IUD are presented. One third of patients were not aware of the IUD, mean age of those aware was slightly higher (22 vs 20 years) reflecting sexual experience but neither being in a stable relationship or longer time of sex life were different for the two groups. Surprisingly more women of younger age (20 vs 22 years) stated that they could choose it ( $p=0.018$ ). We investigated whether, being in stable relationship, which implies more need of contraception, would affect the attitudes on the IUD or the choice of a contraceptive method. We have not observed a significant effect of relationship status in any of the questions asked. Most of participants were satisfied with the condom and 80% of them feel secure from pregnancy. It is worth noting that as appeared they are aware of the IUDs but 60-75% of them would not prefer it, although they agree that it is easy to use. It is of note that more than half of the participants have used the contraceptive pill at some time in the past. Table 4 displays the reasons for not using the oral contraceptive pill or the IUCD. It is noticed that almost half of patients did not respond to the questions presumably because of ignorance on the matter. For the COC pill the majority was worried about side effects and express their hormone phobia. IUD related concerns were mainly about the procedure, especially the pain that can cause and few were worried of the complications, like infection or infertility that are associated with it.

**Table 1:** Patient characteristics and opinions on contraceptive methods.

N	100
Age (SD) (yrs)	21(3.11)
<20	63%
>20	37%
Years from first period (SD)	9,21(3.22)
Years from first intercourse (SD)	4,5 (2,70)
Age of first intercourse	17,7 (2.05)
Heterosexual (%)	98.9%
Same partner for the last six months	
Yes	43 (59.7%)
No	29 (40.3%)
No Response	28 (28%)
Contraceptive method used	
Condom	72 (86.7%)
COC	1 (1.2%)
None	10 (12.1%)
How often do you use condom (%)	
100%	27 (37.5%)
80%	28 (38.9%)
50%	8 (11.1%)
30%	9 (12.5%)
Effectiveness of method used	
Very effective	61(76.5%)
Quite effective	13 (16.1%)
Not effective	6 (7.4%)
Variables associated with feelings off effectiveness	
Age	
Very effective	21.94±3.1
Quite effective	21.92±3.4 } p=0.897
Not effective	21.33±1.4
Years from first intercourse	
Very effective	4.5±2.8
Quite effective	4 ±3.0. } p=0.610
Not effective	5.67±1.0
Stable relationship	
Very effective	49 (79.0)
Quite effective	9 (14.5) } p=0.267
Not effective	4 (6.5)

**Table 2:** Choice of contraceptive methods and patient characteristics.

	Type of contraception			p
	Condom	COC	None*	
Age (years)	22.0±2.9	14*	22.2±3.2	<b>0.028*</b>
Same partner for the last six months				
N(%)	56 (88.9)	1 (1.6)	6 (9,5)	0.14
Yes (%)	33(58.9)	1	6	
No. (%)	23(41.1).	0	0	
Opinion on method used				
N (%)	71 (88.8) 1.	1 (1.2).	8 (10.0)	0.95
Very effective(%)	54(76.1).	1	6 (75)	
Not so much (%)	12(169).	0	1 (12.5)	
Not at all	5(7.0)	0	1 (12.5)	
Ever had an unwanted pregnancy				
N (%)	54 (88.5)	1 (1.7)	6(9.8)	0.85
Yes (%)	2 (3.7).	0	0	
No (%)	52(96.3)	1	6	

\*only one subject

**Table 3:** Variables associated with awareness and knowledge of the IUCD as a contraceptive method.

	Yes	No	p
Are you aware of the IUD ?	70 (71.4%)	28 (28.6%)	
Age	22.04±2,9	20.54±3,4	<b>0.031</b>
Years from first intercourse	9.57±3.3	8.56±2.7	0.18
Same partner for the last six months			
N	51 (71.8)	20(28.2)	0.53
Yes	29(69)	13(65)	
No	22 (31)	7(35)	
Would you choose IUD for contraception ?			
N	21(22.34)	60 (13.83)	<b>0.018</b> 0.129
Age	20.45±2.3.	22.45±3.2	
Years from intercourse	3.61±2.0	5±3.0	
Do you think IUD is practical?			
age	21.6±2.9	22.39±3.5	0.310
years from first intercourse	4.63±2.4	4.82±3.3	0.467

**Table 4:** Reasons for not using hormonal contraception or IUD.

Hormonal contraception	No response	59 (59%)
	Worried about side effect	34 (82.1%)
	Satisfied with current choice	3 (7.3%)
	Various reasons	4 (9.7%)
IUD	Fear of pain and placement procedure	24 (51%)
	Foreign body	8 (17%)
	Not aware of the method	5 (10.6%)
	Complications	4 (8.5%)

## 5. Discussion

This study is focused on young women and their preference of choice on contraceptive method and the existing culture regarding that matter. Our data is similar with the results from other studies in Greece<sup>7</sup>. Young women use mainly condoms as a method of contraception and 2/3 of them believe that it is very reliable although only one third of them uses it consistently. Age or sexual experience or the nature of the relationship did not appear to play a role in their choice and opinion on its efficacy ( $p$  0.031,  $p$  0.18,  $p$  0.53). The use of the combined contraceptive pill was extremely low (1%) and only few (12%) did not use any particular method aside from withdrawal on occasions. Under these circumstances no significant conclusions could be made on the variables that were associated with the choice of their contraceptive method ( $p$  0.028, on only one subject). Awareness on the existence of the IUD as a contraceptive method was at 70% and it was mainly at the older group ( $p$  0.031). Sexual experience and stable relationship were not significantly correlated with knowledge of the method while most would not use it. Surprisingly the younger ones and less experienced would consider it as a choice of contraception compared to the older ( $p$  0.018) although there were no differences among these groups regarding its practicality ( $p$  0.310). There was no effect of the nature of relationship (steady or not) on any aspect related to IUD or the condom, indicating that contraceptive practices are similar independent of the frequency of coitus ( $p$  0.53). Finally the reasons that most women in our survey do not use more effective forms of contraception as the combined pill or the IUD are related mainly to fears of side effects of the pill, pain or other complications of the procedure involved with IUD placement. As in our series the condom is the most popular form of contraception among young women worldwide. Statistics from the USA report that 97% of teenagers have ever used a condom, followed by withdrawal (60%)<sup>9</sup>. However in the same report the combined pill was

used by 23% of high school students compared to 1% in our survey and 6% in Greece<sup>4</sup>. Failure rates with condom have been reported to be 18% for typical use but most of the participants of the survey overestimated its efficacy, a finding that has been consistent with other studies. Using no contraception or withdrawal has been higher in other reports (32%) compared to ours (12%)<sup>1</sup>. Many studies on the use of IUD report lack of knowledge of the IUD as a contraceptive method among younger women and in a survey on 144 women 14-24 years found that 60% of them were not aware of IUD<sup>12</sup>. Younger age was associated with less awareness of IUD as a contraceptive method while IUD use by a friend or a history of pregnancy were incentives for using it<sup>14</sup>. A brief presentation of the pros and cons alters some prejudices on it but usually is not sufficient in changing their decision for a contraceptive method<sup>13</sup>. As in our study, in most studies young women agree that IUD is practical, since it is applied once<sup>12</sup>, but have reservations in its use because of the need for a medical procedure to insert it and fear of pain. Never the less, in a recent review a high continuation rate is reported<sup>15</sup> after using LARC methods. Among the medical community there is still a reservation of advising IUDs for younger patients, but it appears that most scientific societies find it a safe and long-lasting contraceptive method. Regarding the use of other LARC methods such as progestagen implants or monthly injections there are no reservations for their implementation to this population of adolescents since they have no serious adverse effects and their planning for pregnancy is postponed for a decade<sup>18</sup>. It is suggested that to avoid breakthrough bleeding after placement, a trial of POP can be done initially to show the endometrial response although such a strategy is not validated<sup>19</sup>. There are some concerns of weight gain and osteoporosis on long term MPA injection users<sup>18</sup>. Strength of this study is that it provides even more evidence on use of contraception and especially on queries related to the use of IUD in Greece. A weakness of this study is that is not powered by more participants to elucidate more meaningful results since the majority of young women in Greece do not use the pill or IUD consistently. Structured sexual education and contraceptive counselling is needed in young women The development of devices that are easier to insert could contribute to the wider adoption of IUD. More safety issues regarding the avoidance of insertion complications could be explored. It appears that encouraging the use of IUD in younger ages is good practice. All of the above can bypass the reservations on its use and provide an alternative more efficient contraception in women who have contraindications or are afraid of taking hormones. In conclusion condom appears to be the main form of contraception among participants of the study and their attitudes to the IUD are generally positive although they would not prefer it, mainly because of the insertion procedure. Younger ages are more open minded in modern methods of contraception.

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