Research Article

User Profile and Factors Correlating to Duration of Intrauterine Device Use

Profil Pengguna dan Faktor yang Berkorelasi dengan Penggunaan Alat Kontrasepsi dalam Rahim

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Abstract

Objective: To determine the demographic and clinical profile of intrauterine device (IUD) users and factors correlating to duration of IUD use.

Method: We conducted a prospective observational study of 867 patients who underwent IUD insertion in Raden Saleh Outpatient Clinic during the period of January - December 2011. All patients were followed for 1 year to ascertain any complaint of discharge after insertion. Spearman correlation test was conducted to inves- tigate the strength of correlation and significance between age, parity, and discharge, with duration of IUD use.

Result: During year 2011, 867 patients (median of age=34 [range=14-49]; median parity=2 [range=0-7]) underwent IUD insertion in Raden Saleh Clinic. The majority of subjects were aged between 31-35 years old and were willing to use IUD for 4 years. Bivariate analysis revealed a significant correlation between age, parity, and vaginal discharge with duration of IUD use. The strongest correlation was identified between age and duration of use (r=0.25, p<0.001 for age and duration of use; r=0.19, p>0.002 for parity and duration of use; r=0.05 p=0.045 for discharge and duration of use).

Conclusion: Most IUD users were aged 31-35 years, who were willing to use IUD for 4 years. Factors that correlated with duration of IUD use were age, parity, and vaginal discharge.

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Keywords: contraceptive, duration of use, family planning, intrauterine device

Abstrak

***Tujuan**: Mengetahui profil karakteristik pengguna AKDR dan faktor yang berkorelasi dengan lama pemakaian AKDR.*

***Metode**: Kami melakukan penelitian prospektif observasional pada 867 pasien rawat jalan yang datang untuk melakukan pemasangan AKDR di Klinik Raden Saleh pada Januari-Desember 2011. Seluruh pasien diikuti selama 1 tahun untuk mengetahui munculnya keluhan keputihan. Uji korelasi Spearman dilakukan untuk mengetahui besar dan kemaknaan korelasi antara usia, status paritas, dan keluhan keputihan dengan lama pemakaian AKDR.*

***Hasil**: Selama tahun 2011 terdapat 867 pasien rawat jalan (median usia=34 tahun [rentang=14-49 tahun]; median paritas=2 [rentang=0-7]) melakukan pemasangan AKDR di Klinik Raden Saleh. Pengguna AKDR paling banyak berasal dari kelompok usia 31-35 tahun dan sebagian besar pasien merencanakan untuk memasang AKDR selama 4 tahun. Analisis bivariat menunjukkan adanya korelasi bermakna antara usia, paritas, dan keputihan dengan lama pemakaian AKDR. Kekuatan korelasi terbesar ditemukan pada korelasi antara usia dan lama pemakaian (r=0,25, p<0,001 untuk usia dan lama pemakaian; r=0,19, p>0,002 untuk paritas dan lama pemakaian, r=0,05, p=0,045 untuk keputihan dan lama pemakaian).*

***Kesimpulan**: Pengguna AKDR terbanyak ialah perempuan usia 31-35 tahun dengan rencana pemakaian selama 4 tahun. Faktor yang berkorelasi dengan lama pemakaian adalah usia, status paritas, dan keluhan keputihan.*

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***Kata kunci**: alat kontrasepsi dalam rahim, keluarga berencana, kontrasepsi, lama pengunaan*

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INTRODUCTION

Nowadays, reproductive health is still a global issue. The 5th Millennium Development Goal (MDG) aims to improve maternal health, but maternal mortality ratio as its parameter is still high.[1,2] Data from Survei Dasar Kesehatan Indonesia (SDKI) 2007 shows maternal mortality ratio in Indonesia to be 228/100,000.[1,3,4] Uncontrolled number of parity, very close pregnancy interval, and pregnancy in extreme age (too young or too old) are the main causes of maternal mortality and morbidity.[5,6] The definitive solution is clear, prevent the pregnancy. In this sense, family planning program and contraception plays a critical role.

Family planning program in Indonesia have been developed since 1984. The program is carried out by promoting contraceptive use. However, data from 2010 showed the prevalence of contraceptive use to be only 61.5%.[7,8] In 2008, the government and Ministry of Health began to promote postpar-

tum and post-miscarriage contraception, including hormonal contraception (pill, implant), IUD, barrier device (condom, diaphragm), and sterilization (vasectomy, tubectomy). Among those modalities, IUD was one of the least favorite options, with only 18.8% prevalence of use.[9,10] Moreover, the insertion procedure was thought to be too invasive, with most patients thinking IUD to be dangerous, thus hindering their decision to receive IUD. Women who are already users only use it for a very short period.[11] Women reported going back to a doctor several times just to check the presence of the device in the uterus. They also reported feeling uncomfortable due to a foreign object in their uterus. Others have complained of pain, vaginal bleeding, and copious discharge. The government is currently promoting education on those issues, but the content is still unorganized.[10] Therefore, this study was conducted to get the profile of IUD users and the factors correlating with duration of IUD use.

METHODS

We conducted a prospective-observational study of 867 patients undergoing IUD insertion in Raden Saleh Clinic. This study was carried out from January 2011 to March 2013. Sampling was conducted in the period of January 2011 to December 2011 using consecutive random sampling. Data was collected by interview conducted by one interviewer for all subjects.

The inclusion criteria include all IUD users without any restriction of age and IUD type. Exclusion criteria was subjects who refused to participate in this study. We collected patient characteristics including age, parity, and the plan for duration of IUD use. One-year follow up was carried out to ascertain the presence of vaginal discharge during IUD use.

Age will be categorized in groups of 5 years, while presence of vaginal discharge will be dichotomous. Data will be described to show the distribution of subjects' age, parity, duration of use, and vaginal discharge. Data will be presented in mean and standard deviation for normally distributed data or median and range for data that are not normally distributed. In addition, the data will also be presented in the form of charts to aid with visualization of data distribution.

Bivariate analysis was conducted with Spearman correlation test in order to show the correlation between age, parity, and vaginal discharge with duration of IUD use. Data were analysed using SPSS 17.0.

This study is in accordance with the principles of "Declaration of Helsinki" and principles in "Guideline for Good Clinical Practice" of ICH Tripartite Guideline, as well as local regulations in Indonesia. All subjects and her family received explanation about the whole procedure and the purpose of this study. They also signed the informed consent form.

RESULTS

In 2011, as many as 867 patients underwent IUD insertion in Raden Saleh Clinic. All patients were included in this study.

Median of age was 34 years old, with the youngest age found to be 14 years old and the oldest was 49 years old. The majority of patients used IUD after they had one (30%) or two children (33.7%). Only one patient used IUD before having any children. Duration of IUD use was in the range of 2-7 years, with most patients using IUD for 4 years (36.4%). Vaginal discharge was reported by 20 patients (2.3%). Demographics and clinical characteristics of our subjects are reported in Table 1.

Data showed that most IUD users belonged in the 31-35 years old age group. Vaginal discharge did not occur in all age groups. The complaint was identified mostly in the 21-25 years age group. The majority of patients used IUD for less than 5 years. Only 10% reported IUD use of more than 5 years.

Correlation test demonstrated the presence of a significant correlation between age, parity, and vaginal discharge with duration of IUD use (Table 2). The strongest correlation was identified between age and duration of use (r=0.25 for age, r=0.19 for parity, r=0.05 for vaginal discharge). The higher number of parity and age, the longer the duration of IUD use. Vaginal discharge was also shown to have a significant correlation with duration of use, but the correlation was very weak.

Table 1. Demographics and Clinical Characteristics of IUD Users in Raden Saleh Clinic January-December 2011 (n= 867)

Characteristics	n
Age (median, range)	34 (14-49)
Parity (n, %)	
0	1 (0.1)
1	260 (30.0)
2	292 (33.7)
3	212 (24.5)
4	65 (7.5)
5	22 (2.5)
6	4 (0.5)
7	1 (0.1)
Duration of IUD use (n, %)	
1 year	0 (0.0)
2 years	69 (8.0)
3 years	180 (20.8)
4 years	316 (36.4)
5 years	176 (20.3)
6 years	80 (9.2)
7 years	46 (5.3)
Vaginal discharge (n, %)	
Yes	20 (2.3)
No	847 (97.7)

Table 2. Correlation between Age, Parity, and Vaginal Discharge with Usage Duration

Correlation[1]	r	*p*
Age and usage duration	0.25	< 0.001
Parity and usage duration	0.19	< 0.001
Vaginal discharge and usage duration	0.05	0.045

[1] *Spearman correlation test*

DISCUSSION

This study discovered that the median of age of women undergoing IUD insertion in Raden Saleh Clinic in 2011 was 34 years old. Most patients belonged in the age group of 32-35 years old, constituting almost two times the number of that in the other age groups. The important finding is that the distribution of age of IUD users was not equal. IUD is more popular and more commonly used in older women, compared to women in their 20's.

Statistics show that uncontrolled number of parity, very close pregnancy interval, and extreme age (too young or too old) are the main causes of maternal mortality and morbidity.[7] The optimal age for pregnancy is 20-35 years old, with the interval between the first and second pregnancy being about 2-4 years. Therefore, contraception plays an important role, which is to prevent pregnancy before the age of 20 years, to manage and ensure the interval period between pregnancies, and to prevent pregnancy after 35 years. In regards to these roles, IUD as well as other contraceptive methods should be utilized equally in all age groups. The domination of IUD users in only one age group showed that the aim of contraceptives has not been achieved.

Previous studies with a similar purpose as this study was conducted by Singh et al in 1990.[12] The study was held in Benghazi, a developing country similar to Indonesia. The study found different results from ours, with IUD users mostly coming from the 20-29 years old age group and with a mean parity of 4. Similar to the findings in this study, they stated that IUD users were relatively older than users of other contraceptive methods. Furthermore, complication and discontinuation of IUD was reported to be higher than in other methods.

Vaginal discharge presents as the most common complaint among IUD users. Previous studies have demonstrated that the prevalence of bacterial vaginosis (BV) in IUD users was 9.3-37%.[13-16] Compared to the general population, Foda et al[17] found the prevalence of BV to be significantly higher among IUD users (12.64% vs 6.9%). Compared to other contraceptive methods, BV was also found to be higher among IUD users (37.0% vs 19.3%; p=0.03).[14] Vaginal discharge was the most common symptom of BV occurring in 41% of patients. This symptom brought patients back to the doctor to have the IUD checked, while some requested for removal of the device.

No previous studies have examined the correlation between age, parity, and vaginal discharge with the duration of IUD usage. However, some studies have shown its association indirectly.

The duration of IUD usage is strongly correlated with users' knowledge, attitude, and behaviour regarding IUD. Epidemiological studies demonstra-

ted that IUD is not popular among women in early adulthood.[17-19] Fleming et al discovered that only half of women in early adult hood knew about IUD.[18] Further analysis showed a significant correlation between parity and the willingness to use IUD. A study conducted by Zjil et al found that those with prior knowledge on IUD were still afraid to IUD. Infection and vaginal bleeding were noted to be the side effect from IUD.[11] Studies have also showed that good promotion could increase willingness in using IUD by 2.7 times.[9]

Health promotion and campaign to increase willingness to use IUD is still needed. Regarding to our findings, the promotion should be focused and addressed to women aged less than 30 and older than 35 years. Furthermore, the promotion should include information of efficacy, safety, and side effect of IUD.

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