ABSTRACT

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Title : Determinants of the Use of Injectable Contraceptives for Family Planning in Indonesia (The Analysis of the 2007 IDHS Data)
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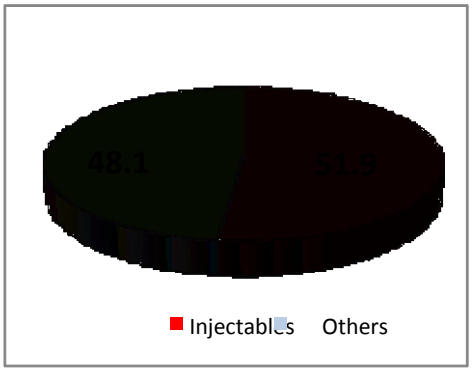
During the period of 2000-2010 the percentage of women who used injectable increased notably. This phenomenon will have consequences in the sustainability of the government of Indonesia to finance contraceptives and on fertility decline in the future. This research's aim is to analyze determinants of the use of injectable contraceptives. The data used is the 2007 Indonesia DHS, employing binary logistic regression model. The dependent variable is the married women aged 15-49 years using injectables. The independent variables are age of respondents, number of living children, desire for more children, highest education level, place of residence, working status, wealth index, knowledge of modern contraceptive methods, knowledge of contraceptive side effects, one's goals of family planning, husband's approval on family planning and the type of service provider.

The objects of this study are married women aged 15-49 years. Graph 1 and table 1 illustrate the distribution of married women aged 15-49 years who use contraceptive methods based on the 2007 Indonesia Demographic and Health Survey. From those, there are 18.981 eligible women which consist of 9.849 women (51,9 percent) using injectables and 9.132 women (48,1 percent) using other contraceptive methods.



Graph 1. the distribution of married women aged 15-49 years who use contraceptive methods based on the 2007 Indonesia Demographic and Health Survey.

Table 1. Distribution of married women aged 15-49 years using contraceptive methods, Indonesia, 2007 IDHS.

Type of contraception	Married women aged 15-49	
	Number	Percent
Injectable	9849	51,9
Pill	4096	21,6
IUD	1518	8,0
MOW	941	5,0
Implant	857	4,5
Coitus interrupted	646	3,4
Periodic abstinence	466	2,5
Condom	407	2,1
Vasectomy	67	0,4
Herbs	63	0,3
Massage	15	0,2
Lactational amenorrhea	10	0,1
Others	45	0,2
TOTAL	18.981	100

Furthermore, the frequency distribution of socio-demographic factors including age, number of children still living, desire additional children, education, residence, work status and wealth index, can be seen in Table 4.2 below.

Table 2. Distribution of married women aged 15-49 years based on their socio-demographic characteristic, Indonesia, the 2007 IDHS

Characteristics		**Married women aged 15-49 years**	
		Number	**Percent**
Socio-demography			
Age (year)			
	< 20	381	2,0
	20-34	9995	52,7
	>= 35	8604	45,3
Number of living children (child)			
	0	206	1,1
	1-2	11878	62,6
	> 2	6897	36,3
Desire to have more children			
	Yes	7751	40,8
	No	11230	59,2

Characteristics	Married women aged 15-49 years	
	Number	Percent
Educational Background		
No school or not graduated elementary school	9701	51,1
Graduated from Junior High School	7928	41,8
Graduated from Senior High School and above	5461	7,1
Type of living	8022	42,3
Urban	10959	57,7
Rural	10718	56,5
Working status	8263	43,5
Working		
Not working	7008	36,9
Wealth index	3960	20,9
Low	8013	42,2
Middle		
High		
Total	**18.981**	**100**

The inferential analysis is useful to see the relationship between the dependent and independent variables. In the present study, the independent variables cover age (UMUR), number of children still living (JAMH), desire additional children (KTA), education (DIDIK), residence status (TT), work status (KERJA), the wealth index (IK), knowledge of contraception (PK), knowledge about side effects of contraception (PES), the purpose using contraception (TKB), husband's approval (PS) and the place of services (TPKB). All variables were analyzed using the statistical program package for social sciences version 13 (SPSS version 13) in order to see the relationship between the dependent variable and independent variables. Thus, it can be seen the independent variables which are significant to the use of injectable in Indonesia.

Processing of binary logistic regression results as follows:

$$Ln\left(\frac{P}{1-P}\right) = -1{,}489 - 0{,}064\mathbf{UMUR} + 0{,}222\mathbf{JAMH} - 0{,}011\mathbf{JAMH2} + 0{,}154\mathbf{KTA} + 0{,}438\mathbf{DIDIK_1} + 0{,}406\mathbf{DIDIK_2} - 0{,}205\mathbf{TT} - 0{,}173\mathbf{KERJA} + 0{,}211\mathbf{TK_1} + 0{,}176\mathbf{TK_2} + 0{,}382\,\mathbf{PK} + 0{,}464\mathbf{PES} + 0{,}167\,\mathbf{TKB} + 2{,}365\mathbf{TPKB_1} + 3{,}217\mathbf{TPKB_2}$$

Testing the overall model produced statistically significant 18342.731 G for the p = 0.000, with the Cox and Snell R square 0314. Thus the overall model in the proper (goodness of fit) because it has been qualified with more than one independent variable is significant, other than that of the Cox and Snell R square has meaning 31.4 percent of the variation in the probability of use of injectable KB can be explained by the variable -variables contained in the model, the remaining balance of 68.6 percent is explained in the other variables. The low value of R2 above can be understood that due to the nature of social research itself that allows for other variables that affect the use of injectable KB in addition to the variables in the model so that sometimes the value of R2 is relatively small (Nachrowi et al, 2002)

Table 3 . Parameter estimates, standard errors, and the ratio to the probability of a binary logistic regression models use injectable: IDHS 2007

Covariate	Parameter estimation	Standard eror	Ratio trend
Intersep	-1,489	0,210	0,226
Age****	-0,064	0,003	0,938
Number of living children****	0,222	0,049	1,249
Number of living children quadratic*	-0,011	0,006	0,989
Willingness to have more children* **	0,154	0,047	1,167
Yes	-	-	1,000
No			
Educational background**			
No school or graduated from	0,438	0,060	1,550
elementary school	0,406	0,045	1,501
Graduated from junior high	-	-	1,000
Graduated from senior high and above			
Type of living**			
Urban	-0,205	0,043	0,815
Rural	-	-	1,000
Working status**			
Working	-0,173	0,038	0,841
Not working	-	-	1,000
Wealth index**			
Low	0,211	0,051	1,235
Middle	0,176	0,054	1,192
High	-	-	1,000
Knowledge of contraceptive **			
Know	0,382	0,150	1,465
No	-	-	1,000
Knowledge of side effect			

Covariate		Parameter estimation	Standard eror	Ratio trend
contraception ****				
	Know	0,464	0,076	1,591
	No	-	-	1,000
The aim of contraception**				
	Thinning	0,167	0,057	1,182
	Restriction	-	-	1,000
Place of service**				
	Public	2,365	0,061	10,642
	Private	3,217	0,056	24,957
	Others	-	-	1,000

Note:
*Significant on p= 0,1, **Significant on p= 0,05, ***Significant on p= 0,01,
And ****Significant on p= 0,000, - = the reference category

The results show that the factors that are statistically significant affecting the probability of using injectable contraceptives are the age of respondent, number of living children, desire for more children, highest education level, place of residence, working status, wealth index, knowledge of modern contraceptive methods, knowledge of side effects, one's goals of family planning, and the type of service provider. The probability of using injectable contraceptives are higher among currently married women aged 15-49 years who are younger, have higher number of living children, desire more children, have lowest level of education, living in rural areas, are not working, have low wealth index, have knowledge of modern family planning method, have knowledge of side effect, with spacing as contraceptives goals and who attend private family planning services.

Keywords :
Family planning, injectable contraceptives, binary logistic regression.