



## Knowledge and Attitude about Side Effect of Implanon (Implant) among Women Attend Primary Health Center - Al-Mukalla District, Yemen

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### Abstract

The growth rate of population in Yemen as well as fertility has started decreasing during the recent decades. The most important reason behind this result is the knowledge and usage of family planning. One of modern contraceptive methods is long term hormonal birth control implant. The aim of our study was to identify the knowledge and attitude about side effect of Implanon (implant) among women attend to Primary Health Centers (PHC) in Mukalla district Hadhramout, Yemen. A descriptive cross-sectional study was conducted, used close-ended self-administered questionnaire, 192 women attended primary PHC in Mukalla district.

The mean age were ranged between ( $\pm$  SD 25-34  $\pm$  0.722 years), majority were housewives (80.7%), more than two thirds (71.8%) had  $\leq$  3 live births, (43.8%) had one child less than 5 years, (14.6%) currently use Implanon, 94% heard about Implanon, (63.5%) from relatives and friends, only 2.5% from mass media, 2.1% had high knowledge about implant Implanon 65.7% had good attitude toward side effects as they willing to counsel physician, and only 9.4% decide to remove it.

This study revealed most received antenatal care, and overall majority of them had low knowledge about Implanon, Knowledge regarding Implanon side effects is 38.6%. In other hand majority had good attitude towards side effect of Implanon.

**Keywords:** Family Planning; Implant; Primary Health Care; Yemen

**Abbreviations:** RH: Reproductive Health; FP: Family Planning; PHC: Primary Health Care

### Introduction

Reproductive Health (RH) is an integral right of every one for the attainment of the highest standard of physical and mental health [1]. Family planning (FP) is critical for the health of women and their families.

Because of its importance, universal access to RH services, including FP, as one of the targets of the United Nations (UN) Millennium Development Goals (MDGs). Four in 10 married women of reproductive age living in Arab countries use modern contraception [2].

Reports from the Middle East and North Africa (MENA) region showed that each year, around 13,000 women die due to pregnancy -and childbirth -related complications, 3 out of five maternal deaths occur in four countries in the MENA region: Egypt, Iraq, Morocco and Yemen [3].

The annual statistical health report which carried out by Ministry of Public Health and Population (MOPHP), the maternal mortality rate (MMR) was (148 / 100,000 Live Birth) [4]. Fertility in Yemen has declined over the past 15 years. Currently, women have an average of 4.4 children, a decrease from 6.5 in 1997. Ninety eight percent of ever-married women knew at least one modern method of FP. Current use of FP (29%) a modern method of FP [5]. The Yemen Family Health Survey 2005 (YFHS) indicated that the utilization of the FP was 40% [6]. The knowledge about implants 1.8% and the Complications were believed psychological upset ,sterility ,change in the body function, cancer and irregularity of the cycle) [7]. A bout the utilization of RH services a study done in Mukalla City was significantly higher in women residing in urban areas and those with high educational level [8].

Norplant, the first generation available in the United States (US), 1991. Contain Six capsules each one contained 36 mg of levonorgestrel, released gradually [9]. Implanon sub dermal Progestogen (Etonogestrel); is a second generation implant developed to

reduce some of the problems associated with the six implant system, Norplant, consist of small, thin, flexible plastic rods, it size of a matchstick, contains 68 mg of the progestin Etonogestrel and measures 40 mm long by 2.0 mm outside diameter, for 3 years protection period [10].

The World Health Organization(WHO) worldwide > 20 million women use progestogen-only contraceptive methods, mainly in the form of injections, implants or an intrauterine system, 2.54 million Implanon implants have been inserted since its introduction in 1997 [11].

Women began to experience unpleasant side effects, including irregular menstrual bleeding, headaches, mood changes, breast tenderness, and weight changes, incorrect placement of the implant capsule, infection at the site [12].

The major side effects of Implanon were reported in study done for Turkish women amenorrhea 41.25%, frequent and in frequent bleeding 23.75%, non-menstrual side effects compromised breast tenderness 18.75%, Acne 10%, headache and dizziness 3.75%, depressive mood disorders 2.5%, pelvic pain and loss of libido 2.5% [13].

In Pakistan Implant was used by only 21.9% women, 14.2% had knowledge about Implant, while attitude was positive as 85% continued the method, but 14.29% quitted due to side effects [14].

However, there are no published studies about the side effects of Implanon among childbearing age women in Hadhramout governorate, therefore the aim of this study to identify the knowledge and attitude about the side effects of sub dermal Implanon among childbearing age women attend PHC.

## Materials and Methods

### Study Design and Settings:

A descriptive cross-sectional study design , a total of 34 government PHC centers, at Al-Mukalla district, 19 centers are locate in the urban sector and the remaining 15 in the rural sector, selected 5 PHC centers provide family planning services specially Implants, all women who attended the selected PHC centers during the study period 192 were included in this study. The sample of this study who had an accepted to participate were randomly selected.

### Data Collection Procedure and Analysis:

The data collected procedures of this study was executed in the period from August to September 2016.

An in depth interview administered questionnaire sheet was used to achieve the purpose of the study including three parts re-

garding socio demographical data about studied subjects, the other parts questions related to knowledge and attitude.

### Data Analysis

The analysis conducted applying frequency distribution, percentage, mean and standard deviation, Chi-square test using statistical SPSS version 20. The level of statistical significance was set at  $P < 0.05$ .

### Measurement of Knowledge

Women's knowledge was measured by the total number of correct answers to 19 items on knowledge of Implanon and it is side effects with a minimum score of 0 and maximum of 19. A score of one point assigned to correct response of each question and zero to incorrect responses.

To measure the knowledge it was categorized based on the percent of knowledge of the distinct characteristics of Implanon and it side effects as "high" those who knew 80% and above (15.2 - 19 points), "moderate" those who knew 60 - 79 % (11.4 - 15 points), and "low" those who knew less than 60% (> 11.4 points).

Items on attitude of women about the side effects of Implanon were grouped in to three as follows: "positive attitude" were labeled (remove the Implant, physician counselee) and "Negative Attitude" were labeled (not sure, nothing done), the sum of one's beliefs about Implanon side effects evaluate of those beliefs.

### Ethical Consideration:

Written permission was sought from the director Ministry of Health and Population (MOHP), Al-Mukalla Office, and the women included in the scope of the study was informed clarify the objective of the study, that the information were collected will be used for scientific and research purpose only, and the privacy and confidentiality of their information were respected during analysis.

### Results and Discussion

Total of 192 women, over a period of 60 days were collected from women who were attended health centers of family planning ,the socio- demographic characteristics of studied participants showed in Table (1) that (47.9%) belonged to age group between (25 - 34 years) mean age were ranged between  $\pm$  sd (25-34  $\pm$  0.722) years, the majority (89.1%) of them was from urban area , concerning educational level, the majority (44.8%) have primary education, also (47.9%) for their husbands, (80.7%) were housewives, the same table reveals that more than two thirds (71.8%) had ( $\leq$  3 live births), (43.8%) have one child (< 5 years) .

Characteristic	N	%
<b>*Age group</b>		
15-24	45	23.4
25-34	92	47.9
35-44	55	28.6
<b>Residence</b>		
Urban	171	89.1
Rural	21	10.9
<b>Women's occupation</b>		
Housewife	155	80.7
Worker	37	19.3
<b>Number of live births</b>		
0 - 3	138	71.8
4 - 7	48	25
8 - 11	6	3.1
<b>Number of children less than 5 years</b>		
No children less than 5 yrs.	73	38.0
1	84	43.8
2	26	13.5
3	9	4.7
<b>Interval between children less than 5 years</b>		
not more than one child	156	81.3
1 year	12	6.3
2 years	17	8.9
more than 2 years	7	3.6

**Table (1):** Distribution of Socio Demographic Characteristics of Participant Women Attend Primary Health Centers (n == 192).

\* mean ± SD age 25-34 ± .722 years

The correlation of women's and their husband's education level show that high frequency in primary school (64.4%) Table 2.

Education level	Woman		Husband		Total		Chi-square	df	P-value	Correlation
	N	%	N	%	N	%				
Illiterate	30	15.6	10	5.2	40	10.4	47.311 <sup>a</sup>	9	.000	.398 <sup>**</sup>
Primary school	86	44.8	92	47.9	178	46.4				
Secondary school	43	22.4	53	27.6	96	25.0				
High education	33	17.2	37	19.3	70	18.2				
Total	192	100	192	100	384	100				

**Table 2:** Distribution of Correlation between Women and Husbands Educational Level.

a.4 cells (25.0%) have expected count less than 5. The minimum expected count is 1.56

\*\* Correlation is significant at the 0.01 (2-tailed)

The correlation of women's age and occupation show that majority of housewives 71 (37.0%) is in age of 25 - 34, as well as that of workers 21 (10.9%) Table 3.

Age (years)	women's occupation				Total		Chi-square	df	P-value	Correlation
	housewife		worker		N	%				
	N	%	N	%						
15-24	42	21.9	3	1.6	45	23.4	6.016 <sup>a</sup>	2	.049	.148 <sup>*</sup>
25-34	71	37.0	21	10.9	92	47.9				
35-44	42	21.9	13	6.8	55	28.6				
Total	155	80.7	37	19.3	192	100				

**Table 3:** Distribution of Correlation of Women's Age and Occupation.

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.67.

\*correlation is significant at the 0.05 level (2-tailed).

Correlation of woman's occupation and educational level show majority of housewives had a primary school 78 (40.6%), while those who are worker in higher educational level 19 (9.9%) Table 4.

women's education	women's occupation				Total		Chi-square	***df	P-value	Correlation
	housewife		worker		N	%				
	N	%	N	%						
illiterate	30	15.6	0	0.0	30	15.6	44.217 <sup>a</sup>	3	.000	.457 <sup>**</sup>
primary school	78	40.6	8	4.2	86	44.8				
secondary school	33	17.2	10	5.2	43	22.4				
high education	14	7.3	19	9.9	33	17.2				
Total	155	80.7	37	19.3	192	100				

**Table 4:** Distribution of Correlation of Women Occupation and Educational Level.

\*\*\* df = degree of freedom

0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.78.

\*\* correlation is significant at the 0.01 (2-tailed).

Cross tabulation between number of live births and number of children less than 5 years mean ± SD were (2.65 ± 2.144, .85 ± .821) respectively, majority of Women have only one child less than 5 years 84 (43.8%), as Women that have ≤ 3 of live children, have only one child less than 5 years 60 (31.2%), also of women that have 4 - 7 children, have also one child less than 5 years 22 (11.5%), followed by no child less than 5 years 20 (10.4%) Table 5.

Number of children less than 5 years	Number of live births						Total	
	0-3		4-7		8-11		N	%
	N	%	N	%	N	%		
0	51	26.6	20	10.4	2	1.0	73	38.0
1	60	31.2	22	11.5	2	1.0	84	43.8
2	19	9.9	5	2.6	2	1.0	26	13.5
3	8	4.2	1	0.5	0	0.0	9	4.7
Total	138	71.9	48	25.0	6	3.1	192	100

	Mean	Std. deviation	Chi-square	df	P-value	Correlation
Number of live birth	2.65	2.144	125.306 <sup>a</sup>	30	.000	.221 <sup>**</sup>
Number of children less than 5 years	.85	.827				

**Table 5:** Number of Live Births by Number of Children Less than 5 Years.

a. 29 cells (65.9%) have expected count less than 5. The minimum expected count is .05.

\*\* Correlation is significant at the 0.01 level (2-tailed).

Ninety four percent of women heard about Implanon, 122 (63.5%) get the information's from relatives and friends, and only (0.5%, 1%, 1%) from mass media (internet, television and others) respectively Table 6.

	Frequency	%
Not heard about Implanon	6	3.1
Physician	59	30.7
relatives & friends	122	63.5
Television (TV)	2	1.0
Internet	1	0.5
Others	2	1.0
Total	192	100

**Table 6:** Distribution of Source of Information about Implanon.

Women's response regarding knowledge about Implanon shows that about 49.1% had correct answers. Table 7.

No.	Variable Knowledge	Yes		No		Don't know	
		N	%	N	%	N	%
1	Have you ever heard about Implanon	186*	96.9	6	3.1	-	0
2	An Implanon is a family planning method	87*	45.3	42	21.9	63	32.8
3	the use of Implanon require frequent follow up	130	67.7	25*	13	37	19.3
4	a fatty woman Can use Implanon	50*	26	63	32.8	79	41.1
5	a woman Can work just after insertion of Implanon	90*	46.9	59	30.7	43	22.4
6	usages of Implanon require pelvic exam	37	19.3	69*	35.9	86	44.8
7	it can be inserted during lactation period	107*	55.7	23	12	62	32.3
8	An Implanon has side effect	140*	72.9	11	5.7	41	21.4

**Table 7:** Distribution of Women Attendance Primary Health Centers According to their Answers Regarding Knowledge about Implanon.

Regarding knowledge about side effect of Implanon 38.6% is a correct answer. Overall knowledge about Implant side effect reveals high, moderate and low (2.1%, 15.6% and 68.3%) respectively Table 8.

No.	Variable Knowledge	Yes		No		Don't know	
		N	%	N	%	N	%
1	it cause cancer	16	8.3	57*	29.7	119	62
2	it increase pseudo pregnancy	22	11.5	53*	27.6	117	60.9
3	Headache	77*	40.1	39	20.3	76	39.6
4	Weight gain	115*	59.9	30	15.6	47	24.5
5	Dizziness	68*	35.4	46	24	78	40
6	Mode change (nervous or depression)	88*	45.8	32	16.7	72	37.5
7	Fatigue	79*	41.1	38	19.8	75	39.1
8	Decrease libido	21*	10.9	43	22.4	128	66.7
9	Anemia	39	20.3	58*	30.2	95	49.5
10	Changes in menstruation cycle	126*	65.6	21	10.9	45	23.4
11	Faulty in delivery	12	6.3	73*	38	107	55.7

Over all knowledge about Implanon side effect		
Level of Knowledge	N	%
High knowledge	4	2.1
Moderate knowledge	30	15.6
Low knowledge	158	82.3

**Table 8:** Distribution of Women Attend Primary Health Centers According to their Answers Regarding Knowledge about Side Effect of Implanon.  
\* True answer

Regarding side effects attitude more than half (65.7%) 1387 responses were Physician counselling, (16.6%) 351 responses "do nothing" and (9.4%) 198 "remove implant" Table (9).

No.	Variable attitude	Not sure	Remove implant	Physician counselling	Nothing done
1	If there a Slight vaginal bleeding for few days	7	14	159	12
2	Rare vaginal bleeding	16	13	142	21
3	Prolonged vaginal bleeding	9	50	127	6
4	Amenorrhoea	12	22	139	19
5	Headache	18	7	117	50
6	Dizziness	13	9	127	43
7	Breast pain	15	17	141	19
8	Mood changes	20	17	106	49
9	Weight changes	20	27	102	43
10	Abdominal pain	17	13	130	32
11	Acne	18	9	97	68
	Total	165	198	1387	176

**Table 9:** Distribution of Women Attend Primary Health Centers According to their Answers Regarding Attitude about Side Effect of Implanon.

There is significance between knowledge and attitude ( $p = 0.000$ ) with positive correlation. Regarding usage of Implanon findings were significant with knowledge and attitude ( $P$  value = 0.002 and 0.047 respectively) Table (10).

Side effect knowledge and attitude									
knowledge Positive			Attitude				p-value	correlation	
Yes	No	Unknown	Negative			Remove implant			Physician counselee
			Remove implant	Physician counselee	Not sure		Nothing done		
1490	788	1370	198	1387	165	176	0.000	.315**	
40.8%	21.6%	37.6%	9.4%	65.7%	7.8%	8.3%			
Total =3648 (100%)			Total=2112 (100%)						
Usage of Implanon			** Correlation is significant at the 0.01 level (2-tailed).						
	P-value	Correlation	*correlation is significant at the 0.05 level (2-tailed).						
know- edge	0.002	.223**							
attitude	0.047	.143*							

**Table 10:** Correlation of Knowledge and Attitude about Implanon use and its Side Effect among Women Attended Primary Health Center.

### Discussion

Consistent and accurate use of contraceptives is crucial in the prevention of unintended pregnancies and consequently reduction in maternal and infant mortality [15].

Therefore, knowledge about one or all-contraceptive methods is of key importance. Keeping in mind the lack of exact statistics in local perspective, the current study to assess the level of knowledge and attitude about side effect of Implanon (Implant). As majority of participant of our study were aged between (25 -34 years), live in urban area, most women have primary educational level. Similar to study done in Pakistan were the major participant 80% aged between (25 - 34 years) with mean  $\pm$  sd was  $29.48 \pm 5.05$  years, the majority belonged to rural areas 87.5% which different from current study. Most of the women were not having any formal education; this reflects the actual education status of women in rural areas. This was further shown from the observation that  $\frac{3}{4}$  of women were homemakers [14].

More than two thirds in this study had  $\leq 3$  live births, compared with study done by Irinyenikan T in Akure Western Nigeria show that more than half had  $< 4$  children [16].

Prevalence of contraceptive use in this current study was at 71.4%. This was higher than findings of Kenya demographic and health survey where the contraceptive prevalence rate was at 46% [17]. And higher than Iraq 40% according to Arab states regional office (ASRO) [2]. At 88.1%, the level of contraceptive ever use in Europe is far higher than the findings of this study [18]. These variations are possibly due to the differences of social, economic and cultural backgrounds.

About 14.6% in our study use Implanon, it still higher than that study done in Akure Western Nigeria 7% only use Implanon [16]. While nearly similar to study [14] only 21% had used Implant. This probably makes implant the least used method for contraception. Similar results were reported in Malaysia, where it was reported that Implant was used by very little proportion of women, low use of Implanon may be due to misconceptions about causation of permanent infertility and husbands' opposition [19]. Contrary to study reported that 72.1% of women were satisfied with Implant. And another study conducted by Wong RC., et al making comparison of women using two different forms of long-term reversible contraception showed that there was more dissatisfaction toward the Implant (60.9%) than the IUD users (17.2%) [20].

The relatives and friends was most common source for getting knowledge about Implanon followed by media, different from study [16] the Reproductive Health Service (RHS) centers was most common source for getting knowledge about contraceptives followed by a family planning clinic and the lady health visitor. These three play a key role in acceptance or discontinuation of a method of FP. As it was found in a study by [20] that it was recommended to them by a Doctor, followed by media and friends in Akure Western Nigeria, show that a source of information about Implanon was recommended by health providers 60% [16].

Current study revealed that majority had heard of Implant(Implanon) it's in similar to study on Latina women that show 47% heard of implant, [21] also higher than that of Women in Akure Western Nigeria 69% [16]. Women's awareness of the Implant may be due to enough education program lead to increase the awareness.



As 28.6% not used FP methods especially Implanon implant in our study, may be due to the side effects of the methods and religious unapproved [7]. In other study done by Jyoti L et al in Mumbai, 33.2% not used implant for reasons of not being accepted by husband or family member and religious belief (47%, 38.5%) respectively [22].

Knowledge about hormonal implants varies widely among countries. Among 42 countries with data from Demographic and Health Surveys, the percentage of married women of reproductive age who had heard of hormonal implants ranges from a low of 2% in Chad to 94% in Haiti. In 25 of the 42 countries, less than half of the women surveyed had heard of implants [23].

Our study results revealed that 2.1% respondents had high knowledge about Implanon, while more than half had low knowledge about Implanon. Comparable to study of Pakistan that revealed 14.2% respondents had good knowledge about birth control implants, 17.5% had average knowledge while 68.3% had no knowledge about implant [14]. In contrast, a study in Ethiopia, revealed that more knowledgeable about implants could potentially be due to rural-urban differences in socio-demographics and availability of specific implant methods [24].

Regarding attitude more than half response to Physician counselling, 16.6% "do nothing" and 9.4% "remove implant". Similar to study in Pakistan show that 71.42% consult the service provider, 14.29% "quit Method", and 14.29% "did nothing" [14].

## Conclusion

A relatively low level of current use Implanon from women attending PHC Centers.

Majority are housewives had a primary school, more than  $\frac{3}{4}$  have only one child less than 5 years, more than half have  $\leq 3$  of live children, have only one child less than 5 years. Two thirds knew information about Implanon as contraceptive methods from relatives and friends. Women's knowledge regarding Implanon is near to half, but knowledge of its side effect is approximate to one third. Overall majority had low knowledge about side effects. In other hand, there was big proportion of women who had good attitude towards side effect of Implanon. There is positive correlation between usage of Implanon with knowledge and attitude.

Yemen has many activities within the RH program so the intensive targeted information, education and communication (IEC) and counselling, increase the awareness about FP methods, Expand training of health care providers, supporting women's knowledge at every visit to the FP clinic with emphasis on the instructions of use and side effects and how to cope with them.

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## Conflict of Interest

The authors declare no conflict interests.

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