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3 **Knowledge, attitude and practices regarding implants among women of**  
4 **childbearing age**

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12  
13 **Abstract**

14 A cross-sectional survey was conducted from February 2016 to September 2016 to  
15 assess the knowledge, attitude and practices regarding contraceptive implants among  
16 women of childbearing age visiting the Reproductive Health Services Centre, Civil  
17 Hospital, Karachi. A total of 396 adult, non-pregnant, married women of childbearing  
18 age, between 18 and 49 years, were interviewed using a structured questionnaire. Only  
19 153 (38.6%) of the respondents had any knowledge about implants, out of whom 122  
20 (79.7%) had acquired the information from family planning clinics. Almost two thirds  
21 of the respondents, 267(67.4%) were in favour of using implants as a contraceptive  
22 method. Moreover, 244 (61.6%) respondents were of the opinion that if given a choice,  
23 they will use implanon, though out of the 316 (79.8%) respondents who had ever used  
24 contraceptives, only 3 (0.9%) used implants. Despite a favourable attitude, limited  
25 knowledge and poor practices of the respondents were the highlights of the study  
26 findings.

27 **Keywords:** Knowledge, Attitude, Contraception, Progestins, Women.

## 29 **Introduction**

30 Globally, an estimated 44% of pregnancies between the years 2010 and 2014 were  
31 unintended, and though the unintended pregnancy rate declined by 30% in the  
32 developed regions, it fell only 16% in the developing regions. During the same period,  
33 more than half of such pregnancies ended in abortion in both the developed and  
34 developing regions of the world.<sup>1</sup> A recent survey found that 46% of all pregnancies in  
35 Pakistan are unintended, with national abortion rate being 50 per 1,000 women aged  
36 15–49 (95% CI = 41–60); substantial variations were found among provinces, with  
37 highest induced abortion rates in Baluchistan (60/1,000), followed by Sindh (57/1,000),  
38 Punjab (51/1,000) and Khyber Pakhtunkhwa (35/1,000).<sup>2</sup>

39 Contraceptive implants are a progestin-based quickly reversible contraceptive method  
40 with few side effects.<sup>3</sup> They greatly reduce compliance issues, with increased  
41 effectiveness.<sup>4</sup> This makes them the contraceptive method of choice for women who  
42 have difficulty in adhering to a contraceptive regime, who have completed childbearing  
43 but are not yet ready for permanent sterilisation, who have anaemia with heavy  
44 menstrual bleeding, who have chronic illness and cannot become pregnant, who intend  
45 to breastfeed, and who desire a long-term protection.<sup>3</sup>

46 Implanon, a sub-dermal contraceptive implant, was approved by the United States Food  
47 and Drug Administration in 2006 and consists of a single preloaded and disposable rod  
48 containing 68mg of the progestin Etonogestrel, and, like other progestin-based implants,  
49 functions primarily by inhibiting ovulation and restricting sperm penetration through  
50 cervical mucus.<sup>3</sup> Literature provides evidence of metabolic safety of Etonogestrel  
51 contraceptive implant in healthy women whose placement reportedly induces changes  
52 consistent with a lower risk of insulin resistance and dyslipidaemia.<sup>5</sup>

53 The frequent side effects of implants as compared to other methods of contraception,  
54 particularly intrauterine contraceptive devices, include bleeding irregularities and acne.<sup>6</sup>

55 The contraindications for the use of implantable contraception include known or  
56 suspected pregnancy, history of thromboembolic disorders, active liver disease or

57 tumour, undiagnosed genital bleeding, known or suspected breast cancer and  
58 hypersensitivity to implant components.<sup>3</sup>

59 Through voluntary informed choice of the couples, contraceptive methods are used for  
60 family planning. Provision of information about different methods of contraception to  
61 the eligible couples is of key importance as it increases their knowledge about the  
62 available contraceptive methods and the one which suits them best. This knowledge,  
63 followed by the practice of contraception, builds and modifies their long-term attitudes  
64 towards family planning. Though studies with similar/overlapping objectives have been  
65 conducted previously, to the best of the authors' knowledge, the available recent local  
66 estimates are limited at best.<sup>7-10</sup> In the given context, this study was planned to assess  
67 the knowledge, attitude and practices regarding contraceptive implants among women  
68 of childbearing age visiting Reproductive Health Services Centre, Civil Hospital,  
69 Karachi.

70

## 71 **Methods and Results**

72 A cross-sectional survey to assess knowledge, attitude and practice about contraceptive  
73 implants was conducted from February 2016 to September 2016 at the Reproductive  
74 Health Services Centre, Civil Hospital, Karachi. After taking ethical approval from the  
75 host institution, i.e. Baqai Institute of Health Sciences, Baqai Medical University, as  
76 well as due permission from population welfare department of Sindh, adult married  
77 women aged from 18 to 49 years were included in the study by using convenience  
78 sampling technique. Pregnant women and those not willing to provide verbal informed  
79 consent were excluded from the study. Taking the percentage frequency of the study  
80 outcomes as 50% for the most liberal estimate, with 95% confidence level and 5%  
81 precision, the minimum required sample size was calculated to be 385 participants.

82 After checking eligibility and taking verbal informed consent, all the respondents were  
83 interviewed by the principal investigator using the study questionnaire that had earlier  
84 been tested for face validity. The questionnaire was developed in English initially but

85 was later translated to Urdu for interview purposes. The data was entered in Statistical  
86 Package for Social Sciences version 19 and descriptive statistics were calculated in  
87 terms of means and standard deviations for continuous variables, while for categorical  
88 variables it was calculated in the form of frequencies and percentages.

89 Against the minimum required sample size of 385, the total data acquired was from 396  
90 participants. The mean age of the respondents was  $29.48 \pm 5.05$  years; the mean period  
91 of marriage was  $10.24 \pm 4.56$  years, whereas the mean number of children was  $5.11 \pm 2.03$ .  
92 Majority of the respondents ( $n=317$ , 80.0%) aged between 26-35 years, while 167  
93 (42.2%) of them were educated to secondary level. Furthermore, about three quarters of  
94 them ( $n=295$ , 74.5%) were housewives, while 283 (71.5%) lived in a nuclear family set  
95 up. Majority of them ( $n=271$ , 68.4%) were from urban areas, whereas 287 (72.5%) had  
96 a monthly household income of 10,000 to 20,000 rupees only.

97 The study results revealed that the main sources of knowledge about family planning  
98 methods were husband/mother-in-law/family members 128 (32.3%), family planning  
99 clinic, 122 (30.8%) and neighbours 89 (22.5%) whereas the most heard of method of  
100 contraception were intra-uterine contraceptive device by 151 (38.1%), followed by oral  
101 pills 131, (33.1%). Furthermore, 153 (38.6%) had knowledge about implants, out of  
102 those 122 (79.7%) had acquired it from family planning clinics. Less than a quarter of  
103 them, 44 (21.2%) said that implants have side effects, whereas two third of them, 267  
104 (67.4%) thought that implants should be used as a contraceptive method. Moreover, 244  
105 (61.6%) were of the opinion that if given the choice of a long acting reversible  
106 contraceptive like implants, they will use it, though out of 316 (79.8%) respondents who  
107 had ever used a contraceptive method, only 3 (0.9%) had used implants (Table 1).

108

## 109 **Discussion**

110 The study results revealed that only 38.6% of the respondents had knowledge about  
111 implants being a method of contraception. Likewise, Jabeen C and Umbreen G in 2016  
112 reported 34.4% of the respondents to have knowledge regarding implants,<sup>9</sup> while, 21.2%

113 of the participants were of the opinion that implants have side effects. Similarly,  
114 Mubarik M et al, in 2016 found that 20.0% of the participants were of the opinion that  
115 implants have side-effects.<sup>8</sup>

116 It was also found in our study, that 79.8% of the respondents had ever used any  
117 contraceptive method. Mubarik M et al, in 2016 though reported only 26.7% of the  
118 respondents to have ever used a contraceptive method.<sup>8</sup> Furthermore, 43.4% of those  
119 who refused to use implants for the purpose of contraception if given the choice said so  
120 because either they preferred other methods of contraception or didn't think implants to  
121 be feasible for them. Likewise, Mubarik M et al, in 2016 found 37.0% of such  
122 respondents to cite similar reasons for not using implants.<sup>8</sup>

123 Surprisingly, only 0.9% of the participants had ever used implants. Similarly, Talpur  
124 AA et al, in 2017 cited only 4.7% of the participants interviewed to have ever used  
125 implants.<sup>10</sup>

126 It was further seen that 48.5% of the respondents were currently using any contraceptive  
127 method. Unlike our study results though, Azmat SK et al, in 2015 found only 18.3% of  
128 the respondents to currently use any contraceptive method.<sup>7</sup> Such a difference in  
129 findings is not unexpected as the later study was a community-based survey conducted  
130 in Punjab as opposed to the current study, a hospital based survey carried out in Sindh.

131

## 132 **Conclusion**

133 Despite a favourable attitude, limited knowledge and poor practices of the respondents  
134 were the highlights of the study findings. Though it is acknowledged that women of  
135 childbearing age visiting a reproductive health centre are not an ideal surrogate of the  
136 general population of such women, the resultant estimates nevertheless provide a current  
137 local assessment that can be used for future informed decision making.

138 The limitations of the study include the use of convenience sampling technique and a  
139 questionnaire that could not be checked for internal consistency due to time constraint.

140

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142 Baqai Medical University.

143 **Conflict of interest:** None to declare

144 **Funding disclosure:** None to declare

145

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179 **Table 1: Knowledge, Attitude and Practice Profile**

<b>Variables (n=396)</b>	<b>Count (%)</b>
<b>Do you know about family planning?</b>	
Yes	396 (100)
No	Nil
<b>What was your source of knowledge about family planning methods?</b>	
Husband/Mother-in-law/Family members	128 (32.3)
Neighbours	89 (22.5)
Electronic/Print media	44 (11.1)
Family planning clinic	122 (30.8)
Lady health visitor, nurse or doctor	13 (3.3)
<b>About which of the following methods of contraception you have heard the most?</b>	
Intra-uterine contraceptive device	151 (38.1)
Oral pills	131 (33.1)
Injections	31 (7.8)
Implants	3 (0.8)
None	80 (20.2)

<b>Do you know implant is also a method of contraception?</b>	
Yes	153 (38.6)
No	243 (61.4)
<b>If yes, from where did you come to know it? (n=153)</b>	
Husband/Mother-in-law/Family members	13 (8.5)
Neighbours	5 (3.3)
Friends	6 (4.0)
Family planning clinic	122 (79.7)
Lady health visitor, nurse or doctor	7 (4.5)
<b>Do you know that if you plan your pregnancy using implants or any other method of family planning it can influence your health positively?</b>	
Yes	267 (67.4)
No	129 (32.6)
<b>Do you know if implants have any side effects?</b>	
Yes	44 (21.2)
No	352 (78.8)
<b>Do you think implants as a contraceptive method should be used?</b>	
Yes	267 (67.4)
No	129 (32.6)
<b>If you are given the choice of a long acting reversible contraceptive like implanon, will you use it?</b>	
Yes	244 (61.6)
No	152 (38.4)
<b>If no, why? (n=152)</b>	
I prefer other methods	66 (43.4)
My husband/family will not agree	86 (56.6)
<b>Do you think all pregnancies should be planned?</b>	
Yes	220 (55.6)
No	176 (44.4)
<b>Why do you think people do not use contraceptives?</b>	
Desire to become pregnant	212 (53.5)



Fear of side effects	101 (25.5)
Not Sure	83 (21.0)
<b>Have you ever used any contraceptive method?</b>	
Yes	316 (79.8)
No	80 (20.2)
<b>If yes, what type of contraceptive did you use? (n=316)</b>	
Oral pills	131 (41.5)
Intra-uterine contraceptive device	151 (47.8)
Injections	31 (9.8)
Implant	3 (0.9)
<b>Were your all pregnancies planned:</b>	
Yes	215 (54.3)
No	181 (45.7)
<b>Are you currently using any contraceptive method?</b>	
Yes	192 (48.5)
No	204 (51.5)