Demographic and Socio-Economic Determinants of Contraceptive Use in a Low Income Community of Karachi

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Abstract

The study objectives were to assess multiple factors associated with the use of contraceptives among married women living in a low income community in Karachi. The study was a cross sectional survey of 608 women between the ages of 15 and 49 years. The mean number of living children per woman was 3.7 (confidence intervals 3,49-3.9). The literacy rate was 53%. The current use of contraceptives was 29%. Among many variables examined and in consistence with studies in other countries, women were 4 to 5 times more likely to use contraceptives if they had 3 or more living children than if they had two or fewer living children (p=.000). These results strongly suggest that the number of surviving children and women's education are key determinants in decision-making about contraceptive use and as such are intervention points to increase contraceptive use. Stronger policies focused on improving child survival, reducing the perceived ideal family size through increased female education will be more likely to reduce fertility (JPMA 46:228, 1996).

Introduction

Fertility is a complex phenomenon that is enormously affected by cultural conditions preferences and family structures which contribute to distribute power over fertility decisions indifferent way[1-5]. Demand for children is affected by factors such as socio-economic status, women's education, that may also be influenced by social and cultural norms independent of economic development factors[4,6]. Fertility decline through contraceptive use may depend mostly on the supply of children, defined as the number of surviving children, a couple would have in the absence of any contraceptive use[1]. Alex Ezeh ma study on couple's data from the Ghana Demographic and Health Survey, reported that the number of surviving children @arity) was found to be positively related to the couple's attitude toward family planning adoption[7]. Correspondingly, desired family size depends upon the demand for surviving children rather than the number of live births[2,8]. If the. number demanded exceeds the natural supply, there is 'excess demand" and couples are unlikely to use contraception, conversely, if the number demanded is less than the supply, there is an "excess supply" and couples are more likely to limit fertility. In investigating the effects of fertility intentions on the contraceptive behaviour of couples from 18 different countries of Asia and Africa (by using DHS data), John Bongaarts, concluded that the average contraceptive prevalence rate of spacers (women who wish to have more children but currently are on contraceptiqn) was 24 percent, which was substantially lower than 49 percent among limiters (women who did not desire more children) [8]. Data reanalyzed from the classic Princeton Fertility Survey (USA) found that the birth rates were lower among those who achieved their desired number of children and now wanted to stop childbearing than among those who wanted more children[9]. Similarly, education, especially woman's education is another important determinant usually expected to change her attitude and as a consequence, reduce her expected family size and increases her use of family planning. Education is also a major factor determining social status and thus is expected to increase the ability of women to decide if and when to have additional children[10,11]. Thus women's educational attainment should be inversely related to the number of the children they desire. In the context of

family planning, it has been hypothesized and generally obsen'ed that higher education increases the likelihood of contraceptive knowledge and use[4,12]. The objectives of this study were to determine the prevalence of family planning usage among married eligible women living in a particular cultural setting arid to examine the extent to which the number of living children (supply of children) and women\'s literacy affects contraceptive use.

Subjects and Methods

A cross-sectional survey was conducted in Shirin Jinnah Colony, a low income urban squatter settlement in Karachi, Pakistan, in February 1991, in collaboration with the National Research Institute for Fertility Control .(NRLFC). The sample size required to estimate true prevalence of contraceptive use within 3 percent margin of error and with 95 percent confidence limit was found tobe 544. However, all the women in Shirin Jinnah Colony, present during the survey i.e.. 608 women, were interviewed. This sample was adequate in size to allow for reliable analyses of cross- tabulation; to provide desired level of accuracy in estimation of proportion of contraceptive use and to test its significance related to family size, women's education and other independent variables.
Study Variables and type of analyses: The dependent or outcome variable was current contraceptive use by married eligible woman. Independent variables were number of living children, age of mother, education, family monthly income, knowledge and approval of family planning. A categorical variable was created based on the number of living sons and daughters a woman had: woman having equal number of sons and daughters. having more sons than daughters and having less sons than daughters. This was done to assess the role of sort preference (if any). Simple descriptive analysis - frequency distribution and cross-tabulation of independent variables with contraceptive prevalence and logistic regressionsion analysis was used to examine the effects of number of living childrvn(supply of children) and women's education on current contraceptive use.

Results

The average age forall women under study was about 28 years and mean duration of marriage was 1.1 years with the average monthly family income being Rs.3,2 II. Forty-seven percent women were completely illiterate. Husbands were better educated than their wives. The living son, daughter variable, education levels and literacy rate are shown in Table I.

Table I. Percent distribution of women for selected demographic and socio-economic indicators, survey of 608 women in Shirin Jinnah Colony, Karachi, Pakistan.

Demographic and socio-economic characteristics	Percent* (N=608)
Percent of women in each age group	
≤19	10
20-29	47
30-39	33
40-49	9
Mean age of women (Years)	28
Mean duration of marriage (years)	11.0
Number of living children	
≤2	38
3-4	29
4+	32
Living son-daughter variable	
had equal # of sons and daughters	22
had more sons than daughters	41
had more daughters than sons	37
Monthly family income (in rupees)	
<2,000	30
2,000-4,999	56
5,000+	14
Average monthly income	3,211
Education of women	
illiterate	47
can read and write	21
primary (1-5)	12
secondary 6-10	16
college	4
literacy rate	53

*Percentage adjusted to nearest round figure.

Fifty-three percent of women desired more children and the mean ideal number of children was 3.7. The knowledge of any contraceptive methods and their current use is reported in Table II.

Table II. Percent distribution of women who desired more children, ideal family size, family planning knowledge and approval, ever-use of contraception and the current use of contraceptives in Shirin Jinnah Colony 1991.

Demand for children	Percent* N=608
Desire for more children in future	54
Approved of family planning	80
Knowledge of any methods	87
pill	78
condom	52
vaginal method	34
injection	67
IUD	47
sterilization	58
withdrawal	46
Ever use by any method	41
Current use by any method and specific method	
any method	29
pill	4
condom	6
injection	3
IUD	3
sterilization	3
withdrawal	11

* Percentage adjusted to nearest round figure.

The number of living children was linearly and significantly related to current contraceptive use (p=.0000). Cuntnt use was as low as 12 percent if a woman had 2 or less living children and as high as 41 percent if she had more than 4 children. The contraceptive use increases with the number of living sons and decreases as the number of living daughters increases. When the combined categorical variable (women having equal number of sons and daughters, having more sons than daughters and having less sons than daughters) was cross-classified with the current use, it was 22 percent among women with equal number of sons and daughters, 37 percent if they had more sons and 32 percent among those who had less sons than daughters. This association was significant (p<0.19).
Age of woman had a positive relationship with current contraceptive use (p=.O 134). Association between current use and education was also significant (p=.0001). Current use of family planning was 40 percent if woman desired no more children than if she desired more children (19.3 percent, p=.000). We also did cross analysis between desire for more children, ideal family size and the education of women. Desire for more children was as high as 46 percent, if the woman was illiterate and as low as 1.3 percent, ifshe had only some primary schooling (p=.057). There was a strong relationship between ideal family size and education of women (p=.0006). Over 33 percent of illiterate women had an ideal family size of more than 4 children compared to 4.3 percent of college educated women. Multivariate Results (Table III).

Table III. Multivariate logistic regression model odds ratios and p-values for independent variables (selected demographic and socio-economic. Dependent variable, current contraceptive use.

Independent variables	Odds ratio (p-value)
Constant	-3.715 (.000)
Total living children	(.000)*
ref=≤=2	
3-4	4.0 (.000)
4+	5.0 (.000)
Desire for children	
ref.= desire more	
Desire no more	1.63 (.046)*
Education of woman	
(ref.= illiterate)	(.000)*
Can read and write	2.2 (.004)
primary	2.6(.014)
secondary	3.6 (.000)
college	4.1 (.014)
-2 log likelihood= 6-6.315	Chi-square=79.20 P-value=.0000

Six independent variables which were found significantly associated with current use of contraception (on bivariate analysis), i.e., total number of living children, son-daughter variable (to detect son preference), age of woman, education of woman, monthly family income and desire for more children were entered into multivariate model. Three out of these i.e., number of living children, desire for more children and education of woman remained significant.

Women were 4 to 5 times more likely to use contraception if they had 3-4 or more living children, than if they had two or less children i.e., the reference category (odds ratio= 4.0; p=.000). The odds of current use was more than twice (odds ratio=2.2), if a woman could read or write, compared to an illiterate woman (p.0004). Current use was almost 4 times higher if woman had secondary (odds ratio=3.8) or higher education (odds ratio=3.9) than if she was illiterate (reference category) In addition to these two variables, desire for more children in future also remained significant determinant of contraceptive use in this study population. The odds of current use was 1 .6 times higher if they desired no more children than. if they desired more children (p.046).

Discussion

This study suggests that there is a strong relationship between current use of contraception and the number of living children. Although gender of the living child did not appear significant in the multivariate model in this study group. however, the association between contraceptive use and the gender of the child was found significant in a bivariate analysis. We may need to plan more specific studies to capture sex of child as an indicator of use. Wornens' education also played a strong role in decision-making about contraceptive use. Women with more education had smaller ideal family size compared to uneducated women. Furthermore, uneducated women desired more children than educated women in this study population. Those who desired no more children were more likely to use contraception. Whereas, the age is usually found to be highly associated with contraceptive use, due to the sm2]l number of observations in younger and older age groups of women, we were not able to

disaggregate information highlighting the combined effects of age and parity on contraceptive use. However, a larger study may be able to detect these effects. Various other studies conducted in different parts of the world have shown comparable results as our study. The parity and the number of surviving children of the woman not only reflect the past attitude of a couple regarding fertility preference and family planning practice, but also influence the future desire for children and contraceptive use[2,3,8,12-15]. Kim and coworkers, in reanalyzing the Korean Fertility Survey (1974) data found similar results as we did in our study that the number ofcurrently living children was the most important determinant in the decision to have another child. Similar results were reported from the Pakistan Demographic and Health Survey, 1991 that the contraceptive use among currently married women increases as the parity of women increases (from 3 percent at parity 1 to 11 percent at parity 3 and to a high of 18 percent at parity 5 or more[14].

Correspondingly, women's education had a significant effect on fertility behaviour, contraceptive use, infant and child morbidity and mortality[4,10-12,15]. Education is one of the most neglected sectors which has not caught up with the growing population in Pakistan. The current estimates for women's literacy rate in Pakistan is only 21 percent[16]. This study strongly suggest that the numberofsurviving children plays a crucial role in decision-making about contraceptive use. Furthermore, women's education also appeared as important as numberofliving children. Therefore, government's policies and strategies to ensure child survival and increase women's education arc more likely to reduce fertility and increase contraceptive use.

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