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# Factors Influencing the Contraceptive Usage among Older Women in Sri Lanka

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# Factors Influencing the Contraceptive Usage among Older Women in Sri Lanka

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**Abstract**

*Most women in the later years of childbearing age seem to believe that they are at a minimum risk of conception because of infrequent sex, and the conviction that they are infertile during those years. However, as they remain to be sexually active, they have the potential of becoming pregnant. This is possible despite the decline in fecundity women experience as they gradually reach the age of menopause. The objective of this study is to analyze the contraceptive behaviour of older women in Sri Lanka as there are no studies available on this topic. Most studies have concentrated on the fertility and contraceptive behaviour of younger women in the reproductive age. With the use of the latest Demographic and Heath Survey (DHS) 2016 data, the study revealed that a significant proportion of women of 40 years and above are in parity of 4 and above, although the fertility norm of this cohort was 2 to 3. This is an implicit indication of the failure in the use of contraceptives. When the use of contraceptives was investigated, it was found that the majority of women use modern methods. Binary Logistic Regression performed in this study exhibited that women's employment and the number of children ever born were some of the main factors influencing the use of modern contraceptives by older women. The study also analyzed the data on contraceptive usage among older women and found that a substantial proportion of women do not use any family planning methods. Infrequent sex and health concerns regarding Family Planning (FP) methods were stated by a significant proportion of women as reasons for not using any contraceptive methods. One of the most important factors to consider is that there is no unmet need for family planning for older women in the reproductive age span, which means that there are no programme defects. However, the study showed that older women in the reproductive age span have been neglecting the use of family planning methods because of the conviction that they will not become pregnant.*

*Keywords: contraceptive usage, older women, parity, reproductive age span*

## Introduction

Characteristically, older women in the latter period of childbearing years are ignored in the discussions on the use of contraceptives (OlaOlorun, 2013). They seem to believe that they are at a minimum risk of conception because of infrequent sex, and possible infertility. However, as they remain to be sexually active, they have the potential of becoming pregnant. This is possible despite the decile in fecundity women experience as they gradually reach the age of menopause. Although women who have reached the age of 40 years and above usually achieve the desired family size, they still need contraceptive information and services. Many have attempted to treat this category of women as a special subgroup of population for family planning (Beasley, 2010; Sherman et al., 2005; House and Ibrahim, 1999). Most of these studies focus on the use of contraceptives by younger women in the reproductive age span. At the same time, family planning programmes tend to neglect older women and focus on younger women who would use contraceptives to achieve the desired family size. Interestingly, the Sri Lanka Demographic and Health Survey data reveals that 7.7 percent of women who are above 40 years of age wanted another child. However, the majority of older women do not expect to bear children. This leads us to investigate the contraceptive behaviour of older women, i.e., the factors that influence them to use or avoid using contraceptives.

## Data and methods

Data for this analysis is obtained from the Sri Lanka Demographic Health Surveys (SLDHS) 2016. The SLDHS 2016, used a multistage stratified area probability sample design. The survey used a two-stage stratified sampling design. It collected information from 28720 households and 18302 eligible women aged 10 to 49 years. This study limits its analysis to women aged 40 years and above. Therefore, 6,449 women are taken for the analysis. The study begins with an exploratory analysis and then a binary logistic analysis is performed to find important predictor variables that can influence the non-use of contraceptives by older women in the reproductive age span. Binary logistic regression predicts the probability for an observation to fall into one of the two categories of a dichotomous dependent variable based on one or more continuous or categorical independent variables.

As the outcome of logistic is binary, y which is the dependent variable (the current use or nonuse of contraceptive methods) needs to be transformed so that the regression process can be used. The logit transformation gives the following:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots + \beta_q x_q$$

$p$ = probabilty of event occuring e.g. person dies following heart attack, $\frac{p}{1-p}$ = odds ratio

In the present analysis, we use six variables: (1) current status of contraceptive use, which is whether the older women currently use contraceptive methods or not (i.e., the dependent variable); (2) number of children ever borne by the older women (3) educational level of the older women; (4) educational level of the husband, (5) husband's employment status (6) older women's employment status (i.e., the independent variables);

If the probability of the event of interest happening to the individuals concerned is needed, the logistic regression equation can be written as:

$$p = \frac{\exp\left(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots + \beta_q x_q\right)}{1 + \exp\left(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots + \beta_q x_q\right)}, \qquad 0 < p < 1$$

Note: Odds are determined from probabilities and range between 0 and infinity. Odds are defined as the ratio between the probability of success and the probability of failure.

The selection of independent variables for this study was based on previous studies which examined the relationship between education and employment differentials on contraceptive usage in different cultural settings. It has been shown that significant changes in fertility differentials observed in rural Bangladesh were due to the changes in female education and contraceptive usage (Bhuyan, 1996). It has also been claimed that investment in women's education has made a significant impact on reducing unwanted fertility in India (Jiang and Hardee, 2014). A study done by Bumpass et al. (1982) has shown how educational differentials in fertility are affected by contraception in Korea and the Philippines. Amin and others (1992) have revealed from their study in Sierra Leone that contraceptive usage was positively associated with education beyond the primary level. Shapiro and Thambashe (1994) examined the contraceptive behaviour and abortion among women residing in Kinshasa, Zaire's

capital city, with particular emphasis on women's employment and education. They found that better-educated women employed in the modern sector are most likely to be in the forefront of the contraceptive revolution. It has been theoretically as well as empirically proven that the first generation with mass schooling will be the first to initiate fertility transition in a country (Caldwell, 1982; Dissanayake, 1995). By analyzing the data drawn from the National Survey of Family Growth of the USA, Mosher and Bachrach (1996) establish that unwanted births have increased during the 1982-88 period, particularly among the less educated and poor women belonging to minority communities.

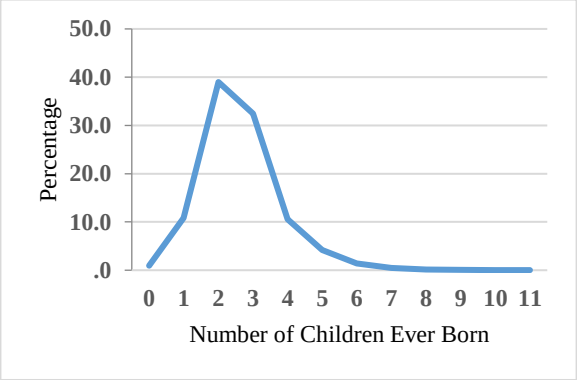
This study explores the type of family planning methods used by older women. Since there are two types of contraceptives: 'modern and traditional', the study uses it as its dependent variable while educational level of the woman, educational level of the husband, employment status of the woman and employment status of the husband were used as independent variables. In addition, as shown earlier, the number of children ever borne (CEB) by the women aged 40 years and above was also taken as an independent variable since it can determine whether they prefer to use modern methods or traditional methods to limit childbearing, as these women have already achieved their family size. In this model, the dependent variable is a dichotomous variable and all the other independent variables, except CEB, are categorical variables. CEB is a continuous variable. Therefore, this model satisfies the conditions of the binary logistic regression model. The study uses the SPSS software package to analyze the SLDHS 2016 data by applying the binary logistic regression technique.

## Results and discussion

### Children Ever Born by older women

The study revealed that the average number of children ever born for older women was 2.63. Figure 1 shows how the number of women were distributed according to parity. This suggests that these women had achieved their family size by the time they reached the age of 40 years or above, because the fertility norm of the Sri Lankan society has been 2 children during the past few decades (Dissanayake, 2016).

**Figure 1: Percentage distribution of older women by number of children ever born**




Source: Sri Lanka Demography and Health Survey (SLDHS), 2016

According to the SLDHS sample, about 96 percent of older women have said that they do not want any more children. However, about 4 percent of women in the early 40s have indicated that they wanted another child. This factor was further confirmed by the SLDHS data when they were asked the question "Why don't you wish to have any more children in future?". In response, 67 percent have stated that they have enough children while the rest were uncertain and indicated reasons such as old age, sickness and financial problems as barriers for being able to have more children. However, it is quite interesting to examine how the older women are distributed by parity as shown in Table 1. This suggests that about 16.8 percent of women were in parity 4 and above although the fertility norm of this cohort was around 2 to 3. This is an implicit indication of the unmet need for family planning or the neglect of contraceptives by older women in the reproductive age span.

**Table 1: Distribution of older women by parity**

| Parity | Age of Women | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 5 | 5 | 5 | 5 | 3 | 10 | 3 | 7 | 2 | 5 | 50 |
| 1 | 63 | 57 | 46 | 57 | 56 | 61 | 63 | 71 | 69 | 48 | 591 |
| 2 | 244 | 236 | 216 | 231 | 225 | 196 | 206 | 226 | 191 | 153 | 2124 |
| 3 | 171 | 218 | 192 | 182 | 169 | 172 | 169 | 175 | 185 | 133 | 1766 |
| 4 | 51 | 45 | 56 | 57 | 62 | 69 | 50 | 65 | 60 | 59 | 574 |
| 5 | 16 | 19 | 21 | 20 | 35 | 12 | 28 | 31 | 21 | 26 | 229 |
| 6 | 8 | 3 | 3 | 7 | 10 | 8 | 3 | 11 | 13 | 9 | 75 |
| 7 | 1 | 0 | 0 | 2 | 3 | 2 | 6 | 4 | 3 | 3 | 24 |
| 8 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 2 | 9 |
| 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

**Factors influencing the use of modern contraceptive methods by older women: Binary Logistic Regression Analysis**

As stated in many studies, there is a positive association between the education and employment statuses of the husband and wife and the use of contraceptives. The present study examines whether this relationship holds true for older women in the reproductive age span. More women under study have stated that they use modern contraceptive methods more than traditional methods. Table 2 shows that our predictions were correct in 763 out of 1100 cases, with an overall success rate of 69.4%.

**Table 2: Classification Table[a]**

| Observed | | | Predicted | | |
|---|---|---|---|---|---|
| | | | Preferred FP method | | Percentage Correct |
| | | | Traditional FP | Modern FP | |
| | Preferred FP | Traditional FP | 18 | 331 | 5.2 |
| | | modern FP | 6 | 745 | 99.2 |
| | Overall Percentage | | | | 69.4 |

a. The cut value is .500; N=1,100

**Table 3: Hosmer and Lemeshow test**

| Hosmer and Lemeshow Test | | | |
|---|---|---|---|
| Step | Chi-square | df | Sig. |
| 1 | 121.632 | 8 | .000 |

Additionally, the Hosmer and Lemeshow Test shows that our model is a good fit to the data as *p=.000* (*<.01*). 'Variables in the Equation' table (Table 3) summarizes the importance of the explanatory variables individually whilst controlling the other explanatory variables. The Wald test ("**Wald**" column) is used to determine the statistical significance for each independent variable. In the sig.column, the p-value is below 0.05 for two variables introduced in the model: Women's employment status and the number of children ever born. All the other independent variables are not significant. This means that there is no strong relationship between the educational status of the husband and wife as well as the employment status of the husband. In other words, the educational status variables do not add significantly to the model as explanatory variables. When interpreting the differences, by looking at the exp(β ) column which represents the odds ratio for the individual variable, we observe that the probability of an event occurring is based on a one-unit change in an

independent variable when all the other independent variables are kept constant. Table 4 shows that the odds of using modern contraceptive methods by employed women is 1.606 times greater than unemployed women. Similarly, the odds of using modern contraceptive methods by those who have more children is 1.297 higher than women with a fewer number of children.

**Table 4: Variables in the Equation**

| | B | S.E. | Wald | df | Sig. | Exp(B) (Odds Ratio) | 95% C.I .for EXP(B) | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lower | Upper |
| Husband's educational level (1) | .106 | .164 | .417 | 1 | .518 | 1.112 | .806 | 1.533 |
| Woman's educational level (1) | .146 | .161 | .813 | 1 | .367 | 1.157 | .843 | 1.587 |
| Woman's employment status (1) | .474 | .238 | 3.952 | 1 | .047 | 1.606 | 1.007 | 2.563 |
| Husband's employment status (1) | -.228 | .137 | 2.760 | 1 | .097 | .796 | .608 | 1.042 |
| Children Ever Born | .260 | .058 | 20.325 | 1 | .000 | 1.297 | 1.158 | 1.452 |
| Constant | -.361 | .285 | 1.602 | 1 | .206 | .697 | | |

Many studies have examined the relationship between women's employment and their contraceptive and fertility behaviour in developing countries (Sathar and Chidambaram, 1984; Lloyd, 1991; Poirier et al., 1989; and Standing, 1983). Most often, these studies do not find evidence of a significant relationship between the employment status and fertility behaviour. But there is conflicting evidence regarding the relationship between employment and contraceptive behaviour. The reason for the strong association between employment

and modern contraceptive useage in Sri Lanka is perhaps reaching the desired fertility status and the need for more effective family planning methods to continue employment activities.

The Chi-squared test performed to find the association between women's employment and the use of family planning methods showed very significant results implying that more employed women use modern family planning methods as shown in Table 5 and 6. Table 4 reveals that the majority of employed women prefer to use modern contraceptive methods and Table 5 shows that the Chi-square value is significant as the p value is less than .05. In this case, the variable 'employed women' is the independent variable while the 'preferred method of family planning' is the dependent variable.

**Table 5: Cross tabulation of women's employment by preferred Family Planning method**

| | | | women's employment | | |
|---|---|---|---|---|---|
| | | | employed | unemployed | Total |
| preferred FP Method | modern FP methods | Count | 431 | 671 | 1102 |
| | | % within women's employment | 63.9% | 69.9% | 67.4% |
| | Traditional Methods | Count | 243 | 289 | 532 |
| | | % within women's employment | 36.1% | 30.1% | 32.6% |
| Total | | Count | 674 | 960 | 1634 |
| | | % within women's employment | 100.0% | 100.0% | 100.0% |

**Table 6: Chi-Square Tests (Women's employment status and Preferred Family Planning method)**

| | Value | df | Asymptotic Significance (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 6.383[a] | 1 | .012 | | |
| Continuity Correction[b] | 6.115 | 1 | .013 | | |
| Likelihood Ratio | 6.355 | 1 | .012 | | |
| Fisher's Exact Test | | | | .012 | .007 |
| Linear-by-Linear Association | 6.379 | 1 | .012 | | |
| N of Valid Cases | 1634 | | | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 219.44.

b. Computed only for a 2x2 table

**Table 7: Crosstabulation of CEB and Current Use of FP Methods**

| | | | children ever born | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| preferred FP Method | modern FP methods | Count | 11 | 195 | 417 | 273 | 130 | 48 | 17 | 4 | 2 | 3 | 1 | 1 | 1102 |
| | | % within children ever born | 26.8% | 60.6% | 67.7% | 72.0% | 76.5% | 70.6% | 68.0% | 80.0% | 66.7% | 100.0% | 100.0% | 100.0% | 67.4% |
| | Traditional Methods | Count | 30 | 127 | 199 | 106 | 40 | 20 | 8 | 1 | 1 | 0 | 0 | 0 | 532 |
| | | % within children ever born | 73.2% | 39.4% | 32.3% | 28.0% | 23.5% | 29.4% | 32.0% | 20.0% | 33.3% | 0.0% | 0.0% | 0.0% | 32.6% |
| Total | | Count | 41 | 322 | 616 | 379 | 170 | 68 | 25 | 5 | 3 | 3 | 1 | 1 | 1634 |
| | | % within children ever born | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

In this analysis, we used the number of children ever born as the independent variable and the type of family planning method used as the dependent variable. When the association between the number of children ever born and the type of family planning methods used was examined through the Chi-square test, we found a strong association between the increasing number of children and the use of modern family planning methods, as shown in Table 7 and 8. There is clear evidence in Table 7 that women who have a higher number of children tend to use modern family planning methods. Furthermore, Table 8 exhibits that the Chai-square value is significant at below.05 level, which means that there is a strong association between the number of children ever born and the use of family planning methods, indicating that those who had a higher number of children use modern family planning methods.

**Table 8: Chi-Square Tests (CEB and Preferred FP Method)**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 50.794[a] | 11 | .000 |
| Likelihood Ratio | 50.120 | 11 | .000 |
| Linear-by-Linear Association | 25.934 | 1 | .000 |
| N of Valid Cases | 1634 | | |

a. 10 cells (41.7%) have expected count less than 5. The minimum expected count is .33.

## The current use of contraceptive methods and reasons for not using any contraceptive methods

The study reveals that 30 percent of older women in the reproductive span do not use any family planning methods. It is quite important to examine this phenomenon further because these women, who have not reached menopause, could become pregnant. Therefore, one can hypothesize that the non-use of contraceptives is due to neglect or the perception that they would not become pregnant. 32 percent of the older women have stated infrequent sex and health concerns regarding FP methods as reasons for not using any contraceptives (Table 8). It is also quite important to observe that about 13.23 percent of women wanted to become pregnant and hence avoided using any contraceptives. In further analysis, we found that 86 percent of the women were at parity 0 or 1 and were expecting one or two children to achieve the desired family size. Although the average age at marriage for women in Sri Lanka is 23.7 years, about 51 percent of older women who wanted to become pregnant had got married at the age of 30 years or above. One of the most important factors is that there is no unmet need for family planning for the older women in the reproductive age span, which implies that there are no programme defects.

**Table 9: Reasons for the non-use of any contraceptive methods by the older women**

| Reasons | Number | Percentage |
|---|---|---|
| To become pregnant | 347 | 13.23 |
| non-availability of FP | 7 | 0.27 |
| FP is expensive | 3 | 0.11 |
| Religious influence | 26 | 0.99 |
| Inconvenient to use | 41 | 1.56 |
| Rumors of side effects | 40 | 1.53 |
| Lack of knowledge or source | 32 | 1.22 |
| Opposed to FP | 21 | 0.80 |
| Husband disapproves | 90 | 3.43 |
| Family disapproves | 1 | 0.04 |
| Infrequent sex | 479 | 18.27 |
| Postpartum | 5 | 0.19 |
| Menopausal/sub fecund | 352 | 13.42 |
| Health concern | 655 | 24.98 |
| Other | 496 | 18.92 |
| Don't know | 27 | 1.03 |
| Total | 2622 | 100.00 |

*Note: The total is greater than the number of women in the analysis because this table includes multiple responses*

## Conclusion

This study attempted to analyze the contraceptive behaviour among older women in Sri Lanka as there are no studies available on this area. Most studies have concentrated on the fertility and contraceptive behaviour of younger women in the reproductive age span. With the use of the latest DHS 2016 data, the study revealed that a significant proportion of older women who were of age 40 years and above are in parity 4 and above, although the fertility norm of this cohort was around 2 to 3. This is an implicit indication of the failure in the use of contraceptives. In addition, it was found that the majority of women use modern contraceptive methods. Binary Logistic Regression performed in this study exhibited that women's employment and the number of children ever born were some of the main factors influencing the use of modern contraceptive methods by older women. The study also

analyzed the data on contraceptive usage among older women and found that a substantial proportion of women do not use any family planning methods. A significant proportion of women stated that infrequent sex and health concerns regarding FP methods forced them to not use any contraceptives. One of the most important findings is that there is no unmet need for family planning for the older women in the reproductive age span, which indicates that there are no programme defects. However, the study showed that older women in the reproductive age span have been neglecting the use of family planning methods because of the belief that they will not get pregnant. Therefore, it is important to note that those who have reached the age of 40 years and above usually achieve desired family size but still need contraceptive information and services.

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