

Socio - economic and Demographic Factors Affecting Contraceptive use in Egypt

by
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Abstract:

In this paper, some Socio- economic and demographic factors affecting contraceptive use are investigated. These factors are introduced on individual basis first in bivariate analysis , then collectively in multivariate analysis. Some of these factors are categorical (qualitative) such as : urbanization , region , age group , education status , and work status while other factors are quantitative such as : duration of marriage in years, total number of children alive and dead , number of boys dead , and number of girls dead . Naturally , each type of data has a suitable methodology . Chi square and T-test are used in bivariate analysis and Logistic regression is used in multivariate analysis . Rural Upper Egypt is isolated for further analysis since a high percentage of those ever married women who never used a contraceptive method (45.1%) belongs to this region . The characteristics of those ever married women who never used a contraceptive method are analyzed . On the basis of the main results some policy implications are suggested.

Introduction :

Egypt has been suffering from high fertility levels , a fact that precludes social and economic development in the Egyptian population. The total fertility rate had dropped from 6.2 in 1960 to 3.9 in 1992 (Khalifa 1994) . This change in the level of fertility is contributed to the rising level of contraceptive use through the active role of the national family planning program as well as through the efforts of the private sector (Khalifa , 1994) . However , although the level of ever married women who never used modern contraceptives has decreased from 61.1% in 1980 to 37.1% in 1992 (El - zanaty , et al. 1993) , it is still proportionally high . In this paper , the major determinants of contraceptive use will be examined and the characteristics of those ever married women who never used a modern contraceptive method will be highlighted.

Data Sources:

The main source for the data used in this paper is the Arab Maternal and Child Health Survey (PAPCHILD) 1991 conducted by the Arab League and Central Agency for Public Mobilization and Statistics (CAPMAS). The total sample is 9862 ever married women under age 55. The contraceptive use (never / ever used) is a type of data which is supposed to be of good quality since a woman can not forget using a contraceptive and

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work status are also supposed to have a good quality. Age and age related factors (duration of marriage , number of children alive and dead , number of boys dead and number of girls dead) may suffer from memory lapse . However , I have noticed consistency in these data since they show steady increase as age increases . There is no doubt that "number of boys dead " has a good quality since the norms and traditions in the Egyptian society in general and in rural areas in particular make losing a boy unforgettable event.

Study Objectives:

This Study has three main objectives : First ; to highlight the socio-economic and demographic factors that affect contraceptives in Egypt . Second; to shed light on the major characteristics for those ever married women who never used a contraceptive method. Third; to provide the policy makers and planning specialists with some ideas and thoughts that might help increasing contraceptives in the Egyptian society.

Methodology:

As stated earlier , some of the socio - economic and demographic factors under consideration are categorical while others are quantitative . Chi square test has been used to study the relationship between each categorical variable and contraceptive use . Tables 1 - 5 show these results for the national level while tables 7 - 9 show the results for 'Rural Upper ' region. Logistic regression is used for multivariate analysis where the dependent variable is dichotomous (0 , 1). It is worth noting that the categorical variables should be included in this analysis as dummy variables and not as quantitative variables with code numbers . SPSS for windows deals with categorical variables as dummy variables where the last level is considered as reference category , then it tests for contrasts that reflect the deviation of each level from the reference level. Therefore , one should bear this in mind while interpreting the results.

Results and Conclusion:

Table (1) shows the distribution of contraceptive use in both urban and rural areas. This table shows that a high percentage (76.5%) of those ever married women who never used contraceptives lives in rural areas .Recall that women in rural areas represent 58% of the women in the total sample (33% in 'Rural lower' and 25% in 'Rural Upper') . Table (2) shows the distribution of contraceptive use according to region . Urban regions (Urban governorates , Urban lower , Urban upper) have close percentages of those women who never used a contraceptive method 8.9 , 7.2 , 7.4 respectively , while Rural lower has 31.4 percent and Rural upper has the highest percentage (45.1) . Chi square shows that the difference in contraceptive use among regions is highly significant.

Table (1) : Contraceptive Use According place of residence

Contraceptive Use	Urban	Rural
Never Used a Method	867 23.5	2826 76.5
Ever Used a Method	3228 52.3	2941 47.7

Pearson Chi - square = 791.0 (D. F = 1) (P-Value = .0000).

Table (2) : Contraceptive Use According to Region

Contraceptive Use	Urban Governorates	Urban Lower	Rural Lower	Urban Upper	Rural Upper
Never Used a Method	329 8.9	266 7.2	1159 31.4	272 7.4	1667 45.1
Ever Used a Method	1594 25.8	895 14.5	2108 34.2	739 12.0	833 13.5

Pearson Chi - square = 1409 (D . F . = 4) (P-value =.0000).

Table (3) shows the distribution of contraceptive use with education status. It shows that a high proportion (70.6 %) of ever married women who had never used a contraceptive method had never gone to school while 11.7 % went to school but had no certificate summing up to over 80 % with poor or no education . The corresponding figures for those who ever used contraceptives are 49.1 % and 16.8 % summing up to 66 % with poor or no education . It may be useful to recall that about 72 % of the whole sample have poor or no education. Chi square shows a highly significant difference between the distributions of contraceptive use (never used / ever used) across education levels . Table (4) shows the effect of work status on contraceptive use . It shows that a high proportion of ever married women who never used contraceptives never worked for cash (82.1%) . The corresponding figure for women who ever used contraceptives is 74.1%. For the total sample, there is a high proportion (78.1%) of ever married women who had never worked for cash . Chi square also shows a high significant effect for work status on contraceptive use.

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Table (3) : Contraceptive Use According to Educational Status

Contraceptive Use	Never Went to School	Went & no Certificate	Less than Secondary	Secondary / University
Ever Used a Method	3021 49.1	1035 16.8	771 12.5	1326 21.6
Never Used a method	2605 70.6	431 11.7	263 7.1	389 10.6

Pearson Chi - square = 289.71 (D. F. = 2) (P-value=.0000).

Table (4) : Contraceptive Use According to Work Status.

Contraceptive Use	Worked for Cash	Never Worked for Cash
Never Used a Method	657 17.9	3014 82.1
Ever Used a Method	1585 25.8	4567 74.1

Pearson Chi - square = 80.77 (D.F.=1) (P-value = .0000).

Table (5) shows the distribution of contraceptive use according to age group . This table shows that the two age groups 20-24 , 25-29 have about 40% of those ever married women who never used contraceptives and the remaining women are distributed almost equally among other age groups . Out of those women who ever used contraceptives , about 60% lies in the three age groups 25-29 , 30-34 and 35-39 . Women in the last age group are biologically completed their reproductive lives . Therefore , they have no need to use contraceptives . Almost 10% of those ever married women who never used contraceptives lies in the last age group (45% of the total women in this age group).

T- Test :

The test for equality of means between the two groups (those who never used contraceptives and those who ever used) shows a highly significant difference with respect to duration of marriage in years , age at last birth day , number of children alive and dead , number of boys dead and number of girls dead .

Table (5) : Contraceptive Use According to Age Group.

Contraceptive Use	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Ever Used a Method	71 1.2	575 9.3	1128 18.3	1136 18.4	1220 19.8	897 14.5	708 11.5	434 7.0
Never Used a Method	314 8.5	703 19.0	674 18.3	433 11.7	428 11.6	382 10.3	404 10.9	355 9.6

Pearson Chi square =969.857 (D. F. = 7) (P-value = .0000).

Table (6) shows logistic regression's results on the national level . Obviously , the variable 'region' encompasses the variable 'urbanization' , therefore ,urbanization is ignored in logistic regression analysis because a matrix inverse is needed to estimate the regression coefficients . As stated earlier , the categorical variable is included in the regression model as dummy variable with the last level as a reference category . As for 'region' , 'Rural Upper ' is the reference region . This region has a high proportion 66.7 % of those ever married women who never used contraceptives among women selected from this region . Age groups up to 45-49 are compared with the last age group 50-54. The results show that all age groups except age group 40-44 differ significantly from the last age group 50-54 . In education status the level Secondary / University is the reference level . It is clear that the overall effect of the education status on contraceptive use is highly significant . Moreover, the two education levels 'never went to school' and 'less than secondary ' are significantly different from 'Secondary / University' level of education. As regard to education , it is quite clear that female's education is far behind male's education for the national level in general and for rural areas in particular . In spite the fact that by Egyptian law the primary education is compulsory for both sexes , the enrollment rates among males are higher than those of females and more girls than boys drop out (EL - Deeb 1993) . This trend holds true for other educational levels . Therefore female's education should receive special attention .Work status shows no significant effect on contraceptive use . Similar result for current contraceptive use among currently married women was reached by Dalla(1993) . Duration of marriage affects significantly contraceptive use . Total number of children alive and dead , number of boys dead and number of girls dead have no significant effect on contraceptive use .

Table (6): Logistic Regression Results for Ever Married Women Who Ever/Never Used Contraceptives.

Variable	B	S.E.	D.F.	Significance
Region			4	.0000
Urban Governorates	.7445	.0584	1	.0000
Urban Lower	.4324	.0638	1	.0000
Rural Lower	.0038	.0428	1	.9295
Urban Upper	.1798	.0646	1	.0054
Age Group			7	.0000
15-	-.5333	.1536	1	.0005
20-	.3835	.0945	1	.0000
25-	.8585	.0748	1	.0000
30-	.9235	.0649	1	.0000
35-	.6423	.0613	1	.0000
40-	-.0521	.0760	1	.4929
45-	-.6541	.0983	1	.0000
Education Status			3	.0000
Never went to School	-.5180	.04290	1	.0000
Went & no Certificate	-.0536	.0571	1	.3475
Less than Secondary	.2281	.0670	1	.0007
Worked for Cash	-.0420	.0332	1	.2053
Duration of Marriage	.0775	.0063	1	.0000
Constant	-.4989	.0978	1	.0000

-2 log likelihood = 12523.324 Number of cases = 9461

Table (7) : Contraceptive Use According to Age Group (Rural Upper).

Contraceptive Use	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Never Used a	19	104	178	150	184	80	84	34
Method	2.3	12.5	21.4	18.0	22.1	9.6	10.1	4.1
Ever Used a	173	299	315	203	195	161	175	146
Method	10.4	17.9	18.9	12.2	11.7	9.7	10.5	8.8

Pearson Chi square = 129.274 (D. F. = 7) (P-value = .0000).

Rural Upper :

Table (7) shows the distribution of contraceptive use with age group in ‘Rural Upper’. Chi square shows a significant effect for age group on contraceptive use.
Table (8) shows the distribution of contraceptive use with educational status . This table shows that out of those ever married women who never used contraceptives 83.3% never went to school and 9.8% went to school but got no certificate summing up to 93.1% with no or poor education . Chi square shows that there is a significant effect for educational status on contraceptive use .

Table (9) shows the distribution of contraceptive use according to work status in ‘Rural Upper’. About 90% of those women who never used a method of contraceptives never worked for cash and 85% of those who ever used a method of contraceptives never worked for cash . It may be useful to recall that out of the total sample in ‘Rural Upper’ 88% never worked for cash . Chi square also shows a significant effect of work status on contraceptive use.

Table (8) : Contraceptive Use According to Educational Status

Contraceptive Use	Never Went to School	Went & no Certificate	Less than Secondary	Secondary / University
Never Used a Method	1387 83.3	164 9.8	73 4.4	41 2.5
Ever Used a Method	595 71.5	109 13.1	63 7.6	65 7.8

Pearson Chi square = 47.608 (D. F. = 2) (P-value = .0000).

Table (9) : Contraceptive Use According to Work Status.

Contraceptive Use	Worked for Cash	Never Worked for Cash
Never Used a Method	171 10.3	1487 89.7
Ever Used a Method	124 15.0	703 85.0

Pearson Chi square = 11.553 (D.F.=1) (P-value = .00068).

T-test :

Duration of marriage , number of children alive and dead (ever born) , and number of boys dead significantly affect contraceptive use but number of girls dead has no effect on contraceptive use.

Table (10) shows the results of the logistic regression analysis in 'Rural Upper' . Age group significantly affects contraceptive use . Three age groups have no significant differences with the reference age group 50 - 54. These age groups are 20 -24 , 40 - 44 and 45 - 49. Education status has similar result for the one found on the national level . Overall education status highly affects contraceptive use but the contraceptive use for those women who went to school but got no certificate is no different from that for those women with 'Secondary / University' level of education . Again , work status has no effect on contraceptive use in 'Rural Upper' which may be partially due to the high percentage of women who never worked for cash . Surprisingly , duration of marriage in years has no significant effect on contraceptive use . This unexpected result may be due to the high correlation between age group and duration of marriage in years.. Total number of children ever born and number of boys dead affect significantly contraceptive use in 'Rural Upper' although they have no such effect on the national level.

Table (10): Logistic Regression Results for Ever Married Women Who Ever/Never Used Contraceptives (Rural Upper).

Variable	B	S.E.	D.F.	Significance
Age Group			7	.0000
15-	-.8254	.3026	1	.0064
20-	.1932	.1995	1	.3328
25-	.5011	.1481	1	.0007
30-	.5522	.1232	1	.0000
35-	.6197	.1141	1	.0000
40-	-.1070	.1719	1	.5336
45-	-.0910	.2102	1	.6650
Education Status		.0971	3	.0000
Never went to School	-.7760	.1292	1	.0000
Went & no Certificate	-.1845	.1581	1	.1532
Less Than Secondary	.2954	.0741	1	.0617
Work for Cash	.0902	.0149	1	.2236
Duration of Marriage	.0032		1	.8309
Total No. of Children Alive & Dead	.1492	.0228	1	.0000
Number of Boys Dead	-.1412	.2356	1	.0236
Constant	-.8960			.0001

-2 log likelihood = 2865.5595

Number of cases = 2050

Characteristics of women who never used contraceptives:

The major characteristics of women who never used contraceptives (37.4% of ever married women) may be summarized as follows :

- 76.5% lives in rural areas
- 31.4% in rural lower and
- 45.1% in rural upper.
- 82.1% never worked for cash.
- 70.5% never went to school .
- 11.7% went to school but got no certificate .
- 74.2% have no boys dead .
- 75% have no girls dead .
- 42.4% have 4 or more children ever born .
- 19.4% have 6 or more children ever born .
- 30.8% over age 40 .

Policy Implications:

When we review the main results of this study , we get some ideas that might help encouraging contraceptive use among the Egyptian women . These ideas can be formulated as:

- 1- It is quite important to encourage education generally ; and female's education in particular since education status has shown a highly significant effect on contraceptive use for both national level and 'Rural Upper'. In this regard , clearly education reform starts with better qualified , economically satisfied teachers . Therefore , raising teachers salaries and welfare will minimize the private lessons which represent a big burden on the parents . It is also quite important to encourage parents awareness toward the importance of education to the individual (male or female) as well as to society. Pupils also need to be encouraged by providing them with good schools not far from their residence , comfort and attractive in order to minimize drop outs in the elementary schools. Providing pupils with a good and healthy meal especially in rural areas will surely attract them to stay in the schools.
- 2-A serious attention should be paid to improve health conditions as well as to make health services available in rural areas since 'number of boys dead' affects negatively contraceptive use .
- 3- It might be quite useful to direct serious efforts to rural upper Egypt to improve people's quality of life in general , and to encourage education especially for females , and to make health services available.

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ملخص الدراسة : العوامل الاقتصادية والاجتماعية والديموجرافية التي تؤثر على استخدام وسائل منع الحمل في جمهورية مصر العربية

إن الهدف الرئيسي من هذه الدراسة هو تحديد أهم العوامل الاقتصادية والاجتماعية والديموجرافية التي تؤثر على استخدام وسائل منع الحمل في جمهورية مصر العربية . كما تهدف الدراسة إلى تحديد أهم خصائص النساء اللاتي لم يستخدمن وسائل منع الحمل خلال حياتهن الإنجابية وذلك بهدف رفع نسبة ممارسة وسائل منع الحمل عن طريق تحسين تلك الخصائص . وقد استخدمت الدراسة اختبار مربع كاي للدراسة أثر المتغيرات الوصفية على استخدام وسائل منع الحمل ، كما استخدم اختبار ت لدراسة معنوية الفروق بين متوسطات المتغيرات الوصفية لمجموعتي المستخدمين وغير المستخدمين لوسائل منع الحمل .

وقد استخدمت الدراسة أسلوب الانحدار اللوجستي لتحديد أثر مجموعة من المتغيرات على استخدام وسائل منع الحمل آنبا . وقد نهت الدراسة إلى ضرورة معاملة المتغيرات الوصفية في الانحدار اللوجستي كمتغيرات "كودية" Dummy Variables وذلك لا لاحتظه الباحث من تكرار الخطأ الشائع حيث تعامل المتغيرات الوصفية كمتغيرات كمية وذلك باستخدام الأرقام الكودية كأرقام حقيقية ذات معنى .

ولقد توصلت الدراسة إلى بعض النتائج الهامة التي نورد بعضها منها فيما يلي :

أولاً : على الرغم من أن السيدات اللاتي يعشن في مناطق ريفية يمثلن نحو ٥٨ ٪ من السيدات في إجمالي العينة ، فإن نسبة ٧٦,٥ ٪ ممن لم يستخدمن وسائل منع الحمل أبداً يعشن في تلك المناطق (٣١,٤ ٪ فيريف الوجه البحري ، ٤٥,١ ٪ فيريف الوجه القبلي) ، وهذه النسبة المرتفعة فيريف الوجه القبلي (ريف الوجه القبلي يمثل ٢٥ ٪ من إجمالي العينة) استلزمت دراسة العوامل الاقتصادية والاجتماعية والديموجرافية التي تؤثر على استخدام وسائل منع الحمل في تلك المناطق .

ثانياً : ولقد أوضحت نتائج مربع كاي واختبارات أن كافة العوامل الاقتصادية والاجتماعية والديموجرافية المعنية بالدراسة تؤثر على استخدام وسائل منع الحمل تأثيراً معنوياً ، فيما عدا عدد البنات المولود فيريف الوجه القبلي ، وذلك بالنسبة للتحليل التتالي الذي يدرس أثر كل متغير على حدة على استخدام وسائل منع الحمل ، أما في التحليل المتعدد باستخدام الانحدار اللوجستي فقد اتضح أن عمالة المرأة ليس لها تأثير معنوي على استخدام وسائل منع الحمل على المستوى القومي وكذلك بالنسبة لريف الوجه القبلي ، وقد يعزى ذلك إلى تدلي نسبة من عملن بأجر ذات مرة (حوالي ٢٣ ٪) للعينة ككل ولعينة ريف الوجه القبلي بصفة خاصة (حوالي ١٢ ٪) . كما أظهرت الدراسة أن مدة الحياة الزوجية ليس لها تأثير معنوي على استخدام وسائل منع الحمل فيريف الوجه القبلي وربما يعزى ذلك إلى الارتباط القوي بين " فترة العمر " و " مدة الحياة الزوجية " . كما استعرضت الدراسة أهم خصائص السيدات اللاتي سبق لهن الزواج ولم يسبق لهن استخدام وسائل منع الحمل وكانت أهم هذه الخصائص هي : ٧٦,٥ ٪ يعشن في مناطق ريفية (٣١,٤ ٪ فيريف الوجه البحري و ٤٥,١ ٪ فيريف الوجه القبلي) ، ٨٢,١ ٪ لم يسبق لهن العمل بأجر ، ٧٠,٥ ٪ لم يلهبن إلى المدرسة ، ٧٤,٢ ٪ لم يفقدن أولاداً ذكوراً ، ٧٥ ٪ لم يفقدن إناثاً ، ٤٢,٤ ٪ لديهن ٤ أو أكثر من المواليد أحياء ، ١٩,٤ ٪ لديهن ٦ أو أكثر من الأطفال المواليد أحياء ، ٣٠,٨ ٪ أعمارهن فوق الأربعين .

وطبقا لهذه النتائج فقد اقترحت الدراسة التوصيات والمقترحات التخطيطية التالية :

أولا: لقد ثبت أن لتعليم المرأة أثرا جوهريا على استخدام وسائل منع الحمل وذلك على المستوى القومى وفى ريف الوجه القبلى ، ولذلك فمن الضرورى الاهتمام بمستوى التعليم وبخاصة تعليم الإناث . وهى هذا الخصوص نرى أنه من الضرورى الاهتمام بشؤون المدرسين من حيث رفع مستواهم المادى والعلمى ، فإن إصلاح التعليم يبدأ فعلا بإصلاح أحوال المدرسين والذى بدوره يساعد فى القضاء على الدروس الخصوصية التى تنقل كاهل أولياء الأمور وتجعل التعليم مجانيا أسما باهظ التكاليف حتما ، كما أن المواطنين فى حاجة إلى نشر الوعى بينهم بخصوص أهمية التعليم للفرد ، ذكرا كان أم أنثى ، وكذلك للمجتمع ، والتلاميذ فى حاجة إلى تشجيع وذلك عن طريق توفير المدارس وتزويدها بكل ما من شأنه جذب التلاميذ إليها وجعلها مكانا مهيئا إلى نفوسهم وربما يساعد تزويدهم بوجبة غذائية فى تخفيض معدلات التسرب خصوصا فى المناطق الريفية .

ثانيا : ضرورة العمل على توفير الخدمات الصحية ونشرها بين المواطنين وبخاصة فى المناطق الريفية وذلك لما أظهرته الدراسة من وجود أثر معنوى لعدد الأولاد الموتى على استخدام وسائل منع الحمل .

ثالثا: من الواضح أن ريف الوجه القبلى فى حاجة ماسة إلى كافة الجهود المخلصة والصادقة لتنميته تنمية شاملة فى كافة مناحى الحياة وبما يتطلبه ذلك من اهتمام بالتعليم وخاصة تعليم الإناث وكذلك نشر وتحسين الخدمات الصحية .