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Research Paper

A Study of Differentials in Fertility Indicators as Per Residential Status in District Ahemadabad of Gujarat State in India

Medical Science

KEYWORDS : Fertility indicators, Reproductive age group women, urban, rural.

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ABSTRACT

Introduction: At present India's Population is Second to China. According to UN Projection ,will reach 1.53 billion by the year 2050, and will be the highest population in the world. Fertility indicators are the measures to know the direction of the population growth. This study is done to assess fertility indicators among reproductive age groups women in rural and urban areas.

Material and Methodology: Present cross sectional study done in reproductive age groups women was conducted to study the fertility indicators of a rural and urban area of Ahmedabad district.

Results: Median age at marriage: 18 in rural area and 20 in urban area. In rural area, Maximum age at first pregnancy was 18-21 years 52.83% while in urban areas, Maximum age at first pregnancy was >21 years 64.49%. Total fertility rate (children per women) in the study was 2 in rural area and 1 in urban area.

Introduction:

At present India's Population is Second to that of China. According to UN Projection will reach 1.53 billion by the year 2050, and will be the highest population in the world[1.] Fertility indicators are the measures to know the direction of the population growth.

India was the first country in the world to formulate the national family planning program in the year 1952 with the objective of "reducing the birth rate of the extent necessary to stabilize the population at a level consistent with requirement of national economy2." Family planning was considered more a mechanism to improve the health of mothers and children than a method of population control.

The programme has made significant impact on fertility reduction in the country in general and health education activities were promoted 3 4,5. Fertility indicators are also depending upon education and socio-economic class.

Aims &Objectives:

1. To assess fertility indicators among reproductive age groups women in rural and urban areas of Ahmedabad district.
2. To correlate fertility indicators with education and socio-economic class of women in rural and urban areas.

Materials and Methodology:

It was a cross-sectional study conducted in rural and urban areas of Ahmedabad district. Ahmedabad district (urban) is divided into 6 zones and for Ahmedabad rural on P.H.C. is selected randomly.5 villages from that P.H.C. were selected randomly. Overall, 500 women from rural areas and 500 women from urban areas were taken for study. So total sample collected is 1000. Married women in the reproductive age group (15-49 years) were interviewed for the present study. A pretested and predesigned questionnaire was used to assess differentials in fertility indicators as per residential status of married women in Ahemadabad district .Pre informed consent of each participant was taken before starting the study. The study was done from December2011-September2012.

Data was analysed in Excel &Epi-info software (version 3.5).

Results:

Demographic Profile: In my study, maximum numbers of women were in the age-group of 30-34 years in rural (28.60%) area and 25-29 in urban (28.60%) area. In rural area 40% women in reproductive age group belonged to Hindu religion and 14.60% to Muslim religion.

Table 1: shows that Area wise differences were statistically significant p< 0.01. Median age at marriage: 18 in rural area and 20 in urban area. In rural area socio-economic class I women 11(78.58%) were married at age > 21years. In class IV, V, higher incidence of marriage was seen in < 18years 133(61.86%) & 108(59.34%) respectively in rural area. In socio-economic class I, urban women137 (70.26%) were married at age > 21years and class III 84(54.55%) and class IV 40(67.80%) were married at age <18years.

Table 2: reveals that in rural area, most of them (illiterate 37(77.08%), primary educated 141 (75%), secondary 85(44.04%), higher secondary 7 (26.92%) were married <18years while 34(75.56%) graduate women were married >21 years. In urban area, most graduate women 120(73.17%) were married at>21years while 51(71.83%) women with primary educated were married at <18 years.

Table 3: shows that in socio-economic class I, 11(78.58%), class II 25(89.29%), class III 40(72.7%) of women had age at first pregnancy >21 years same as in urban area [class I 149(92%),class II 48(69.6%),class III 70(45.45%)].In rural area, age at first pregnancy below 18 years varied from 6.04% in class V to 21.43% in class I while in urban area, it varied from 0% in class I to 18.18% in class III.

Table 4: shows that age at first pregnancy was < 18 years less prevalent as education improved in both rural and urban area. It was 3(6.25%) illiterate, 3(1.60%) primary educated and 3(1.55%) secondary educated in rural area and 31(93.94%) in primary educated in urban area.

Table 5: reveals that in rural area, 1 child was seen in 67.86% of S.E.class II, 42.86% of S.E.classI, 42.86% of S.E.class III&65.52% of S.E.class IV women.54.03% of women had 2 children. In S.E.class III, IV, V, a few women had > 3children5.17%, 4.27%, 5.06% respectively. None of the woman in S.E.class I and class II from rural area had > 3 children .In urban area woman having 1 child varied between 88.89% of S.E.class I to 30% from S.E.class IV , None of women in urban area had > 3 children.

Table 6: reveals that in rural area, higher secondary women 9(39.13%), graduate women 25(59.92%) were having 1 live child while illiterate 21(43.75%), primary educated 79(42.02%),

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secondary educated 96(51.06%) were having 2 child. Very less percentage had > 3 child in illiterate 6(8.33%), primary 13(6.91%), secondary 2(1.06%) educated women. In urban area, primary 21(63.64%), secondary educated women113 (85.61%) had 2 children while higher secondary33 (45.83%) and graduate 149(71.63%) were having 1 child. The difference was statistically significant in both rural and urban area.

DISCUSSION:

A total of 1000 married women in the reproductive age group were studied. Reproductive women of rural and urban areas were compared in relation to various socio-demographic characteristics such as age, sex, educational qualification, occupation, religion, caste and social class.

Comparison between National family health survey data with present study.Accoding to NFHS-3, Total fertility rate was 2.68 and in rural (2.07), in urban (2.98) area correlation with the study, it was 1 in urban area and 2 in rural area. In the study, out of 1000, rural 500(50%) and urban 500(50%) reproductive age group women were included. Maximum 143(28.60%) of rural women were in age group of 30-34 years and 143(28.60%) of urban women were in age group of 25-29 years. Analyses of socio-demographic characteristics revealed that majority of the women 427(85.40%) were Hindu and 73(14.60%) women were Muslim and belonged to socio economic class IV and V and majority women were sc and open, 100% were not working and 46.4%&31.2% were primary and secondary educated in rural areas respectively.

While urban women were 100% Hindu and belonged to socio economic class I, II and majority of women were same as rural sc and open, 78.4% were working and 48% were graduate.

According to NFHS-III, urban women marry later than rural women; the median age at marriage among urban women of 20-49 years was 18.8 years as compared to 16.4 years among their rural counterparts. In present study, median age of women was 18 years in rural areas and 20 years in urban areas. It was observed that urban women marry later than rural women same as NFHS-III. National average age at marriage has increased from 13 years in 1951 to 19.6 years in 1999[6]. Still over 50 percent of girls marry below the age of 18, the minimum legal age of marriage, resulting in a typical reproductive pattern of "too early, too frequent, too many (7). 25.3% of women marry before 18 years of age in Gujarat in 1998-99(8). In a similar study age at marriage was 20.31 years in an area of Ahmedabad City (9). By increasing the age at marriage, married reproductive span can be reduced and the number of years women is exposed to the risk of pregnancy can decrease, thus reducing fertility.

In the study, most of women 44.58% were having 2 live children while only 4(0.82%) were having 5 live children in rural areas while majority of women 45.39% were having 1 child and 44.72% were having 2 children in urban areas(Table 5,6). NFHS-III found that in Gujarat the mean number of children ever born are 2.9 for women and study done by Bhavan, it was 2.21(10)In this study, it was 2 in rural areas and 1 in urban areas. Definite improvement is seen in the study due to intensive efforts in family planning programme.

Correlation between socio-economic class and other variant of F.P. indicators showed that In rural areas,socio-economic class I ,class II ,class III of women were age at first pregnancy was >21 years same as in urban area[class I ,class II ,class III] and In socio-economic class III & IV in rural areas age at first pregnancy was < 18 years same as in urban areas.(Table 3) According to age at marriage,socio-economic I,II,III were married at age > 21 years, in socioeconomic class IV,V were married <18 years compare with in urban aeras,class I were married at age > 21 years, in class II were marriage age at 18-21 years , class III, IV were married at age < 18 years.(Table 1)Thus significant relationship was observed in rural and urban area & also with SE Class. It was observed that in rural areas, 1 child was seen in class II women and class I,III,IV women had 2 children, in class III,IV,V , a few women had > 3 children while in urban areas,socio-economic class I had 1 child while other class had 2 chidren, not > 3children in urban areas.(Table5) Relationship of urban and rural area with no. of child and with SE class was significant. It was revealed that in rural area, most of them (primary, secondary, higher secondary educated) were married <18years while graduate women were married >21 years while in urban area, most graduate women were married at>21years while women primary educated were married at <18 years (Table 2) in both rural and urban areas women education was not related to outcome of first pregnancy as most of women had full term normal delivery.

In rural area, higher secondary women 39.13%, graduate women 59.92% were having 1 live child while illiterate 43.75%, primary 42.02%, secondary 51.06% were having 2 children. Very less percentage had > 3 child in illiterate 8.33%, primary 6.91%, secondary 1.06% educated women. In urban area, primary 63.64%, secondary educated women85.61% had 2 children while higher secondary 45.83% and graduate 71.63% were having 1 child. The difference was statistically significant. (Table 6)

CONCLUSION:

In the present study, Socio-demographic characteristics revealed that majority of the women were Hindu, housewife, illiterate and belonged to socio-economic class (IV,V) in the rural areas while in urban areas majority of women were Hindu, mostly working, educated, belonged to socio-economic class(I, II, and III).In this study, median age of marriage in women was 18 years in rural areas and 20 years in urban areas. It was observed that urban women marry later than rural women. The mean number of children ever born was 2 in rural areas and 1 in urban areas. There is a consistent downward trend in the fertility as the age at marriage increases. Comparison between socio-economic class and other variant showed that In rural areas, women of socio-economic class I ,class II ,class III were having age at first pregnancy >21 years same as in urban area[in class I ,class II ,class III] and In socio-economic class III & IV women in rural areas were having age at first pregnancy < 18 years same as urban areas. According to age at marriage,socio-economic I,II,III were married at age > 21 years, in socioeconomic class IV,V were married <18 years while in urban areas, class I were married at age > 21 years, in class II marriage age was 18-21 years , class III, IV were married at age < 18 years. It was observed that in rural areas, one child was seen in class II women and class I,III,IV women had 2 children, in class III,IV,V , a few women had > 3 children while in urban areas,socio-economic class I had 1 child while other class had 2 children, not > 3children in urban areas. In rural area, majority of women in all socio-economic class believe in 2 child norm. In urban area, majority of women believed in 2 child norm and few women believed in 1 child norm. Rest of class, majority believed in 2 child norm. It was revealed that in rural area, most of them (primary, secondary, higher secondary educated) were married at age <18years while graduate women were married at age>21 years while in urban area, most graduate women were married at age>21years while primary educated women were married at <18 years of age. In both rural and urban areas, women education was not related to outcome of first pregnancy as most of women had full term normal delivery. In both urban and rural area, a woman was completed family at 25-30 years of age irrespective education in rural and urban area. Total fertility rate was 2 in rural area and 1 in urban area in present study. Thus it depicts from the above study that though scenario of fertility is improving; the pace is very slow.

Table 1: correlation of socio-economic condition of women with age at marriage in rural and urban area.

Socio-economic class	Age at marriage(Rural)			
	<=18years N=270(54%)	18-21years N=169(33.8%)	>21years N=61(12.2%)	Total(N=500)

I	3(21.43%)	00(00%)	11(78.58%)	14(100%)
II	9(32.14%)	6(21.43%)	13(46.43%)	28(100%)
III	17(27.87%)	26(42.62%)	28(45.90%)	61(100%)
IV	133(61.86%)	73(33.95%)	9(4.19%)	215(100%)
V	108(59.34%)	64(35.16%)	10(5.5%)	182(100%)
	Age at marriage(Urban)			
	<=18years N=125(25%)	18-21years N=137(27.4%)	>21years N=238(47.6%)	Total(N=500)
I	0(00%)	58(29.74%)	137(70.26%)	195(100%)
II	1(1.10%)	58(63.74%)	32(35.16%)	91(100%)
III	84(54.55%)	3(1.95%)	67(43.51%)	154(100%)
IV	40(67.80%)	18(30.51%)	1(1.69%)	59(100%)

Table 2: correlation between education and age at marriage in rural and urban area.

Education	Age at marriage(Rural)			
	<=18years N=270 (54%)	18-21years N=169 (33.8%)	>21years N=61 (12.2%)	Total (N=500)
Illiterate	37(77.08%)	11(22.92%)	00(00%)	48(100%)
Primary	141(75%)	41(21.81%)	6(3.19%)	188(100%)
Secondary	85(44.04%)	91(47.15%)	17(8.81%)	193(100%)
Higher secondary	7(26.92%)	15(57.69%)	4(15.38%)	26(100%)
Graduate	00(00%)	11(24.44%)	34(75.56%)	45(100%)
	Age at marriage(Urban)			
	<=18years N=125 (25%)	18-21years N=137 (27.4%)	>21years N=238 (47.6%)	Total (N=500)
Primary	51(71.83%)	20(28.17%)	00(00%)	71(100%)
Secondary	20(33.33%)	20(33.33%)	20(33.33%)	60(100%)
Higher secondary	54(26.34%)	53(25.85%)	98(47.80%)	205(100%)
Graduate	00(00%)	44(26.83%)	120(73.17%)	164(100%)

Table 3: Correlation of socio-economic condition of women in reproductive age group with age at first pregnancy in rural and urban area.

Socio-economic class	Age at first pregnancy(Rural)			
	<=18years 29(5.87%)	18-21years 261(52.8%)	>21years 204(41.30%)	Total(N=494)
I	3(21.43%)	00(00%)	11(78.58%)	14(100%)
II	3(10.71%)	00(00%)	25(89.29%)	28(100%)
III	4(7.3%)	11(20%)	40(72.7%)	55(100%)
IV	8(3.72%)	133(61.9%)	67(31.16%)	215(100%)
V	11(6.04%)	101(55.5%)	70(38.46%)	182(100%)
	Age at first pregnancy(Urban)			
	<=18years 31(6.97%)	18-21years 127(28.5%)	>21years 287(64.49%)	Total(N=445)
I	0(00%)	14(8%)	149(92%)	163(100%)
II	1(1.44%)	20(28.99%)	48(69.6%)	69(100%)
III	28(18.9%)	56(36.36%)	70(45.45%)	154(100%)
IV	2(3.39%)	38(64.40%)	19(32.20)	59(100%)

Table 4: correlation between educational status and age at first pregnancy in rural and urban area.

Education	Age at pregnancy(Rural)			
	<=18years 29(5.87%)	18-21years 261(52.8%)	>21years 204(41.30%)	Total(N=494)
Illiterate	3(6.25%)	32(66.67%)	13(27.08%)	48(100%)
Primary	3(1.60%)	103(54.78%)	82(43.62%)	188(100%)
Secondary	3(1.55%)	55(28.50%)	135(69.95%)	193(100%)
Higher secondary	00(00%)	5(19.23%)	21(80.77%)	26(100%)
Graduate	00(00%)	6(15.38%)	33(84.61%)	39(100%)
	Age at first pregnancy(Urban)			
	<=18years 31(6.97%)	18-21years 127(28.5%)	>21years 287(64.49%)	Total(N=445)
Primary	31(93.94%)	01(3.03%)	01(3.03%)	33(100%)
Secondary	00(00%)	93(70.45%)	39(29.55%)	132(100%)
Higher secondary	00(00%)	22(30.55%)	52(72.22%)	72(100%)
Graduate	00(00%)	13(6.25%)	195(93.75%)	208(100%)

Table 5: correlation between socio-economic class and no of live child.

Socioeconomic class	No of live child(Rural)				
	1Child 135(27.61%)	2Child 218(44.58%)	3Child 120(23.52%)	>3Child 21(4.3%)	Total(N=489)
I	5(35.71%)	6(42.86%)	3(21.43%)	00(00%)	14(100%)
II	19(67.86%)	3(10.71%)	6(21.43%)	00(00%)	28(100%)
III	11(18.97%)	38(65.52%)	6(10.34%)	3(5.17%)	58(100%)
IV	43(20.38%)	114(54.03%)	45(21.33%)	9(4.27%)	211(100%)
V	57(32.02%)	57(32.01%)	55(30.90%)	9(5.06%)	178(100%)
	No of live child(Urban)				
	1child 202(45.39%)	2child 199(44.72%)	3child 44(9.8%)		Total(N=445)
I	144(88.89%)	5(3.09%)	13(8.02%)		162(100%)
II	22(31.88%)	46(66.67%)	1(1.45%)		69(100%)
III	17(11.04%)	107(69.48%)	30(19.48%)		154(100%)
IV	18(30%)	42(70%)	00(00%)		60(100%)

Chi-square value=7.26, P value >0.05 (rural), Chi-square value=83.93, P value<0.01(urban)

Table 6: correlation between education and no. of live child in rural and urban area.

Education	No. of live child(Rural)				
	1Child 135 (27.61%)	2Child 218 (44.58%)	3Child 120 (23.52%)	>3Child 21(4.3%)	Total (N=489)
Illiterate	6(12.50%)	21(43.75%)	15(31.25%)	6(8.33%)	48(100%)
Primary	33(17.55%)	79(42.02%)	63(33.51%)	13(6.91%)	188(100%)
Secondary	62(32.98%)	96(51.06%)	28(14.89%)	2(1.06%)	188(100%)
Higher secondary	9(39.13%)	7(30.43%)	7(30.43%)	00(00%)	23(100%)
Graduate	25(59.92%)	15(35.71%)	2(4.76%)	00(00%)	42(100%)
Education	No of live child(Urban)				
	1child 202 (45.39%)	2child 199 (44.72%)	3child 44 (9.8%)	Total (N=445)	
Primary	1(3.03%)	21(63.64%)	11(33.33%)	33(100%)	
Secondary	19(14.39%)	113(85.61%)	00(00%)	132(100%)	
Higher secondary	33(45.83%)	20(27.78%)	19(26.39%)	72(100%)	
Graduate	149(71.63%)	45(21.63%)	14(6.73%)	208(100%)	

Chi-square value=44.60, P value<0.01(rural), Chi-square value=70.53, P value<0.01(urban)

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