SOCIO-DEMOGRAPHIC FACTORS INFLUENCING THE USE OF MODERN CONTRACEPTION IN AN URBAN POPULATION IN SOUTH-WESTERN ETHIOPIA

Messert Shiferaw* B.Sc., M.D. Samuel Gebrehiwot**, B.Sc.

ABSTRACT: A case-referent study to identify factors influencing the use and non-use of modern contraception was conducted in Jimma Town, a major urban center in south-western Ethiopia. Two hundred and fifty eight contraceptive users, selected from the registration books of three family planning clinics using simple random sampling techniques, were compared with age l:t-2 years) and neighbourhood (matched 258 contraceptive non-users.) The study revealed that birth place, duration of urban residence, religion, ethnic origin, number of rooms available for living and availability of radio, television and telephone do not have statistically significant association with contraceptive use (P > 0.05 in all cases). On the other hand, statistically significant association was noted between contraceptive use and marital status, educational status, occupational status, family monthly income and higher mean number of pregnancies, live births and living children. Taking a one to one ratio of male to female children of the sex composition of living children as a reference group, lack of male child is associated with a lower chance of contraceptive use (odds ratio = 0.497, p < 0.05). Among married women, higher educational and occupational status and monthly income of
the spouse were also found to be associated with a higher chance of contraceptive use. In view of the several socio-demographic factors identified by the study, a multisectoral effort geared at urban disadvantaged women is recommended. [Ethiop. J. Health Dev. 1993;7(1):1-7]

INTRODUCTION

Ethiopia is one of the many sub-Saharan African countries facing massive health and socio-economic problems which are further compounded by rapid population growth rate. On account of its health benefits alone, attempts have been made to promote family planning services in Ethiopia by the Family Guidance Association of Ethiopia since 1966, and by the Ministry of Health since the adoption of the 1978 Alma-Ata Declaration. The overall contraceptive prevalence rate (CPR) in 1990, however, was reported to be as low as 4% of childbearing women aged 15 to 49 years. (I). Even in major urban centers such as Addis Ababa, Jimma and Gondar, where family planning services are readily available and virtually provided free of cost,
the CPR is reported to be between 12 to 17% of women in the age group 15 to 49 years (1,2,3). Low level of contraceptive utilization by the population where the services are and available, accessible and affordable is one of the problems facing providers of family planning services. This study, therefore, attempts to identify the most important demographic and socio-economic factors influencing contraceptive use or non-use, from
a broad range of factors, by comparing registered contraceptive users with non-users residing in Jimma Town. The results of the study are expected to help planners and providers of the service to formulate appropriate policy and programme measures geared at increasing contraceptive utilization by the population.

STUDY POPULATION AND METHODS

The study was conducted in August, 1988 in Jimma Town, which has a total population of 60,992. A case-referent design defining cases as health facility registered continued contraceptive users and controls as contraceptive non-users was employed. A continued contraceptive user is defined as a woman between 15 to 45 years of age, registered by one of the three family planning clinics in Jimma Town, and regularly using modern contraceptive methods for at least six months prior to the start of this study. A sampling frame consisting of 1601 continued contraceptive users was made from the registration books of the three family planning clinics. A non-user is a woman drawn from the neighbourhood of a registered user,

_____
*Ministry of Health, Addis Ababa
*Family Guidance Association of Ethiopia, Addis Ababa

between 15 to 45 years of age, and who has not used any form of modern contraceptive method for family planning purposes at all from any source at any time in the past sample size of 270 registered users was selected from the sampling frame using a simple random sampling technique. Each registered user was matched on a one-to-one basis by age ($\pm$ 2 years) to a non-user who was drawn systematically from the neighbourhood of the registered user, Out of the 270 study subjects planned to be included in each group, we were able to interview 258 (95.6%) registered users and 258 non-users making a total of 516 study subjects.

Eight mature women Who pad completed secondary school education were " hired as interviewers. They received two days of training on how to fill the questionnaire. All of, interviews were conducted in the interviewee's home setting. During the actual field data collection, interviewers were organized into three teams and a supervisor was assigned to each team.

Every third interview was conducted in the presence of the supervisor. Completed questionnaires were collected and checked by the supervisor at the end of the day. Errors were corrected, and in some cases, households were re-visited with the supervisor in order to complete the questionnaire.

Data entry, cleaning and analysis was done using the statistical Analysis System (SAS) computer programme.

RESULTS

Comparison of contraceptive users and non-users by birth place, i.e. rural or urban (fable 1), revealed that 156 (60.5%) registered users and 151 (58.5%) non-users were born in an urban area. The chance of contraceptive use for urban born women, Odds Ratio (OR = 1.084), is higher than for rural born women, (OR = 0.923), but the difference between the two groups is not statistically significant (p > 0.05). The mean duration of urban residence for registered users, 22.9 years, is slightly higher than 21.5 years for non-users, but the difference between the two means is again not statistically significant (t=1.8974, DF=514, P>0.05). Higher proportions of Amhara, Oromo, Gurage and Keffa ethnic groups are represented among contraceptive users than never users. (Table 1), but the relatiye chance of contraceptive use among these ethnic groups is not statistically significant (p > 0.05). Similarly, contraceptive use among the different religious groups represented in the study is not statistically significant (p>0.05). On the other hand, the chance of

contraceptive use is much higher for married .women (OR=2.288, 95% (Confidence Interval CI=I.543-3.391)- than, single women (OR=0.186, Clc:0.094-0.366).

The Table 2 shows the analysis of contraceptive users and non-users by additional socio-economic variables. Using the odds of contraceptive use among illiterate women as a reference, all groups of women with higher
levels of education have a much higher chance of being a contraceptive user. The mean years of education for contraceptive users, 5.7, is also higher than 4.9 years for non-users. The difference between the two means is statistically significant (t=2.2096, DF=514, P < 0.05). While women who are office workers tend to use contraceptive (OR=4.020, CI=2.335-6.921), daily labourers (OR=0.355, CI=0.203-0.621), the unemployed (OR =0.000), and students (OR=0.269, CI=0.113-0.641) are poor users of modern contraceptive methods. Similarly, women with higher family monthly incomes have a much higher increased chance of contraceptive use compared to women with low monthly incomes of less than 50 or between 50 .and 99 birr per month.

Table 1: Contaceptive users and Non-Users by Birth Place, Origin, Religion and Marital status

CHARACTERSTICS		USERS		NEVER USERS		M.H[1] ODDS RATIO	M.H. 95% CONFICENCE INTERVAL	P-VALUE
		No.	%	No.	%			
Birth place	Urban	156	60.5	151	58.5	1.084	0.762-1.541	>0.05
	Rural	102	39.5	107	41.5	0.923	0.649-1.312	>0.05
Ethinicity	Amhara	69	26.7	56	21.8	1.317	0.879-1.973	>0.05
	Oromo	64	24.8	60	23.3	1.089	0.727-1.631	>0.05
	Keffa	39	15.2	38	14.7	1.031	0.635-1.674	>0.05
	Kullo	24	13.2	42	16.3	0.781	0.479-1.273	>0.05
	Gurage	25	9.7	23	8.9	1.096	0.605-1.988	>0.05
	Tigre	13	5.0	15	5.8	0.860	0.401-1.845	>0.05
	Janjero	10	3.9	16	6.2	0.610	0.273-1.362	>0.05
	Others	4	1.6	8	3.1	0.492	0.050-1.619	>0.05
Religion	Orthodox	204	79.1	204	79.1	1[2]		
	Protestant	1	0.4	4	1.6	0.247	0.032-1.890	>0.05
	Moslem	53	20.5	50	19.4	1.076	0.698-1.657	>0.05
Marital status	Divorced	33	12.8	33	12.8	1[2]		>0.05
	Single	9	3.5	42	16.3	0.186	0.094-0.366	<0.001
	Married	207	80.2	165	64.0	2.288	1.543-3.392	<0.001
	Widowed	9	3.5	18	7.0	0.482	0.215-1.078	>0.05

[1]M.H = Mantel-Haenzel
[2]Reference group

Table 1: Contaceptive users and Non-Users by Education Occupation and Family Monthly Income

CHARACTERSTICS		USERS		NEVER USERS		M.H[1] ODDS RATIO	M.H. 95% CONFICENCE INTERVAL	P-VALUE
		No.	%	No.	%			
Education	illiterate	3	1.16	17	6.59	1.0[1]		
	Read and write	72	27.91	89	34.50	4.584	1.414-14.859	<0.05
	Primary	121	46.90	95	36.82	7.218	2.391-21.783	<0.05
	Secondary	62	24.03	57	22.09	6.164	1.927-19.715	<0.05
Occupation	Housewife	146	56.6	138	53.4	1.134	0.801-1.604	>0.05
	Office worker	57	22.1	17	6.6	4.020	2.335-6.921	<0.001
	Daily laborr	18	7.0	45	17.4	0.355	0.203-0.621	<0.001
	Student	6	2.3	21	8.1	0.289	0.113-0.641	<0.01
	Self-employed[3]	12	4.7	12	4.7	1.000		>0.05
	Service worker[4]	14	5.4	8	3.1	1.793	0.747-4.307	>0.05
	Unemployed	0		10	3.9	-		
	Other	5	2.0	7	2.7	0.709	0.223-2.253	
Family income (montly)	<50 Birr	43	16.7	78	30.2	1.000[2]	0.983-2.628	>0.05
	50-99	70	21.1	79	30.6	1.607		<0.001
	100-199	61	23.6	42	16.3	2.635	1.540-4.508	>0.05
	200-299	25	9.7	28	10.9	1.620	0.841-3.117	<0.05
	300-399	20	7.8	15	5.8	2.419	1.135-5.156	<0.05
	400-499	17	6.6	7	2.7	4.405	1.774-10.937	<0.01
	>500	20	7.8	4	1.6	9.070	3.320-24.777	<0.001
	Unstated	2	0.8	5	1.9	0.395	0.135-3.900	>0.5

[1]M.H = Mantel-Haenzel

[2] Reference group
[3] Engaged in private business such as small retail shops
[4] Working as hosueholds and bartenders

Table 3: Contraceptive Users and non-users by selected spousal characteristics

CHARACTERISTICS	USERS		NEVER USERS		M.H ODDS RATIO	M.H 95% CONFIDENCE INTERVALS	P VALUE
	No.	%	No.	%			
Education.							
Illiterate	2	1.0	4	2.4	1.000		
Read &Write Only	35	16.9	36	21.8	1.944	0.339-11.142	>0.05
Primary	80	38.7	66	40.0	4.424	0.450-13.068	>0.05
Secondary or more	90	43.5	59	35.8	3.051	0.582-15.999	>0.05
Occupation							
Office Worker	135	65.2	80	48.5	1.992	1.313-3.022	<0.01
Service Worker	33	15.9	39	23.6	0.613	0.366-1026	>0.05
Self-employed	27	13.0	27	16.4	0.767	0.430-1.366	>0.05
Other	12	5.8	19	11.5	0.473	0.225-0.993	>0.05
Monthly Income:							
<50 in Birr	13	6.3	31	18.8	1.000		
50-99	55	26.6	58	35.2	2.261	1.080-4.733	<0.05
100-199	63	30.4	28	17.0	5.365	2.513-11.455	<0.001
200-299	23	11.1	27	16.4	2.031	0.866-4.788	<0.05
300-399	24	11.6	11	6.7	5.203	2.028-13.347	<0.01
>400	24	11.6	5	3.0	11.446	3.883-33.742	<0.001
Unstatede	5	2.4	5	3.0	2.385	0.595-9.556	>0.05

*Reference group

Table 4: Contraceptive Users and Non Users By Number and Sex Composition of Living children

CARACTERISTICS	USERS		NEVER USERS		M.H ODDS RATIO	M.H 95% CONFIDENCE INTERVAL	P VALUE
	No.	%	No.	%			
No. of Living Children							
0	4	1.6	64	24.8	1.000	-	-
1	33	12.8	58	22.5	9.103	3.457-23.970	0.000
2	35	21.3	42	16.3	20.952	8.586-51.131	0.000
3	62	24.0	29	11.2	34.207	14.171-82.572	0.000
4	45	17.4	22	8.5	32.727	12.953-83.689	0.000
5 or more	59	22.9	43	16.7	21.953	9.073-53.117	0.000
No male but one or more female	41	16.1	55	28.4	0.497	0.272-0.907	<0.05
No female but one or more male	46	18.1	40	20.6	0.767	0.413-1.422	>0.05
Equal male to female	48	18.9	32	16.5	1.000	-	-
Excess males to females	57	22.4	35	18.0	1.086	0.586-2.010	>0.05
Excess females to males	62	24.4	32	16.5	1.292	0.695-2.400	>0.05

*Reference group

Table 3 shows the analysis of the socio-economic characteristics of the spouses of 207 registered users and 165 non-users who are. currently married. Although not statistically significant, increasing levels of spousal education is associated with an increased chance of contraceptive use by the woman. The mean number of years of education for .spouses of registered users, 7.8 years, is higher than 6.6 years for non-users. The difference between the two means is statistically

significant (t=2.6959, DF=366, P<O.OI). Again office work and higher monthly income of the spouse are also associated with an increased chance of contraceptive use by the woman.

Analysis of users and non-users by the number of rooms available for living and ownership of amenities, such as a radio, telephone and television, revealed that the majority of both groups, 63.6% of users and 66.3% of non-users, own a single room for living. The difference between the two proportions is not statistically significant (p>O.05). Amenities such as radio, telephone and television are owned by 51.5%,3.5% and 2.7% of contraceptive users, respectively, and 47.8%, 2.3% and 1.9% of non-users, respectivel y .The difference between users and non-users is not statistically significant (p>0.05).

Table 4 shows the fertility performance of registered users and non-users. The mean number of pregnancies, live births and living children for registered users are 4.3, 4.0 and 3.3 compared with 3.1, 2.7 and 2.2 for non-
users. The difference between the two groups is statistically significant (p < 0.001 in all cases). As shown in table 4, only 4 (1.6%) registered users compared with 64 (24.8%) non-users have no living child. Taking this
group of women as a reference group, it is shown that the chance of contraceptive use is substantially increased with increasing number of living children. The chi-square test for linear trend is also highly significant (x2 p =50.5, P<0.001). When compared to a group of women with an equal number of male to female living children the lack of a male child is associated with a decreased chance of C4 contraceptive use (OR =0.5, CI=O.272-0.907).

DISCUSSION
In order to forestall the negative health and socio-economic effects of the current level of high fertility in the country, immediate measures should be taken to increase the contraceptive prevalence rate among both the
urban and rural population of the country. This requires the identification of the most relevant factors determining contraceptive use and non-use.

Contraceptive use is known to vary by place of residence, i.e. rural or urban (1,4,5). Among our urban study population, related factors such as birth place (urban or rural) and duration of urban residence did not bear statistically significant association with contraceptive use.

Studies in Ethiopia (2,6), Thailand (7), and Guatemala (8) have found that certain religious or ethnic groups are' more likely to use contraceptives than others. The findings of our study do not, however, support this. Orthodox Christians constitute the majority among both contraceptive users and non-users, but the difference between the two groups in terms of chance of contraceptive use or non-use is not statistically significant. The same is true for ethnic groups. These findings cast some doubt on the belief that certain religious and ethnic groups are opposed to contraceptive use. The finding of a higher level of education among contraceptive users than non-users is in agreement with findings of earlier studies in Ethiopia (2,6) and other African countries (9,10).

Contraceptive use is much higher among currently married women than single, divorced and widowed women. The risks of pregnancy and maternal mortality, however, were found to be much

higher among sexually active single, divorced, separated and widowed women than married women in Addis Ababa (11). As one of the most important objectives of family planning programs in Ethiopia is the reduction of preventable maternal mortality poor contraceptive utilization by these groups of women should be of great concern to family planning service providers. The influence of work status on contraceptive use has been well documented (3,4,5,6,12). Our study has also shown that office work is associated with a higher chance

of contraceptive use, while occupational groups such as daily labourers, students and the unemployed are poor utilizers of contraception. Unfortunately, these latter groups of women are known to run a higher risk of unwanted pregnancy and hence maternal, infant and child mortality. This entails the planning of special measures to recruit these groups of women to the family planning services.

The finding of a higher chance of contraceptive use among the high monthly income earning groups than the low income groups is consistent with previous reports in Ethiopia (3,6). No statistically significant differences was noted between contraceptive users and non-users in terms of housing condition and ownership of amenities such as radio, telephone and television sets. In fact, ownership of more than two rooms, radio, telephone and television is extremely low for both groups. This signifies the high level of poverty prevailing in this urban community as a whole.

Studies have shown the importance of the husband in the decision to seek contraception, or termination of use, and in the choice of methods (13,14,15). Our study has also revealed that government office work, higher educational status, and monthly income of the spouse are associated with increased chance of contraceptive use. This implies that the decision to adopt contraception is a family issue which is influenced by the characteristics of both the wife and the husband in particular.

Fertility behaviours, such as parity, number and sex composition of living children, are known to have significant influence on contraceptive use. Among our study population, contraceptive users have had a higher mean number of pregnancies, live births and living children than non-users. Analysis of the sex composition of living children has also revealed that lack of a male child, but not a female child, is associated with a lower chance of contraceptive use. This finding indicates that there is some preference for male children. A similar pattern of preference was reported in two other African countries (16,17).

The economic need and motivation for having many children, especially sons, in agrarian traditional rural communities of Ethiopia is apparent, but the reasons for a similar pattern in urban areas is less obvious. The association of contraceptive use with a higher mean number of live births and living children implies that the success of child survival programmes, such as the Expanded Programme on Immunization, Control of Diarrhoeal Diseases and maternal and child health service programmes in general, would lead to increased contraceptive utilization by the community. Contraceptive use, in turn, has a reciprocating positive effect on child survival.

Finally, the results of our study have further strengthened earlier reports (2,3,4,5,12) that contraceptive use is

determined by several socio-demographic and family planning programme factors. Some of the socio-economic factors considered by this study are closely interrelated. Attempts will be made to

identify the most predominant factors related with contraceptive use by using the techniques of multivariate analysis. On the

basis of our current findings, in addition to strong health and family planning programme activities, we recommend that further efforts to increase contraceptive utilization by this urban population should be multisectoral-based involving improvement of the educational status, employment opportunity, income earning capacity and general living condition of disadvantaged segments of the urban female population, i.e.. poor, uneducated, unemployed, single or widowed women. The finding that neither birth place, duration of

urban residence, ethnic origin nor religious beliefs have an influence on contraceptive use needs to be further confirmed by wider and more detailed studies in different urban and rural settings in Ethiopia.

REFERENCE:
1.Central Statistic Authority, population Analysis and Study Center, The 1990 Family and Fertility Survey, Preliminary Report Addis Ababa, 1991.
2. Tekalegn A, 1988. Barrie to Access to Modem Contraception, Illnesses Submitted Partial Fulfillment for
Master Public Health Degree, Addis Ababa University.
3. Zein Ahmed Zein, 1987. A Survey of Family Planning in Gondar City. Ethiop. Med. J., 25, 153.
4. Population Reports, 1981. Contraceptive Prevalence Surveys: A New Source of Family Planning Data Series, M. No. S, May-June 1981.
5. Population Reports, 1985. Fertility and Family Planning Surveys, An Update, Series, M. No.8, September -October 1915.
6. de long, S.P., and Demissie A., 1989. Characteristics of Family Planning Association in Addis Ababa, Ethiopia. Family Guidance Association of Ethiopia, Addis Ababa, Apri1 1989.
7. Kamnusnsilps P., Chamralrithrog, A., and Knodel, I., Family Planning and Fertility in the South of Thailand with a Special on Religious Differentials. An Analysis of Data from the 1981 Contraceptive Prevalence Survey, Colombia, Maryland, Wesinghouse Health Systems, 1983. Further Analysis Report, P. SI.
8. Bertnnd, J.T., Pineda, M.A., and Sanito, G.R., Ethnic Difference. in Family Planning Acceptance in Rural Guatimala Studies in Family Planning, Vol. 10, No.819, August/September 1979.
9. Brown, J.E., Coeytaux, F.M., Chipoma, R.B.C., MalK1a, V.K., and Munlemba, D.C., 1987. Characterstics. of Contraception Acceptors in Lusaka, Zambia Studies in Family. Planning, 18, or: p. 96 -102.

10. Bertnnd, J.I., Mangani, N., Manailu, M., and Landry, E.G., 1985. Factor Influencing the Use of Traditional VefSJ. Modem Family Planning Method in Bas. Zaire Studies in Family Planning, 16, or: p. 332- 341.

11. Kwa. , B.E., Kidanemariam, W ., Mohammed Seid, B., and Fowkes, GFR., 1985. Edpidemiology of Maternal Mortality in Addis Ababa, A Community-based Study, Ethiop. Med. J., 23, or 7- 16.

12. Kebede, F., 1989. Characteristic influencing Usage of Modem Contraception. Thesis. Submitted for the Degree of M.P.H., Addis Ababa University.

13. Larnptey, P, Nichola., D .D ., Samuel-Ofossu- Amaah and Laurie, I.M., An Evaluation of Male Contraceptive Acceptance in Rural Ghana. Studies. In Family Planning, 9, 8: 222- 226. 14. Cook, R.B., Maine, D, 1987. Spousal Veto Over Family Planning Service. American Journal of Public Health, 77. 3:

339 -344.

15. Teferra, A. 1991. Modem Contraception Initiation. Does Involving Husband. Make a Difference? Their. Submitted for The Degree of MPH, Addis Ababa University.

16. Gadalla, S., McCarthy, J., and Carnpell, 0., How the Number of Living Sona Influence Contraceptive Use, In Meoour. Govemmel11, Egypt. Studies. In Family Planning, Vol. 18, No.2, March/April1987.

17. Oyeka, I.C.A., Influence of the Number of Living Sons on Contraceptive Use Among Female Teacher in Nigeria. Studies. in Family Planning 20,3, 1989.