CHAPTER IX
SUMMARY AND CONCLUSION

INTRODUCTION

The government-sponsored family planning programme in India has not had uniform impact throughout the country. While the fertility decline in India as a whole has been low, the decline in Kerala has been remarkably steep. The rapid decline in the fertility rates in Kerala has been attributed to the educational progress in Kerala, particularly in the field of women's education, more equitable distribution of income and better health and family planning delivery system. Of these factors, education of women is the most important factor accounting for the rapid decline in fertility in the State.

Several studies on fertility and family planning in Kerala have reported that education in general and education of women in particular, is an important determinant of the adoption of contraception. Most of the studies have not systematically focussed on the link between women's education, family planning and fertility behaviour. Moreover, the impact of the various determinants of family planning in two different regions which are different in terms of socio-economic development has not been examined so far. While many earlier studies have viewed education as a causal variable, the inter-dependence between education, age at marriage, employment status, and other determinants have not been taken into account while examining
their influence on family planning adoption and fertility control. The present study has made a modest attempt to fill the existing gap in the literature. The focus of the present study is the impact of education on family planning and fertility in two districts of Kerala, namely, Kottayam and Wynad, which present markedly different socio-economic scenarios.

The main objectives of the study are:

(i) to examine the link between education, family planning and fertility behaviour.
(ii) to identify the major determinants of family planning and their total and individual contributions to fertility decline.
(iii) to analyse the direct and indirect impact of education on the adoption of family planning and fertility behaviour.
(iv) to examine the influence of education on attitude of women towards family planning, family size, sex preference and the availability and adequacy of family planning services with a view to reinforce the findings derived from the pursuit of above objectives.

The following hypotheses have been formulated and tested:

(i) education of the spouses exerts a positive influence on family planning and negative influence on fertility.
(ii) female education has a greater influence than male's education on the practice of contraception.
(iii) lower the age at marriage, the smaller the gap between marriage and the adoption of family planning techniques.
(iv) there exists significant difference between educated and uneducated women in terms of their attitude and perception towards family size, sex preference and family planning services.

Data analysis

The sample data generated on various socio-economic and cultural determinants of family planning and fertility behaviour have been analysed by appropriate statistical tools like Chi-square Analysis, Simple Correlation, Partial Correlation, Rank Correlation, Multiple Regression Analysis and Ordinary Least Squares Methods. In order to assess the direct as well as the indirect impact of education on family planning and in order to understand the processes through which education influences family planning and fertility, Path Analysis has been done. Since most of the socio-economic variables are interdependent, the direction of causality cannot be easily determined. Therefore, to account for the joint effect of the socio-economic variables on family planning and fertility, Principal Component Analysis has also been undertaken for both the districts.

SOCIO-ECONOMIC CHARACTERISTICS OF THE SAMPLE RESPONDENTS

An attempt is made in Chapter III to understand the important socio-economic characteristics of the sample respondents. The socio-economic characteristics of the respondents have been examined with respect to religion, residential status, type of family, family size, age of the respondent, number of living children, age at marriage, husband's education, wife's education, occupation of both the spouses, family income, time lag between marriage and adoption, method of adoption and the like.
Religion influences the attitude, thinking and perception of the people towards the size of the family, the number of children and their sex combination. In the entire sample, 55 per cent were Hindus, 35 per cent Christians and 10 per cent Muslims (Table 3.1). It may be noted that Hindus in general have a preference for smaller number of children compared to Muslims and Christians, while in the matter of adoption, Christians appear to be ahead of other communities.

The place of residence has an important influence over fertility and contraceptive behaviour. Residence in urban areas promotes inter-personal communication and provide better health and medical services to the people. In the entire sample, about 81.5 per cent are from the rural and 18.5 per cent are from urban areas.

The type of family, its size and composition influence the contraceptive behaviour of the respondents. Of the 520 respondents, 89 per cent belong to the nuclear families (Table 3.3). In Kottayam, a relatively developed district, the proportion of families with less than 5 members is much larger compared to Wynad (Table 3.4)

Age is another important factor influencing contraceptive behaviour. In Kottayam, there were larger number of respondents in the higher age groups compared to Wynad. It is
also found that the relevant age for family planning and fertility control is between 20-39 years (Table 3.5).

The number of living children has an important influence over family planning decisions. About 67 per cent of the respondents in Kottayam had less than 3 children compared to 53 per cent in Wynad district. In Wynad, 40 per cent of the respondents had 3 to 5 children compared to Kottayam's 33 per cent. Thus, there were very significant differences between the average number of children per respondent in the two districts (Table 3.6).

Age at marriage has a significant influence over the reproductive profile. In Kottayam, a large number of respondents were married at a higher age as compared to the respondents in Wynad district. For instance, about 68 per cent of the respondents in Kottayam were married in the age group of 20-24 years, while the per cent for Wynad was only 42. This difference is more pronounced in the age group of less than 20 years (Table 3.7).

Education is a crucial determinant of fertility and contraceptive behaviour. Education, by promoting knowledge about family planning, changes attitudes of the respondents and encourages rational thinking. In Kottayam, about 97 per cent of the respondents had some kind of educational attainment. About 60 per cent had high school education and
15 per cent collegiate education. In Wynad, only 78 per cent were educated and 22 per cent were illiterate. Among the educated, 31 per cent had primary education, 37 per cent high school education and 10 per cent collegiate education. Thus, there were marked differences between the two districts in terms of educational attainment (Table 3.8).

Educational level of the spouses are also different across the two districts. In Kottayam, 60 per cent of the respondents' spouses had high school education and 17 per cent collegiate education, while in the case of Wynad this was only 38 per cent and 9 per cent respectively. In Wynad, 15 per cent were illiterate, while in Kottayam only 3 per cent were illiterate (Table 3.9).

Working status is another important variable influencing contraception. The job contentment of working women reduces the number of children that can be effectively taken care of. An overwhelming proportion of the respondents (85 per cent) are housewives in the sample, while 15 per cent are working outside. The level of employment is higher in Kottayam as compared to Wynad (Table 3.10).

Occupation of the husband has a powerful influence over family planning decisions. Between the two districts, Kottayam had a small percentage of farmers and agricultural labourers and a higher percentage of people employed in the service
sector and non-agricultural activities (Table 3.11). Thus, there were significant occupational differences between the two districts.

In terms of family income also, there were considerable differences between the respondents in both the districts. In Kottayam, about 53 per cent of the respondents had a monthly family income of less than Rs. 300/ while the corresponding share in Wynad was 60 per cent. In the higher income group of Rs.601-900, Kottayam had 4 per cent, while Wynad had only half of that.

The study, however, has not directly included variables such as value of children, infant mortality and availability of family planning infrastructure. Availability of infrastructure is considered in the very selection of sample PHCs. There are other important variables influencing family planning such as intra-spouse communication inter-personal communication, mass media etc. which have not been considered explicitly in the study. The influence of the variables is at least partly reflected in other socio-economic variables. Thus, the sample respondents represent very nearly the existing socio-economic and cultural characteristics of the population in two districts with significant differences in the level of development.
**EDUCATION AND CONTRACEPTIVE BEHAVIOUR**

Education of both the wife and husband is a key determinant of the adoption of family planning. Education changes attitudes and provides the required information about various methods of family planning. Education also influences family planning through a change in the age at marriage, employment status, place of residence and economic status.

The educational background of the adoptors as well as non-adoptors in the two districts exhibit interesting features. Among the adoptors in both the districts, women with high school education constituted a very high proportion. This would suggest that at least high school education is very essential for adoption of family planning (Tables 4.1 and 4.2). Secondly, in a relatively developed district like Kottayam, the proportion of illiterate women among adoptors and non-adoptors is not vastly different, whereas in a less developed district like Wynad, the difference between the proportion of illiterate adoptors and non-adoptors is very wide. Moreover, the proportion of high school educated women among non-adoptors in Wynad is far lower compared to adoptors. This would suggest a significant relationship between the level of education and the contraceptive behaviour as indicated by the adoptor - non-adoptor status.

Education increases age at marriage and therefore reduces the potential number of children. In Kottayam, smaller proportion of each
educational group got married before 20 years. Even with education, women in all groups in Wynad were married at a relatively lower age compared to the level in Kottayam in all groups. This only points to the fact that education is not the only determinant of age at marriage, although it is one of the significant factors influencing it (Tables 4.6 and 4.7).

Education influences the age at adoption of family planning in two ways. Firstly, it postpones marriage and therefore, the age of adoption. Secondly, education motivates people to adopt family planning more willingly and at a relatively younger age. In Kottayam district, the adoption of family planning is highest among women in the age group of 25-29 years, followed by women in the age group of 20-24 years (Table 4.8). Across the educational levels, it can be observed that more number of respondents in the high school educated group adopted family planning than in any other group in both the districts. In Wynad, larger proportion of women adopting family planning are in the age groups of 20-24 and 25-29 years. Besides, a positive association between the level of education and the age of adoption could be noticed (Table 4.9).

The effectiveness of family planning depends on the time lag between marriage and adoption. Education is an important factor influencing the time lag. In Kottayam district, a strong relationship was established between the level of education and
the time lag between marriage and adoption of family planning (Table 4.10). This is equally true in the case of Wynad district where 30 per cent of women with college education reported adoption soon after marriage (Table 4.11). This is a positive proof of the role of education on the adoption of family planning.

Education not only influences the age at adoption of family planning and the time lag, but it also affects the choice of the family planning method. In both the districts, the preference for Tubectomy and level of education are inversely related, while the acceptance of I.U.D., safe period method and prophylactics increases with education (Tables 4.12 and 4.13). This implies that adoption of some methods requires knowledge and awareness which go with education.

Education is a catalytic agent which promotes awareness of family planning. Education promotes inter-personal communication and propagates knowledge of family planning. Education also improves one's access to mass media and thus promotes family planning. In Kottayam, the spouse, doctor and voluntary motivators are the chief sources of information and knowledge about family planning as far as illiterate women are concerned.

In the case of women with primary education, apart from the spouse, family planning staff is an important source of information. As education improves to high school level, self-information becomes the chief source for a large number of respondents (Table 4.14).
There are several factors which motivate couples to adopt contraception. These reasons range from economic considerations to psychological satisfaction and old age security. In both the districts, as education improves, satisfaction with the existing number of children also rises (Tables 4.16 and 4.17). At low levels of education, women may not be satisfied with the existing number of children either because of old age insecurity or because of economic considerations.

The contraceptive method adopted has an important bearing on the effectiveness of family planning. But the adoption of permanent vis-a-vis temporary methods depends on the attitudes of the respondents and their reasoning. Satisfaction with the existing number of children, followed by doctor's advice appear to have influenced women to adopt permanent methods (Table 4.19). Moreover, at low levels of education, women tend to accept Tubectomy because of their misperception of the effects of Vasectomy, I.U.D. and the Pills.

Education improves the acceptance of temporary methods of family planning instead of permanent methods (Tables 4.20 and 4.21). The desire to have additional children, the perceived harmful effects of sterilization and the fear of complications largely account for the adoption of temporary methods. The importance of the preference for additional children declines with education (except college level). The perceived harmful effects of sterilization and religious sentiments also decline with education.
Satisfaction of the respondents with the family planning method adopted is an essential pre-requisite for the successful adoption of family planning. It was found that as education improves, satisfaction with the method women adopt increases (Tables 4.22 and 4.23). This may be due to the fact that education ensures adequate knowledge, awareness and information that are essential for practising any method of family planning successfully. Thus, a minimum level of education is found essential for ensuring satisfaction of the respondents with the method adopted.

Incentives to adoptors have become necessary in view of the economic constraints facing women and to overcome the socio-cultural barriers. Women with no education and with primary education received incentives, while only a few with high school and college education had not received any incentives (Tables 4.24 and 4.25). This suggests that incentives have some role to play for the acceptance of family planning.

Education of the women is also an important factor influencing the choice of the hospital or centre for sterilization. It may be observed that no consistent trend could be discerned in both the districts, largely due to the fact that education is only one of the several variables which influences the choice of the hospital or centre. The choice also depends on several other factors such as the place of residence, the
nearness of the hospital, the facilities available at the hospital, economic status of the family and the like.

In the matter of follow-up services, about 75 per cent of the respondents in Kottayam district with different educational qualifications are satisfied (Table 4.28). In Wynad district, the percentage of respondents satisfied with the follow-up services received after sterilization is only 53 per cent (Table 4.29). Education appears to be an important factor influencing the level of satisfaction.

Incentives influence respondents to adopt family planning to a certain extent and this is more pronounced in the case of illiterate women (Tables 4.30 and 4.31). About 70 per cent of the illiterate respondents in both the districts would have adopted family planning even in the absence of incentives. Among the high school educated women, 86 to 96 per cent of the respondents reported that they would have adopted family planning even in the absence of incentives. Thus, it suggests that education can reduce the need for incentives in the matter of family planning adoption.

DETERMINANTS OF FAMILY PLANNING AND FERTILITY BEHAVIOUR

Chapter V sought to assess empirically the impact of education of the wife and the husband on family planning and fertility behaviour. The simple correlation analysis revealed that family planning status is highly correlated with the education and occupation of the husband as well as the education
and employment of the wife in Kottayam district. Fertility is negatively correlated with the education of the wife and education of the husband in both the districts. Similarly, the study revealed a fairly high degree of correlation between education and demographic variables, such as age at marriage, fertility and the time lag. Magnitude of correlations are higher in Wynad as compared to Kottayam (Tables 5.3 and 5.4).

Since simple correlations do not measure the correlation between any two variables keeping other relevant variables constant, the technique of partial correlation was employed to assess the relationship between education and other family planning variables. The study revealed that education of both wife and the husband are positively correlated with family planning in both the districts (Table 5.5). But, the education of the husband is highly correlated with the family planning status in Kottayam. In Wynad, education of the wife is highly correlated with family planning than in Kottayam. Education of the wife and number of children are negatively correlated in both the districts. Similarly, education of the husband and number of children are negatively correlated in both the districts. Education and temporary family planning methods are positively correlated which implies that as education moves up, people prefer temporary methods of contraception to permanent methods. Similarly, education of the wife and time lag are negatively correlated in both the districts, though the correlation in Wynad is lower.
The rank correlations between education and family planning (and the related variables) reinforce the results of simple and partial correlations. Education of the wife and family planning status are negatively correlated in Kottayam. Education of the wife and number of children, family size and time lag are negatively correlated in both the districts indicating that as education moves up, the number of children and the time lag between marriage and adoption comes down. Similarly, education and age at marriage are positively related in both the districts implying that education promotes age at marriage. The positive rank correlation between education of the wife, family income and education of the husband are along the expected lines (Table 5.6). Education of the husband and the number of children, family size, time lag and the age at adoption are negatively rank correlated in both the districts, though some of the coefficients appear to be statistically insignificant.

Correlations, simple, partial and the rank based, do not measure the degree of dependence or explanation of one variable by the other. In order to measure the degree of dependence by education and other variables in explaining variations in family planning, fertility, age at marriage, family planning method, time lag and age at adoption, six regression models were formulated and estimated on the basis of O.L.S. method. The regression analysis revealed the following:

1) Education of the wife and education of the husband has a positive impact on the adoption status in both the districts.
In Kottayam, age at marriage and time lag have a negative influence on family planning status; occupation of the husband has also a positive impact on family planning adoption; number of children has a positive impact on family planning in the sense that larger the number, greater proportion of women adopt family planning.

In Wynad, however, education of women is not a significant variable in explaining variations in family planning. This may be due to the fact that the level of education in Wynad is lower and the husband plays a greater role in family planning decisions, reflecting the typical characteristics of a relatively less developed socio-economic environment.

2) The impact of education and other variables on fertility behaviour reveals that education of the husband has a negative influence on the number of children. Education of the wife is not significant and therefore has been deleted from the equation. While religion and age of the respondent have a positive influence on the number of children, age at marriage is negatively related. The equations have relatively low predictive power as indicated by the degree of $R^2$.

3) Women's education has a positive influence on age at marriage in both the districts indicating that education advances the age at marriage. It is further revealed that larger the size of the family, lower would be the age at marriage and higher the employment status of women, higher would be the age at marriage. Moreover, as the family income improves, age at marriage also rises.
In Kottayam, family planning method is significantly influenced by the age at adoption of family planning. An increase in age at marriage and an increase in education of the husband brings down the time lag between marriage and adoption. Age at adoption is significantly influenced by age at marriage, time lag, number of children, method adopted and the employment of the women.

In Wynad also, increase in the age at marriage reduces time lag. Women with larger number of children tend to have a longer gap between marriage and adoption. The type of method adopted has a positive influence on the lag. The movement from temporary to permanent methods and a rise in the employment status promotes the lag.

DETERMINANTS OF FAMILY PLANNING AND FERTILITY BEHAVIOUR:
CAUSALITY AND INTER-DEPENDENCE

The regression analysis in Chapter V suffers from two major shortcomings. Firstly, it assumes that the independent variables are not highly correlated among themselves. Secondly, the coefficients of the regression equations measure only direct impact of each variables on the dependent variable. In fact, the independent variables are inter-correlated and the inter-correlation distorts the results. Therefore, the regression results cannot be considered as fool-proof. Further, the regression analysis of socio-economic variables suffers from simultaneity which in turn affects the BLUE qualities of the estimate. To overcome the above limitations, Path Analysis and Principal Component Analysis were undertaken.
On the basis of the analysis carried out in chapters III, IV, V, VII and VIII and on the basis of earlier studies, a series of seven paths have been identified and empirically estimated for each district separately. Education of wife and of husband are considered as the principal determinants of family planning through direct as well as indirect processes. The indirect influence of education on family planning status runs through age at marriage, lag between marriage and adoption, employment status, family income, religion, place of residence, type of family and the number of living children.

Path analysis brings out the following results:
1) The direct influence of women's education on family planning in both the districts is positive and significant, while the direct effect is higher in Wynad. The indirect effect in both the districts is negative and it is higher in Kottayam. Thus, the net total effect is positive in both the districts, but significant only in Wynad. This implies that women's education plays an important role in a backward district like Wynad.
2) Husband's education has a larger net positive impact on family planning status in Kottayam as compared to Wynad where the coefficient is very low and insignificant. Therefore, it suggests that husband's education is important than wife's education in explaining family planning behaviour in Kottayam district.
3) Women's education has a negative impact on fertility behaviour in both the districts and this is significantly higher in Wynad. Thus, it reiterates the earlier conclusion that in a backward district like Wynad, women's education assumes crucial importance in
reducing the number of children. Regarding husband's education, the significant, negative impact on fertility in Kottayam appears to be due to larger proportion of educated husbands in Kottayam. In Wynad, as the educational status of the husbands is relatively low, the impact is very insignificant.

4) Age at marriage has a negative influence on family planning in both the districts. The negative coefficients suggest that as age at marriage advances, the need for family planning declines.

5) Employment status of the wife has a positive impact on family planning status in both the districts, indicating that an improvement in employment status promotes family planning adoption.

6) In Kottayam, husband's occupation has a very significant impact on family planning whereas in a backward socio-economic set up as in Wynad, employment status of the husband (largely dependent on agriculture and allied activities) has only marginal impact on family planning.

7) Family income has a negative and very insignificant influence in Kottayam, while it has an insignificant positive influence in Wynad. As such, no generalisation could be made about the influence of family income on family planning status.

To overcome the problems of simultaneity and multi-collinearity principal component analysis was undertaken and the results are presented in Chapter VI. An attempt was made to generate composite variables by combining the 17 socio-economic variables in each district, separately. The composite variables are actually orthogonal factors obtained through a Varimax rotation which are in turn used in the determination of family planning behaviour, fertility behaviour and the like. For Kottayam district, the first 7 composite
factors with Eigen values greater than 1 were selected. These variables together explained 73 per cent of the cumulative variance. On the basis of factor loadings, each principal component has been assumed to represent a particular socio-economic characteristic of the sample respondents. These seven principal components have been used to explain variations in dependent variables such as family planning status, number of children and others. The regression results for Kottayam based on principal components reveal the following:

1) Principal component 1, representing women's educational status is positively related to family planning; component 2, representing number of children has a negative relationship with family planning; index of family background, captured by principal component 3, has a positive impact on family planning; component 4, representing age factor has a negative impact on family planning, while economic status (component 5) has a positive impact on family planning; residential status and occupational status (components 6 and 7) of the respondent has a negative influence on family planning status. The coefficient of occupational status, however, is not consistent with the earlier results. In the earlier results, occupational status and family planning status were positively related. The negative relationship could be due to the fact that employed women tend to go in for temporary methods of family planning.

2) Fertility is negatively influenced by component 1, representing women's education, component 4, representing age
factor and component 5, representing economic status. A movement from rural to urban areas as captured by component 6 also has a negative impact on fertility. Occupation of wife represented by component 7 has a positive impact, indicating that this is not consistent with the earlier results. In view of the fact that component 7 is loaded with type of the family and employment status, the variable partly represents the type of the family. Therefore, when component 7 is taken to represent the type of family also, then the positive impact is understandable.

3) Composite variables representing women's education \( (P_1) \), family background \( (P_3) \), age of the respondent \( (P_4) \), economic status \( (P_5) \), residential status \( (P_6) \) and employment status of the wife \( (P_7) \) have a negative impact on age at adoption, suggesting that a rise in education, family status and age at marriage and employment reduces the age at adoption.

4) The lag between marriage and adoption are negatively influenced by women's education \( (P_1) \), family background \( (P_3) \), age \( (P_4) \) and residential status \( (P_6) \). As education, family status and age improves, the lag between marriage and adoption declines.

5) The family planning method adopted is significantly explained by composite variables representing education, family background, employment status, residential status and occupation of the wife. Age at marriage, on the other hand, is significantly explained by composite variables representing
education, fertility index and family background. As education, number of children and family background improves, age at marriage rises.

For Wynad district, the same procedure was repeated. The 17 socio-economic variables were combined to generate principal components. On the basis of the Eigen values and cumulative percent of variance explained by the principal components, the first seven components were chosen for further analysis. On the basis of the factor loadings, component 1 is considered as the variable representing education of the wife and husband, component 2 fertility behaviour, component 3 family and cultural background, component 4 age factor, component 5 employment status, component 6 residential status and component 7 occupation of the husband. The regression analysis based on the principal components for Wynad district revealed the following:

1) The composite variable representing education promotes family planning, age of the respondent indicated by principal component 4 has a negative impact on family planning, meaning that higher the age of the respondent, lower the need for family planning adoption; residential status has a negative impact on family planning, indicating that a movement from urban to rural areas reduces family planning adoption. The fertility behaviour (component 2) and occupation of the husband (P7) promotes family planning.

2) Fertility variations are explained significantly by principal components representing education, family background, age factor, employment status and residential status.
3) Age at adoption of family planning is explained by components representing education, age factor and residential status, all in the negative direction. On the other hand, number of living children and employment status advances the age at adoption.

4) The lag between marriage and adoption are explained inversely by composite variables representing education and residential status, while fertility and age related components influence age at marriage directly. This implies that if the fertility behaviour is stronger, the lag increases and if the age of the respondent is higher, the lag widens.

5) Age at marriage is significantly explained by components representing education and employment in the same direction. This means that these factors advance the age at marriage. Fertility behaviour, family background and residential status reduces the age at marriage. Interestingly, occupation of the husband and age at marriage are inversely related in Wynad district.

**EDUCATION AND ATTITUDE TOWARDS SIZE AND COMPOSITION OF FAMILY**

Education affects attitude of women in several ways. First of all, it changes the attitude of women towards the perceived risk of infant mortality. Secondly, it changes the perception of women regarding the ideal number of children. Education also changes the attitude of women towards the sex combination of children.
Education improves the knowledge of women about child health and about the risk involved in having larger number of children. The study revealed that women with higher education had the right type of perception about infant mortality. Most of the educated women were of the opinion that child death had declined (Table 7.1) and attributed the decline to improvement in medical and health facilities. A larger proportion of the women were aware of the real reasons behind the decline in infant mortality, such as better health and medical facilities, improved family planning programmes and the introduction of new medicines. This awareness appeared to have improved with education (Table 7.2). Thus, education promotes a healthy perception about infant mortality rates.

The study also revealed that about 60 per cent of educated women preferred to have lesser number of children (less than 3). As education increases, the perception of women regarding ideal or optimal number of children also declines (Table 7.4). Therefore, women's perception about the ideal number of children per family moves inversely with education. Women with lower level of education do not adopt proper spacing and complete the job of child bearing at a fairly lower age. Most of them adopt permanent methods of family planning at a fairly early age, and therefore, may not require additional children (Table 7.5).

Education decreases the demand for children by reducing the old age insecurity as well as the risk of infant mortality. People who consider children as a source of security prefer to have larger number. On the other hand, educated women with good employment and income status prefer to have a smaller number of
children and do not consider children as a source of security in the old age (Table 7.7).

Couples limit the size of the family for various reasons of which parental care considerations are important. A large proportion of women (75 per cent) with higher education were of opinion that it was desirable to limit family size to ensure adequate care to all children (Table 7.8). This implies that as education increases, the attitude towards family size becomes stronger.

Education reduces the religious rigidity in terms of the preference for the sex of children. Women with lower educational status prefer to have sons to daughters. Women with higher educational status do not exhibit any strong preference for boys to girls (Tables 7.9 and 7.10). While women with lower education feel that a male child is a symbol of social status, about 75 per cent of educated women are indifferent to the sex of the children.

A large percentage of women with higher education prefer two children irrespective of the sex (Table 7.11) while illiterate women and those with primary education feel that at least one male child is desirable. More than 80 per cent of the educated women feel that in the interest of mother's health, the number of children should be limited (Table 7.12). About 50 per cent of the educated women were of the opinion that religion had nothing to do with family planning. Almost
every college educated woman was of the opinion that religion and family planning are mutually consistent (Table 7.13). Thus, education alters the attitude of women to a great extent towards the size and composition of family.

**EDUCATION AND FAMILY PLANNING SERVICES**

Availability of family planning clinics is an important pre-requisite for successful implementation of public policy relating to family planning. The educated women in general perceived the need for additional family planning centres, while the less educated women and illiterate could not comment on this (Table 8.1). The essential point that emerges is that education alters the perception of women towards adequacy of family planning services provided by the Government.

It is not only the number of centres that is important, but also the availability of contraceptive devices provided by them. The study revealed that people with higher educational background, in general, were satisfied with the contraceptives provided in the family planning centres (Table 8.2). It appears that the level of education of women is an important determinant of the knowledge about the availability of contraceptives. It is also found that more than 50 per cent of women with high school or college education felt that the family welfare programmes available at present were adequate to motivate them towards small family norm (Table 8.3). On the other hand, those who were not happy with the existing programmes were largely illiterate and less educated.
The kingpin in the family planning service delivery system is the motivator. More than 80 per cent of the educated women reported that they had been contacted by the motivators and received advice and guidance (Table 8.4). Moreover, the educated among the respondents (75 per cent) were more satisfied with the visits of the workers (Table 8.5), whereas the less educated and the illiterate respondents advocated more frequent visits by workers. Further, a large proportion of the illiterate and primary school educated respondents felt the need for additional motivators (Table 8.6). The study also reveals that the educated in general, did not complain about the availability of doctors as compared to the illiterate and less educated (Table 8.7).

Education starts at home and the mother is the best teacher, particularly in matters relating to child birth, health, nutrition and the like. Only about 40 per cent of the respondents expressed the opinion that the mother should give family planning education to her children. What is more interesting is that even women with higher education did not agree with the view that they must provide family planning education to their grown-up daughters (Table 8.10). Therefore, the target group has to be reached through formal as well as non-formal educational streams. An overwhelming majority of the respondents were in favour of such an education. Women with higher education were more convinced about this than others (Table 8.11).
The message of family planning can be easily communicated at the hospitals and family planning centres where deliveries take place. It must be found that women who have delivered at the Government hospitals and family planning centres had been influenced by the small family norm. The person attending at the time of delivery also has a role in conveying the family planning message. Generally, deliveries attended by doctors have a positive impact on family planning adoption (Table 8.13). The women with better educational background receive the doctor's advice and follow it more seriously.

The type of hospital or centre visited during pregnancy also influence the success of family planning. If advice is received from the traditional 'dais', then the message of family planning cannot be effectively communicated (Table 8.13). There is need to attract large number of illiterate and less educated women to Government hospitals (Table 8.14). Education was also found to be influencing the type of advice received from the hospitals and health centres (Table 8.15). Unlike the illiterate and less educated, the educated in general, do not suffer from unnecessary inhibitions and communicate more freely with the medical personnel.

Effective utilisation of health and family planning services also depends on the proximity of the family planning centres to the place of residence of the respondents at large. It was found that on an average, about 40-50 per cent of the respondents in all groups had to travel 4-6 kilometres to reach
a Primary Health Centre (Table 8.16). Therefore, the choice of appropriate location of the Centre is important in the determination of delivery of family planning services.

The grass-root health units like Anganwadis and Balwadis are the focal points of health education and family planning delivery system. It was distressing to note that about 50 per cent of the illiterate women did not visit Anganwadis while 54 per cent of the women with primary education had never seen a Balwadi (Table 8.17). Therefore, there is need to bring in a larger proportion of less educated and illiterate women to the Anganwadis with improvement in the quality of services offered at these centres.

Financial and other incentives offered also influence family planning adoption, particularly among the less educated (Table 8.19). Most of those who considered the incentives to be sufficient were those with college education. Therefore, steps need be taken to improve the level of education. Higher incentives need also be given to attract the illiterate mothers in the eligible age group.

**POLICY IMPLICATIONS**

The following policy implications emerged from the study.

1) The significant relationship between education and contraceptive behaviour in both the districts suggest that educational facilities, both formal and non-formal should be expanded to cover women in the reproductive age groups. Adult
education programmes with emphasis on mass media and extension education would go a long way in promoting contraceptive behaviour.

2) The direct relationship between education and age at marriage, particularly in a backward district like Wynad, also emphasizes the need for promoting educational facilities with appropriate package of incentives for girls. The inverse relationship between education and adoption of family planning also advocates the policy of expanding facilities for women's education. The successful adoption of temporary methods of family planning require at least high school education. Therefore, it is essential to expand educational facilities at the post-primary stage and take necessary steps to promote enrolment ratio of girls.

3) The strong relationship that was established between education of women and the time lag between marriage and adoption also demands promotion of education among women. More importantly, it calls for effective extension education by family planning workers. There is also a strong relationship between education and the choice of family planning method adopted which implies that with improvement in education, women would increasingly adopt temporary methods.

4) Even in Kerala, where the level of education of the women is very high, incentives have a role in promoting the adoption of family planning, particularly in a backward district. Therefore, it implies that appropriate package of incentives
with monetary and non-monetary components should be designed and delivered to attract the target groups.

5) Hospital infrastructure has a decisive role in the propagation of family planning. Therefore, the infrastructural facilities should be improved, particularly in backward areas.

6) More number of Primary Health Centres and Sub-centres must be opened at places which are accessible to majority of the eligible couples, so that the family planning services are fully made use of by them.

7) Family planning education should be made a compulsory part of the formal education. This will promote awareness about family planning among boys and girls at a fairly younger age. Apart from family planning education, health education should also be made compulsory.

8) The wrong perception about infant mortality, sex preference, size of the family etc. must be altered at a relatively younger age, through formal as well as non-formal education.

9) Child delivery at home does not promote family planning. Therefore, public policy should focus on reducing the number of 'at home' deliveries. This would call for an increase in the number of maternity hospitals at heavily subsidized rates for the poor people.

10) The grass-root health units like Anganwadis and Balwadis have a great influence on family planning adoption by eligible women. Therefore, these units should be strengthened with greater financial inputs.

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