J. of Obst. & Gyn. of India Vol. 51, No. 2: March/April 2001 Pg 96-99

Role of Induced Abortion and other Determinants on Fertility : A Case Study

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Summary

The present study was carried out to ascertain the individual influence of 6 major independent variables including induced abortion on fertility by adopting Path analysis method. Five hundred clients from selected MTP centres (Medical Termination of Pregnancy Centres) in Chittoor district formed the study population. Largely, societal factors consisting of education, opportunity cost and age at marriage followed by 3 types of interventions namely, family planning, induced abortion and incentives, together have regulated the fertility of the study-population. The implications of this study, if implemented, can strengthen National Family Welfare Programme in India.

The present study was undertaken with a view to highlight the impact of 6 major independent variables including induced abortion on 'fertility' by adopting the 'Path Analysis Technique'.

The study was carried out on the clients attending the Government Maternity Hospital, the Municipal Hospital, Manohari Nursing Home, Kalpana Nursing Home and other private clinics in the Tirupati town, and also the Primary Health Centre Empedu, the Rural health centre area Chandragiri, the Government Hospital at Kalahasti and an unofficial abortion clinic run by an unqualified doctor at Damalcheruvu.

The study is based on the primary data collected using the interview technique with a pretested questionnaire, from the clients attending the service-centres mentioned above.

Correlation and path analysis techniques have been used to highlight the relationship between the dependent and independent variables. In fact, induced abortion is a major proximate determinant that affects the fertility behaviour. Therefore, the role of induced abortion along with other important variables of fertility have to be examined here to get at the full importance of induced abortion as a major component of fertility – regulation.

Path analysis was chosen in preference to regression – analysis because it manifests a visual understanding of the causal relationship on a total framework. In addition, it indicates the direct and indirect influence of indirect variables on fertility behaviour.

Under path analysis, the dependent variable is the number of live-births and the independent variables are education of wife, age at marriage, opportunity cost, incentives, induced abortion and family planning adoption. The path diagram given in Fig. I explains the causal order of the selected 6 independent variables influencing fertility. Based on this path diagram, the

following structural equations have been derived:

$$Y_0 = P_{01} X_1 + P_{02} X_2 + P_{03} X_3 + P_{05} X_5 + P_{06} X_6 \quad (1)$$

$$X_6 = P_{61} X_1 + P_{62} X_2 + P_{63} X_3 + P_{64} X_4 + P_{65} X_5 \quad (2)$$

$$X_5 = P_{51} X_1 + P_{53} X_3 + P_{54} X_4 \quad (3)$$

$$X3 = P_{31} X_1 + P_{32} X_2 \quad (4)$$

Education of Wife:

Education of wife shows a negative association with fertility behaviour. In fact it, confirms the internationally proved hypothesis that increase in education automatically will lead to decrease in fertility.

FIG. 1: PATH DIAGRAM

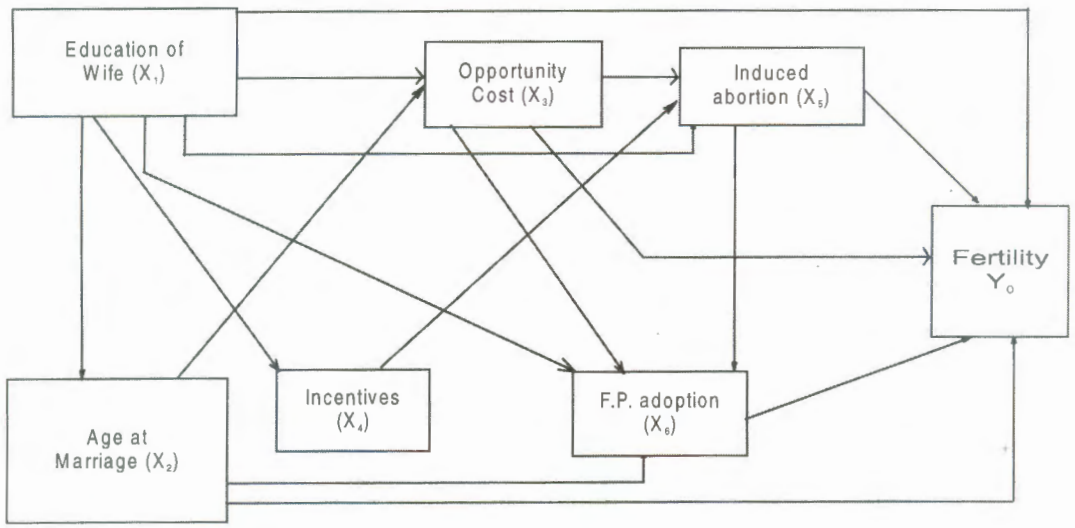
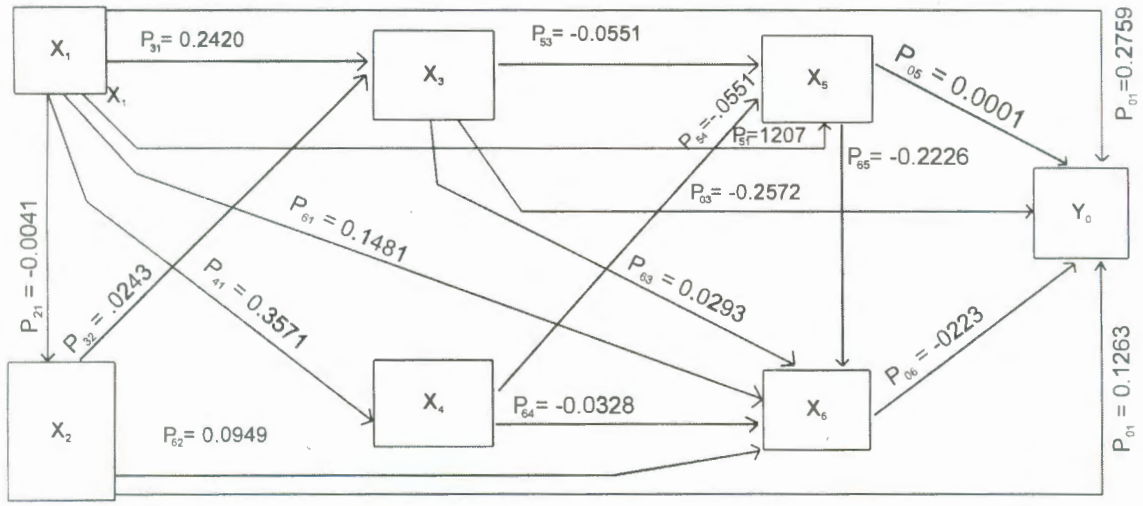


Fig. 2: Path Diagram with Path Coefficients



Its influence is mostly through direct means (-0.2759), and its indirect effect is very negligible though it exists (-0.0665). Since the direct effect is greater than the indirect effect, it manifests that educational development is beginning, and not extensively achieved in this population. Otherwise, it also should have considerable indirect influence through age at marriage, through family planning etc. All these confirm beyond any doubt that highest priority must be given to women's education so as to make the advantage of education speedily promote the family planning programme.

Opportunity Cost:

The index on opportunity cost was constructed using dimensions of different concepts (Babbie, 1983). The dimensions considered are, that children reduce the opportunity for the parents to (i) take rest, (ii) seek pleasure, (iii) reading and learn, (iv) take treatment, (v) properly look after children and (vi) better their educational career. Opportunity cost is a well known concept in the field of fertility dynamics and it has got a lot of theoretical importance too, particularly, in developed countries. In fact, in developed countries even with other minimum number of children, opportunity cost starts working against future fertility. But in a developing country, as seen here, it shows an importance perhaps after getting a good number of children, because the pinch of opportunity cost is realised by people when more number of children start interfering with their pleasure, rest, pursuit of studies and so on. Therefore, its influence on fertility is during the late period of reproduction, but not soon after getting the minimum number of children as in the West.

Opportunity cost shows a negative association with fertility behaviour and the hypothesis has been fully confirmed. Value shows very significant direct effect (-0.2572). Its indirect effect is very negligible (-0.0653). Therefore, this factor is an effective concept for population education, in order not to disappoint mothers at a later age with the burden of children.

Age at Marriage:

Age at marriage is a well-known antinatalist factor and its classical relationship is always negative with fertility. The same hypothesis has been confirmed here too. Regarding its relationship with fertility it shows mostly direct influence (-0.1263) and its indirect influence is very negligible (0.0027). Nevertheless, the data fully supports that it is a major determinant of fertility particularly for depressing fertility behaviour when the age at marriage is increased. Therefore, practical efforts may have to be introduced expeditiously to make the age at marriage really work in our society to regulate fertility on a long time basis even without the continuous use of contraception. It has several other advantages beyond regulation of fertility, in the field of quality of life. When age at marriage is increased beyond 19 years, the quality of life of adolescent girls will be improved (15-19 year girls). In this context, it has to be pointed out that the recently passed legislation fixing age at marriage at 18 years, is not sufficient, because the prepuberty adverse conditions may prolong till 19 years. Thus as expected age at marriage is proved as an important determinant of fertility along with the other factors mentioned above.

Family Planning Adoption:

Although, family planning interventions are supposed to be a major determinant of fertility control, they have yet to emerge and establish themselves in their full form. Nevertheless, they show considerable negative influence (-0.0991). Although, they are not a very high determinant of fertility like education, opportunity cost and age at marriage, they emerge as the fourth important factor and confirm the potentiality to regulate fertility under varying conditions. The proportion of couples protected in this part of this population is not very high, and that too all those who have adopted family planning in fact, have done so after getting the desired number of children. Therefore, the demographic effectiveness of family planning is limited in this population. That is why, this factor could not emerge in the present enquiry as a major determinant of fertility. It is true when this factor is examined in relationship with fertility in many other regions of this country (Mahadevan, 1986).

Induced Abortion and Fertility:

It was hypothesised that induced abortion could be a major determinant of fertility, but it has not been fully confirmed. However, its partial influence on fertility has been confirmed and the nature of its influence is largely indirect through family planning on fertility (0.0542), but not directly (-0.0001).

The role of induced abortion in regulating fertility became apparent in most of the cases when the women who came for induced abortion had already attained a family size of their choice. In fact their abortion helped them in preventing the birth of unwanted babies in future rather than in creating any demographic effectiveness to regulate and reduce fertility. Therefore, the purpose of doing abortion must be changed in future. If at all women seek abortion for family planning, it must be done only after they have two children. However, for eugenic and other reasons, abortion may be permissible, but its real benefit cannot be achieved in the field of family planning, if women continue to adopt abortion with high parity.

The purpose of the MTP act has been defeated in this case. Thus abortion as a determinant of fertility with optimum demographic effectiveness was not seen in this study population. Many other studies to find the impact of induced abortion on fertility have arrived at similar results. The fertility inhibiting effect of induced abortion is substantially smaller than that of contraceptive practice in the Eastern European countries (Frejka, 1985). Very high incidence of abortion alone can have the expected impact on fertility (Dawn, 1987; Frejka, 1975 and Venkatacharya, 1962).

Incentives:

Incentives emerge as the last (sixth) determinant of fertility, which is operated through the family planning programme. The hypothesis proved here is that incentive (monetary) has a slight, but not statistically significant influence to depress fertility through family planning. Even the path-coefficient of incentive on family planning also is not significant. Therefore, incentive through family planning is not a major indirect determinant of fertility. Of course, the complete potentiality of the incentive in depressing fertility through family planning, cannot be confirmed here because, the main focus of the study was not incentives. Therefore, a separate in-depth study only can bring out its differential influence on any general population.

Thus, largely societal factors consisting of education, opportunity cost and age at marriage followed by 3 types of interventions namely, family planning, induced abortion and incentives, together have regulated the fertility of the study population. The study has lot of implication for the benefit of the future namely, to give very high priority to investment in women's education, and translating into action the legislation on higher age at marriage, besides strengthening the concept of opportunity cost, incentives, family planning and induced abortion through population education and as a package in the peripheral services. In fact, the effectiveness of some of these interventions may have to be evaluated, and urgently needed changes should be introduced in time, to strengthen the fertility programme in our country.

References:

1. Babbie Earl, The Practice of Social Research, California, Wadsworth Publishing Co. Belmont, 1983.
2. Dawn C.S. Text book of Obstetrics and Neonatology, 10th Edition, Dawn books, Calcutta, p. 1, 1987.
3. Mahadevan K. Fertility and Mortality: Theory Methodology and Empirical Issues, New Delhi, SAGE Publications, 1986.
4. Frejka Thomas. Induced Abortion and Fertility, The next contraceptive revolution, International Family Planning Perspectives, Vol. 11, No. 5. Dec. 1985, p. 1525-129.
5. Venkatacharya. K. Reduction in Fertility due Induced Abortions, A Simulation Model', Demography, 9: 339, 1962.