

Mathematical Model Study for Effectiveness of Contraceptive Methods in Birth Control

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Abstract:

Statement of the problem:

Population control is one of the desired targets in many developing countries for effective implementation of the public welfare schemes undertaken by the national Governments and international organizations. Birth control is the only way to control the unwanted growth of population in these countries. Use of various contraceptive methods developed and being used over the years have contributed significantly in the control of births. Various factors are associated with the effective implementation of the contraceptive methods which mainly include sterilization (Male and Female), administering medicated tablets, IUD or PPIUD. The various factors such as nature of the society (Urban/ Rural), level of education, economic status, sex (Male/ Female), awareness status etc. associated with the users of the contraceptive method(s) can be correlated using Mathematical tools and suitable mathematical model can be developed.

Methodology and Theoretical Orientation:

For development of a mathematical model, a sample of women who prefer modern birth control measures and few identified factors have been considered. Integer Linear Programming Model is formulated correlating the factors related to the acceptance of contraceptive methods. The model has been used here to analyse the secondary data available from the Government Official site of India.

Findings:

The awareness of the women users on various parameters of contraceptive methods was found to be well fit in the developed mathematical model and this supports the applicability of the mathematical model study. Conclusion and Significance:

The model study shows that women in rural area and from economically poor family are not conscious about their own health. Also, unawareness about the side effects of the contraceptive methods is common to these people. Adequate sex education is essential for birth control and in turn to control the population growth.

Biography:

Juli Konwar is Assistant Professor of the Department of Mathematics, Manohari Devi Kanoi Girls' College, Dibrugarh, Assam, India. She is involved in the study of mathematical modelling since last few years. Her current research interest is mathematical modeling in biological sciences.

Publication of speakers:

1. Baruah, A.K., Konwar, J.(2000). An Approximation for Two-parameter Eigenvalue Problem. Proc.45th Congress of Indian Society of Theoretical and Applied Mechanics (An International Meet), 25-32.
2. Baruah, A.K., Konwar, J.(2001). A Numerical Technique to a Two-parameter Eigenvalue Problem. *Proc.46th Congress of Indian Society of Theoretical and Applied Mechanics (An International Meet), 132-139.*
3. Konwar, J., Baruah, A.K.(2002). Bounds of Eigenvalues of a Two-parameter Eigenvalue Problem. *Proc.47th Congress of Indian Society of Theoretical and Applied Mechanics (An International Meet), 128-135.*
4. Baruah, A.K., Konwar, J.(2003). A Cubic Spline Approximation for a Two-parameter Eigenvalue Problem. *Bulletin of Pure and Applied Sciences, Vol.22E(No.1), 97-102.*
5. Konwar, J., Baruah, A.K.(2003). A Numerical Approximation for a Two-parameter Eigenvalue Problems. *Bulletin of Pure and Applied Sciences, Vol.22E(No.1),203-212.*

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