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NEW PERSPECTIVES IN POPULATION POLICIES AND PROGRAMMES**

Avabai B. Wadia*

ABSTRACT

Population theory which evolved around 300 years ago in the West, has become a global issue. While delivering Shri Veda Prakasha Memorial Oration on Population, Mrs. Wadia, with an experience of half a century in population issues, focussed her views on population growth and its consequences. In addition, she talked about sustainable development through decentralization of power, women empowerment, adolescent health, inter-sectoral co-ordination, NGOs' participation, etc. which are major pointers in the National Population Policy-2000. Finally, in her oration, she observed a wide variation in the population growth rate between developed and developing countries.

Key-words: Patriarchal order, Strategic themes, Fifth estate.

Evolution of Population Theories

In half a century of voluntary work for promoting population policies and family planning, I have had an opportunity to see and even to take some small part in the evolution of theories and programmes on the population phenomenon which started over 300 years ago in the West and then spread all over the world.

This began from the doctrine propounded by Malthus in 1798 on population growth outstripping food supplies— valid in his time when England had the 'teeming poor' and severe food shortages. Population increased rapidly from the 18th century onwards and from the middle of the 19th century, Europe sent out about 60 million emigrants within a few decades to America and Oceania. By the mid-twentieth century, population in the developing countries was rapidly increasing and warnings of 'the crowded planet', 'standing room only', 'the population bombshell' and other alarm calls were sounded which led to

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* President Emeritus and Patroness, Family Planning Association of India; and Patroness, International Planned Parenthood Federation.

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the urgency for taking strong measures to reduce the population growth, and to promote crash programmes for family planning in order to achieve a balance between population and resources and also the environment. Population was pursued as an isolated programme until it was slowly recognized that population, development, and the environment were closely interlinked and that they formed over-arching macro factors, affecting all aspects of life.

But, even before these relationships could be fully worked out, a new aspect has been highlighted by the ICPD Conference in Cairo in 1994, which has focussed not on population as such, but on the rights of individuals, and especially of women, to make their own free and informed choices in the different aspects of life, including reproductive and sexual health. It has predicated population stabilisation on their achievement and on development. The demographic approach has been downsized and demographic goals have been disconnected from the practice of family planning which is placed in the wider context of reproductive and sexual health for women and men.

Perhaps there is some significance in the fact that this new paradigm of reproductive and sexual health and gender equality and equity has emerged in a world setting that has changed into a unipolar, free enterprise, neo-capitalist and technology-driven order where privatization and globalisation are the buzz words. It also follows the fact that there has been reduction in world population growth from 2 per cent in 1960 (with an increase of 98 million people) per year to 1.4 per cent in the year 2000 (with 78 million). Thanks in great measure to the world-wide family planning programmes and the premise that control over human fertility is now universally possible and widely practised.

The Problem of Population

World population has more than tripled in the 20th century to reach six billion. In India, the increase has been five-fold, and is now one billion plus. In developed countries, the question of population is being faced from the angle where slow growth or non-growth is raising new problems of ageing and labour shortages. Also, new formations of social and family relations are displacing the old patriarchal order and in this situation, reproductive and sexual health is playing a crucial part.

But in developing countries, the major concern is still on reducing population growth. Mr. Joseph Chamie, Director, UN Population Division, reports that in the 15 European Union countries in the year 2000, the natural increase in population was 3,43,000 persons in a week, whereas the increase in the same proportion took place in India in the same period.

Broader Base of Development

Population stabilisation is now bracketed with measures for development. However, the perspective on development itself is now changing. It is being viewed from a much broader standpoint, taking into account not only economic, but also the social and human aspects. The Human Development Report of 2000 asserts that social development must be regarded as a process of 'enhancing human capabilities' and a human rights – based approach which can help to bring together the political, civil, social and economic perspectives as integral to developmental planning. At the World Social Summit in Copenhagen in 1995, there was a consensus that social development is an intrinsic part of economic development. But we can go further and say that social services for all, are the very base on which other developmental measures can be sustained. Measures for poverty elimination combined with measures for health including reproductive health and family planning, nutrition, drinking water, sanitation, education, and employment creation are the very foundations for development. Macroeconomics of production, employment, debt reduction, global competition and so on are no doubt crucial to development, but social development must proceed side by side. The human right to development is now embodied in the Vienna Declaration where it states "The Right to Development is a universal and inalienable right and an integral part of fundamental human rights."

A third factor that is affected by population growth is what is called the 'carrying capacity of the planet'. But while that capacity has not been fully defined, it is clear that slowing the growth of population can put less pressure on resources and the environment and give time for raising living standards on a sustainable basis.

Re-assessing Programmes

All these changes in concepts and juxtapositions have lent a certain degree of confusion to current programmes, but they can also help us to reassess and rethink our objectives and strategies. The link between sustainable development, population stabilisation and environmental stability means that each one cannot be considered in isolation; there must be a meshing together of strategies on a holistic basis. And this aspect unveils new perspectives and challenges, difficult to meet, yet very exciting.

After fifty years of pursuing a programme for population stabilization based primarily on promoting a voluntary adoption of the small family norm by the millions of eligible couples, India can now show some successes. At least nine States and Union Territories have already achieved replacement levels of fertility and 11 States and UTs have a TFR of less than 3, though more than 2.1. However, 12 States and UTs with the largest population, still have a TFR of 3 or more. The five States of Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh with nearly 44 per cent of the Indian population are still lagging behind

in controlling population growth and their population numbers will rise by 55 per cent between 1996 and 2016 to make 48 per cent of India's total population. This poses a tremendous challenge. However, while we gear up our programmes to meet this serious situation, we must move towards a stage where we handle the factor of population not simply as a formidable statistics but as a human heritage where the struggle lies in achieving the reality of a qualitative life for all people. From this point of view, the Swaminathan Expert Group which prepared a Draft Population Policy, presents a real departure point. The Draft was presented to the Government in April 1994, nearly six months before the ICPD Conference in Cairo, and laid down the fundamentals of a viable policy. It adopted a holistic approach and gave the call for population policies which was pro poor, pro women, and pro nature, and thus highlighted the close linkages in measures to eliminate poverty and advance development with gender equality and equity, and environmental sustainability. It asserted that development which is not equitable would not be sustainable. It also recommended decentralization of planning to Panchayats who should prepare local socio-demographic plans, having firsthand, experience of the problems on the ground. The motive behind this decentralization of planning was to create a favourable environment for the proper and effective implementation of developmental works at the grassroot level.

The National Population Policy

Based on the Report of Draft Population Policy, after five long years, a new National Population Policy known as NPP 2000 has been officially issued. The Policy has outlined the immediate objective of meeting the unmet needs of contraception, supplies and health care, the medium objective of bringing down the TFR to 2.1 by the year 2010, and the long-term objective of stable population by 2045. It has outlined 14 National Socio-Economic Goals with a constellation of measures for health, education and social change. Additionally, 12 Strategic Themes are identified with detailed operational strategies set out under an Action Plan. All this makes a comprehensive Policy. In fact, it has included almost every aspect of social development.

At last, there is explicit acknowledgement of what some of us have advocated for several years, namely, that integrated approaches are needed that knit together into a common strong fabric, the strands making for better health, universal education and employment generation.

Decentralisation and Convergence

I would like to refer to some of the Strategic Themes the Policy lays down. One is decentralized planning and implementation, and the other is convergence of services at the village levels. The cross-linking of various social measures rather than each one running on parallel, vertical lines (as has been in the case so far), is the answer not only to tackle population growth but to achieve

true development. Decentralisation, with horizontal implementation at the grass-root levels can bring qualitative changes in the lives of the people.

A one-step integrated and coordinated service delivery package at the ground level meant for the community and implemented by the community is a big step. The policy takes a leaf out of the Indonesian programme in listing six services where villagers will meet every fortnight for registration of births, deaths, marriages and pregnancy; weighing children under 5 years and keeping a chart; advocacy and counselling for free family planning and supplies; preventive care with basic measures and ORS; nutrition supplements; and ensuring continued enrolment of children in schools up to 14 years. I had attended one of these sessions outside *Jogyakarta* some years ago and everybody from village president to policemen to peon and from grandmother to pregnant wives to children attended.

The Panchayat will appoint at least one trained health staff and community midwives and other health and anganwadi workers will be roped in. A recommendation which is particularly interesting to us in the Family Planning Association of India, is the adoption of an idea that we have introduced in a number of villages; of setting up a clean delivery room in the village itself in the Panchayat's charge with a trained TBA available. The Policy calls it having a 'village hut' for this purpose.

Empowering Women

Another Strategic Theme is empowering women for improved health and nutrition. All that the Policy states in this regard is not only valid but also long overdue. Promoting an integrated reproductive and child health programme is an essential part of development. India's record in maternal mortality is appalling, and only less so in infant and child mortality. While all the measures listed in the Strategy are vital, they are more in the nature of entitlements. Empowerment of women goes beyond these measures. Empowerment means equal or equitable power relationships. The Policy does not venture to that extent. It has left untouched the sexual and family relationships where male domination is still creating cruel inequalities. An example can be cited from the NFHS-2 which states that physical violence usually by the husband is highly prevalent. And what is horrifying is that 56 per cent of the women, who were interviewed, felt that it was justified for any of the six reasons outlined. Domestic violence which is so ingrained in Indian society (as in other societies also), is a formidable barrier against the real empowerment of women, and equitable and harmonious sexual and family relations. This is where the ICPD's strong stand on gender equality and equity gives a clearer lead.

Gender-based violence is defined by UNFPA as "violence involving men and women, in which the female is usually the victim and which is derived from unequal power relationships between men and women. It includes battering,

rape, childhood sexual abuse, female genital mutilation, and violence related to exploitation, sexual harassment, coercion and intimidation. Such violence can harm women's health directly or indirectly, and impact adversely on their sexual and reproductive health". The WHO reported that 40 population-based studies in 24 countries have revealed that 20 to 50 per cent of the women interviewed had suffered physical violence from their male partners, and that at least one in five women experienced rape or attempted rape in their lifetimes.

Adolescent Needs

Another Strategic Theme which deals with adolescents has a more forward-looking view. India's demographic profile is changing. According to the Registrar General's projections, the population in the age group 0-4 years will decline from 12.8 per cent in 1996 to 9.7 per cent by 2016. The population of 0-15 years will decline from 35 per cent to 25 per cent by 2016. But on the other hand, the reproductive age group will undergo a huge increase from 519 to 800 million people.

This massive expansion in which adolescents and young adults predominate, is an immediate challenge to us. Programmes must be directly pointed to meet their needs in reproductive and sexual health. The NPP 2000 states under its operation policies in (C) Adolescents: "Ensure for adolescents access to information, counselling and services, including reproductive health services that are affordable and accessible. Strengthen primary health centres and sub-centres and provide counselling both to adolescents and also to newly-weds (who may also be adolescents). Emphasize proper spacing of children." This is indeed a welcome step, for up to now the family planning programme has not attracted younger people and their needs have not been met, either in counselling, or spacing methods. If just this one aspect of the reproductive and sexual health programme can be given a fillip by government and NGOs, the effects will be far reaching. And most urgently, all such measures must pay full attention to the female gender which is facing cruelty and discrimination from womb to tomb.

Considering that 31 per cent of girls in the 15-19 age group are already married and account for 19 per cent of total fertility, this age group needs a very special attention but rarely gets it. Both boys and girls at these ages and even up to 20 years and more, are almost totally dominated by parental wishes (and parents themselves suffer from ignorance and mis-conceptions) and have very little knowledge, and less say in matters of marriage and child-bearing. This is a huge challenge facing us, for this is the very age group that ought to be completing schooling, learning income-generating skills, and at the same time developing an awareness and knowledge of the responsibilities of reproduction and sexual functioning. And now they face an added hazard through the menace of HIV/AIDS.

Programmes aimed at education and services for adolescents in sexual education and health are a critical input. In today's world, with no frontiers on entertainment, fashions, modes of behaviour and lifestyles of young people through TV, advertisements and other world inter-communication; adolescents and youths fall prey to unprotected and unsafe sex. Regarding the equal rights of all individuals in political, economic and social matters, information and education on all aspects of human sexuality and individual responsibility must be a part and parcel of education. A vital educational campaign has to be mounted on prevention of HIV/AIDS giving correct information, serious but not sensational. As Mr. Kofi Annan, the Secretary General of the UN reported, "India is now estimated to have more people living with HIV than any country in the world". Preventive education hardly touches a small fraction of our young population. Nor have we enough trained people in sexual health who can educate them. So far, only a few NGOs and university departments have tackled sexual health. Their efforts need to be encouraged, expanded and made adaptable to the many strata of society and customs in India in order to improve their quality of life.

The Big Question

Now that we have a comprehensive National Population Policy before us. The big question is when it comes to implementation, are we going to be radical and resourceful, flexible and quick moving, taking initiatives at different levels, winning the people, or are we still confined to old-style modes and measures of file-pushing with numerous committees and advisory group who talk and advise, but decisions and actions lie elsewhere?

This is where the bureaucracy will have a crucial responsibility. Integration is not its favourite exercise, and the mindset all down the line is usually rigid, following hierarchical orders. If we can now change that and re-cast modes of work in implementation to bring it on to the fast track, that will be the first big step in quickly reaching our set goals in 2010 and in 2050.

Where our political leadership is concerned, many elected representatives do not keep themselves up-to-date in population matters; and some pay only lip service. They prefer to look for short cuts, and think that incentives and disincentives will deliver the goods. But such measures can have only a marginal effect, if at all, where family planning is concerned. They are difficult to administer services with fairness and as a consequence, poor people are the worst hit. When we ask people to practice family planning, we are asking them to recreate themselves. It's not like buying toothpaste or a TV where they can take it or leave it. We have to open up situations where they really have choices and can be conscious of creating a new and better family and community lifestyle. It is not reasonable to expect people to adhere to the two-child family when their access is so limited to correct knowledge and quality services for safe motherhood, child survival and family planning. Even today, those who have 4 plus children constitute 28 per cent of eligible couples. To bring them to the two-

child level is a huge task for education, and good and accessible services. This means meeting unmet needs not only in family planning but in basic health, MCH and income generating opportunities.

Training

The Policy is the best statement we have got so far on our population and development challenges. The NPP 2000 has adopted new perspectives and horizons. It is obvious that the most strenuous and continuous efforts will have to be put into training, re-training and short refresher programmes for the many categories of the staff, manning the government and the non-governmental programmes. This will be a stimulating but not an easy task, since it would involve new subjects and approaches, and new attitudes towards clientele of diverse types. A new inspiration and enthusiasm are needed for working towards the comprehensive goals set. The many aspects of reproductive and sexual health cannot be handled in the old way by providing mere information and general exhortation, but require advocacy, counselling skills and personalized approaches of a higher order.

The NGOs Sector

The NPP 2000 has outlined an Operational Strategy for NGOs and in its very first point it strikes a rather pessimistic note for it states that, "There remain innumerable hurdles that inhibit genuine long-term collaboration between the government and non-government sectors. A forum of representatives from government, non-government organizations and the private sector may identify these hurdles and prepare guidelines that will facilitate and promote collaborative arrangements". Its recommendation for a forum is very welcome. Such an exercise can help not only to remove inhibitions but also to set the whole area of non-governmental efforts on a higher and broader level. Many years ago, the idea had been mooted of having a Council of NGOs to help consolidate and expand this sector for promoting programmes, but the idea was later shelved on funding and other grounds.

In spite of the 'innumerable hurdles' referred to, the voluntary organizations have played a vital role in advocating and promoting family planning primarily to improve the health of women and children, and as an instrument for reducing the high rate of population growth. Voluntary effort in this sphere pre-dated the government programme and government has invited and received the cooperation of voluntary organizations in general. With 50 years of work, the Family Planning Association of India has become the leading organization on family planning and population matters. Not only has it developed its own activities; it has also tried to draw in other organizations to undertake programmes in this sphere. Thus, the role of voluntary organizations has been an abiding factor in the family planning programme. But it can be greatly enhanced.

The 'innumerable hurdles' the Policy mentions could be inhibitors both from the government as well as from the non-governmental side. I may mention that in 1979, I wrote a booklet setting out the roles that voluntary organizations could play and how other organizations of different types can be roped in to undertake the different facets of the family planning programme, and prepared a matrix to illustrate this. Much water has flown under the bridge since then and some of those ideas are now incorporated in practical programmes. We in FPAI, have pursued them assiduously. We have set up INENGODEP (Indian Network of NGOs for Development, Environment and Population) with a membership of about 2496 organisations that draws in various local organizations from all over the country to which we supply information. We have pioneered the Mother Unit Scheme. Our most effective action however, lies in the thousands of men's and women's Mandals that we have been able to set up, the majority being in villages, whose achievements have been quite extraordinary. The methodology we have worked out has shown the way to reach villages with visible success.

Partnership

The word 'partnership' has entered the field of government and non-governmental action. This 'partnership' is now acknowledged by the Government itself, but needs to be strengthened into a close, working arrangement. At the same time, NGOs have to show their own credentials of integrity, capacity, transparency and accountability, as indeed, many of them are doing. While in earlier times, organizations were mostly manned by volunteers assisted by support staff, most NGOs now have highly qualified executive staff and their numbers are increasing, whereas now volunteers are not coming forward as before, especially the young people. This needs attention by NGOs themselves. Do they want volunteers any more, or are they turning into non-profit corporations with a Board of Directors and staff-run organizations? Possibly, both types are needed. The year 2001 has been declared by UN as the year of the Volunteer. But we still do not know how this is helping to galvanise voluntary effort.

Meanwhile, the situation in many countries is demanding new heights of achievement from NGOs. Judging by their numbers, by their large attendances in thousands at UN and other international conferences, and their growing (and sometimes strident) advocacy, NGOs are now climbing into a category which I might even dare to call the Fifth Estate (the fourth being the media and the first three the instruments of governance and law in a country). But this must be taken not merely as an increase in power but in responsibility. NGOs in India must continue to show the way in bringing a true sense of devotion and service in all that they undertake.

In conclusion, we have, on the whole, a good National Population Policy before us. It is up to us all, to work strenuously to bring it to fulfillment with clear understanding, energy and dedication.

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NATIONAL SEMINAR ON DEVELOPMENT OF HEALTH INSURANCE IN INDIA: CURRENT STATUS AND FUTURE DIRECTIONS — AN OVERVIEW

B.B.L. Sharma*, K.S. Nair and T. Bir*****

ABSTRACT

The National seminar on 'Development of Health Insurance in India: Current Status and Future Directions' held at the National Institute of Health and Family Welfare, discussed about the development of a viable and sustainable health insurance scheme in the country. Special provisions for different groups of people such as employees in the organized as well as in the unorganized sectors, women, destitute, slum-dwellers, etc. have been discussed in the seminar. Government's role in health insurance, the yardstick of an insurance company and its investment pattern and development of a proper statistical system for health insurance are some issues thoroughly debated. In addition, the participants of the seminar expressed their views to involve grassroot level bodies like PRIs and NGOs for smooth functioning of health insurance in the country.

Key-words: Equity, Spiritual bankruptcy, Welfare economics.

During the last one and a half decade, the viability of health insurance has eventually been contemplated, pronounced and appreciated in different academic, intellectual and administrative fora all over the world. It was natural as in the process of structural adjustment in the core economic sectors and health sector reforms in particular, health insurance has been envisaged as a potential and pertinent mechanism of health financing in developing countries. Truly, also in India, the recent momentum provided by the economic policy and liberalization process initiated by the Government, has created new vistas by opening up the insurance sector for other players, including multi-national companies. The sectoral reforms in health and the associated moves towards the supportive privatization of this service sector could lead to fundamental changes in the organizational, managerial and socio-cultural dimensions related to different health insurance schemes. Particularly, some implications of health insurance mechanism are of vital concern for deliberations and resolutions for the people who are living in adverse economic conditions in developing countries, including

* Reader, Health Economics, ** Assistant Research Officer, *** Senior Lecturer,
National Institute of Health and Family Welfare, New Delhi-110 067.

India. In such a given situation, the complexity of and imperfections in private health insurance markets and inability of the public sector to cope with the increasing health/medical care needs and demands; the challenges for the health care sector are many.

Keeping this holistic view of health insurance in focus, the National Institute of Health and Family Welfare, an apex institute in Indian health sector had organized a two-day National Seminar on 'Development of Health Insurance in India: Current Status and Future Directions'. The main objective of the professional interaction in this seminar was to highlight and deliberate on the emerging key issues having direct and indirect implications on policy, planning and management of health insurance in India.

Mr. A.R. Nanda,[1] Secretary (Family Welfare), Government of India, thoughtfully focussed on the Equity as a prime issue in making health insurance a viable proposition for social change as opening theme for further deliberations. He highlighted the recent developments which are fast changing the face of health economy, the need for making appropriate changes in the health care delivery systems and the programmes aimed at population stabilisation. In view of the changing scenario, the responsibilities of the States have become more important in not only giving due weightage to the health concerns of the poor but also to reduce the burden of these groups of population. Talking about health insurance schemes operating in Spain, Germany and UK, Mr. Nanda felt the need for making health insurance as the social responsibilities of the States as well as of the Central Government.

The keynote address was delivered by Mr. R. Srinivasan[2], former Secretary (Health), Government of India. He said that health insurance is becoming an important supplementary instrument for health care financing in many countries of the developing world. As a rule, private health insurance would percolate downward, especially to those seeking group coverage. Mr. Srinivasan further cautioned that health insurance in any country should consider the background of its health care arrangement.

According to him, it is not a high time now to consider incorporating the private provisions to supplement, to compete or to set a standard with public provisions for inducing efficiency and quality of public service. This requires a full-length debate in different dimensions of health care financing in India. The vital issues raised through the keynote deliberations include the role of Insurance Regulatory and Development Authority and the new policy initiatives.

Health insurance for informal sector and special groups, importance of community participation and panchayati raj in health insurance, health insurance and NGOs, the experiences of health insurance in other developing countries, etc. dominated the discussion and interactions.

Health Insurance in India

Every clinical decision is a financial decision and it should be acceptable to all the members of the team in the delivery system. In view of the determining forces prevailing in the health sector, the health insurance in India has been contemplated by the people in different ways and means. K.R. John[3] (CMC, Vellore) in his paper on 'Financing of Health Care Technology in India in the Context of Health Insurance' outlines the health insurance scenario in India and various problems faced by insurers, insured and providers. He pointed out that presently, the coverage is only four million out of more than one billion population of India. He was concerned about the problems of insured and insurer, integration of financing and delivery, customers' service satisfaction and accreditation of services. As per his suggestions, India should adopt international norms of clinical management pathways, costing, reimbursement and classification of diseases and interventions. More or less in the same line of thought, the paper by Dr. Bidhan Das[4] (AIIMS) also gave the concept of quality in health insurance and explained quality related to the first party, second party and third party. Dr. Das briefly mentioned that health care system persisted with various deficiencies in respect to access, affordability, efficiency, quality and effectiveness. Government's stake in health care spending is comparatively lower which is lesser than 25 per cent of total health care spending and India's public expenditure on health is about 1.2 per cent of GDP as compared to an average of 2.2 per cent of GDP in other developing countries.

Identification of the gaps, such as limited range of products, poor quality of services, inadequate distribution set-up, tardy and lengthy process of claim settlements, fraudulent practices to create illegal claim and shortage of medical infrastructure, hospitals, labs, medical equipment and trained medical manpower were the multiple concerns in the deliberation by Kishore Murthy[5] (Bangalore). Now with the setting up of the Insurance Regulatory Development Authority and opening of insurance sector, the overall infrastructure, including health infrastructure would improve.

Similar issues as cited, have been further elaborated in Dinesh Paul's[6] (NIPCCD) presentation on 'National Health Insurance Scheme: A Logical Step in this Millennium'. Further, the private medical care provides a large share of health services today, covering not only the higher income groups, but also the poor income groups. In fact, he wanted to moot the concept of National Health Insurance Scheme and suggested that there should be a selectivity in targeting of free health insurance by the government to the various categories of people such as people with HIV positive cases, orphans, doctors, nurses and paramedical staff, senior citizens above the age of 60 years, sex workers, mentally retarded children, disables who are more than 50 per cent physically handicapped, MPs, MLAs, Central and State government employees and people living below poverty line.

In view of the various facets of willingness and capacity to pay for health care services, health insurance scheme has been understood by the scholars in different ways. For example, Pradeep Agarwal's[7] paper entitled 'Health Insurance: Issues and Considerations' emphasised the role of social health insurance in India. Agarwal (FAITH Health care Ltd.) stated that realization and motivation for purchasing services through insurance is very low among the rural masses because they have been availing of the health care through public health system without making any direct payment.

The implications of private sector in the field of health insurance are wider and many. So, there is a recent move towards the policy decision regarding public and private mix for sharing the burden of resources. In this context, Dr. A.T. Kannan[8] (UCMS, Delhi) in his deliberation on 'Privatisation of Health Insurance in India' highlighted some of the critical factors in Indian health care system such as increasing share of health expenditure towards private sector, increasing awareness and demand for quality health care, increasing cost and changing burden of disease pattern. Dr. Kannan emphasized on private mix in Indian health care system. This could be utilised as a model for the future. The access to health insurance facilities even in the urban areas in India is very limited, he said. As urban areas have good distribution of practitioners and increased corporatisation of medical services, private mix can be tried. Alternately, private-public mix might work more efficiently with a good referral system for rural areas. Further, it has been stated that there is not only limited infrastructure in the health insurance market but it also lacks information technology structure. The private companies were in the field mainly to make profit. Therefore, various regulatory authorities such as State, IMA and TPAs, etc. should join together and may follow uniform policies.

Apart from the theoretical perspectives, hypothetical costs and benefits of health insurance, there are some hard facts persisting in this regard, says A.K. Khokhar's[9] (ESIC) presentation on 'Health Insurance and Service Delivery under ESIS'. He highlighted the need for health insurance in India and presented the details of ESI Scheme from its inception including financial contribution, applicability of the scheme, type of benefits and expenditure details of the scheme.

Mr. C.B. Joshi[10] (NIHFW) in his presentation on 'Central Government Health Scheme' highlighted medical care under the Central Government Health Services (Medical Attendance) rules before the launching of the Central Government Health Scheme in July 1954. He said the aim of the Scheme was to do away with the compulsion, expensive procedures and distinctive practices in availing of medical aid under the Government rules. The scheme is compulsory for the Central Government employees residing in the coverage zone of the CGHS dispensary. The scheme was initially conceived for the Central Government employees but now many other categories have been permitted to avail of the facilities of the scheme.

Health Insurance Schemes: Informal Sector and Special Groups

It has been observed that more than 90 per cent of the population and almost all the poor are not covered by any health insurance scheme. Health care needs of these disadvantaged groups are primarily met through direct out-of-pocket expenditure on services provided by the public and private sectors. Many studies have shown that poor and other disadvantaged households are forced to spend a higher proportion of their income on health care than their better off counterparts. Therefore, there is pressing demand for extending the health coverage under social security network to this section of population in informal sector. Anil Gumber's[11] (NCAER) presentation on 'Extending Health Insurance to the Poor: Some Experiences from SEWA Scheme' was based on the results of a study conducted in Gujarat on health care expenditure, morbidity patterns and demand for insurance and health care seeking behaviour of low-income households covered under ESIS, Mediclaim and SEWA health insurance schemes. Gumber stated that the rural households had paid higher costs on health care as compared to the urban households. The out-of-pocket expenses of ESIS households on treatment of acute and chronic ailments was 30 per cent lower and for hospitalization about 60 per cent lower as compared to SEWA and non-insured households. The female morbidity was found to be higher for the rural sample. A majority of the households had indicated strong inclusions for any kind of health insurance scheme and demand for SEWA scheme was the highest among the non-insured members. Jan Arogya Scheme was preferred by most of the people due to its low premium.

In the same line of thought, Mohan Ram's[12] (IIHFW, Hyderabad) presentation stressed the pressing demand for extending the coverage under social security scheme to sections of workers like seasonal employees in the unorganized construction industry not enjoying any social security benefits. The deliberation highlights the role of the Arogya Raksha Health Insurance Scheme in Andhra Pradesh, which provides health insurance cover to acceptors of sterilization, surgery and who are living below the poverty line. The insurance coverage has been extended to only hospitalization or inpatient care services including drugs and diagnostic services. The services are provided in any of the 800 odd enlisted hospitals in Andhra Pradesh. A ceiling of maximum of Rs. 2000 per case of hospitalization and Rs. 4000 maximum per year for 5 years from the date of sterilization surgery has been fixed. The scheme has accident insurance benefits for the sterilized persons and his/her one or two children. It is implemented through New India Insurance Company.

P. R. Sodani's[13] (IIHMR, Jaipur) presentation on 'Potential of Health Insurance Market for Informal Sector' presents the preliminary results from a pilot study in Rajasthan. Sodani observed through this study that nearly 90 per cent of the illness cases are treated under allopathic system of medicine. 50.8 per cent used private facility and 34.2 per cent used a public facility. Average expenditure on illness treatment was Rs. 948.7. Nearly 20 per cent of the households were

ever heard about any kind of health insurance scheme. Mediclaim and personal accident policy were known to about 74 per cent of the population. However, Jan Arogya policy was known by only 22.2 per cent. Expectation of high quality and low cost of health care in insurance facility led the people to accept health insurance. 57 per cent of the households preferred a health insurance plan managed by public sector. Given the package of services and coverage of expenses excluding transport, people preferred to pay an annual premium of Rs. 243 per capita. For coverage of expenses including transport, communities preferred to pay Rs. 286 and for coverage of expenses including transport and wageloss they were ready to pay Rs. 347 per capita per annum. The important observations emerged from the presentation is that communities preferred the system of integrated provider and insurer irrespective of their choice for public based management.

In the perspectives mentioned above, Mrs. Usha Ram[14] (Lakshman Public School) shared the experience on existing health insurance scheme in a school setting. Laxman Public School had arranged a health insurance scheme with GICI for a group of students. The premium was Rs. 50 per child per year. It covered up to rupees one lakh per year. A small proportion of the premium paid by the regular students was being used for free health check-up of the students of the J.J. colonies who were given informal health education after the school hours. It is reported that the school has also made a contract with Mahendra Hospital to provide emergency health services and routine health check-up for students at nominal costs.

The rural population, which mainly depends on the informal sector has a very low purchasing power and mainly dependent on the public health system where the services are provided free of cost or at a subsidised price. Dr. Gyan Singh's[15] (NIHFW) presentation on 'Voluntary Health Insurance for Rural People' stressed the need to create the financial mechanisms to protect the poor from occurring financial disaster, due to sickness resulting in indebtedness. He said the government should play the role of health care provider and purchaser to avoid exploitation of the poor people by private health care providers.

Community Participation and Panchayati Raj in Health Insurance

Dr. Sunder Lal's[16] (PGMC, Haryana) paper on 'Devolution of Power in the Context of Health Insurance' asserts that voluntary potentials of village Panchayats are tremendous in India but States seldom believed in delegation of power to 'Panchayats'. Health insurance would work well in rural settings only if the government could devolve powers to village Panchayats. He said, though we have a large number of PHCs and SCs, yet they are all functioning at sub-optimal level. Further, he narrates the experience of Haryana State where the health workers come from long distances and they do not stay in SCs rather they prefer to go. In such a situation, Panchayats are coming forward to help health set-ups in various ways. His presentation raised several issues such as whether

the panchayats could levy user charges, whether the Government could give resources for health insurance in rural India and what reforms were required in various levels of health care delivery. This has been further extended in M.S. Bhatt's[17] (Jamia Millia Islamia) presentation on 'Health Insurance, Social Capital and Role of Panchayats'.

The above conceptual frame of deliberation may be seen in the communiy perspectives by Dr. K.S. Nair's[18] (NIHFW) presentation on 'Willingness to Pay for Health Insurance: A Case Study of Delhi's Slums'. He brought out that households engaged in the informal sector, on an average, spent 9 per cent of their per capita income on health care as against 5 per cent by the households in the formal sector. Regardless of income and health insurance status, households engaged in both formal and informal sectors were willing to pay when any health insurance(s) proposed. More than 80 per cent of the households in both formal and informal sectors considered that the combination of hospitalized, non-hospitalised and chronic illness care benefits were necessary to the entire family. Dr. Nair stated that when the households in the formal sector were willing to pay Rs. 145 per capita per annum for the proposed health insurance scheme, the households in the informal sector were willing to pay Rs. 103 per capita per annum. In the light of the findings of Delhi slums, he concludes that government might redefine its role in providing health care services and tape the potential of households in sharing health care costs.

How the social implications viewed in the context of health insurance are dealt by Dr. A.M. Khan[19], a psychologist from NIHFW. Socio-psychological issues and challenges in health insurance are linked with the concept of overall health planning. Promoting the concept of health insurance amongst the most vulnerable social ethnic group was a very critical issue. However, Khan realised that the enormous financial burden borne by individuals in the form of out-of-pocket money to pay for quality health care was a matter of serious concern especially for the deprived community. In the similar line of thinking, Nirupma Sachdeva[20], a medical post-graduate presented a paper on 'Role of Panchayati Raj Institutions in Promotion of Health Insurance'. Her presentation highlights the importance of Panchayati Raj Institutions (PRIs) in identifying, mobilising and effectively using the human, technical and financial resources of the village for the provision of basic services to the people.

Role of NGOs in Health Insurance

The involvement and participation of NGOs in health insurance cannot be ignored at any cost. In this regard, Mr. N.S. Murali[21] (VHS, Chennai) shared the experience of Voluntary Health Services (VHS), a Chennai based NGO. VHS is an NGO providing specialised health care to the residents of Chennai city and primary and secondary level health care to the rural poor in the coastal area adjoining Chennai. VHS had conceived a Medical Aid Plan (MAP) along the lines of voluntary health insurance and had been operating it for the last 30 years.

Under the scheme, joint income of the family is categorised and membership fee is collected. The scheme provides free annual check-up to household members. Curative and diagnostic services are available to them at concessional rates. Conclusion is drawn from the observation is that an NGO could not sustain health insurance scheme from the premiums received from the poor members. A proper support by the government in terms of subsidy and levying of minimal user charges to users are important for the sustainability of the scheme.

Mr. Mukesh Kumar[22] shares the experience of CARE - India on a rural health insurance scheme in the tribal areas of Jharkhand. The scheme, which is also supported by the New India Assurance Co. Ltd., offered adequate hospitalization coverage for the entire family of five members with a very low premium of Rs. 70 per year. The scheme has been designed from a larger public health point of view. Especially, it covers the complications and conditions related to pregnancy and child-birth and common childhood illnesses like diarrhoea, pneumonia, etc. which most of the health insurance schemes do not take care of.

An unconventional and unique presentation by Mr. M.M. Goel[23] (Kurukshetra University) on 'Financing of Health Services in India - A Search for Alternatives in Spirituality' deviated from the main theme of the session. It is firmly believed that spiritual bankruptcy and commercialization of health services are the root causes of the deterioration of the Indian health system. Due to this, the relationship of providers of health services with their clients and the health scenario is polluting day-by-day. Now, a growing body of medical evidence suggests that religious belief could improve a person's chances of avoiding or recovering from a range of ill health conditions including that of cancer and heart attacks. Religious belief and way of life might reduce the effects of stress on the nervous system. Whatsoever, Goel made a strong case for health insurance policy in lien of fixed medical allowance of Rs.125 to the government employees in Haryana. He developed a concept of spirituality guided materialism justifying 'needonomics' and not the 'greedonomics' which is authenticated in the Bhagwat Gita in sloka number 22 of chapter 9. The strong belief in the presentation was that Bhagwat Gita is a treatise on Welfare Economics and needs to be accepted as a macro-secular epic for the entire humanity including the providers of health. Health insurance could be customer friendly and beneficial if undertaken in accordance with NAW approach, which means Need (spiritual need), Affordability and Worth of the health services.

Experiences from Other Countries and Lessons in Health Insurance in India

The scope of the presentation was not limited to the Indian experiences alone but also expanded to other Asian countries like Vietnam, Thailand, etc. It is vital at this time for the government to learn the lessons from the experiences of other countries and pass appropriate legislation to make sure the opening of the insurance sector would benefit the common man. While presenting the paper on 'Voluntary Health Insurance in Vietnam', Matthew Jowett[24] (European

Commission) gave a brief overview of the Voluntary Health Insurance (VHI) system in Vietnam. According to Jowett, the study observation was aimed at eliciting the awareness regarding VHI in a large community and also to study the factors responsible for creating awareness, as well as factors responsible for generating demand for health insurance. His presentation revealed that education of people increased both awareness and demand for VHI, whereas, the distance from the hospital or health centre has an inverse relationship with demand for VHI. In fact, the income of a person or a household and health status had no effect on the demand for VHI. The lessons learnt from VHI in Vietnam do have relevance for the Indian health insurance scheme.

Considering the experiences of Vietnam, Dr. Raj Kumar[25] (ORBIS) in his presentation on 'Challenges for Health Insurance in India' was very optimistic about the development of health insurance sector in the country.

Moneer Alam's[26] (IEG) presentation took further turn on 'Insuring to Ensure Better Health Care: How Promising is the New Paradigm?' According to him, health insurance could provide better and timely health care with some sense of equity and efficiency. Exclusion of certain diseases from the benefit package is very important and needs to be carefully designed with attempts to see if they are revocable with time. When insurance driven demand is more and more for medicare, the existing services might fall short and as a result, bigger and metro-based hospitals might enjoy scarcity pricing. It is advocated that a social insurance mechanism should be established with an attempt to finance the premiums through a mix of sources, including some of tax/cess on polluting and health hazardous manufacturing units, public transfers, user charges, etc. The paper on 'Possibilities of Old Age Health Insurance Scheme' by Mrs. Sushma Sharma and Mrs. V. Bhattacharya[27] highlighted various public policies with special reference to health insurance as envisaged in the National Health Policy (1983) and National Population Policy 2000.

Kishore Murthy[5] in his presentation on 'Brief Market Strategy on Third Party Administrators' has dealt with the role of Third Party Administrators (TPAs) in the health insurance market. In this system, TPAs would act as middlemen between the insurer and the insured. According to him, the insured need not be worried about all the hazardous procedures in the system.

Apart from the onus viewpoints, some prescriptive approaches are also deliberated in the seminar. Presentation of 'Universal Health Insurance in India' was based on the framework of the Canadian experience. One is that the poor in India spend a considerable amount on curative care and a major share of this expenditure goes to the private sector. NIHFW studies have shown that a majority of the people in India, whether in the organized sector or the unorganised sector; low income or high income class; rural or urban; are willing to pay for good quality health care. Thirdly, the principle of equity for which a model operationalised in the form of free access for all citizens has been a

misnomer and has grossly violated the principle of minimum level of quality and efficiency in curative health care system. Willingness to pay for curative health services has been well documented and demonstrated in the Indian context. It is the lack of political and bureaucratic-will that has hampered the introduction of universal health insurance in India. According to the presentation, it is quite feasible to introduce Universal Health Insurance Scheme, similar to the Canadian model at different rates for various income levels to provide the basic minimum curative health care for each and every one.

Dr. J. K. Das[28] (a hospital management specialist from NIHFW) in his presentation entitled, 'Implications of Health Insurance in Medical Care' said that with the advent of technology and equipment for investigations, diagnosis and treatment of various complicated ailments, the cost of medical care is rising in leaps and bounds. It is pointed out that due to spiraling rise in costs, the government was forced to have a re-look into the system. Since late 80s, private and voluntary sectors have come up in a big way, resulting in improvement in the service delivery and increase in health spending. However, the government shares in health spending remained very low, with the major spending being contributed by the private sector, which also increased the cost of the services.

The valedictory address by Mr. N. Rangachary[29], Chairman, Insurance Regulatory and Development Authority, Government of India, viewed health insurance in India largely on government perspectives. When the government thought of rationalising the insurance sector in 1997, it thought of only two areas. The initial attempt on the part of the United Front Government, when it brought a Bill in Parliament, was to open the insurance sector only in two broad areas: first was pension management and the second was health insurance. Government had fully realised that unless immediate and urgent steps were taken in these two critical areas, there could be a tremendous pressure on the society. But those proposals did not get through and only when the Bill was reintroduced in 1998 for the creation of an authority to oversee the insurance companies, the present government thought that the insurance sector could be opened up fully not only for the pension and health insurance sectors, but also to all varieties of insurance which a normal commercial insurance company offers.

The basic fact is that any scheme of health insurance to be introduced on large-scale in this country, requires a tremendous attention for developing organisational capacity on the part of the Insurers and the regulators to bring together the disparate elements that largely constitute the 'Health Marketing'. The basic thing that keeps people away from getting into the business of health insurance is the fact that today, in this country, as distinct from any other advanced country in the world, we do not have a basic social structure, affording 'State Aid' to people on a regular basis. Health insurance today which exists in whatever little form that we have, mostly is a 'reimbursement policy' which the General Insurance Corporation's subsidiaries, have been extending to people. It does not take care of fundamental requirements of the people. The patient has

to pay first to the hospital or to the health provider and then seek a reimbursement from the insurers. And, when he or she seeks reimbursement, then some of those small things are held against him or her, with the result that one is forced to pay a larger sum of money than he/she ever hopes for getting reimbursed.

On one point, the chairman, IRDA, was very vocal that an insurance company is not totally a charitable organisation. He further added that an insurance company is a commercial establishment too and the management of the insurance company expects at the end of the period to get a judicious return on the investment that it has made in setting it up. According to Indian regulations, an insurance company cannot be set-up without a working capital of less than Rs.100 crore. If someone has to come up with an investment of more than Rs.100 crore to start an insurance company; we should guarantee the investor a reasonable return on his investments. This return on the investment plus the management expenses may be charged on the consumer who gets himself/herself insured under the health insurance scheme. So, if health insurance premium is to be affordable, if the coverage of health should be made so simple that people can pick up a policy at a reasonable price; we may have to control the elements which come as hurdles on the way of health insurance. Hospitals tend to look like five star hotels. All these costs have to be recovered from the patients. So, there has to be an economic and intelligence approach to control these costs.

IRDA chairman further highlighted the role of statistics, saying that statistics is the lifeline on which the insurance industry raises its theory of probability and unless we have statistics, we will not have a good projection. Can we say from facilities that are available in the government hospitals or non-governmental hospitals as to what are the illnesses that are commonly treated and what the average stay of a person in a hospital for his illness is and what is the cost? These are essentially to be built and these statistics will enable the insurance companies to price the products properly.

Recommendations for Development of Indian Health Insurance Sector

- Health insurance is indeed an insurance for health. In the backdrop of the existing socio-political environment as well as the process of economic globalisation, general recommendation is to further the health insurance sector with a human face.

- The need for introducing health insurance initiatives for informal sector must also include people Below Poverty Line (BPL), especially the slum dwellers who have to be accorded a higher priority.

- The existing public insurance schemes in health, such as Central Government Health Scheme and Employees State Insurance Scheme

may not strictly be insurance schemes as of today, since they depend heavily on government subsidies. These schemes need structural and functional changes in order to make them more viable insurance schemes for the organised economic sector.

- It needs to be clearly examined whether the user charges, which are already being paid by the Indian consumers, can be diverted to develop health insurance networking in India.

- Comparative studies may be conducted on the outcomes and possibilities of public-private partnership in health insurance in India.

- Health insurance as a human right has to be basically linked with the distributive social justice for health security - an area which needs further elaboration.

- To make health insurance a reality, bold and innovative financial decisions need to be taken for policy making in this direction.

- Voluntary health insurance for rural people needs to be given an immediate and serious trial and the community insurance schemes may be encouraged in rural, hilly and tribal areas.

- Rural health insurance is vital for strengthening the grassroot decentralization through Panchayati Raj Institutions.

- Preventive and promotive services are to be included in the activities of all service providers in the ambit of health insurance system to reduce the morbidity burden and would indirectly help in reducing overall costs.

- To avoid 'adverse selection', resulting from voluntary membership, in-built steps are to be made for making schemes as widely as possible, for all community members of village and in case of households, insurance coverage to be for all of its members.

- There should be some minimum 'waiting' or 'qualifying period' period for availing of the health scheme benefits offered under insurance cover, particularly for more expensive hospital inpatient services.

- For an effective health insurance; appropriate upward linkages and the referral systems are to be further operationalised.

- For generating an effective demand, and also for reporting on qualitative aspects of supply, the role of media for promoting health insurance is to be undertaken vigorously.

- Insurance Regulatory and Development Authority should be more effective and should concentrate on accessibility, quality and affordability dimensions of the health insurance sector.

- Agencies such as State Health System, Indian Medical Association and Administrators from Third Parties (TPAs) should form a composite monitoring network for professional regulation of health insurance in India.

- The statistical system is a lifeline for health insurance. India lacks appropriate data and information system for planning and management of health insurance schemes. Efforts are required for developing a holistic Health Insurance Information System.

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PHYSICAL DISABILITY AMONG THE ELDERLY IN TAMIL NADU: PATTERNS, DIFFERENTIALS AND DETERMINANTS

N. Audinarayana* and J. Sheela**

ABSTRACT

The authors examine in this paper the prevalence of physical disabilities, their differentials and determinants based on the data collected from 750 old persons (aged 60+ years) selected from nine rural (450) and six urban (300) clusters of Tamil Nadu State, India. Findings of the study reveal that half of the elderly population in the study area is suffering from one or the other forms of physical disability. Logistic regression analysis shows that the likelihood of physical disabilities increases significantly with an increase in age. Elderly persons who live in urban areas have significantly lower proportion of physical disability as compared to their rural counterparts. It was also observed that elderly people who belong to the higher socio-economic class were found to have lesser disabilities.

Key-words: Physical disability, Elderly.

For a large number of aged persons, old age is synonymous with disability especially physical disability. As age advances, biological and physical nature of the body is likely to deteriorate which leads to physical and sensory impairment and in turn bring about varying amounts of disability[1]. These include blindness resulting from cataracts and glaucoma, deafness due to nerve impairment, loss of mobility from arthritis and a general inability to care for one's self. In India, based on the rate of physical disability observed in 1981 (as per the 36th round of National Sample Survey), about 17 million aged persons would suffer from some type of disability by 2001, half of whom will likely to be visually disabled. The problem of disability is so severe that "It is tough to be old. It is even tougher to be disabled and old. It is toughest to be disabled, old and without adequate income"[3]. In view of its importance, in recent times, researchers have developed an interest to study this issue i.e., disability among the older people, especially in less developed countries like India, where the size of elderly population is very large. In this paper an attempt is made to understand the magnitude of various types of physical disability among the elderly based on an empirical study. Attempts are also made to examine the selected demographic

*Prof. and Head, ** Research Scholar,
Department of Population Studies, Bharthiar University, Coimbatore, Tamil Nadu-641 046.

and socio-economic (age, sex, marital status, place of residence, education, current occupation and family monthly income) differentials and determinants in the prevalence of physical disability.

Review of Literature

In India, research on the topic, `disability among the elderly', is still at its infancy. Only three large-scale national surveys were carried out exclusively to know the magnitude and pattern of various physical disabilities among the elderly population. The National Sample Survey Organisation conducted the first one in 1981 as part of its 36th round[4]. Information was collected only about the visual, hearing, speech and locomotor disabilities. These data were cross-classified by State and rural-urban areas[5]. As part of the 1981 Census, the Registrar General and Census Commissioner, India has collected information about the physical disabilities such as visual, hearing and locomotor across the States and rural-urban areas[6]. During 1992-93, as part of National Family Health Survey, information about blindness (partial and complete) and physical impairment of limbs along was collected and cross-tabulated by the name of the State and place of residence of the aged[7].

The Indian Council of Medical Research (ICMR), through its regional centres, carried out some regional studies on the prevalence of visual and hearing impairment[8]. During the recent past, some micro-level studies were carried out in India to know the prevalence of chronic morbidity, but studies dealt dealt with physical disability excluding visual and hearing impairment are very few[9-16]. Most of the studies highlighted only the patterns and to a certain extent the differentials across rural-urban areas, age and sex of the elderly.

Hypotheses

Based on the preceding review of literature, the following hypotheses have been formulated for empirical testing:

1. Current age is positively associated with the prevalence of disability among the elderly.
2. Elderly women as against men are likely to suffer more from one or the other physical disabilities.
3. The extent of physical disabilities is higher among the rural elderly than their urban counterparts.
4. The likelihood of suffering from physical disabilities is more among widowed elderly than their currently married counterparts.
5. Higher the level of education of the elderly, lower is the risk of physical disability.
6. The extent of physical disability is lesser among the elderly engaged in own cultivation and higher grade salaried occupations than those

7. working as agricultural labourers, artisans/petty business and not working.

8. Family income is negatively associated with the extent of physical disability.

MATERIALS AND METHOD

Data for this study were drawn from an empirical study entitled 'Status and Well-being of the Elderly' which was carried out at three districts (North Arcot, Pudukottai and Coimbatore) of Tamil Nadu State, India. The districts broadly represent the lower, moderate and higher socio-economic development groups in the State. Data were collected from 450 rural (from 9 clusters of villages or part of villages) and 300 urban (from 6 clusters of wards from the district headquarters) elderly persons.

All the 750 subjects were interviewed with the help of a schedule, which consisted of both structured and open-ended questions, during July-October 1997. Information on all types of physical disabilities during the 30 days prior to the date of survey like how long they were suffering from these disabilities and whether they were using any aids to partially/fully overcome these disabilities was collected from the elderly persons.

Measurement of Physical Disability

Based on the above information, all those elderly who lost permanently any of the following and thereby not able to do the normal day-to-day functions are treated as disable:

a. Loss of sight (Visual),
b. Loss of hearing (Hearing),
c. Loss feet or legs (Walking),
d. Falling of teeth (Dental), and
e. Complete loss of arms or fingers (including fractures) and other problems like fit (apoplexy), speech difficulties, paralytic condition and trembling.

But in the case of others (i.e., partially disable), only those elderly who suffered from one or the other physical disabilities for a period of six months or longer and not using any aids like spectacles, hearing aid, walking stick, wheel chair, dentures, etc. and thereby difficulty in performing physical activities and/or physical work by overcoming these disabilities.

The severity of disability varies from mild to severe and likely to vary from person to person because of the self-reporting procedure of data collection. By and large, a person who ever suffers from a disable condition may be limited to

some degree in his/her ability to perform certain specific tasks such as self care, mobility, verbal communication and working activity[17].

The analysis is done in three stages. Firstly, the prevalence of individual physical disability conditions is classified by their age, sex, and rural-urban residence. For the second and third stages, all the elderly persons are grouped into those `suffering from one or more physical disability conditions' and `not suffering from any disability'. Though this sort of groupings is arbitrary, these groups are more frequently used in epidemiological research. The demographic and socio-economic differentials in the extent of physical disability have been examined through cross-tabular analysis. Lastly, the determinants of physical disability are analysed with the help of the multivariate logistic regression analysis. For this purpose, the variables have been defined as given below:

Dependent Variable

Relative Risk of Physical Disability:	0 =	Not suffering from any disability condition
	1 =	Suffering from one or the other physical disability condition

Explanatory Variables

Place of Residence:	0=Rural and 1=Urban
Present Age:	Actual number of completed years
Sex:	0=Male and 1=Female
Marital Status:	0=Currently married and 1=Widowed
Educational Attainment:	0=Illiterate, 1=Primary and 2=Middle and above
Current Occupation:	0=Not working, 1=Labourers, 2=Artisans, petty Business and Lower Grade Salaried, and 3=Cultivation and Higher Grade Salaried
Family Monthly Income:	0=Rs.500 or less, 1 = Rs.501 – 1000, 2=Rs.1001-2000, and 3=Rs.2001 and above

A Brief Description of Logistic Regression Analysis

Owing to the dichotomous nature of the dependent variable, relative risk of physical disability (measured as 0,1), logistic regression analysis would be more appropriate and therefore, applied to the present data. This technique expresses a qualitative dependent variable as a function of several independent variables, both qualitative and quantitative[19,20].

If `p' is the probability of an event for example, risk of suffering from a disability condition or not), then `p' is modelled as:

$$\text{Logit}(P)=\ln (p/1-p)= \sum_{j=0}^{k} \beta_j X_j$$

Where `β_j' are vectors of the unknown coefficients and 'X_j' are vectors of the covariates that affect the probability. The model expresses the log odds of the event as a linear function of the independent variables.

In this analysis, one category of each of the explanatory variables is kept as reference category. Logistic regression analysis estimates the coefficient for each of the remaining categories of the variable, which expresses the magnitude of the effect of each category on the outcome, relative to the reference category.

FINDINGS AND DISCUSSION

Patterns of Physical Disability

Information on the prevalence of various disability conditions of the elderly by age, sex, place of residence and sample district shows that visual disability (29.5%) closely followed by hearing disability (12.5%) and walking disabilities (12.5%) are the major ones (Table 1). Around one-tenth of the elderly (9%) are suffering from trembling, paralytic conditions, fit (apoplexy), insomnia (sleeplessness), speech difficulties, etc. (others) and about 6 per cent from falling of teeth. More or less, similar findings were observed in some of the studies conducted in India. Of course, the prevalence of physical disability may vary to a certain extent by the setting of the survey, composition of aged persons, reference period and reporting systems.

Age-wise differentials in the prevalence of various physical disabilities under consideration are in the expected direction. With a few exceptions, the extent of disability conditions increased with the current age of the elderly irrespective of their gender background. On the other hand, gender differentials in the prevalence of various physical disability conditions, by and large, are negligible. However, the differentials exist in the prevalence of certain physical disability conditions by place of residence. In the case of disability pattern by the place of residence, it can be seen that with the exception of falling of teeth, the prevalence of all the disability conditions are somewhat higher among rural elderly than their urban counterparts. District-wise analysis shows that while the prevalence of 'visual disability' and to a certain extent `other disabilities' is comparatively lower in the well-developed district, Coimbatore. The proportion of elderly persons suffering from the disabilities like 'walking' and 'falling of teeth' is higher in the less and medium developed districts Vellore and Pudukkotai (Table 1).

TABLE 1
PERCENTAGE DISTRIBUTION OF ELDERLY BY THE TYPE OF PHYSICAL DISABILITY

Age Group, Sex and Place of Residence	Type of Physical Disability						
	No Disability	Visual	Hearing	Walking	Teeth	Others	Total
Age Group/Sex							
(60-69)							
Male	62.2(122)	21.9(43)	8.2(16)	10.2(20)	3.1(6)	8.7(17)	196
Female	55.0(143)	30.0(78)	8.1(21)	9.6(25)	3.1(8)	7.3(19)	260
(70-79)							
Male	50.5(49)	27.8(27)	15.5(15)	14.4(14)	8.2(8)	9.3(9)	97
Female	49.2(58)	36.4(43)	14.4(17)	13.6(16)	9.3(11)	12.7(15)	118
(80 and above)							
Male	34.5(10)	44.8(12)	27.6(8)	24.1(7)	3.4(1)	13.8(4)	29
Female	30.0(15)	44.0(18)	34.0(17)	24.0(12)	16.0(8)	12.0(6)	50
All Ages							
Male	49.06(181)	31.5(82)	17.1(39)	16.2(41)	4.9(15)	10.6(30)	322
Female	44.73(216)	36.8(139)	18.8(55)	15.7(53)	9.4(27)	10.6(40)	428
Place of Residence							
Rural	46.4(208)	35.6(160)	14.9(67)	12.2(55)	7.3(33)	10.0(45)	450
Urban	62.7(188)	20.3(61)	9.0(27)	13.0(39)	3.0(9)	8.3(25)	300
District with Development							
North Arcot (Low)	50.4(126)	30.8(77)	11.6(29)	18.4(46)	4.0(10)	10.4(26)	250
Pudukkotai (Medium)	49.6(124)	34.8(87)	12.8(32)	9.2(23)	9.2(23)	10.8(27)	250
Coimbatore (High)	41.2(103)	22.8(57)	13.2(33)	10.0(25)	3.6(9)	6.8(17)	250
Total	52.9(397)	29.5(221)	12.5(94)	12.5(94)	5.6(42)	9.3(70)	750

* Numbers of subjects are given in brackets beside the percentage of subject

Note:

1. Percentages are calculated row-wise for each age/sex, place of residence and district categories.

2. The total percentage of elderly 'suffering from different disabilities' and 'not suffering from any disability' would not add to 100 because some of the elderly are suffering from multiple disabilities.

Differentials in the Prevalence of Physical Disability

Table 2 suggests that slightly less than half (47%) of the elderly suffer from one or the other physical disability conditions. Differentials in the prevalence of one or the other physical disabilities by the background

characteristics of the elderly, by and large, seem to be very conspicuous (at different levels of significance) and are in the expected direction. The percentage of the elderly suffering from one or the other physical disability conditions is found to be significantly higher among the rural residents (80 years and above), widowed, illiterate, currently not working and belonging to the lower family income brackets. However, gender differentials in this regard are meagre and insignificant.

TABLE 2
EXTENT OF DISABILITY BY SELECTED BACKGROUND CHARACTERSTICS

Background Characteristics	Disability		
	%	No.	Total
1.Residence			
Rural	53.6	241	450
Urban	37.3	112	300
	x^2=19.01; p<0.000		
2.Age			
60-69	41.9	191	456
70-79	50.2	108	215
80+	68.4	54	79
	x^2 =20.15; p<0.000		
3.Sex			
Male	43.8	141	322
Female	49.5	212	428
	x^2=2.43; p<0.119		
4.Marital Status			
Married	42.4	156	360
Widowed	51.6	197	382
	x^2=6.34; p<0.012		
5.Educational Status			
Illiterate	53.5	224	419
Primary	42.2	84	199
Middle and above	34.1	45	132
	x^2=17.68; p<0.000		
6.Major Occupation			
Not working	51.9	240	478
Labourers	39.6	42	106
Artisans and Petty Business/Lower Grade Salaried	41.7	35	84
Cultivators/Higher Grade Salaried	34.1	28	82
	x^2 =13.29;p<0.004		
7.Family Monthly Income(in Rs.)			
≤ 500	53.3	113	211
501-1000	49.6	65	131
1001-2000	48.9	87	178
2001+	38.4	88	229
	x^2=10.74; p<0.013		
Total	47.1	353	750

Determinants of Relative Risk of Physical Disability

As noted earlier, through logistic regression analysis, we can quantify the net effect of an explanatory (independent) variable (controlling the other variables included in the equation) on dependent variables. Here, the coefficients should be interpreted as the effects of the explanatory variables on the relative log odds of becoming disable or not. The odds ratio highlights the percentage change (increase or decrease) in the odds of disable for one unit increase in a given category of dependent variable over the reference category, holding the other variables constant.

Findings reveal that elderly people belonging to urban areas have significantly (at 0.001 level) lower odds of physical disability over their rural counterparts. The effect of current age of the elderly on relative extent of physical disability is positive and highly significant (at 0.001 level). That means, with each successive completed year (after 60 years of age), the odds of being disable among the elderly would likely to increase by about four per cent. As expected, educational attainment of the elderly has shown a negative effect on the extent of physical disability. Elderly people who have completed primary/ middle school and above have exhibited significantly (at 0.05 level, respectively) lower odds of physical disability than their illiterate counterparts (Table 3).

TABLE 3
LOGISTIC REGRESSION ESTIMATES OF RELATIVE RISK OF PHYSICAL DISABILITY ON SELECTED BACKGROUND CHARACTERISTICS OF ELDERLY

Explanatory Variables	**Relative Risk of Disability**	
	Beta Coeff.	Odds Ratio
Residence (Ref. Rural)		
Urban	-0.5618***	0.5702
Age	0.0395***	1.0403
Sex (*Ref. Male*)		
Female	-0.1312	0.8771
Marital Status (*Ref. Married*)		
Widowed	0.1528	0.7254
Education (*Ref. Illiterate*)		
Primary	-0.3780*	0.6852
Middle+	-0.4780*	0.6200
Current Occupation (*Ref. Not Working*)		
Labourers	-0.1897	0.8272
Artisans/Petty Business/Lower grade salaried	-0.2328	0.7923
Cultivators/Higher Grade Salaried	-0.7415**	0.4764
Family Monthly Income (Ref.500 or less)		
Rs. 501-1000	-0.0404	0.9604
Rs.1001-2000	-0.0591	0.9426
Rs.2001+	-0.3659+	0.6936
Constant	-2.0205	

Note:***P < 0.001; **p<.01; *p<.05; +p<.10

The effects of different types of occupational status currently engaged by the elderly on the extent of physical disability are also in the expected direction. However, the results turned out to be significant (at 0.01 level) only in the case of those elderly who are engaged in own cultivation and higher salaried occupations over those not working. Lower monthly family income of the elderly has shown a negative effect on their relative risk of physical disability and the pattern is somewhat significant (at 0.10 level) only for those elderly belonging to the higher income bracket.

Elderly women and widowed, by and large, have higher odds of becoming physically disabled over their men and currently married counterparts, but statistically these results did not turn out to be significant.

CONCLUSION

Among the sample elderly people from Tamil Nadu State, India, slightly less than half of the elderly (47%) persons are found to be suffering from one or the other physical disability conditions. The prevalence of visual impairment is the major reported disability closely followed by hearing and walking disabilities. Of course, as noticed in an earlier micro-level rural study in Karnataka, here too, it is observed that elderly people living in rural and in slums of urban areas have a tendency to over-state their physical disability conditions in the hope that the investigators would arrange some sort of treatment or financial help from the government[18].

Bivariate analysis highlights that the extent of elderly people suffering from one or the other physical disability condition is clearly higher among the rural residents, old-old (80 years and above), widowed, illiterate, currently not working and belonging to the lower family income brackets. But gender differentials are negligible.

Multivariate results suggest that among the elderly, as age advances, there is a great likelihood of becoming disabled, and thus, the net effect of current age on physical disability is very strong. Though physiological and biological reasons are important here, negligence in taking care of their own health after a certain age (50 years or so), thinking that they have become old and therefore, no need for getting any medical attention, especially among the women, is also responsible for such a finding. Elderly persons belonging to urban areas have lower odds of physical disability as against their rural counterparts, since they have the advantage of better education, greater awareness of healthy living and access to medical and health facilities.

The extent of being physically disabled is lower, in general, among the elderly belonging to higher socio-economic background viz., educated, engaged in own cultivation, higher salaried occupation, and belonging to higher family monthly income bracket. In regard to the gender and marital status differentials,

in the odds of being disabled, though observed to be in the expected direction, the results are not statistically significant.

The findings have some policy implications. By and large, elderly people have to be provided with the basic specific protection and curative health services. This may be done by strengthening the existing public health facility with geriatric centres both in rural and in urban areas, at least on an experimental basis to start with. Involvement of non-governmental organisations (NGOs) in establishing the old age homes for the elderly disabled would also bring cheer to those elders who do not have anybody to take care of them. Of course, the government and the people have to play a crucial role by contributing generously to such homes either in terms of money or kind.

In many States of India, the visual disabilities to a certain extent are being cured mostly free of cost through 'Eye Camps' organised by the Government as well as by the NGOs/Rotary Clubs/Charitable Trusts, etc., but mostly limited to urban areas. Conducting such camps in large scale in rural areas, on the one side, and extending such facilities to other major disabilities, on the other side, would be greatly helpful to the elderly, especially those not-working and belonging to the lower income brackets.

Providing bus passes free of cost or at concessional rates, to the disabled elderly and if possible, to an accompanying person, will be helpful for such elderly people to avail of better medical and health facilities from the nearest town/city. The amount of old age pension may be increased from Rs.100.00 to Rs.300.00 per month. With such measures, we expect that at least some money will be spent on getting medical and health facilities thereby reducing the dependency of elderly on their kins.

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EXTRAGENOMIC ACTION OF STEROIDS ON SPERMATOZOA: PROSPECTS FOR REGULATION OF FERTILITY

I.S. Allag* and K. Rangari**

ABSTRACT

This paper summarises present knowledge about extragenomic action of steroids through binding on spermatozoa. Findings on sperm-steroid interactions indicated that maturational changes occurring on spermatozoa in male genital tract were associated with appearance of steroid binding sites. The binding of steroids determines the functional status of spermatozoa. In order to devise suitable interventions for development of methods of fertility control and management of infertility, extragenomic steroid actions on spermatozoa requires further studies. The implications of developments in steroid action through its binding on spermatozoa have been reviewed.

Key-words: Extragenomic action, Steroid binding, Spermatozoa.

Fertility regulation, comprising contraception and management of infertility, forms an important component of reproductive health. The existence of steroid binding sites on the spermatozoa and their suggestive role in modulation of sperm function by a number of investigators provided new leads for development of methods for fertility regulation. The spermatozoa comprises head-region which carries tightly packed genomic material inside the modified lysosome, called 'acrosome' and the tail-region or flagellum, comprising microtubular core surrounded by dense fibre and mitochondrial sheaths. The plasma membrane, called plasmalemma, stretches over the entire sperm structure and undergoes constant changes associated with sperm maturation under the influence of androgens in the male genital tract. Sperm capacitation, acrosome reaction and hyperactivation of motility take place under the influence of progesterone and estradiol in the female genital tract. Normally, steroid hormones initiate their actions by binding to intracellular receptors in the cytoplasm followed by gene activation or activation of non-genomic receptors and signal transduction takes place through second messenger system located

* Reader, **Research Assistant,
Department of RBM, National Institute of Health and Family Welfare, Munirka, New Delhi-110 067.

in the plasma membrane. Since the spermatozoa are devoid of cytoplasm, the interaction with steroid takes place through the binding proteins located on the plasmalemma. The gonadal steroids present in various concentrations in the genital tract secretions may be associated with steroid binding proteins for acquisition of motility and fertilizing ability of spermatozoa during their transit through the genital tract.

Steroid Binding Proteins on Spermatozoa

The location of binding sites for testosterone on spermatozoa obtained from different segments of male genital tract of rhesus monkey were studied by the indirect immunoflurescence technique. The testicular spermatozoa was devoid of binding sites whereas, spermatozoa collected from epididymis and vas deferens exhibited binding sites, indicating appearance of binding sites during transit through the male genital tract. The study on binding patterns of different steroids on the ejaculated human and monkey spermatozoa suggested high concentration of testosterone binding sites at the acrosomal, post-acrosomal and mid-piece region; progesterone binding sites on the acrosomal region and estradiol binding sites on the mid-piece region of spermatozoa[1,8,11]. The steroid binding sites of different sex steroids on the spermatozoa suggested their physiological role in sperm function[22].

Functional Relationship with Steroid Binding

A higher concentration of testosterone binding sites on the acrosomal and post-acrosomal regions of highly motile spermatozoa and their absence on the non-motile spermatozoa suggested that steroid binding ability may determine normalcy of spermatozoa[2]. It appeared that increase in binding sites on spermatozoa for different steroids are related to the maturation status of spermatozoa. The steroid binding pattern on spermatozoa, thus can be used as a parameter for objective evaluation of sperm function[12]. The optimal concentration of estradiol in the medium stimulated motility of spermatozoa[16] and zona-free hamster ova penetration[10]. Presence of progesterone receptor[18,19,23] with transcripts[24] and estrogen receptors[13] on human spermatozoa suggested a relationship of steroid binding with modulation of sperm function[7].

Steroid Binding to Spermatozoa and Contraceptive Action

The synthetic steroids and their antagonists compete for the binding sites on spermatozoa, adversely affecting motility and fertilizing ability of spermatozoa. The effect of antagonists on spermatozoa provided leads for the development of male contraceptive reported by different workers:

A. **Effect of Antiandrogen:** The uptake of radiolabelled testosterone by the spermatozoa from the monkeys treated with antiandrogen, cyproterone acetate (CPA) was increased by 50 per cent compared to the

spermatozoa from the untreated monkeys. Addition of testosterone enanthate however, reduced the uptake of radiolabelled testosterone indicating CPA inhibited testosterone synthesis inducing testosterone deprivation in the genital tract. The binding sites on the head-region were free from testosterone binding as seen by indirect immunoflurescence. The motility and fertilizing ability of the spermatozoa was reduced significantly[3].

B. **Effect of Antiestrogen:** Binding of antiestrogens caused increase in permeability or disruption of membrane function associated with motility of spermatozoa[15] through binding to estrogen binding proteins on the spermatozoa. The incubation of ejaculated human spermatozoa from normal fertile male with tamoxifen or centchroman impaired motility and penetration ability through cervical mucus[4,17]. Intramuscular administration of tamoxifen to adult male rats caused significant reduction in sperm concentration and loss of motility[5].

C. **Effect of Progesterone:** Incubation of human spermatozoa in presence of synthetic progestogens, such as progesterone, lynestrenol and norethynodrel markedly inhibited sperm migration and motility by competing for estradiol specific binding sites on plasma membrane with increase in permeability or disruption of membrane function associated with motility[15].

Receptor Dysfunction and Infertility

The reduction of binding capacity for steroids by spermatozoa renders it immotile and/or infertile[14]. The incubation of sluggishly motile spermatozoa from the asthenozoospermic patients with estradiol caused two-fold increase in motility and penetration ability through the cervical mucus while testosterone was partially effective. The study is in progress to stimulate the motility and fertilising ability of spermatozoa by rational treatment of spermatozoa with gonadal steroids.

Isolation of Steroid Binding Membrane Proteins

The membrane proteins of normal motile spermatozoa were isolated by treatment with detergents. Fractions containing steroid binding proteins were isolated on exclusion chromatography[20]. Identification of estrogen receptor and its role in sperm functions is under study[21]. The purified receptor protein may be utilized for the development of techniques to assess the status of steroid binding proteins on the spermatozoa from the normal, sub-fertile and infertile individuals. The binding proteins may serve as antigens for the development of specific antibodies for control of fertility and to develop functional tests for spermatozoa[6].

CONCLUSION

The studies on extragenomic steroid binding on spermatozoa suggested that techniques to mask/unmask the steroid receptor to modulate sperm functions might become possible in future. This may be achieved by the application of non-hormonal synthetic steroids which specifically bind to the specific sites on spermatozoa. The intra-vaginal and intra-cervical devices with steroid antagonist may inhibit sperm migration, acrosomal reaction and fertilization. The success of treatment of infertile cases related to steroid binding dysfunction would depend on unmasking of sperm steroid binding sites. The preparation of normal motile sperm for in-vitro fertilization, intra-uterine insemination and intra-tubal transfer of gametes through extragenomic actions of steroids on the spermatozoa is the beginning of the study. Further studies would be required to achieve the goals of fertility regulation in the human through sperm-steroid interaction.

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EMERGENCY CONTRACEPTION: KNOWLEDGE AND VIEWS OF DOCTORS IN DELHI

Shalini Singh*, Suneeta Mittal, P.N. Anandalakshmy*** and Vandana Goel ******

ABSTRACT

A KAP survey was carried out among 190 doctors in Delhi to obtain their views on Emergency Contraception (EC). All the specialists and most of the interns were aware of emergency contraception. Most of the doctors had never prescribed an EC pill and lacked accurate information on dosage, time frame and side effects. Nearly 82 per cent of them, irrespective of their specialization, opined that the use of EC would bring down the number of abortions. The interns and specialists were more enthusiastic about the role of EC in reducing the abortion rate. It was also observed that the interns and specialists were less apprehensive of the negative impact of EC on sexual behaviour as compared to the general practitioners.

Key-words: Emergency contraception, Unprotected intercourse.

Women have felt the need to control their fertility since time immemorial. Post-coital douching is probably one of the oldest contraceptive methods used and has also mention in the sacred Vedas of India and the Egyptian literature written about 1500 B.C.[1] Self-administration of various herbs, pepper, cabbage seeds[2], caustic agents, soaps, vinegar, lemon juice, Coca-Cola,[3,4] etc. and even dangerous articles like sticks, acids and others has caused damage to lives of many women and their health. Modern research on methods to prevent pregnancy after unprotected coitus began with the use of non-steroidal oestrogen- diethylstilbestrol on rape victims.[5] This was followed by oestrogen-progestogen pills, progestogen – only pills, mifepristone and copper intra-uterine devices which can be used within 72-120 hours after coitus, thus changing the terminology of post-coital contraception to emergency contraception (EC). EC has now become an integral part of contraceptive services to prevent conception following unprotected and unplanned exposure or contraceptive accidents like burst condom, slippage of diaphragm and forgotten pills. Worldwide studies show a poor knowledge of doctors and users about EC which prevents women

* Research Officer, **Professor, ***Additional Professor, ****Junior Resident,
Department of Obstetrics and Gynaecology, AIIMS, Ansari Nagar, New Delhi-110 029.

from seeking timely help and intervention when such a need arises.[6-9] In view of paucity of Indian data on EC, a survey was carried out among the health care providers in Delhi to find out their knowledge about EC.

MATERIALS AND METHOD

The present study was undertaken to understand the awareness, knowledge, experience, attitudes and views of Delhi doctors about Emergency Contraception. Data were collected by conducting a KAP survey on the knowledge and views of emergency contraception among 190 doctors in Delhi during September 1998-May 2000. A well-qualified obstetrician-gynaecologist with a considerable experience was engaged in the data collection. A structured, self-administered questionnaire was supplied to the consultant obstetrician-gynaecologists, doctors undergoing post-graduate training in obstetrics and gynaecology in medical college hospitals, general practitioners (GPs) employed in the Central Government Health Scheme dispensaries and young MBBS graduates undergoing compulsory rotatory internship in medical college hospitals of Delhi at their work places. The questionnaire was prepared to elicit information relating mainly to assess the doctors' awareness, knowledge and experience of EC; their views and perception about impact of EC on society; and doctors' attitudes towards distribution and availability of EC. Background information of doctors' like age and educational qualification was also collected.

Responses from doctors who were aware of EC were analysed. One hundred and sixty doctors who were aware of EC were divided into three groups according to their qualification. Group I consisted of eighty-eight MBBS doctors undergoing compulsory rotatory internship in medical college hospitals of Delhi. Group II consisted of 52 doctors who were either specialist obstetrician-gynaecologists/postgraduate students or senior residents in obstetrics and gynaecology. Group III had twenty general practitioners (GPs) employed in Central Government Health Scheme dispensaries of Delhi. Thirty GPs were excluded from analysis as they had no knowledge about EC.

The knowledge of each of the five specified EC regimens given in the questionnaire was considered complete and correct when the responses for the drug composition, dosage schedule and time frame of use were answered correctly by the respondents. Analysis has been carried out by using simple classification and tabulation of reference groups. Normal Z statistics was used for validating the significance of the findings.

FINDINGS

Table 1 summarises an in-depth knowledge of five EC regimens among the doctors who were aware of EC. Yuzpe regimen was the most popularly known method for EC among 22 specialists, 7 GPs and 6 interns and only few

specialists could mention the correct regimen of LNG, RU-486 and EE. The use of CuT as an EC was known to half of the specialists and GPs.

It is apparent from Table 1 that the doctors did not have an accurate knowledge of the mechanism of action of an EC. Blocking implantation of the fertilized ovum was known to nearly 50 per cent of the doctors whereas 26 per cent mentioned that EC interferes with fertilization and only 6.8 per cent knew that it prevents ovulation. None of the surveyed doctors knew that EC could delay ovulation when administered in the follicular phase. This can lead to pregnancy if the woman is again exposed to unprotected intercourse later in the same cycle. Nine interns, one specialist and three GPs thought that EC induces early abortion.

Regarding safety use of EC, most of the respondents felt that it was not safe for women with heart disease. Majority (87.5%) of the doctors confessed that they had never prescribed an EC. They also shared that patients rarely come for consultation following an unprotected intercourse or condom failure (Table 1).

TABLE 1
AWARENESS VS. CORRECT KNOWLEDGE OF EC

	Group I	**Group II**	**Group III**	**Total**
Total Doctors Surveyed	88	52	50	190
Doctors Aware of EC	88	52	20	160
Correct Knowledge of EC Regimen				
Yuzpe	6	22	7	35
LNG	0	6	0	6
RU 486	0	9	0	9
EE	2	3	1	6
CuT	0	25	9	34
Mechanism of Action				
Blocks implantation	57	19	4	80
Interferes with fertilization	24	12	6	42
Prevents ovulation	4	7	0	11
Delays ovulation	0	0	0	0
Early abortion	9	1	3	13
Don't know	6	1	5	12
Safety of EC Use				
Safe, no risk	12	7	3	22
Some complications, not serious	39	7	9	55
Not safe for heart disease	27	30	3	60
Don't know	10	8	5	23

A sizeable number of specialists (39) and GPs (19) feared that easy availability of EC might promote promiscuity. The interns felt that it will not have much adverse effect on sexual behaviour and was found to be highly significant ($Z = 3.59$; $p < 0.001$). Nearly 82 per cent of the doctors irrespective of their specialization felt that the use of EC will bring down the number of induced abortions.

TABLE 2
IMPACT OF EC ON SOCIETY

	Group I n=88	Group II n=52	Group III n=20	Total N=160
Encourages Promiscuity				
Very much/to some extent	32	39	19	90
Not much	41	10	1	52
Not sure	15	3	0	18
Use of Condoms				
Definitely reduce/reduce to some extent	38	40	17	95
Unaffected	46	11	2	59
Not sure	4	1	1	6
Use of Other Contraceptives				
Decrease very much/ Decrease to some extent	47	33	16	96
Not much affected	33	17	3	53
Not sure	8	2	1	11
Will EC Reduce Abortions				
Yes	70	50	11	131
No	8	1	8	17
Not sure	10	1	1	12

Sixty five per cent (n=104) of the surveyed doctors agreed that EC should be sold only on prescription and more than half discouraged its distribution by paramedical staff. Also, there is no statistical difference of opinion between the three groups on EC distribution. Almost all surveyed health care providers expressed the need to increase doctors' knowledge and public awareness regarding EC (Table 3).

TABLE 3
DOCTORS' VIEW ON EC DISTRIBUTION

	Group I n=88	Group II n=52	Group III n=20	Total n=160
Over the Counter Sale				
Yes	35	12	2	49
Only on prescription	51	38	15	104
Not sure	2	2	3	7
Distribution by Paramedical Staff				
Yes	38	23	5	66
No	43	27	14	84
Not sure	7	2	1	10

DISCUSSION

The need of EC arises when the conventional contraception fails or in cases of unplanned sex and sexual assault. However, worldwide, EC is not used or prescribed widely in most of the clinical settings.[9,10] In a study of London health care professionals, it was found that most of them lacked appropriate knowledge of prescribing EC but the family planning doctors and nurses had accurate information[7]. Only one-third of the GPs informed clients about post-coital contraception. In New South Wales, Australia, more rural GPs (95%) know about EC than urban GPs (79%) but there was a great variation in the regimens prescribed especially by the rural GPs. Nearly 25-31 per cent of doctors did not offer any information about EC while 18 per cent of them gave information when requested by the patients.[8] Similarly, the use and knowledge of EC among the American public and obstetrician-gynecologists is limited, a random telephonic survey revealed.[9] The current study also showed that awareness of EC was high among the young interns and obstetrician-gynaecologists than GPs, but most of them could not write a correct prescription for EC.

Studies from other developing countries like Mexico, Kenya and Indonesia also revealed a limited knowledge of EC among the health care providers and a need was felt to educate both the public and practitioners about EC. The Global consortium for EC is working to expand global access to EC. Kenya, Mexico, Indonesia and Sri Lanka were chosen first for this purpose. In Kenya[11] less than 50 per cent of the service providers and 10 per cent of the clients knew about EC, while in Mexico[6] although 74 per cent of the service providers had heard of EC, fewer than 40 per cent knew the correct dosages and 18 per cent of the prospective clients were familiar with EC. A baseline survey among the health care providers and policy makers in Indonesia[12] indicated that only 25 per cent had awareness of EC and fewer than five per cent clients had ever heard of the method. In contrast, a need-assessment study demonstrated that majority of the service providers in Sri Lanka were familiar with emergency contraception. The Sri Lanka consortium felt to increase of EC awareness and understanding of EC among the general public.

A Consortium on National Consensus for EC was held at New Delhi in 2001. Few studies conducted in Baroda[14], Kolkata[15] and Nagpur[16] showed lack of awareness and accurate information among the health care providers. Many doctors even believe EC to act as an abortifacient. Twenty two per cent gynaecologists in Nagpur, 8.1 per cent doctors in the present study, 49 per cent nursing students in Nairobi[17] and a large number of doctors in the Indonesian survey have expressed the same view. This misconception needs to be dispelled to promote correct and timely use of EC without the fear of legal complications, especially in countries where abortion is illegal.

Different views have been expressed with regard to free access to EC. There are fears that widespread use of EC would lead to less consistent use of

other methods of contraception[18]. Mexican health care providers greatly overestimated the negative health effects of EC and advocated medically controlled distribution[6]. General practitioners in UK were concerned about repeated use of EC but only 77.6 per cent said that they would discuss future contraception with the woman[19]. Only 7.7 per cent had arrangements whereby a nurse could provide EC even though they were not in favour of pharmacy distribution of EC. Over the counter availability of EC was not supported by 62 per cent of the respondents of another survey of accident and emergency department staff in UK[20]. In New Zealand also, doctors resisted 'over-the-counter' availability of EC as they felt that the women would show lesser interest in other important family planning alternatives[21]. Studies from India show the divided opinion of doctors over the dispensing strategy but more number of practitioners favour the availability of EC on prescription only[15,16] which was observed in the present study.

Nevertheless, lack of easy access to EC is identified as one of the important reasons for under-utilization of EC[22,23] besides lack of public awareness. It was also realized that EC pills are relatively safe, easy to use and free from any major side effects. Studies to understand the behaviour of women, when given an advance supply of EC pills[24-26], have found that women use EC judiciously.

It is estimated that the use of EC would reduce the number of unintended pregnancies by 1.7 million and the number of abortions by 0.8 million in the US[28]. Nearly 82 per cent of the doctors in the current study also felt that use of EC will surely reduce the number of abortions. Because patients rely on health care providers for information on birth control and they can improve knowledge about availability of EC pills among their patients and promote its use.[9]

A Consensus Statement on Emergency Contraception[29] emerged at the conference convened by the Rockfeller Foundation in April 1995 to discuss about emergency contraception. It emphasized the need to educate the health practitioners, family planning service providers and medical students. Potential clients should be told about the EC method at family planning clinics, and through articles in health magazines. Steps must be taken to increase the availability of these products. They even proposed to provide the women with emergency contraceptives for future use. The use of combined oral contraceptive pills for emergency contraception should be mentioned in the information booklet of the commercial OCP kits. Emergency contraception should also be made available in police stations, STD clinics and non-government organizations working for community health.

CONCLUSION

Awareness of EC is poor among the general practitioners included in the study. Specialist doctors and young interns are aware of EC but they lack an

accurate and detailed knowledge regarding its composition, dosage schedule and efficacy. Patients rarely seek help in cases of condom failure and unprotected intercourse. Very few doctors prescribe EC and counsel patients for contraceptive failure. Awareness among the public through mass media is likely to generate public demand for EC. However, keeping in mind the changing sexual behaviour of the younger generation, a formal training of the doctors and paramedical staff would be a right step. The health policy makers need to feel the necessity to approve and market EC as a separate pack to bring down the unplanned pregnancies and subsequent induced abortions in our country.

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