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STRENGTHENING TEACHING OF HUMAN REPRODUCTION, POPULATION DYNAMICS AND FAMILY WELFARE IN MEDICAL COLLEGES IN INDIA

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ABSTRACT

Considering the seriousness of uncontrolled population growth in the country, the urgent need for population control through family welfare programme has been well recognised at different levels. The medical profession can play a very important role in various ways. Unfortunately, it is noted that they are not playing their role adequately. In that context, strengthening of teaching and training of medical graduates in the field of human reproduction, family planning and population dynamics assumes great importance. This need has been felt by the Government, the Medical Council of India (MCI), the medical educators, the family planning experts and the deans of medical colleges.

The MCI has made broad recommendations and the World Health Organisation (SEARO) has developed detailed guidelines for strengthening teaching and training in this field, and orientation training courses and workshops have been organised in the past for the teachers in medical colleges. Additional inputs have been made through post-partum programmes in medical colleges for strengthening teaching in this field. Inspite of all these developments, great gaps have continued to persist.

In this paper, all aspects have been discussed in considerable details with the object of reorienting the faculty in medical colleges to various important issues. Steps have been suggested which would enable them to make self-appraisal of their teaching/training programmes, find out gaps and take corrective measures. Special attention needs to be given for developing proper skill and attitude. Teachers' training in educational technology and their periodic reorientation in the field of population and family welfare would be important. In addition, the medical colleges should take the responsibility of providing continuing education including in-service training of the medical officers employed in the health.

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services in the country. The teachers connected with the postpartum programme can undertake training of the medical officers at primary health centres in contraceptive technology and its delivery.

INTRODUCTION

Over the past four decades there had been unprecedented growth of population in the country mainly due to a precipitous fall in death rate among the population without a commensurate fall in the birth rate. Uncontrolled population growth has largely neutralised the fruits and gains of developmental efforts made in the country over the past three and a half decades. Understandably, therefore, uncontrolled growth of population has been considered number one problem in the country and the population stabilization programme has been given a top priority.

For successful containing the populatin growth and bringing about a stabilization in population two major approaches are to be made: (i) to create a favourable atmosphere that will promote adoption of small family norm and ensure ready acceptance and continued effective practice of contraception; and (ii) to make available to the users a variety of suitable methods of contraception, and to provide quality services. In these endeavours, the physicians are to play a very important role - whether they are in government or non-government service or in private practice. Being in leadership position in various walks of life they can create suitable atmosphere conducive to promotion of the above mentioned activities, and they can provide the required services.

Experiences over the past several years indicate that many of the doctors are not performing their roles properly - neither they are promoting the concept of small family norm, nor are they providing appropriate contraceptive services. Therefore, one of the questions naturally arises whether the medical students are being properly educated and prepared with appropriate knowledge, skill and attitude (and commitment) to perform these roles. In view of these, it would be important to review systematically what is required to be done in this field, what efforts have been made by different concerned agencies, what gaps remain and what corrective measures are needed.

RELEVANT BACKGROUND INFORMATION

Earlier Effects by MCI, Deans of Medical Colleges and Ministry of Health

The need for incorporating the subjects of human reproduction, population dynamics and family planning in the teaching of medical students has long been recognised at different levels and forums. As early as 1957-58, the Medical Council of India (MCI) recognised the need for inclusion'of the subject of family planning in the undergraduate curriculum and 'suggested six lectures and demonstration sessions at the primary health centres (PHCs) attached to the medical colleges during the internship period, and all the medical

colleges were informed accordingly. In the revised recommendations of the MCI adopted in November, 1964 and June, 1965 emphasis was laid on teaching family planning and measures for checking population growth. A more comprehensive resolution was adopted by the Executive Committee of the MCI in March, 1967 which included: (1) Training in Family Planning should be given throughout the medical course; (2) The concept of Family Planning should be emphasised by all disciplines through lecture demonstrations and other audio-visual means; (3) Actual field training in various methods used for family planning including lUCDs as well as sterilization should be given to the students in the final year or during their internship period; (4) Interns should be required to participate by lecture and other ways in creating the necessary motivation amongst the peasants and workers in rural and industrial areas; (5) The Departments of Obstetrics and Gynaecology and Preventive and Social Medicine should make a coordinated effort which is essential for achieving the necessary objectives; (6) A question on Family Planning should be included in the parts of examination on Obstetrics and Gynaecology; and (7) Adequate teaching staff should be provided to train the students at undergraduate level and during their internship in family planning.

These recommendations were widely circulated in April, 1967 to all the Principals and Deans of Medical Colleges and State Health Departments for early implementation. The resolutions of MCI were strongly supported in a Conference of the Deans and Principals of Medical Colleges organised by the Ministry of Health and Family Welfare and Urban Development, Government of India in August, 1967. The Department of Family Planning, Government of India, sent a request in December, 1967 to all the Deans and Principals of Medical Colleges and the Secretaries of the State Health and Family Planning Ministries to implement these recommendations.

Studies and Concerns of Medical Educators and Experts

Around this period, a number of medical educators and experts in population and family planning had stressed the need for strengthening teaching of various aspects of family planning in medical colleges for proper preparation of the physicians. There was considerable debate on this subject amongsttheteachers of medical colleges. Malhotra (1961) suggested that the doctors should have a comprehensive training in family planning during their course of medical education and that the hospital situations conducive to education of the women for family planning should be fully utilized for propagation of family planning. Malhotra (1965) further emphasised that all the physicians should have a working knowledge in the family planning programme in the same way as they acquire knowledge in Medicine, Surgery, Obstetrics and Gynaecology, ENT, Eye etc., irrespective of whether they would like to be a specialist in a particular field later on. Anand (1967) felt that teaching of family planning could be more meaningful if the medical education could evolve a system of integrated curriculum, which would have distinctive focus towards practical Work, introduction of family care programme and adopting family approach. Rice (1968) had found that teaching of family

planning in the medical colleges was far from satisfactory either during preclinical or clinical stages, and the teaching was mostly located within the Departments of Obstetrics and Gynaecology and Preventive and Social Medicine.

O'Conner and O'Conner (1968) in their study on Asian medical students found that most of the undergraduate students at their various stages of education, appeared to be knowledgeable about the national problems but they seemed to have no strong motivation to become involved in the population issue themselves. The authors felt the need for emphasis on the subject of family planning in medical schools both in the teaching and examination system to produce graduate physicians competent in family planning work.

Raj and Prasad (1969) had the opinion that the integration of family planning in the medical curriculum could be done in the course of Preventive and Social Medicine with the incorporation of the components of behavioural sciences, demography, technical and administrative aspects of conception control, health education and practical work in the hospitals and the community.

James (1970) in reviewing the role of the Medical School in Family Planning emphasised that the medical school had a major role to play in future efforts to promote family planning by taking professional leadership for research, education and service programmes. He strongly felt that no student would deserve the medical degree without receiving some significant training in both theoretical and practical aspects of family planning relating to the patient, the community and the world. While narrating their experience in developing the new curriculum he stated that the faculty had agreed that it had a major responsibility to present a total teaching programme in all aspects of family planning. The teaching programme has been planned by a broadly interdisciplinary sub-committee of the Curriculum Committee, which met continuously over a period of two years before the admission ci the students. This resulted in a full curriculum during each of the four years of undergradute medical education. The approach should be comprehensive and integrated, involving all the departments so that the students could gain confidence in the field of marital health guidance as well as in the actual application of various contraceptive measures.

Raina (1971) observed that the social function of education, including medical education, was to satisfy the needs of the society. For incorporating the subject of family planning in medical education, he advocated the procedure of integrated teaching in the medical colleges and its importance to develop the students' awareness about the social and economic implications of uncontrolled population growth in the country, and to equip them to assist in solving these problems. William ***et al.*** (1972) stressed the importance of teaching family planning through interdepartmental coordination by bringing the faculty members from a variety of disciplines together and urging them to define in most precise terms available the objectives of their joint instructional efforts. Marshall (1972) emphatically suggested

that family planning being an intrinsic part of the health care, teaching should have a multidisciplinary approach and the subjects should be continuously integrated at all stages throughout the graduate medical education.

The International Conference on the Physician and Population Change, held in Stockholm, Sweden in 1974, provided a world forum in which the physician could examine, together with the experts from other disciplines, the responsibilities and opportunities facing the physician in meeting the challenge of the population change (Roy. 1974). The possible roles of the physicians were identified in the following areas: (a) as a practitioner and family counsellor; (b) as a teacher and educator; (c) as a researcher; and (d) as a leader. Roy (1974) also discussed in detail on the roles and scope of the physicians in research on contraception. In the light of the above, the medical colleges have to consider in what mannerthe doctors could be properly prepared and equipped to carry out these tasks.

A study conducted on teaching programme in human reproduction, family planning and population dynamics in three selected medical colleges in Delhi by Bhaumic (1980) highlighted that the teaching of family planning by and large was carried out by only few departments - namely Anatomy. Physiology, Pharmacology and Obstetrics and Gynaecology. The concept of integrated teaching was not being advocated in any of the medical colleges. As regards students perception, majority of the students were found to have theoretical knowledge of human reproduction and family planning but there was a lack in practical knowledge in this field.

Orientation-cum-Training Courses in Human Reproduction and Family Planning for Teachers in Medical Colleges

Recognising the existing gaps in the teaching of human reproduction etc. inthe medical institutions, the department of Reproductive Biomedicine in the National Institute of Family Planning (NIFP), New Delhi organised regular weekly scientific seminars in the field of human reproduction and fertility regulation during 1967-69. All these seminar lectures, except a few were delivered by the faculty from this department. Series of 40-50 seminars were organised and mimeographed background learning materials were provided. These seminars used to be regularly attended by the postgraduate students and the teachers from different medical institutions in Delhi including the All-India Institute of Medical Sciences (AIIMS). By this time it was realised that for strengthening teaching cf human reproduction and family planning in medical colleges, the teachers were to be oriented first.

Being encouraged by the above response, the NIFP organised the First Orientation Training Course for the Teachers in Medical Colleges in Human Reproduction, Population Dynamics and Family Planning in 1970. In this course of two months' duration which was organised with the finanical assistance from WHO (Geneva), teachers in Obstetrics and Gynaecology from 22 medical colleges in India participated. The second such course was organised at NIFP in 1972 as the First Inter-Country Course for WHO/ SEARO. In this course of one month's duration

teachers from three medical colleges each from India, Indonesia and Thailand participated. Each medical college was represented by teachers from three departments ***i.e.*** the departments of Obstetrics and Gynaecology, Preventive and Social Medicine (PSM) and Paediatrics. Dr. Somnath Roy (asa temporary Adviserto WHO) along with Dr. T.E.C. Burns, WHO Consultant were the principal organisers for this course (WHO, 1973). Based on this experience detailed guidelines for teacnig of these subjects in Medical Colleges were prepared (WHO, 1973a). These included the subject areas to be covered, the departmental responsibilities and the methods of teaching and the manner of integrated teaching during pre-clinical, para-clinical, •clinical and internship periods, and the implementation mechanisms etc. These guidelines formed the basis for organising similar Inter-country Courses in the subsequent years. Being encouraged by the success of the First Inter-country Course on Human Reproduction, Family Planning and Population Dynamics held in 1972 at NIFP, the WHO (SEARO) organised the Second Inter-country Course on the same subject in Dacca, Bangladesh in 1973. In this course the teachers mainly from three departments of medical colleges from five countries participated. Dr. Somnath Roy from NIFP served as a WHO Consultant and was the main organiser of this course (WHO, 1974). The Third, Fourth and Fifth Inter-country Courses for the teachers in medical colleges of South-East Asian region were organised by the WHO (SEARO) in Indonesia, Thailand and Sri Lanka in 1974, 1975 and 1976 respectively. At the end of all these activities, the WHO (SEARO) brought out the final revised version of the Guidelines (WHO. 1977).

Utilising these cumulative experiences, the NIFP undertook organisation of a series of regional Workshop-cum-Orientation Training Programmes for teachers in Medical Colleges in India. During 1974-75, three such regional workshops of two weeks' duration were organised. The first was organised in Poona, the second in Chandigarh and the third in Calcutta. The fourth one scheduled to be organised in Bangalore could not be organised for unavoidable reasons. In these regional workshops teachers from medical colleges usually from three departments of Obstetrics and Gynaecology, Paediatrics and PSM participated. From some medical colleges, the teachers from other departments such as Anatomy, Physiology, Pharmacology, Medicine, Surgery and the Dean were also invited. Following the pioneering ventures of NIFP, the AIIMS also started organising similar regional workshops with the financial assistance from the WHO (Geneva) and about five or six such workshops were organised by them.

In this process, a good number of teachers from different medical colleges in India got oriented and trained. In addition, because of the interest created a number of teachers had obtained fellowships offered by various agencies like the Population Council, the Ford Foundation, the WHO and others for gaining further experience in advanced centres abroad. With the convergent efforts of different groups of organisers and support from various agencies, teaching of human reproduction, fertility regulation and family planning took a quite good root in the medical colleges throughout India. Unfortunately, however, after the completion of initial spurt of activities by the year 1976-77 not much activity had been undertaken in the country

in this direction over the past one decade. As a result, there has been a slackening in proper training in this field in the medical colleges.

MINIMUM RECOMMENDATIONS OF MCI ON GRADUATE MEDICAL EDUCATION: RELEVANT EXCERPTS

"The objective of producing a medical graduate in modern scientific medicine, capable of functioning independently and effectively both in rural and urban settings, shall be kept in view throughout the course of medical education". The graduate medical curriculum is oriented towards training students to undertake the responsibility of a physician of first contact, who is capable of looking after the preventive, promotive, curative and rehabilitative aspects of medicine. Since a medical graduate has wide choice of career opportunity, medical curriculum cannot be oriented towards producing a specific type of doctor; therefore, curriculum has to be wide-based and flexible. For undertaking the responsibilities of service situations which are of varied types and which address to the changing conditions, it would be essential to provide later on adequate in-service training tailored to the needs of the services.

The medical students undergo a study over 4$^{1}/_{2}$ academic years, followed by one year of compulsory rotatory internship. The whole period is divided into three phases, each of 18 months duration:

Phase I (Pre-clinical Subjects)

Stress is given on fundamental and basic principles and on applied aspects. This period covers human anatomy, human physiology and human biochemistry, and introduction of clinical orientation of students. It has been stressed that the teaching of human physiology, biochemistry and anatomy should also be in collaboration with clinical departments, and the applied aspects are to be demonstrated.

Phase II (Para-clinical/Clinical Subjects)

This period covers the following:

i. ***Pathology and Microbiology***

Emphasis is to be given on community encountered diseases.

ii. ***Pharmacology and Toxicology***

These are to be taught in close collaboration with clinical departments.

i. ***Forensic Medicine***

ii. ***Community Medicine***

This covers various aspects of community health with special emphasis on rural health programmes. It also includes maternal and child health care, family planning and population control. Instructions also include general epidemiology, biostatistics and vital statistics, health education and health administration.

For teaching community medicine, the Medical/Health Officers in the State Health Services with adequate experience should be utilised (giving appropriate status, if necessary). Medical College teachers are to be posted in rural field practice areas by rotation.

Phase III (Continued Clinical Training)

This covers: (i) Medicine; (ii) Surgery including orthopaedics; (iii) Obstetrics and gynaecology, family planning and nutrition; (iv) Paediatrics including social paediatrics, neonatology and nutrition; (v) Eye and ENT; (vi) Community medicine posting; and (vii) Orientation to practical skills including immunization techniques, vasectomy operation and IUD insertions.

During posting in obstetrics and gynaecology not less than two-thirds of clinical instructions shall be given in obstetrics including ante-natal care and care of the new borns and maternal health. During this period the student shall conduct atleast ten cases of labour under adequate supervision and assist in ten other cases.

Throughout the medical course it is desirable to have one hour every week assigned to inter-departmental teaching - (a) In pre-clinical period, teachers from clinical departments are to take part by rotation; (b) In clinical period, teachers from pre-clinical and para-clinical departments are to take part by rotation; (c) Emphasis should be on applied aspects *i.e.* the implications of basic information or fundamental knowledge; (d) Inventory of suitable subjects for such discussions should be made in advance from year to year.

Throughout the course emphasis should be given on the importance of population control and family planning for health development.

Students should be encouraged in group discussions, seminars etc. for development of personality, character and impressions etc. for solo practice as well as for development of leadership of a team.

Assessment and Evaluation

This should consist of internal assessment comprising of regular periodical examination, day-to-day assessment and terminal examination. Professional examinations will consist of written examinations, practical and oral examinations. Atleast one question must be on family planning and population dynamics and one question on social obstetrics.

Internship

Compulsory Rotating Internship for 12 months should be done in approved teaching and non-teaching hospitals such as the District Hospitals, Rural Health Training Centres (RHTCs) and the upgraded Primary Health Centres (PHCs) attached to the teaching institutions. In case of placement in District or Sub-district hospitals, a Committee representing the College/University, and the State and District authorities shall regulate the training programme.

Internship shall include training in Medicine, Surgery, Obstetrics & Gynaecology and in Community Health Work (for atleast six months) at RHTCs or upgraded PHCs. They should be placed for in-service training in Family Planning Clinics for a period of one month.

In this task-oriented training, the responsibility of the interns as participants in the institutional and domiciliary service programmes should receive due attention, and all necessary inputs including accommodation, transport, adequate clinical facilities etc. should be made.

Training in Obstetrics & Gynaecology and Family Planning - It should include: (a) Ante-natal care with particular reference to the nutritional factors involved; (b) There should be adequate training in family welfare programme in the graduate medical course. Practical experience in the contraceptive technology and operative techniques in sterilization must be emphasised; (c) Management of normal and abnormal labours; (d) Care of the new born; (e) Exposure tothe working of the well baby clinic; and (f) Provision be made for training in Paediatricsforfourto six weeks during the posting in this department.

Every intern must work in a well baby clinic, the ante-natal and post-natal clinics, and in the Family Planning Clinic and immunization centres.

Community Health - Rural Posting - The rural experience should train the doctor to become the leader of the health team. It should include: (a) Supervisory responsibility - both in administrative and technical aspects; (b) Community-based health activities - organisation and implementation; (c) Control of communicable diseases (special emphasis being on Tuberculosis, Leprosy and V.D.); (d) Implementation of Public Health Programme; (e) Applied Nutrition; (f) Maternity & Child Health, Family Planning, SchoolHealth and Nutrition: and(g) Health Education etc.

Teachers' Training

In order to effectively implement the programme of producing qualified medical graduates so as to enable them to function effectively under the prevailing social and economic conditions of our country, it is essential that workshops are held for the teachers of medical colleges in different parts of the country at the State and

National levels to orient them to: (a) the problems of community health and delivery of health care; and (b) the methods of teaching and examination in relation to the objectives of graduate education.

General Remarks

The recommendations made above lay down the broad principles and minimum requirements of the Medical Council. The details are left to Universities. Within these broad principles enumerated above, experiments in medical education may be undertaken.

The curriculum in family planning for the M.B.B.S. course as recommended by the Medical Council of India (MCI) in March, 1981 and stated in the Appendix "A" is reproduced in Annexure I.

"POST-PARTUM PROGRAMME" UNITS IN MEDICAL COLLEGES

For promoting the Family Welfare Programme as well as for strengthening teaching of this subject in medical colleges, the Government of India has sponsored this scheme with 100 per cent assistance to the State/Union Territories. Monitoring and technical guidance for successful implementation of this programme are provided by the Department of Family Welfare, Government of India, whereas the responsibilities for its implementation rest with the States/Union Territories and the respective medical colleges. The aims, objectives, additional inputs, the activities of this Post-partum Programme and the current status are briefly stated below.

Aims

To promote family welfare programme through hospital-based maternity care services by motivating women within the reproductive age group (15 to 44 years) or their husbands for adopting small family norm through education and motivation particularly during pre-natal, natal and post-natal care.

Objectives

1. To provide contraceptive advice and services primarily to the obstetric and abortion cases attending the Department of Obstetrics and Gynaecology and other cases coming to various other departments of the hospital.
2. To involve all the departments and staff of the hospital in addition to the Department of Obstetrics and Gynaecology in the family welfare programme.
3. To conduct teaching and training programme in family welfare for undergraduate and postgraduate medical and para-medical students.
4. To extend maternal and child health care and family welfare

services and health and nutrition education through integrated Urban Family Welfare Centre to the general community in the vicinity of the hospital.

Inputs

There are several inputs provided at the medical institutions under this post-partum programme mainly to supplement'the efforts to cope up with the additional load of work generated due to the implementation of the programme. The several inputs are in the form of staff, equipments/surgical instruments, additional infrastructural facilities, vehicle, recurring contingency grant, cash awards etc. One Urban Family Welfare Centre along with all inputs has been attached to the Post-partum Programme unit.

Additional Staff

1.	Asstt. Professor/Reader in Obst. & Gynaecology	One
2.	Lecturer in Paediatrics	One
3.	Lecturer in Health Education and Family Planning	One
4.	Lecturer in Statistics and Demography	One

(If this post exists in the Department of PSM
then another post of -
Lecturer in Preventive and Social Medicine
may be created in lieu of the above.

The additional teaching posts (as in Serial No. 1 to 4) have been provided in the medical colleges under this programme with a view to provide in-service training/teaching of medical and para-medical personnel and to boost up field activities.

Programme Recommended

In the medical colleges the programme is to be organised as a multi-disciplinary approach to family welfare activities. The Department of Obstetrics and Gynaecology shares the major responsibilities of implementation of the programme while the other departments e.g. Paediatrics, Surgery and Preventive & Social Medicine supplement the efforts of the Department of Obstetrics and Gynaecology. The Principal/Dean of the Medical College acts as the Programme Director while the Head of the Department of Obstetrics and Gynaecology is the Project Director and Asstt. Professor/ Reader in the Department of Obstetrics and Gynaecology acts as the Project Officer under this Programme.

The programme is monitored at three different levels namely at National level, at State level and at Institutional level. The Institutional level monitoring is considered to be an essential component and for this Government of India have asked all the medical colleges to constitute a "Co-ordination Committee". The Coordination Committee will be chaired by the Principal/Dean of the Medical Colleges with the

Project Director (Head of the Department of Obstetrics and Gynaecology as the Member-Secretary and the Department Heads of Paediatrics. Surgery, Preventive and Social Medicine along with the Regional Director (MCH&FW) of Government of India (if available), State/District Family Welfare Officer and Professor of Pathology/Cytopathology (those centres which are recognised for PAP Smear Test facility) as the members. The Committee is to meet atleast once in three months.

The programme is expected to provide maternal and child health care services integrated with family planning services to both urban and rural community as well as to extend referral support to the attached primary health centres. Training of the medical and health personnel is an integral part of this programme. Post-partum Centres are, therefore, not only expected to provide MCH and family welfare services at the doorstep of the community but will also help in providing trained manpower necessary to manage these services.

GUIDELINES DEVELOPED BY THE WORLD HEALTH ORGANIZATION

Following conduction of five Inter-country Courses on Human Reproduction, Famiiy Planning and Population Dynamics for the teachers in Medical Colleges, consolidated guidelines for teaching this subject in medicalcolleges were prepared by the WHO (SEARO) in 1977 (WHO 1977). It was thought that these guidelines could be suitably modified and adapted by the medical colleges according to the national and institutional needs and priorities.

This document contains an introduction, seven chapters and two annexures. The first chapter deals with the broad goals and the learning objectives. The second deals with implementation of teaching.programme during pre-medical. pre-clinical, para-clinical and clinical and internship periods. The third chapter covers the staff and physical facilities and the Coordinating Committee. The chapters four, five, six and seven deal with the plans for integrated course in the pre-clinical, para-clinical and clinical phases, and during the internship period respectively. This is followed by a section providing suggestions for a service framework of a Rural Field Practice Area.

An outline of the contents of the guidelines along with some details of certain important aspects of the guidelines is presented below. For further details the readers are to refer to the original document (WHO. 1977).

Broad Goals

A medical institution needs to set out broad institutional goals based on the community needs, the job requirements of the physician and the national priorities in the health services. Keeping these in view, the overall objective or the broad goal of graduate medical education in the field of family welfare has been defined as follows:

"The doctor should be aware of the population problems in his country and its threat to the social and economic structure and the health of the community which they represent. He should justify the needs for population control as a national policy and respond by motivating his patients for family planning, whenever an opportunity arises. He should be able to communicate accurate information on methods of family planning and have the technical skills to deliver services for the control of conception."

Here, the emphasis is on what the students should learn in terms of performance expected of him on the completion of his education rather than on what the teacher believes should be taught. The doctor is expected not only to comprehend the impact of over population, but also to develop positive attitude in motivating eligible couples towards family planning and acquiring necessary skills in the control of conception.

Learning Objectives

The broad goal or the overall objective needs to be translated into learning objectives that would specify the required performance by the students leading to specific learning outcome or terminal behaviour. The learning objectives should be realistic, achievable, quantifiable and subject to a similar interpretation by different observers.

The broad areas of learning related to human reproduction and family welfare may be grouped under the three headings noted below, and therefore, curriculum development needs to be done accordingly.

A. The social background of reproduction,
B. The biological background of reproduction.
C. Medical/clinical practices in relation to reproduction and family welfare ***i.e.*** related to reproductive health care.

In a well planned curriculum, learning in all these areas will occur simultaneously during different parts of the course. The suggested learning objectives related to these areas of instructions are enumerated below.

Learning Objectives in Regard to Social Background of Reproduction

The student should be able to demonstrate: (1) a knowledge of the demographic characteristics of his own country and of neighbouring countries; (2) a comprehension of the effects of population growth on (a) socio-economic development; (b) food and other resources; (c) ecology: and (d) social structure; (3) a knowledge of the prevailing health beliefs and practices relating to sexual and reproductive function, and to control of conception; (4) a comprehension of the effects of perinatal, infant and child mortality rates on population structure, and attitudes towards child bearing; (5) an understanding of the influence of social,

cultural and educational factors on the extent of utilization of health care facilities; (6) an ability to elicit an accurate social history and to assess a patient's socio-economic status; and (7) an ability to perform local community surveys and to derive, calculate and interpret basic demographic data.

Learning Objectives in Regard to Biological Background of Reproduction

The student should be able to demonstrate: (1) an outline knowledge of the genetic and hormonal factors controlling sexual differentiation and development; (2) a knowledge of the anatomy of the reproductive organs in both sexes; (3) an ability to describe endocrine control and the physiological phenomena of the menstrual cycle; (4) a knowledge of the physiological and endocrinological changes during the sexual epochs of female life (puberty, the reproductive years and menopause) and male life; (5) an outline knowledge of hormone production and gametogenesis in both sexes; (6) an outline knowledge of fertilization, implantation, endocrinology of pregnancy, parturition and lactation, and physiological adaptation to pregnancy; (7) a comprehension of the ways in which the conceptional cycle may be interrupted to permit control of conception (or) abilities to use knowledge of the physiology of the sexual function to identify mechanisms of conception control; (8) a knowledge of the sexual function and awareness of the range of social, biological and cultural variation; (9) a knowledge of the special nutritional requirements during pregnancy and lactation, and growth during infancy and childhood; (10) a comprehension of the effect of closely spaced pregnancies and of large families on the nutritional state and general health of mother and infant; (11) a knowledge of the mode of action, uses and side-effects of steroidal and non-steroidal contraceptives, oxytocic drugs, galactogogues and prostaglandins; and (12) a knowledge of the passage of drugs across the foetoplacental barrier, and the effect of drugs on pregnancy, labour and the foetus.

Learning Objectives in Medical/Clinical Practices Related to Reproductive Health Care

The student should be able to demonstrate: (1) an ability to correlate the physiological and pharmacological actions of the hypothalamic, pituitary, ovarian, testicular and placental sex hormones; (2) an ability to maintain accurate, concise and intelligible clinical records in respect of mothers and children and an awareness of the clinical and epidemiological value and medico-legal importance of such records; (3) an ability to elicit an adequate sexual and reproductive history from a patient, and an awareness of the value of such a history; (4) an ability to make accurate clinical observations in the field of sexual and reproductive medicine; (5) a comprehension of the effects of biological and social factors such as maternal age, social class, parity, family size, birth interval .marital status and physique, upon the health risks of child-bearing and child-rearing; (6) an ability to identify high risk paediatric and obstetric patients; (7) an ability to provide services in health education in maternal and child health and family planning; (8) a knowledge of the

laws relating to abortion and other medico-legal aspects, and an awareness of the health risks associated with criminal abortion; (9) a knowledge of the clinical signs and symptoms of pregnancy and of the use and limitations of pregnancy tests; (10) an ability to perform routine antenatal examinations and urine analysis, and to recognize deviations from the norm in respect of blood pressure and weight gain; (11) an ability to render all aspects of basic maternal and child health care to the community; (12) a detailed knowledge of all methods of contraception, including the merits, specific indications,-techniques of administration, use, and side-effects; (13) an ability to discuss sexual and reproductive functions and sexual problems with patients without embarrassment; (14) an ability to advise couples on the method(s) of conception control best suited totheirneedsandcircumstances;(15) anabilityto perform bimanual pelvic examinations without distressing the patient and to identify the position of the uterus; (16) an ability to pass a vaginal speculum without distressing the patient and to describe accurately the condition of the cervix and vaginal walls; (17) an ability to insert and to remove an IUCD without distressing the patient; (18) an ability to perform sterilization and to follow-up such cases; (19) a knowledge of the skills and functions of other members of the health team with responsibility for maternal and child care and family planning; (20) a readiness to work in collaboration with other health workers, and to have respect for other members of the team, (21) a readiness and ability to function as a leader of the health team through - having close communication with the other members; planning, organizing and guiding their work; delegating responsibility where possible, to less highly trained health workers; insisting on accurate health records; and being aware of and working according to the overall national pattern of health services in the country; and (22) a knowledge of the basic principles of administration and management, medical and health economics; knowledge of the value of evaluation of health care delivery systems.

Implementation of Teaching Programme

The subject content of human reproduction, family planning and population dynamics should be integrated in the teaching throughout the undergraduate medical course including the post-examination internship period. The purpose would be not to load the students with esoteric scientific information but to emphasise the applied aspects and the relevance of the subject in a multidisciplinary presentation. The main focus should be on student's learning. Sometimes people raise the question of extra time and staff required for integrated teaching. It should be possible to introduce integrated teaching by making suitable adjustments and borrowing time from other less relevant activities.

Pre-medical Course

If there is a scope for review of the pre-medical course for the purpose of strengthening statutory requirements for entrance in medical colleges, one could consider teaching of behavioural sciences such as social psychology, social ecology, social anthropology, demography and population dynamics in this course.

So long it does not become possible, these subjects should be included in the pre-clinical years.

Pre-clinical Period

All the pre-clinical subjects including those mentioned above should be taught giving proper emphasis on applied aspects and the clinical teachers should join with the teachers of pre-clinical sciences to emphasise applied aspects in seminars on certain topics. For multidisciplinary integrated teaching one of the following approaches may be adopted: (a) Presentation by a single teacher who has interest and knowledge in more than one subject/discipline; (b) Presentation by a panel of teachers; (c) A sequence of lectures by a teacher in a basic science followed by a clinician; and (d) Problem oriented approach, or other techniques.

Para-clinical Period

During this period a short course on endocrinology related to human reproduction, contraception and reproductive health care may be organised by a multidisciplinary group of teachers from the departments of physiology, pharmacology, pathology, obstetrics and gynaecology. Contraceptive techniques should also be demonstrated. An outline of such a teaching programme has been given in Chapter 5 of this Guidelines.

Clinical Period

The programme already started earlier should be continued and the departments of paediatrics, obstetrics and gynaecology should be closely coordinated with the department of preventive and social medicine.

It has been recommended that for presentig an integrated course on maternal and child health and family planning, a block teaching approach may be adopted instead of fragmentation of maternal and child health programmes among different departments and separate clinics. If block teaching is not feasible, a series of seminars may be organised on specific subjects with adequate time left for questions and answers. A list of topics for integrated programme along with the names of participating departments has been suggested in Chapter 6 of the document.

Internship Period

The field practice attachment should provide the intern a clear presentation of the service framework for maternal and child health and family planning within which the role of the physician in the health centre is well defined as a competent clinical and public health worker, educator and trainer, administrator and manager, a research worker and the leader of the health team. The details of the contents of teaching programme and its organisation over a three-month internship period are given in Chapter 7.

Assessment

Periodical internal and external assessments of the knowledge and skills in the field of human reproduction, family welfare, and population dynamics should be made at appropriate stages. The periodic assessment of the learning by a student provides a corrective check for purposeful direction of the course.

Administration

For proper multidisciplinary input, appropriate staff and physical facilities are to be provided. A number of recommendations have been made which are considered essential.

For coordination of training programmes there is a Curriculum Committee in most of the medical institutions. It has been recommended that special emphasis has to be given on the subjects of human reproduction, family welfare and population dynamics and the maternity-centred post-partum service programme should be strengthened. For this the institution should establish a special Coordination Committee with the Dean/Principal as the Chairman and the members of the departments of obstetrics and gynaecology, paediatrics, community medicine and surgery, one representative each from the pre-clinical and para-clinical departments, a student representative each from pre-clinical, para-clinical and internship periods, the head of the nursing school, a representative from the department of health and family welfare in the government and others as members. The faculty should periodically review and assess the functioning of the Coordinating Committee.

Plans for Integrated Course During Pre-clinical, Para-clinical and Clinical Phases

Pre-clinical Phase - It is realised that the complete integration of the teaching of anatomy, physiology and biochemistry may not be possible in medical colleges, but it should be possibe for some subjects such as human reproduction. For increasing the motivation of the students, the integrated course of human reproduction should begin with the introduction by the PSM department and should be rounded off by the clinicians to emphasise the relevance of the subject to the later job requirements of the doctor. A number of areas have been identified for integrated teaching which could be spread over the entire pre-clinical phase and these have been grouped under (a) subjects of teaching, (b) field exercises, and (c) family planning.

Para-clinical Phase - During this phase the students learn pharmacology, pathology, microbiology and forensic medicine. An introduction to clinical subjects is also initiated during this period. This offers an excellent opportunity to integrate the study of pnarmacology and contraception with the study of pathology of reproductive disturbances and with clinical practice. A number of topics for integrated course has been suggested and the name of the concerned department(s) has been indicated.

The contributions of the department of pathology to this subject could be enhanced by developing collaboration between the departments of paediatric, obstetrics and gynaecology and pathology. The entry point could be through the handling of maternal and peri-natal autopsies and participation by these departments in the meetings on post-mortems.

Clinical Phase - If the integration of teaching of maternal and child health and family planning as described earlier has not yet been initiated, a beginning may be made now by having a series of seminars on subjects relating to human reproduction, family welfare and population dynamics. The concept of integration will gradually gain greater acceptance and then it may be feasible to have a separate block training for MCH and family planning. A list of topics with the name of concerned department(s) has been suggested under (a) subjects of seminars, (b) practical exercises, and (c) strategies for improving learning in practical exercises.

Under the latter headings it has been stated that maternal and child health procedures tend to be fragmented to numerous compartments. One should attempt to provide comprehensive family health care which includes obstetric care, ante-natal-cum-paediatric care, intranatal care, postnatal care and well-baby care, health education, supplementary feeding of children and their nutritional rehabilitation, and detection and referral of problem cases to appropriate centres for special care.

Plan for Integrated Course in Internship Period

The subject has been dealt with under the following headings:

1. General considerations
2. Pattern of services
3. Steps for setting up a field practice area
   a. Preparatory measures
   b. Initiating a service in the field
   c. Design for a three-month field practice area programme
   d. Subject content of the training programme
4. Subjects to be taught
   a. Administration, team work and relationship with other agencies
   b. Patient and community care
5. Suggestions for service framework of rural field practice area
   a. The auxiliary workload

b. General pattern of maternal and child health services integrated with family planning

i. scope of health care for women
ii. ante-natal visits
iii. "back-up" cover and communication during labour
iv. puerperium
v. lactation
vi. care of the child
vii. nutrition
viii. immunization

APPRAISAL OF THE STATUS OF TRAINING IN FAMILY WELFARE ETC. IN MEDICAL COLLEGES

In this regard the MCI (1981) has stated, "Not withstanding the curricular contents prescribed by the Medical Council of India and amended from time to time, no scientific evaluation of what has been in vogue for more than two decades has been undertaken nor a study made of the medical graduates from different colleges of the country. Only on the basis of such evaluation it can be decided whether any deficiency of the training programme exists. Deficiencies which exist at present, if any, are attributable more to a failure of implementation of Council's recommendations and the absence of a system of continuous monitoring of the training scheme. It is not due to defects in the course and curriculum prescribed." To a great extent it is correct and it holds true even today. Recently, the Central Council for Health and Family Welfare, Government of India has emphasised the need for evaluation of training of the students in Family Welfare in the Medical Colleges. The Ministry of Health and Family Welfare has entrusted this responsibility to the National Institute of Health and Family Welfare (NIHFW) which has initiated this study. Covering all or most of the Medical Colleges will be time consuming. In the meantime the Principals/Deans of Medical Colleges along with a team of senior faculty members can carry out self appraisal of their training programmes, and based on the identified deficiencies corrective measure may be taken. The Ministry of Health and Family Welfare has also entrusted NIHFW with the responsibility of carrying out an evaluation study on the All India Hospital Post-partum Programme. As mentioned earlier, strengthening of teaching and training of undergraduate and postgraduate medical students in family welfare, is an important objective of this programme. The completion of this study by NIHFW will take some time. However, from the preliminary observations, it is noted that all the medical colleges in the country are running the post-partum programme and most of these centres have adequate infrastructure facilities and the required manpower. But most of the members of the staff including those directly connected with the post-partum programme have inadequate knowledge regarding the objectives and functions of this programme. Although, a "Coordination Committee" exists in almost all the medical colleges, there is no effective and meaningful functioning of the same, and there is a lack of collaboration between different departments. The teaching and training

activities in the post-partum centres are, more or less, restricted to medical termination of pregnancy and sterilization operations for the medical students. There has been no comprehensive teaching on MCH and Family Welfare. The medical graduates and the postgraduates get mostly theoretical teaching on MCH and Family Welfare, but practical training in this field is almost lacking.

For any objective and systematic evaluation or appraisal of the teaching of human reproduction, family welfare and population dynamics in medical colleges, the following aspects need to be considered: the overall educational objective; learning objectives; curriculum planning and development: lesson planning; provision for acquiring relevant knowledge and skill, and developing proper attitude; implementation and monitoring of training programmes; proper coordination of activities; teachers' training and reorientation; etc.

Overall Educational Objective

As mentioned earlier, in the WHO Guidelines (WHO, 1977) the overall objective or the broad goal of graduate medical education in the field of family welfare has been well defined. This may be adopted by the medical colleges.

Learning Objectives and Areas of Learning

In regard to the areas of learning, the recommendations of the Medical Council of India (1981) have given broad guidelines, but the learning objectives have not been spelt out. To achieve the overall objectives, the broad goals need to be translated into learning objectives. Therefore, the tasks of framing the learning objectives, preparation of the detailed curriculum and implementation of the training programme, have to be carried out by the teaching faculty in the medical colleges. Obviously, a lot will depend on the insight, ingenuity and the sincere desire of the members of the faculty. However, the WHO Guidelines for teaching human reproduction and family planning, population dynamics in medical schools' (WHO, 1977), which have been referred to earlier, are quite exhaustive, informative and useful. It has also spelt out in details the learning objectives, which the medical colleges could adopt or adapt.

Curriculum Planning and Curriculum Development

Based on the specified learning objectives, appropriate curriculum is to be developed. The content of the curriculum and the way the information is presented are most important for trainees' acquisition in a course, and ultimately in the application of their skill in serving the beneficiaries. The curriculum must be relevant to the learning objectives and to the expected role of medical personnel, and appropriate to local problems related to maternal and child health and family planning, as well as to the socio-economic and cultural setting of the people. Therefore, the development and use of curriculum play a very significant role in the effectiveness of any teaching/training programme, and the teachers should be

properly oriented and trained in this important field of educational technology.

Lesson Planning

Keeping in view the learning objectives and the areas of learning, each lesson has to be planned properly for providing maximum possible opportunities for the acquisition of relevant knowledge and development of appropriate skill and attitude. This would require to aid the students to gather new knowledge, analyse it, understand it, integrate it with his past experience, and finally put it in practice.

The quality and effectiveness of training often suffer from lack of professional skill of teachers, and lack of teaching/learning materials, teaching and educational aids etc. It is generally found that poor teachers would have negative effect on training programme. Training courses are less effective when teachers lack experience, skill and teaching abilities in the form of curriculum development, lesson planning, using new teaching/learning methodologies and field experience, and when there is lack in their knowledge and technical expertise in MCH and family planning.

Provision for Development of Knowledge, Skill and Attitude

The objectives of basic as well as in-service training are to help the trainees in acquiring knowledge and developing appropriate skills and attitudes. The latter two are developed through systematic 'learning by doing' and through continued practice under supportive supervision and guidance. There should be provisionsfor such opportunities.

Implementation, Monitoring and Coordination

Implementation involves organisation of resources and initiating and directing the programmes and activities. For proper implementation of the multidisciplinary teaching/training programmes in a medical college, proper cooperation and effective coordination among different disciplines are of utmost importance. For keeping proper check on whether the teaching programme is progressing in the desired direction, a properly constituted curriculum committee under the guidance of the Dean can be entrusted with this responsibility.

Suggested Main Focus of Appraisal

Keeping all the above in view, the main focus of the appraisal may be as follows:

i. Whether the broad institutional goal for graduate medical education in the field of human reproduction and family welfare has been clearly defined, keeping in view the expected role of doctors in this field, whether the learning objectives for achieving this goal have been clearly specified?

ii. Whether a detailed curriculum for graduate medical education has been appropriately framed and implementation mechanisms worked out in detail, including the responsibilities of and collaboration between different departments?
iii. What specific steps have been taken to ensure development of proper attitude and appropriate skills?
iv. What steps have been taken to provide opportunities for developing personality, character and leadership qualities as recommended by the MCI?
v. What mechanisms have been built for effective coordination and continuous monitoring of education programmes?
vi. Whether the graduate medical education programmes are being carried out properly with particular reference to: (a) the recommendations of the MCI in terms of the coverage, emphasis on applied aspects following coordinated multidisciplinary approach and adopting integrated teaching etc; (b) education and training methodology and technology, including lesson planning, use of teaching/educational aids and provision of teaching/learning materials; (c) placement of students and interns in the District and Sub-district hospitals, upgraded Primary Health Centres and Family Welfare Clinics for getting experience in community health and family welfare work; and (d) utilisation of experienced Medical /Health Officers from State Health Services, giving them appropriate status?
vii. Whether the members of the faculty are knowledgeable about the MCI recommendations and the detailed guidelines developed by the WHO, and whether they are following these recommendations and guidelines?
viii. How many of faculty members have been exposed to orientation-training course/workshops etc., organised by the WHO/NIFP/AIIMS, or by any other agency in India and/or abroad? If any of the teachers have been exposed to these, are they practising integrated teaching? If yes, how and at what levels? If not, why and what are the constraints?
ix. Whether there is any system for training of teachers and for periodical reorientation of teachers in medical colleges for updating their knowledge and improving their training skills in the field of human reproduction, population dynamics, MCH and family planning?
x. Whether there is any systematic provision of pre-service/in-service training tailored to the needs of the services for the doctors joining the medical and health services?

CONCLUDING REMARKS

1. The need for strengthening teaching of human reproduction, population dynamics and family planning in medical colleges has long been well recognised.
2. The Medical Council of India (MCI) has recommended what areas to be covered and how to integrate teaching of these subjects in different phases of medical education through a multidisciplinary approach.
3. In the guidelines developed by the WHO, the broad goal has been defined and the learning objectives have been framed in great details. It has also given suggestions on the ways to organise multidisciplinary integrated teaching during pre-clinical. para-clinical, clinical and internship periods. Suitable topics for teaching with possible involvement from different departments have also been listed.
4. Orientation-training course and workshops on teaching of these subjects for the teachers in medical colleges have also been organised during 1970-78. and a good number of teachers have been exposed.
5. Inspite of all these, considerable gaps in teaching and training for the development of proper skills and attitude have been continued to persist. There is an urgent need and good scope for improvement.
6. Keeping the MCI recommendations in mind and following the detailed guidelines developed by the WHO. it should be possible by the medical colleges to strengthen teaching of these subjects in an integrated curriculum.
7. A properly constituted Curriculum Committee under the direct guidance and authority of the Dean/Principal should critically reviewthe situation. The Committee should define the broad institutional educational goals and frame detailed learning objectives, and draw up a detailed curriculum accordingly. For the success of the programme the whole faculty has also to be sensitized and oriented to the need.
8. The teachers need to be trained in educational technology and there should be a provision of regular reorientation of the teachers in recent advances in different fields, including the Family Welfare Programme in the country.
9. Practical knowledge and skill can be imparted by utilising the facilities in other associated hospitals in urban and rural settings, with good case loads, and giving the properly trained and experienced doctors of these hospitals due recognition as teachers.
10. Special steps are to be taken for developing proper attitude. There is a need for proper "Role Modelling" which is largely missing at present.

11. In addition to the above, the medical colleges should take the responsibility of providing continuing education and in-service training of medical officers. It has been the experience that basic training of medical graduates does not equip them adequately for the type of work which is expected of them in the community. Therefore, there is a crucial need for providing continuing education based on actual problems and the needs of the community that would equip the workers to perform more competently in their current and future jobs. Such training would increase the efficiency of the individuals as well as of the organisation. For achieving success in the field of health and family welfare programmes, the individuals and the organisation should have the ability to recognise and respond to the changes in the advancing technology, new social policies and expectations and in the programmes for better service. There is a great need for developing a proper attitude for continuous learning, as the concept of life long education is being increasingly accepted as an indispensable supplement to basic education. The MCI has also stated that 'since the medical graduates have a wide choice of career opportunity, medical curriculum cannot be oriented towards producing specific type of doctors'. For undertaking responsibilities of a service situation which are of varied types, it would be essential to provide adequate in-service training tailored to the needs of the service for proper implementation of service programmes.

12. To illustrate the above point it may be mentioned that the teachers connected with the post-partum centres should be able to organise in-service training in contraceptive technology for the medical officers at primary health centres. In this regard detailed guidelines have already been developed (Roy *et al* 1987a), which need to be systematically operationalized.

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इस लेख में देश की अनियंत्रित जनसंख्या वृद्धि की गम्भीरता पर विचार करते हुए जनसंख्या नियत्रंण की अत्यन्त आवश्यकता के लिए परिवार कल्याण कार्यक्रम को सभी स्तरों पर सही ठहराया गया है। इस संबंध में, चिकित्सकीय व्यवसाय विभिन्न तरीकों से महत्वपूर्ण भूमिका निभा सकता है। दुर्भाग्यवश यह देखा गया है कि ये सेवाएं अपनी यथेष्ठ भूमिका नहीं निभा रही है। इस संदर्भ में मानव प्रजनन, परिवार नियोजन और जनसंख्या गतिशीलता के क्षेत्र में चिकित्सकीय स्नातकों के शिक्षण एवं प्रशिक्षण के सुदृढ़ीकरण के महत्व को स्वीकार किया गया है। उपरोक्त क्षेत्र में, भारत सरकार, भारतीय आयुर्विज्ञान परिषद (एम सी आई), चिकित्सा शिक्षकों, परिवार नियोजन विशेषज्ञों तथा मेडिकल कालेजों के डीनों द्वारा इस बात को आवश्यकता समझी गई है।

इस क्षेत्र में, भारतीय आयुर्विज्ञान परिषद द्वारा व्यापक सिफारिशें की गई तथा विश्व विद्यालय संगठन (एस ई ए आर ओ) द्वारा शिक्षण एवं प्रशिक्षण के सुदृढ़ीकरण के बारे में विस्तृत मार्गदर्शिकाएं विकसित कर ली गई है तथा इन पर पिछले वर्षों में मेडिकल कालेजों के प्राध्यापकों के लिए अभिविन्यास के प्रशिक्षण पाठ्यक्रम एवं कार्यशालाएं आयोजित की गई थी। इस क्षेत्र में शिक्षण के सुदृढ़ीकरण हेतु मेडिकल कालेजों में प्रसवोत्तर कार्यक्रमों के माध्यम से अतिरिक्त साधन जुटाए गए हैं। इन सब प्रगतियों के बावजूद भी एक बड़ा अनतर सतत् रूप से जारी है।

इस लेख में, विविध महत्वपूर्ण मसलों पर मेडिकल कालेजों में संकाय सदस्यों के पुर्नभिविन्यास के उद्देश्य से सभी पहलुओं के विचारणीय पक्षों पर विस्तार से चर्चा की गई है। ऐसे तरीके सुझाए गए हैं, जो संकाय सदस्यों को अपने शिक्षण/प्रशिक्षण कार्यक्रमों की स्वतः समीक्षा करने, अन्तरालों का पता लगाने तथा सुधारात्मक उपाय करने में सक्षम बना सकें। समुचित कार्य–कुशलता एवं अभिवृत्ति को विकसित करने के लिए विशेश रूप से ध्यान दिए जाने की आवश्यकता है। शैक्षिक टेक्नोलॉजी में शिक्षकों का प्रशिक्षण तथा जनसंख्या एवं परिवार कल्याण के क्षेत्र में समय–समय पर उनका पर्नभिविन्यास कराना महत्वपूर्ण होगा। इसके अतिरिक्त, देश में स्वास्थ्य सेवाओं के अर्न्तगत नियुक्त किए गये चिकित्सा अधिकारियों के सेवाकालीन प्रशिक्षण सहित मेडिकल कालेजों को सतत् शिक्षा प्रदान करने का दायित्व भी अपने ऊपर लेना चाहिए। प्रसवोत्तर कार्यक्रम से जुड़े हुए शिक्षक प्राथमिक स्वास्थ्य केन्द्रों में गर्भनिरोधक टेक्नोलॉजी तथा इसके वितरण पर चिकित्सा अधिकारियों के प्रशिक्षण को प्रारम्भ कर सकते हैं।

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ANNEXUREI

MEDICAL COUNCIL OF INDIA

RECOMMENDATIONS ON GRADUATE MEDICAL EDUCATION
(Adopted by the Medical Council of India in March, 1981)

APPENDIX 'A'

Curriculum in 'Family Planning' for M.B.B.S. Course

The curriculum may be considered undervarious pre- and para-clinical heads, and the following details are worked out for each of the disciplines.

1 *Anatomy*

1.1 Gross and microscopic anatomy of the male and female generative organs.
1.2 The menstrual cycle
1.3 Spermatogenesis and oogenesis
1.4 Fertilization of the ovum
1.5 Tissue and organ changes in the mother in pregnancy
1.6 Embryology and organogenesis
1.7 Principles of genetics
1.8 Applied anatomy of mechanical methods of preventing conception a. in female - chemical contraceptive, pessaries, IUCD, tubectomy b in male - condom, vasectomy

2. *Physiology*

2.1 Physiology of reproduction
2.2 Endocrines and regulation of reproduction in the female
2.3 Endocrines and physiology of reproduction in the male
2.4 Physiology and endocrinology of pregnancy, parturition and lactation.
2.5 Nutritional needs of mother and child during pregnancy and lactation.
2.6 The safe period-rhythm method of contraception.
2.7 Principles of use of oral contraceptives

3 *Pharmacology*

3.1Mode of action and administration of:
a. Chemical contraceptive
b. Oral contraceptive
3.2 Contra-indications for administration
3.3 Toxic effects

4. Community Medicine

4.1 The need for Family Planning
4.2 Organisation of Family Planning services
4.3 Health Education in relation to Family Planning
4.4 Nutrition
4.5 Psychological needs of the mother, the child and the family.
4.6 Demography and Vital Statistics

5. *Obstetrics and Gynaecology*

5.1 Contraceptive method, male/female
   a. Mechanical - i. pessaries. IUCD. condoms ii. tubectomy and vasectomy
   b. Chemical
   c. Oral
   d. Rhythm method

5.2Demonstrations of use of pessaries. IUCD, condoms and technique of tubectomy
5.3Advice on family planning to be imparted to parents.

6. *Paediatrics*

6.1 Problems of child health in relation to large family
   a. Organisation of paediatric services
   b. Nutritional problems of mother and child
   c. Childhood diseases due to overcrowding

7. *Surgery*

Technique of Vasectomy

Each undergraduate student be required to perform ten operations (vasectomy and/or tubectomy) under supervision during the period of internship (Added in March, 1965).

8. *Compulsory Internship*

Placement of a student for in-service training in a family planning clinic for a period of atleast one month.

9. *Examinations*

It is neccessary that questions on "family planning be introduced in the theory, practical and oral examination throughout the M.B.B.S. course.

The curriculum content has been indicated subjectwise. However, it would be more advantageous to the student for purpose of integrated learning, and for understanding of the subject if family planning instruction with the curriculum content indicated could be divided into three phases.

Phase I

Instructions in Anatomy, Physiology, Biochemistry and Pharmacology

There should be close integration in the teaching of these subjects. It is suggested that during the pre- and para-clinical years, two to three weeks may be set apart for Instruction in Family Planning relating to these subjects; so that the student gets an overall understanding of the principles and practice of 'Family Planning' within the limited time available for covering all the subjects of the medical course. The method suggested would save time and repetition of essential facts.

Phase II

This includes the later para-clinical and clinical courses. The practical aspects of Family Planning methods should be emphasised. This programme instruction should be supervised by the Department of Obstetrics and Gynaecology, and the departments of Community Medicine, Internal Medicine, Psychiatry, Paediatrics and Surgery must be closely associated in imparting instruction and relating to the problems arising for want of family planning, and the advantages to the society and the individual which will be gained by adopting the measures suggested.

Phase III

Period of Compulsory Internship

During this period there must be one month's practical in-service training during which period the student is attached to a Family Planning Clinic.

Seminars

The medical colleges should organise occasional seminars in which staff from all departments and the in-service trainees should participate.

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DYNAMICS OF INDUCED ABORTIONS IN RURAL COMMUNITY OF HARYANA

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ABSTRACT

The findings of the study suggest that more women educated upto middle and secondary school level, and more women from upper middle socio-economic strata had undergone an induced abortion. The common method adopted by them was Vacuum Aspiration/Dilatation and Curettage (V.A./D. and C). The mean age of the women who had undergone induced abortion was 30.8 years and a majority of them hailed from nuclear families. In most of the cases, about 76 per cent, husbands advised their wives to go in for induced abortion.

Women population in the reproductive age group in our country comes to about 20 per cent, the female morbidity and mortality rate at this age span is much higher than that of male morbidity and mortality rate. To reduce the mortality and morbidity among females all our efforts should be directed towards improving maternal health care. The Medical 'Termination of Pregnancy Act, 1972, thus envisaged that legislation would lead to less criminal abortions, which in turn would lead to improved maternal health and reduced mortality and morbidity.

In India, more than two million births take place every month and a large number of abortions may occur. It has been estimated in 1971, that six million abortions, occur in India every year, of which four million are induced'. Though this may be an overestimate but not many others have tried to probe this problem at community level. Data on induced abortion available are mostly hospital-based and do not reflect the true magnitude of the problem at community level. Due to the paucity of data at community level the present study was undertaken to find out the dynamics of induced abortions in a rural area.

MATERIALS AND METHODS

This study was carried out in Ballabgarh Block of Faridabad district, Haryana, which forms a part of the Intensive Field Practice Area of the All India Institute of

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Medical Sciences, New Delhi. About 816 women in the reproductive age group (15-45 years) were interviewed in 1984 by administering a semi-open ended schedule. The respondents were asked to list out all the reproductive events that they encountered in a three-year period. The short period was considered so as to help them in recollecting their memory accurately. Also data were collected on their socio-economic status and their attitude towards the termination of pregnancies.

RESULTS

The pregnancy outcomes of the women under study during a three-year recall period has been shown in Table 1. A total of 690 events were reported during this period, of which 17 (2.46 per cent) resulted in an induced abortion. The overall pregnancy wastage during this period was 16.96 per cent. The greatest proportion of acceptors were in the age group of 30-34 years followed by. the women in the age group of 25-29 years. Out of the 368 women from the nuclear families, only 3.26 per cent (12), had an induced abortion, as compared to only 1.12 per cent (5) out of the 448 women from joint families and the largest proportion of women undergoing an induced abortion were those educated upto middle and secondary school level. However, out of 17 acceptors, 76.5 per cent (13) were illiterate as shown in Table 2.

The induced abortion was accepted by the women mostly belonging to the upper middle socio-economic strata as shown in Table 3. In case of the respondents who had accepted an induced abortion, it was noted that there were an equal numbers of women from the lower middle and the middle socio-economic strata.

As regards-the caste of the acceptors, it was observed that all the 17 women belonged to the higher castes (Rajputs, Brahmins, Jats, Mahajans etc.) and they had only a single event of induction. There was not even a single woman amongst the lower castes, who has volunteered the history of undergoig an induction. Similarly, regarding the occupational status, it was seen that all, except one woman, were housewives.

Methods used for the induction have been shown in Table 4. About 76 percent of the women stated that their induction was done by surgical intervention, per

TABLE l

DISTRIBUTION OF PREGNANCY OUTCOMES IN A THREE YEAR RECALL PERIOD

Pregnancy outcome	No. of events	Percentage
1. Live births	573	83.04
2. Still births	8	1.16
3. Spontaneous abortions	92	13.34
4. Induced abortions	17	2.46
Total	**690**	**100**

TABLE 2

AGE, TYPE OF FAMILIES AND LITERACY RATES OF THE RESPONDENTS

Age groups (years) Type of Family/ Literacy Rates	**No. in each group accepted induced abortions**	**Percentage of acceptors in each age slab**
1. <_ 19 (131)	1	0.76
2. 20-24 (186)	-	-
3. 25-29 (188)	7	3.72
4. 30-34 (114)	5	4.39
5. 35-39 (101)	2	1.98
6. > 40 (96)	2	2.08
Total (816)	17	2.08
1. Nuclear (368)	12	3.26
2. Joint (448)	5	1.12
Total (816)	17	2.08
1. Illiterate(694)	13	1.87
2. Can read and write (29)	-	-
3. Primary (58)	1	1.72
4. Middle (22)	2	9.09
5. Secondary (12)	1	8.33
6. Graduate (1)	-	-
Total(816)	17	2.08

Figures in brackets indicate absolute numbers in each group.

TABLE 3
SOCIO-ECONOMIC STATUS DISTRIBUTION OF INDUCED ABORTION ACCEPTORS

Socio-economic status	**No. in each group accepting induced abortion**	**Percentage of acceptors in each SES slab**
1. Lower (169)	-	
2. Lower Middle (301)	7	2.32
3. Middle (272)	7	2.57
4. Upper Middle (72)	3	4.17
5. Upper (2)		
Total (816)	17	2.08

TABLE 4
DISTRIBUTION OF THE VARIOUS METHODS USED FOR INDUCED ABORTIONS AND THE PLACE WHERE ABORTION WAS CONDUCTED

Method	**No.**	**Percent-age**	**Place of abortion**			
			Government Hospital		**Private Practitioners**	
		Percentage	**No.**	**Percentage**	**No.**	
1. Injectables/ Oral	3	17.64	-	-	3	17.6
2. Surgical Intervention Vaginal (V.A./ D&C)	13	76.47	8	47.06	5	29.41
3. Abdominal Hystrotomy	1	5.89	1	5.89	-	-
Total	17	100	9	52.94	8	47.06

vaginum. by a 'machine' (V.A./D.&C). Three women (17.6 per cent) had an induction done by injectables/tablets by the qualified doctors. In case of the remaining women, nine got the induction done at Government hospitals while five went to the private nursing homes.

The gestation period in weeks at the time of the induction, it was observed that a majority of the women had undergone an induction at 8-12 weeks (52.94 per cent) as presented in Table 5.

The principal person motivating the woman to get the pregnancy terminated has been given in Table 6. About 76.48 per cent of the women stated that mostly their husbands were responsible for the motivation and 11.6 per cent of women were advised by doctors.

Various reasons cited for getting done the induced abortion have been depicted in Table 7. About 65 per cent of the women cited a large family as one of the main reasons to go in for induced abortions and 17.65 per cent of women accepted it because of their ill health

The contraceptive practices of the women, before and after the induction have been shown in Table 8. About 88.24 per cent of the women did not use any contraceptive method, at any time before the induction. However, after the iduction 35.29 per cent (6) women, accepted tubal ligation, and one woman (5.88 per cent), accepted cdnventional contraceptives, while the percentage of women, not using any method, went down to 58.83 per cent as against 88.24 per cent before the event. Of the 17 women who had an induction, only one was pregnant at the time of the study.

The distribution of all the respondents, regarding their perception about whether they considered pregnancy termination as a method of planning their family has been given in Table 9. About 57 per cent of the total respondents thought that the induced abortion was one of the methods of planning a family. A very small difference was found between the higher and lower castes in this respect.

The availability of various sources for termination of pregnancy as stated by the women under study have been shown in Table 10. Out of a total of 816, only 263 women who professed knowledge of pregnancy termination services at village level. 230 out of 263 women stated that these services were available at the primary health centre. Similarly, regarding services outside the village, about 430 women were responded to this question. In addition, those women who stated as if these services were available at Government sources. Further these women were asked whether they thought that the procedure was safe' (free from any long-term complications). Only 14.94 per cent responded in the affirmative (55 out of the 368 women citing Government sources).

All the respondents were also asked about whether they knew that many of the private practitioners were not qualified to conduct induced abortions. Only 12.74 per

TABLE 5

DISTRIBUTION OF GESTATION PERIOD AT THE TIME OF ABORTION

Period of gestation(weeks)	No.	Percentage
1. < 6	3	17.65
2. 6-8	2	11.76
3. 8-12	9	52.94
4. 12 +	3	17.65
Total	**17**	**100.00**

TABLE 6
DISTRIBUTION OF THE PRSONS MOTIVATION THE INDUCED ABORTION

Motivating person	No.	Percentage
1. Husband	13	76.48
2. Doctor	2	11.76
3. Femalehealthworker	1	5.88
4.Friend/Relative/ Neighbor	1	5.88
Total	**17**	**100.00**

TABLE 7

FREQUENCY AND DISTRIBUTION OF THE REASONS CITED FOR THE INDUCED ABORTION

Reasons Cited	No.	Percentage
1. Small inter pregnancy interval	2	11.76
2. Large family	11	64 .71
3. Financial constraints	1	5.88
4. Ill health of woman	3	17.65
Total	**17**	**100**

TABLE 8
DISTRIBUTION OF CONTRACEPTIVE USED BY THE ACCEPTORS OF INDUCED ABORTIONS

Method of contraception	Used at any time before induced abortion		Used after the induced abortion	
	No.	Percentage	No.	Percentage
1.Conventional contraceptives	1	5.88	1	5.88
2.Oral pills	1	5.88	-	-
3.Tubal ligation	-		6	35.29
4.No method used	15	88.24	10	58.83
Total	**17**	**100**	**17**	**100**

TABLE 9
DISTRIBUTION OF RESPONDENTS CONSIDERING INDUCTION AS AN FAMILY PLANNING MEASURE

Caste groups	No. of respondents	No. who knew it as family planning method	Percentage of the respondents
1. Higher castes (Rajputs etc).	469	276	58.85
2. Lower castes (SC/BC etc.)	347	185	53.31
Total	816	461	56.49

TABLE 10
DISTRIBUTION OF RESPONSES REGARDING AVAILABILITY OF SERVICES

WITHIN VILLAGE			OUTSIDE VILLAGE		
Source	**No.**	**Percent-age**	**Source**	**No.**	**Percent-age**
1. PHC only	230	87.45	1. Government hospital	273	63.49
2. Private practitioners	9	3.43	2. Private practitioners	62	14.42
3. Both sources	20	7.60	3. Both sources	95	22.09
4. Village dais	4	1.52	-	-	-
Total	263	100	Total	430	100

(The total number of respondents were 816)

cent of the women (20 out of the **1**57) stated as they were knowledgeable of this information. Further, they were also asked whether they knew that the Government had legally permitted termination of pregnancy, under certain circumstances, and that there had been an enactment of law for this purpose. Only 27.57 per cent (225) of the women knew about the enactment. Asked, whether the female health worker had ever informed them about the Medical Termination of Pregnancy services. Only 2.7 per cent (22 out of the 816) stated that the female health worker had told them about the availability of these services.

From the records maintained at the primary health centre information was also collected on the prevalence of contraceptive practice in the area covered by the primary health centre and found that 38.5 per cent of the couples were protected by any kind of contraceptives.

DISCUSSION

A total of 690 pregnancy outcomes were reported by the 816 women in a three year recall period. About 3 per cent (17) of these events were termination of pregnancy and 14 (82.35 per cent) were medical termination of pregnancy. The remaining three women were given injectables by private practitioners (which could be estrogen-progesterone combinations not allowed by the Government and had amenorrhoea of less than six weeks and may not have been pregnant. Since, the use of this is not recommended under the programme, these terminations have not been considered as medical terminations of pregnancy, and have been classified separately. No criminal abortion was reported, (A criminal abortion in the context of this study has been labelled as some surgical instrumentation or the insertion of any abortificient vaginally, by any person unauthorised to conduct surgical termination techniques). Though no MTP services are provided at the PHC, these services are readily available at Ballabgarh town, from both government and private sources and the town is very well connected to the village by the government transport. However, it is also possible, that since such events are usually kept secret, the investigator might not have been told about this. This reasoning appears unlikely because there was not even a single maternal death in the study area over the same time period.

Regarding the age of the women, undergoing an induced abortion, the largest number of acceptors were in the 30-34 years of age group. This was followed by the 25-29 years of age group. The mean age of the acceptors was 30.8 years. A study conducted at Pondicherry hospitals found that the mean age of the acceptors was 29.74 years". Another hospital-based study at Sholapur, revealed that 46 per cent of the acceptors were above 25 years[3]. In Ludhiana, 62 per cent of the acceptors were 21 -30 years old[4]. In the present study. 70 per cent of the acceptors were 25-34 years old. Thus, the women in the present series were slightly older.

The findings of the present study also revealed that there were significantly more number of acceptors from nuclear families. Decisions regarding a sensitive issue like induced abortions are more easily facilitated in nuclear households where there are no other women to inhibit this decision.

Regarding the literacy status, compared to the total respondents in each group, women educated upto middle and secondary school were proportionately more. However, if only the 17 women who uderwent an induced abortion were considered, the majority were illiterate. This is contrary to a study undertaken in an urban area of Pondicherry, where 71 per cent of the respondents were literate but it is in agreement with the Sholapur study, where 60 per cent were illiterate. Again, in another urban area in Ludhiana, 83.6 per cent were literate.

Considering the proportion of the total respondents, opting for an induced abortion, it was observed that the largest proportion of women were from the upper middle socio-economic class. Socio-economic status and induced abortions showed a linear relationship with the number of acceptors increasing from the lower to the upper middle socio-economic status. Studies from Sholapur and Pondicherry showed a preponderance of acceptors from lower socio-economic strata, while in Ludhiana more women were from the middle socio-economic strata.

In the majority of the cases induction was done by eitherV.A./D.&C. (76.47 per cent). Most of these cases were done at the Ballabgarh project hospital and some at private nursing homes in Ballabgarh. Another study had also reported the use of these methods in a majority of cases.

The fact that all the 17 women had only one reproductive event in a three-year period and only one woman was pregnant at the time of the study, showed that all the induced abortions were unwanted pregnancies.

About 57 per cent of the women considered termination of pregnancy as a family planning measure. This is not a positive view, as one knows the negative demographic effect this can have. Termination should be considered only for special circumstances. According to the study done at Rajkot, 20.7 per cent of the women thought of it as a measure for family planning.

Only 32.23 per cent of the total respondents, expressed the view that services were available locally in the village. A great majority of them (87.45 per cent) stated that these services were available at the primary health centre. This was an incorrect observation, as no MTP services are provided at the primary health centre and all women needing an MTP are referred to the Comprehensive Rural Health Services Project Hospital at Ballabgarh which is the referral hospital for the Chhainsa primary health centre. However, the reason for this response is not far to seek. In the past estrogen-progesterone combination injectables were used occasionally for secondary amenorrhoea which might have been mistaken by the respondents as abortificients. This is a very pertinent issue because even now many women who seek an abortion come to the primary health centre. This could be due to the reasons either due to the mistaken impression or for seeking a referral slip.

More women knew about the services available outside the village. About 53 per cent of these women, the majority, thought that the services are only available at

the Government hospitals. However, only 14.94 per cent of them thought that these services were 'safe'.

Only 27 per cent of the women knew of the legal status of the MTP. This can be contrasted with a study at Rajkot, where only 1.7 per cent of the rural women knew about the same.

A large' family size was the commonest reason cited for the induced abortion (65 per cent). Some studies have found physical and mental reasons as more important. while others have reported economic reasons as more important Another study has also reported contraceptive failure as the most important reason.

Though 88.24 per cent of the women had not used any contraceptive method before the induced abortion, 41 per cent reported to have used some method after the event and 35 per cent had accepted sterilization. High acceptance of contraceptives after an induced abortion has been reported by some authors. The study has thus shown that the woman who prefers an induced abortion is of a middle age, belongs to a nuclear family, illiterate and hails from a middle socioeconomic status.

Lkkjk'k

इस अध्ययन से यह निश्कर्ष सामने आए हैं कि मिडिल तथा माध्यमिक स्कूल स्तर तक शिक्षा प्राप्त तथा उच्च–मध्य सामाजिक–आर्थिक स्तर पर अभिप्रेरित गर्भपात कराने वाली महिलाओं की संख्या में वृद्धि हुई है। उन्होंने वेक्यूम एसप्रेरिशन/डिलेटेशन एवं क्यूरेटेज (वी. ए/ डी. एवं सी) नामक सामान्य गर्भपात प्रक्रिया अपनाई थी। जिन महिलाओं ने अभिप्रेरित गर्भपात कराया गया था उनकी अनुपातिक आयु 30.8 वर्ष थी तथा उनकी अधिक संख्या नाभिकीय परिवारों में से थी। अधिकांश रूप में, लगभग 76 प्रतिशत मामलों में पति द्वारा अपनी पत्नी को अभिप्रेरित गर्भपात कराने की सलाह दी गई थी।

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PRIVATE MEDICAL PRACTITIONERS' INVOLVEMENT IN NATIONAL FAMILY WELFARE PROGRAMME: AN OPINION STUDY

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ABSTRACT

More and more young doctors are adopting to private practice, specially in the areas like urban slums, where no organized health services are available. There, they contribute to an important source of health services for the masses. A significant number of these private practitioners are unqualified or 'quacks', still they enjoy a good practice and have established a good rapport with the community. Only a very few number of the private practitioners are involved in the National Family Welfare Programme. However, they don't have full working knowledge to render family planning services to their patients/clients.

India was the first country in the world to launch a National Family Planning Programme in 1953-54 with a view to control menacing problem of population explosion. However, despite being in existence for over 34 years now. it has not produced the desired results. Ill-effects of a high birth rate on the health status, food supply and national economy are too obvious. It has yet to take the shape of a 'people's movement' despite intensive efforts like the new20-point socio-economic development programme of the country.

To popularise the concept of a small family norm amongst the people one of the strategies adopted by the country was to involve the private medical practitioners for the implementation of the National Family Welfare Programme. However, it appears that the private practitioners, especially those practising in urban slum areas, have not been so far fully utilised for the promotion of the programme due to the lack of organized health services in such areas. The private practitioners of various systems of medicines from the major means of health services to the people of urban slums. People have faith in them and also listen to their advice.

Keeping all these factors in view, this study was undertaken - (i) to assess the opinion of private practitioners about family welfare programme; (ii) to collect information on theirtechnical knowledge regarding various family planning methods and their willingness to participate in National Family Welfare Programme; and (iii) to assess their training needs, if any, in the field of family planning.

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MATERIALS AND METHODS

The study was conducted in urban slums ot Janta Jeevan Camp in South Delhi and the adjacent sectors 1,11 and V of Dr. Ambedkar Nagar, the field practice area of urban health centre of All India Institute of Medical Sciences, New Delhi.

At the time of the study, a total of 70 private practitioners were there. Of these, 65 practitioners were included in the study and rest refused to cooperate. The practitioners were interviewed using a pre-tested schedule.

RESULTS AND DISCUSSION

Profile of the Practitioners

Of the 65 practitioners, 45 were qualified practitioners and remaining 20 were unqualified. About 48 per cent were trained in Ayurvedic system and others were in Homoeopathy (9.2 per cent) and Unani-Tib system (3.1 per cent) respectively. Proportion of unqualified practitioners were more in the Ayurvedic category. About 82 per cent (53) were males and 18.5 per cent (12) were females. About 46 per cent (30) were in the age group of 20-30 years and 38.6 per cent (25) in the age group of 31-40 years.

These findings were similar to the findings of other studies which further confirms as more and more young doctors start doing their private practices.

About 75 per cent (49) of the practitioners were married. Average number of living children per married couple was found to be 3.2. About 52 per cent (34) practitioners were practising in the study area for more than three years and 24.5 per cent (16) had a practice of more than six years. About 62 per cent (40) claimed to have moderate to heavy practice (800-1600 patients per month).

Data showed that the private practitioners were well known in the area for their work and found to have a good rapport with the community in which they were serving.

Opinion About Family Planning and NFWP

All the (65) practitioners were of the opinion that family planning was an essential element for the socio-economic development of the country and for the good health of mothers and children.

All private practitioners were knowledgeable about the existence, of National Family Welfare Programme. About 66 per cent of them were of the view that family planning means to put a stop to unwanted births beyond a certain number. It was found that 73.8 per cent (48) thought three children as an ideal number for a small family and 26.7 per cent (17) advocated two children as an ideal number.

Every practitioner realised the importance of National Family Welfare Programme and considered it as a good programme. Their interpretation of exact meaning of 'family planning', though workable, was not fully correct. The study also highlights that the concept of a 'two children family' has not been adequately understood even by the practitioners in urban slums.

Technical Knowledge About Various Methods of Family Planning

(i) ***Methods for Males:*** It is clear that 'Nirodh' (condom) and vasectomy were the most well known methods as suggested by the practitioners. Abstinence and coitus-interruptus as methods of family planning for males were hardly popular with the practitioners as shown in Table 1.

(ii) ***Methods for Females:*** Table 2 highlights that tubetomy was known to all qualified (45) and unqualified (20) practitioners as a method of family planning for females and Intrauterine Contraceptive Device was mentioned as a method of family planning for females by all qualified Allopaths (23), ten qualified Ayurvedic practitioners and all qualified Homoeopaths (3) and Unani practitioners (2) as given in Table 2. Only 18 qualified Allopaths, two qualified Ayurvedic practitioners and only one qualified Homoeopath mentioned Oral Pills as a method of family planning for females.

It further confirms that the permanent method (Tubectomy) was known to all practitioners and knowledge about methods of spacing was relatively not upto the mark, which underlines the need for intensive education about these methods.

iii *Knowledge about Medical Termination of Pregnancy Act, 1971:* About 98 per cent (64) practitioners were aware that performing abortion was legal in India The exact name and year of inception of this Act was known only to three qualified Allopaths. All qualified Allopaths knew correctly about the gestation period upto which pregnancy can be terminated under the law. This reflects inadequate knowledge about an important aspect of Medical Termination of Pregnancy Act and needs up-dating.

Willingness to Participate in NFWP

Only 16.9 per cent (11) practitioners were acting as depot-holders' for Nirodh. All of them complained of supply of Nirodhs was irregular and inadequate.

The study shows that only a small number of them in this urban slum area were involved in implementation of national family welfare programme and that too in a very inconsistent and inadequate manner. About 72 per cent (47) practitioners expressed their willingness to actively participate in national family welfare programme on various terms and conditions, mainly on remunerations for services provided by them. The willingness was found to be more in case of young practitioners.

TABLE 1

KNOWLEDGE REGARDING METHODS OF FAMILY PLANNING FOR MALES AMONG THE PRIVATE PRACTITIONERS ACCORDING TO THEIR SYSTEM OF MEDICINE AND QUALIFICATION STATUS: (SPONTANEOUS ANSWERS)

Method Mentioned	Qualified Practitioners					Unqualified Practitioners				
	Allopathy	Ayurvedic	Homoeo	Unani	Total	Allopathy	Ayurvedic	Homoeo Unani		Total
Nirodh	(100%) 23	(100%) 15	(100%) 5	(100%) 2	(100%) 45	(100%) 8	(100%) 11	(100%) 1	-	(100%) 20
Vasectomy	(100%) 23	(100%) 15	(100%) 5	(100%) 2	(100%) 45	(100%) 8	(100%) 11	(100%) 1	-	(100%) 20
Coitus Interruptus	(11.2%) 5	(6.7%) 1	-	-	(13.4%) 6	(12.5%) 1	-	-	-	(5%) 1
Abstinence	(11.2%) 5	(6.7%) 1	-	-	(13.4%) 6	-	-	-	-	-
TOTAL PRACTITIONERS	(100%) 23	(100%) 15	(100%) 5	(100%) 2	(100%) 45	(100%) 8	(100%) 11	(100%) 1	-	(100%) 20

TABLE 2

KNOWLEDGE OF METHODS OF FAMILY PLANNING FOR FEMALES AMONG PRIVATE PRACTITIONERS ACCORDING TO THEIR SYSTEM OF MEDICINE AND QUALIFICATION STATUS

Method	Qualified Practitioners					Unqualified Practitioners				
	Allopathy	Ayurvedic	Momoeo	Unani	Total	Allopathy	Ayurvedic	Homoeo	Unani	Total
Tubectomy	(100%) 23	(100%) 15	(100%) 5	(100%) 2	(100%) 45	(100%) 8	(100%) 11	(100%) 1	-	(100%) 20
IUCDs	(100%) 23	(66.6%) 10	(100%) 5	(100%) 2	(100%) 40	(100%) 8	(55%) 6	(100%) 1	-	(75%) 15
Oral Pills	(78%) 18	(13.4%) 2	(20%) 1	0	(46.7%) 21	(25%)	-	-	-	(10%) 2
MTP	(60.8%) 14	(33%) 5	(40%) 2	0	(46.7%) 21	(50%)	-	-	-	(20%) 4
Safe Period	(4.4%) 1	0	0	0	(2.3%) 1	-	-	-	-	-
Cream/Jellies	(4.4%) 1	0	0	0	(2.3%) 1	-	-	-	-	-
Abstinence	0	0	0	0	(2.3%)	-	-	-	-	-
TOTAL PRACTITIONERS	(100%) 23	(100%) 15	(100%) 5	(100%) 2	(45%) 100	(100%) 8	(100%) 11	(100%) 1	-	(100%) 20

Training Needs, Methods and Types of Training

About 72 per cent (47) practitioners were willing to undergo training in one or the other methods of family planning.

Abortion was mentioned as the method of choicefortraining by 44.3 per cent of 45 qualified practitioners.

Second most popular method for training mentioned by the practitioners was Intrauterine Contraceptive Device insertion with almost all practitioners opting for it.

One qualified female practitioner also desired to be trained in laparoscopic ligation.

About 96 per cent (45) practitioners wanted the training to be of a "part-time' nature lasting for 2-3 hours per day. Duration of the training desired by most of them was about four months.

The study clearly shows that the private practitioners were keen to become active participants for the implementation of national family welfare programme and were willing to undergo the required training for up-dating their knowledge and skills about various methods of family planning.

SUMMARY AND RECOMMENDATIONS

The private medical practitioners interviewed in this study were favourably disposed towards national family welfare programme. However, there were many lacunae in their knowledge about methods of family planning especially for females. Most of them had good rapport with the community. A large majority, especially the younger practitioners were willing to actively participate in the implementation of national family welfare programme and even desired to undergo training for updating their knowledge and skills about various methods of family planning.

In recent past there has been some efforts to involve the private practitioners in national family welfare programme but these efforts have remained concentrated mainly on big cities and towns, thus neglecting a sizeable number of practitioners in rural and urban slum areas.

Need of the hour is to involve these private medical practitioners in an intensive manner for the promotion and effective implementation of the programme if it has to reach the masses.

Lkkjk'k

शहरी गंदी बस्तियों से जुड़े उन सभी क्षेत्रों में जहां किसी प्रकार की सुनियोजित स्वास्थ्य सेवाएं उपलब्ध नहीं हैं, वहां अधिकांश युवा चिकित्सक निजी

व्यवसाय को ही प्राथमिकता दे रहे है। लोगों को स्वास्थ्य सेवाएं प्रदान करने में वे वहां योगदान का एक महत्वपूर्ण स्रोत है। ये निजी व्यवसायी अधिकांशतः अशिक्षित अथवा अनाड़ी होते हैं, फिर भी अब तक ये अच्छी प्रेक्टिस का लाभ उठा रहे हैं तथा इन क्षेत्रों में लोगों में अच्छी साख बना चुके हैं। बहुत ही कम निजी व्यवसायी राष्ट्रीय स्वास्थ्य परिवार कल्याण कार्यक्रम में भाग लेते हैं लेकिन उन्हें अपने मरीजों को परिवार नियोजन की सेवाएं प्रदान करने के लिए पूर्ण कार्यकारी ज्ञान नहीं है।

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SALT CONSUMPTION PATTERN IN THE RURAL AND URBAN AREAS OF ROHTAK (HARYANA), INDIA

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ABSTRACT

The salt is the cheapest and most easily available commodity in the country. However, the findings relate to the salt consumption pattern in the urban and rural areas of Rohtak (Haryana) suggest that the iodized salt was not easily available for the masses in the study area, per unit daily consumption of salt varied from 9 to 14 grams, Government may subsidize the price of iodized salt and ensure a better system for its distribution, etc.

Iodine Deficiency Disorders (IDD) are highly prevalent in India. Fifteen States (out of 22) and five Union Territories (out of 9) are endemic for IDD'. The iodization of salt for human consumption in the endemic areas has been found to be the most effective, economical, feasible and acceptable as compared to injection of iodated oil and addition of iodine to drinking water[2]. Although, the National Goitre Control Programme has supplied the iodized salt in the endemic areas, yet the desired impact has not been achieved on the IDD front due to various factors, one of which is short supply of iodized salt[3]. To meet the demands for the iodized salt, the Government of India has taken a decision to iodize all the salt in the country used for human consumption, in aphased manner by 1990[3]. If this strategy is to be made fully effective, the family level factors which influence the purchase of salt, its storage and consumption must be considered. This study attempts to explore these micro-level factors.

MATERIALS AND METHODS

The study was carried out in the rural population of three community development blocks attached to Medical College, Rohtak namely Beri, Chiri and Bahadurgarh and the urban population of Rohtak city during the year 1986.

Among the rural population, ten villages from each block were randomly selected and the population of each village was stratified into lower (schedule castes and backward classes) and higher caste families, from the records of local health workers. Five households from each stratum were selected. For the urban population, a list of various colonies was obtained from the Municipal Committee, Rohtak, and 50 households each of scheduled castes, backward classes and higher castes were randomly selected. The houses which were found locked revisited and

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in cases of refusal to cooperate, the next household was included in the study. The data were collected from 450 rural and 150 urban households in winter (February-March 1986) and summer seasons (May-June 1986).

A semi-structured open ended schedule was administered to the head of the household who was making family purchase and the female member involved in cooking. The salt consumed in the household was compared with the standard samples of various varieties, procured on request from the Salt Commissioner, Government of India, Jaipur.

The responses were standardised as per pre-defined terms and analysed manually.

RESULTS

The per capita monthly income of the household surveyed is given in Table 1. The lower classes having low per capita monthly income in both the rural and urban areas were grouped under low income group households. Nearly 96.0 per cent of the persons of higher income group and 24.0 per cent of the lower income group of urban areas who interviewed were able to read and write at least their names whereas for rural areas, these rates were 70.0 per cent and 44.0 per cent respectively.

The source of procurement of salt by the households under study has been given in Table 2. Almost all the higher income group households and 90 percent low

More than 350	-	12.0	1.3	10.8

TABLE 1

PER CAPITA MONTHLY INCOME OF THE HOUSEHOLDS IN THE STUDY POPULATION

Per capita monthly income of family (in Rs.)	Urban		Rural	
	Backward N = 100 Percentage	Others N=50 Percentage	Backward N = 300 Percentage	Others N = 150 Percentage
Less than Rs.50	24.0	-	21.3	3.0
51-150	73.0	22.0	61.8	34.2
151-250	3.0	48.0	13.3	25.4
251-350	-	18.0	2.3	26.6

TABLE 2
DISTRIBUTION OF HOUSEHOLDS IN THE STUDY POPULATION ACCORDING TO SOURCE OF PROCUREMENT OF SALT

Block	Source of procurement of salt (percentage)			
	Local Grocer 's Shop		From outside source on cash payment	More than one source
	On cash payment	By Bartering		
CHIRI				
Scheduled Castes	62	2	6	30
Backward Class	54	6	10	30
Others	62	2	22	14
BERI				
Scheduled Castes	50	-	4	46
Backward Class	70	-	8	22
Others	32	12	30	26
CHHARA				
Scheduled Castes	16	6	28	56
Backward Class	8	4	34	54
Others	10	-	62	28
URBAN				
Scheduled Castes	92	-	2	6
Backward Class	88	-	-	12
Others	100	-	-	-

Scheduled Castes and Backward Classes include under low income households.
Other include in high income households.
Number of households in each category was 50.

income households in urban areas procured salt from local shops on cash payment. Nearly 15.0 per cent of low income and 36.0 per cent of higher income households of rural areas bought their salt from the nearby township or bigger village market, and the rest were buying it from the local village shop by cash payment and bartering system (mutual exchange of items).

Among the urban households surveyed, 40 per cent of low and 23.0 per cent of higher income group made bulk purchase of salt whereas in rural households, bulk purchases were being made by 51.0 per cent of low and 65.0 per cent of higher income households.

The type of container used for storing salt for day-to-day use has been shown in Table 3. About 74 per cent of urban households and 80.0 per cent of rural households of lower income group and 24.0 per cent urban and 83.0 per cent rural higher income group households kept salt in the earthen pitchers, usually kept uncovered; the rest used wooden boxes, plastic containers, glass or aluminium containers and cloth bags.

When the salt used in the household was compared with the salt samples, it was found that in urban areas, 36.5 per cent of lower and 8.0 per cent of higher income households used the sambhar variety of salt; 44.0 per cent of lower and 29.0 per cent of higher income households used crystalline variety; 19.5 per cent of lower and 47.0 per cent higher income groups used both the sambhar and crystalline varieties of salt. Sixteen per cent used iodized salt for human consumption. Among the rural households of lower income group, 69.0 per cent used sambhar; 16.3 per cent used crystalline; 14.7 per cent used both the varieties of salt; 68.0 per cent of higher income group households of rural areas consumed sambhar salt; 12.1 per cent used crystalline; 6.8 per cent used both the varieties and 3.3 per cent used the iodized salt for consumption.

The average cost of salt per kilogram purchased by the households was Re.0.43 for sambhar; Re.0.95 for crystalline and Rs.1.05 for iodized variety in urban areas as compared to slightly higher costs of Re.0.47; Re.0.96; and Rs.1.56 respectively for these varieties in rural areas. The cost factor and easy availability of the salt variety were the main reasons for the purchase of the salt mentioned by lower income households of urban and rural areas. Among the higher income group households although the cost and easy availability of salt variety influenced the salt purchased by them, yet they also considered the 'physical appearance', 'taste', and 'quality' of salt while buying it.

Almost all the households in rural areas who owned animals gave salt to them from the main purchase of salt.

The average consumption of salt per unit per day has been given in Table 4. It was observed that the average daily salt consumption among rural and urban subsample was 11.03 gm. and 11.16 gm. during winter season, and 11.84 gm. and

TABLE 3
DISTRIBUTION OF HOUSEHOLDS IN THE STUDY POPULATION ACCORDING TO THE TYPE OF CONTAINER USER FOR STORING SALT FOR DAY TO DAY USE

Block and Caste	Type of container used (percentage)			
	Earthen	Polythene bag	Plastic box	Miscellaneous*
CHIRI				
Scheduled Castes	94	-		6
Backward Classes	84	4	10	2
Others	84		8	-
BERI				
Scheduled Castes	76	16	8	-
Backward Classes	76	20	4	-
Others	92	6	2	-
CHHARA				
Scheduled Castes	70	10	12	
Backward Classes	82	4	8	6
Others	80	14	2	4
URBAN				
Scheduled Castes	66	22	12	-
Backward Classes	82	6	12	-
Others	24	28	40	8

*Miscellaneous includes china clay wooden, glass, aluminium bartan, and iron containers, cloth bags and paper bags.

TABLE 4
AVERAGE CONSUMPTION OF SALT PER CONSUMPTION UNIT IN GMS. PER DAY DURING SUMMER AND WINTER MONTHS IN THE STUDY POPULATION

Area	SALT in gms/CONSUMPTION UNIT***/DAY			
	Winter		Summer	
	Mean	S.E.	Mean	S.E.
BERI (RURAL)				
*Scheduled Castes	12.16	0.56	14.28	0.58
*Backward Classes	12.46	0.62	13.36	0.59
**Others	11.52	0.37	12.98	0.41
BAHADURGARH (RURAL)				
Scheduled Castes	9.84	0.36	10.16	0.41
Backward Classes	11.48	0.47	11.74	0.42
Others	9.76	0.34	10.92	0.44
CHIRI (RURAL)				
Scheduled Castes	11.12	0.56	11.24	0.54
Backward Classes	10.74	0.58	10.76	0.54
Others	10.24	0.54	11.14	0.52
ROHTAK (URBAN)				
Scheduled Castes	10.75	0.43	10.96	0.37
Backward Classes	11.16	0.39	11.72	0.38
Others	11.57	0.53	11.20	0.35

* Scheduled Castes and Backward Classes include under low income households.
** Other include in high income households.

11.29 gm. during summer season respectively. When the study population was divided into lower castes (scheduled castes and backward classes) and higher castes, it was observed that their average salt consumption per day was 11.21 gm. and 10.77 gm. respectively during winter and 11.78 gm. and 11.56 gm. during summer seasons. This is comparable with other studies[4,5]. This much consumption per day would be sufficient to provide 15 to 25 parts per million concentration of iodine[6].

DISCUSSION

The study carried out in the urban and rural areas of Rohtak (Haryana) revealed that most of the households under study made bulk purchases of salt from the local shops, stored the salt in earthen or other containers, exposed to moisture, heat and light and used mainly the sambhar variety of salt for consumption, since it was the cheapest and the most easily available variety. The per unit daily consumption of salt varied from 9 gm. to 14 gm. Salt for animal consumption was also given from the main stock of salt in most cases. The iodized salt was not easily available for the masses both in urban and rural areas which was also the costliest one of the various varieties.

The observations highlighted the need to ensure a better distribution system for iodized salt, which should be accessible to lower economic group population as well. Moreover, the Government must greatly subsidise the price of iodized salt, enabling the lower income group households to afford it, since cost is an important factor influencing the salt purchases in these households. Emphasis should be given on the education of the people, by the use of mass media, with respect to the consumption of iodized salt and for its storage in the airtight moisture resistant containers. Since, most of the households make purchases of salt in bulk lasting over several months, it is suggested that to knowthe iodide content remaining in the iodized salt at the consumption level, newer studies be undertaken. Another important aspect which is to be considered is the policy of the Government, regarding the cheaper varieties of salt like the sambhar variety, which is also given to the animals in rural areas. If the flow of the cheaper varieties is not regulated in the endemic areas, it is likely to be consumed in the households as well.

The family level factors which influence the salt consumption pattern of the household may be given due importance in the planning of the programme for controlling the IDD. The supply of iodized salt may be regular in order to make a significant dent on the problem.

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A STUDY OF TOBACCO SMOKING HABITS AMONG ARMY PERSONNEL IN PUNE CANTONMENT

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ABSTRACT

Salient findings of a study of tobacco smoking habits among army personnel in various units of Pune Cantonment have been brought out in this article. Besides, rank wise prevalence and certain other aspects have also been highlighted. Findings revealed that greater emphasis on health educational efforts, both at personal and family levels to curb this unhealthy habit of smoking among army personnel is required.

Smoking is probably the largest single preventable cause ot ill health today in the world. In many developing countries, the epidemic of smoking - related diseases has already assumed a high magnitude which can easily be compared with any infectious diseases or malnutrition, posing as a public health problem. The studies conducted at the Royal College of Physicians revealed that one in three cigarette - smokers deaths the cause could directly be attributed to the habit of smoking and on an average each cigarette smoked shortens the life of the smoker by five and a half minutes'. Statistics further showed that 90 per cent of deaths due to lung cancer, 25 per cent of deaths due to cardiovascular diseases and 75 per cent deaths due to chronic bronchitis stem directly from the smoking. The World Health Organization expressed serious concern over smoking and selected a theme as 'Smoking or Health - the Choice is Yours' for WHO Day during 1980.

Several studies have been conducted on various aspects of smoking, including school children, medical students, doctors, relatives and attendants of patients, patients themselves, industrial workers, secondary school teachers, etc.. However, no exhaustive study has been carried out in India with respect to smoking habits of army personnel. Health is of paramount importance in determining the efficiency of troops while in service and subsequently the quality of life after retirement. All efforts in maintaining good health would go waste to a great extent if troops fall victims of smoking habits. Therefore, the present study has been undertaken to identify various factors responsible for smoking.

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MATERIALS AND METHODS

A representative sample of 400 army personnel serving in various military units of Pune Cantonment was selected out of the total available population following stratified random sampling technique.

FINDINGS AND DISCUSSION

1. ***Prevalence of tobacco smoking habit and distribution of smokers andnon-smokers according to present age:*** Out of 400 subjects studied, 180 of them were found to be smokers. However, in another study on smoking habits of men in Rajasthan, it was noted that 68.6 per cent of military personnel were smokers. The age group-wise distribution is given in Table 1.

It is evident that majority of the smokers belonged to the age group of 25-34 years. The difference beteen this and other age groups was found to be statistically significant ($p<0.05$). However, these findings of the present one could not be compared with any other study in respect of army personnel due to non-availability of any published work commenting on this aspect. The finding suggests that there is a greater need to educate this age group about smoking and associated health hazards.

2. ***Socio-economic status and smoking habit:*** Already a built-in social classification exists in the form of rank structure in the army officers, Junior Commissioned Officers

TABLE 1
DISTRIBUTION OF SMOKERS AND NON-SMOKERS ACCORDING TO PRESENT AGE

S.No.	Age group (years)	Smokers	Non-smokers	Total
1.	15-24	48 (26.66%)	83 (37.73%)	131
2.	25-34	75 (41.67%)	70 (31.82%)	145
3.	35 and above	57 (31.67%)	67 (30.45%)	124
	Total	180 (100.00%)	220 (100.00%)	400
	$X^2 = 6.39$;	df = 2;	p < 0.05	

basis for socio-economic classification of the study population. Distribution o! smokers and non-smokers according to rank is presented in Table 2.

The table reveals that there was a slightly higher proportion of smokers in other ranks (OR) as compared to JCOs and officers. The prevalence of smoking has not been found to be associated with rank ($p>0.05$). Authors of other studies with different population groups in UK, however, noticed an increase in smoking habit with decrease in social class. The finding indicates that all army personnel, irrespective of their ranks, need to be coveted under a programme of health education on smoking and its health hazards.

3. ***Family history of smoking:*** It is evident from Table 3, that more number of smokers confirmed family history of smoking (especially in father and brothers) as

TABLE 2
DISTRIBUTION OF SMOKERS AND NON-SMOKERS ACCORDING TO RANK

S.No.	Rank	Smokers	Non-smokers	Total
1.	Officers	17(44.74%)	21(55.26%)	38
2.	JCOs	18(45.00%)	22(55.00%)	40
3.	OR	146(45.03%)	177(54.97%)	322
	Total	180	220	400

$X^2 = 0.0012$; df = 2; $p > 0.05$

TABLE 3
DISTRIBUTION OF SMOKERS AND NON-SMOKERS AS PER FAMILY HISTORY

S.No.	Family member	Smokers	Non-smokers	Total
1.	Father	104 (57.78%)	89 (40.45%)	193
2.	Mother	7 (3.89%)	3 (1.36%)	10
3.	Brother	77 (42.78%)	48 (21.82%)	125
4.	Sister	1 (0.56%)	-	1
5.	None	53 (29.44%)	106 (48.18%)	159

*More than one answer was permitted

compared to non-smokers. The association between smoking in study population and family history was found to be statistically significant (p<O.01). This finding is also in conformity with the findings of other studies, reporting a higher prevalence of smoking among those who elicited a family history of smoking among parents and/or siblings. This implies that besides educating the individual, the family as a whole must be made the target of our health education if we want to desist our children from falling prey to this unhealthy habit.

4. ***Inducement to smoking by friends:*** It is seen that 47.22 per cent of smokers were induced by their friends and got into the habit while 29.55 per cent of non-smokers were also induced at one time or the other, but did not fall prey to this habit as shown in Table 4. The inducement was found to be absent in 52.78 per cent of smokers and 70.45 per cent of non-smokers. This difference between smokers and non-smokers in relation to inducement by friends was found to be statistically significant (p<0.001). These findings are similar to those studies in which the friends were found to be the main instigators in inducing smoking habit in 65 percent of smokers. Thus, there is a definite need to impress upon non-smokers to beware of such inducement by their smoker friends and not to be a victim to their tactics and pressure. This caution should form an important ingradient of all health education against smoking.

5. ***Smoking and other addictions:*** The tobacco smoking habit was more prevalent among users of alcohol and other dependence producing drugs such as *bhang* (cannabis preparation) [Table 5]. The association of smoking and other dependence producing drugs was found to be statistically signficant (p /.0.01). In a survey conducted on rural male poplation in Punjab, 21.9 per cent alcohol users were found to be addicted to tobacco smoking also. But the present survey inarmy population has revealed a higher proportion (51.45 per cent) of smokers among alcohol users. There is, thus, a clear cut need for a comprehensive health education programme not only against tobacco smoking but also against alcohol and other addictions as well.

6. ***Awareness of health hazards of tobacco smoking:*** It is obvious from Table 6 that a large proportion Of both, smokers and non-smokers, were aware of some of the hazards of smoking. The difference in proportion between smokers and non-smokers in relation to such awareness was not statistically significant (p >0.05). Such awareness among smokers is a welcome feature. Further, it must be strengthened by imparting health education repeatedly in various forms to force these people to give up this unhealthy habit. At the same time awareness will be aroused in those who are still ignorant of the health hazards of tobacco smoking by carrying out vigorous health education campaigns as a regular activity.

7. ***Form of smoking:*** It is evident that majority of smokers preferred cigarettes. None of the smokers in the present study was found smoking *hookah, chillum,* cigar or pipe (Table 7). The findings of present study are similar to those who also reported a higher proportion of cigarette smokers, but they differed from some

TABLE 4
DISTRIBUTION OF SMOKERS AND NON-SMOKERS ACCORDING TO INDUCEMENT TO SMOKING BY FRIENDS

S.No.	Inducement by friends	Smokers	Non-smokers	Total
1.	Present	85 (47.22%)	65 (29.55%)	150
2.	Absent	95 (52.78%)	155 (70.45%)	250
	Total	180 (100.0%)	220 (100.0%)	400

X^2 = 13.2; df = 1; p < 0.001

TABLE 5
COMBINATION OF SMOKING WITH ALCOHOL AND OTHER DEPENDENCE PRODUCING DRUGS

S.No.	Groups	Number	Alcohol use		Use of drugs	
			Yes	No	Yes	No
1.	Smokers	180	142 (51.45%)	38 (30.65%)	8 (88.89%)	172 (43.99%)
2.	Non-smokers	220	134 (48.55%)	86 (69.35%)	1 (11.11%)	219 (56.01%)
	Total	400	276 (100%)	124 (100%)	9 (100%)	391 (100%)
			P < 0.01		P < 0.01	

TABLE 6
DISTRIBUTION OF SMOKERS AND NON-SMOKERS AS PER AWARENESS OF SPECIFIC HEALTH HAZARDS OF SMOKING

S.NO.	Specific health hazard*	Smokers	Non- smokers
1.	Chest disease	157 (87.22%)	165 (75.00%)
2.	Lung cancer	98 (54.44%)	127 (57.73%)
3.	Heart diseases	4 (2.22%)	8 (3.64%)
4.	Abdominal disease	8 (4.44%)	1 (0.45%)
5.	None	12 (6.67%)	10 (4.55%)

*More than one answer was permitted

TABLE 7
DISTRIBUTION OF SMOKERS ACCORDING TO FORM OF SMOKING

S.No.	Form of smoking	Number	Percentage
1.	Cigarettes	91	50.56
2.	Bidis	45	25.00
3.	Both	44	24.44
	Total	180	100.00

Authors[20,22]. These variations are due to basic differences in the nature of the population studied. However, the point to be emphasised during health education is that whatever may be the form of smoking, it always poses a health hazard and is, therefore, undesirable. Unlike cigarette packets, the other form of smoking may not be carrying a warning, but nonetheless, they are equally harmful.

1. ***Quantity of smoking****:* According to amount of smoking, the smokers were classified into three categories - mild smokers (less than ten bidis or cigarettes per day), moderate smokers (between ten and 20 *bidis* or cigarettes per day) and heavy smokers (more than 20 *bidis* or cigarettes per day). Their distribution is shown in Table 8.

It is seen that majority of smokers were mild smokers' irrespective of the form of smoking. A significant relationship was observed between the form of smoking and amount of tobacco smoked by the smokers ($p < 10.01$). These findings are similar to the studies which also reported a preponderance of light smokers[20,23]. However, as per the findings of a survey conducted in Rajasthan revealed military personnel in the age group of heavy smokers (21 -25 cigarettes per day)[13]. While imparting health education to the troops they should be informed that although the heavy smokers are exposed to serious health hazards but even mild smokers are also not totally free from it. Irrespective of the amount of smoking, it still remains a potential health hazard.

9. ***Sources of information on hazards of smoking:*** Radio, doctors/friends, warning on cigarette packets, own experience and television were found to be the main sources of information as shown in Table 9, on hazards of tobacco smoking. The most popular media must continue to be utilised for imparting health education against tobacco smoking but simultaneously other media should also carry messages on this subject more frequently. ***Sainik Samachar***, Monthly Newsletter ***(Baat Cheet)*** and regimental/corps news bulletins should also be utilised for this purpose.

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Lkkjk'k

इस लेख में पूना छावनी की विभिन्न एककों के सेवा कार्मिकों के धूम्रपान संबंधी आदतों पर किए गये सर्वेक्षण के प्रमुख निष्कर्शों पर प्रकाश डाला गया हैं। इसके साथ पदानुसार इसके प्रचलन तथा अन्य दूसरे पक्षों पर भी चर्चा

TABLE 8
DISTRIBUTION OF SMOKERS ACCORDING TO QUANTITY OF SMOKING

S.No.	Type of smoker as per quantity	Form of smoking			Total
		Cigarettes	Bidis	Both	
1.	Mild	62 (68.13%)	22 (48.89%)	21 (47.73%)	105 (58.33%)
2.	Moderate	28 (30.77%)	14 (31.11%)	15 (34.09%)	57 (31.67%)
3.	Heavy	1 (1.10%)	9 (20.00%)	8 (18.18%)	18 (10.00%)
	Total	91 (100%)	45 (100%)	44 (100%)	180 (100%)

$X^2 = 10.2$; df =2; $p < 0.01$

TABLE 9
DISTRIBUTION OF SMOKERS AND NON-SMOKERS ACCORDING TO SOURCE OF INFORMATION ON HAZARDS OF SMOKING

S.No.	Source*	Smokers	Non-smokers
1.	Radio	57 (31.67%)	55 (25.00%)
2.	Doctors/Friends	42 (23.33%)	57 (25.91%)
3.	Warning on cigarettes packets	49 (27.22%)	40 (18.18%)
4.	Own experience	27 (15.00%)	52 (23.64%)
5.	Television	41 (22.78%)	33 (15.00%)
6.	Newspapers	34 (18.89%)	23 (10.45%)
7.	Books	17 (9.44%)	17 (7.73%)
8.	Magazines	9 (5.00%)	22 (10.00%)

*****More than one anwer was permitted

की गई है। इस संबंध में निकले निष्कर्षों द्वारा स्पष्ट हो जाता है कि व्यक्तिगत तथा पारिवारिक दोनों स्तर पर स्वास्थ्य एवं शैक्षिक प्रयासों द्वारा सेना के कार्मिकों की धूम्रपान संबंधी स्वास्थ्यकारी आदतों का उन्मूलन करने की आवश्यकता है।

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