NON-COMMUNICABLE DISEASE PREVENTION AND CONTROL STRATEGIES IN SOME INDIAN STATES.

REPORT OF THE ICMR – WHO WORKSHOP
At
BANGALORE - KARNATAKA

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Non- Communicable Disease Prevention And Control Strategies in some Indian States. Report of the ICMR - WHO Workshop at Bangalore Karnataka

Coordinators:
Dr. D K Shukla, Deputy Director General (SG) ICMR. New Delhi, Dr. L.M. Nath, Professor of Community Medicine & former Dean AIIMS New Delhi. Dr. Prem Pais, Dean, St. John's Medical College, Bangalore.

Resource Faculty:
Dr. C Shivaram, Dr.Thelma Narayan, Dr. Vivek Benegal, Dr. Pratima Murthy, Dr. Prem Pais, Dr Girish N, Dr R. Bingi, Dr S.S. Iyengar, Dr. G Bantwal, Dr. Nagraj Desai, Dr. Prasanna Kumar, Dr. Nandakumar, Dr. Elizabeth V, Dr. Dominic Misquith, Dr Ravi Narayan.

From:
Indian Council for Medical Research (ICMR), New Delhi, National Institute of Mental Health and Neuro Sciences (NIMHANS), Jayadeva Institute of Cardiology, Vydehi Institute of Medical Sciences, MS Ramaiah Medical College, National Cancer Registry, (ICMR) Bangalore, Community Health Cell, Kormangala, St. John's Medical College, Bangalore.

Participants:
Dr. Neela Biradar, Deputy Director (Nutrition), Dr. K S Murthy, Deputy Director, Dr. A. V. Srinivasa, Dr. Karur B. V. Deputy Director, Dr. Amaresh Kolur, District Surveillance Officer (DSO), Gulbarga, Dr. Rohini, (DSO) Udipi, Dr. S.S. Halkurki, (DSO), Haveri, Dr. N.N. Rajagopal, (DSO) Hassan, Dr. Jayaraju, (DSO), Shimoga, Dr. S.S. Mathiwad, (DSO), Belgaum, Dr. R. Srinivasalu, Consultant, Integrated District Surveillance Project (IDSP), Bangalore, Dr. Savitha S.K, Director, UHRTI Training Center BMP, Dr. Sr. Aquinas, Project Director, Holy Cross Hospital Kamagere, Dr. N. Girish, Assistant Professor Epidemiology & Dr. Mathew Vargheese, Professor Psychiatry NIMHANS, Dr. Alben Sigamani, Programme Officer Clinical trials, SJIPHCR, Dr. Joseph Rajendhran, Assistant Professor – internal medicine, SJMC, Dr. A.K. Roy. Professor, Neurology and the following faculty of Community Medicine from different government and private medical colleges in the state, Dr M P Sharada, Professor and Head, Dr A G Umakanth, Professor, Dr Vijayasimha, Associate Professor, Dr. Ranganath, Assistant Professor, Dr Mudassir Aziz, Associate Professor, Dr. Dayanand M., Associate Professor, Dr. Ramakrishna Goud, Assistant Professor, Dr. Mansoor Ahmed, Lecturer, Dr Ramesh Masthi N. R., Assistant Professor, Dr. Shobha Karikatti, Assistant Professor,

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To the participants of this workshop goes the credit for developing this strategy; their sense of owner ship is reflected in this report.

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Dr. Prem Pais,
Dean,
St. John's Medical College.

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GLOSSARY

A	AIIMS	**A**ll **I**ndia **I**nstitute of **M**edical **S**ciences
	BEd	**B**achelor of **Ed**ucation
B	BMP	**B**angalore **M**ahanagara **P**alike
	BMI	**B**ody **M**ass **I**ndex
	BP	**B**lood **P**ressure
C	CEO	**C**hief **E**xecutive **O**fficer
	CME	**C**ontinued **M**edical **E**ducation
	CHC	**C**ommunity **H**ealth **C**entre
	CVD	**C**ardio **V**ascular **D**isease
D	DALY	**D**isability **A**djusted **L**ife **Y**ears
	DCM	**D**epartment of **C**ommunity **M**edicine
	DDG	**D**eputy **D**irector **G**eneral
	DM	**D**iabetes **M**ellitus
	DHS	**D**irector of **H**ealth **S**ervices
	DME	**D**irector of **M**edical **E**ducation
	DCH	**D**epartment of **C**ommunity **H**ealth
	DSO	**D**istrict **S**urveillance **O**fficer
	DSERT	**D**irectorate of **S**chool **E**ducation **R**esearch and **T**raining
E	ECG	**E**lectro **C**ardio **G**ram
	ECT	**E**lectro **C**onvulsive **T**herapy
	HDs	**H**eart **D**iseases
	HOD	**H**ead **o**f **D**epartment
G	GOK	**G**overnment **o**f **K**arnataka
	GOI	**G**overnment **o**f **I**ndia
H	HE	**H**ealth **E**ducation
	HPE	**H**isto **P**athological **E**xamination
	HTN	**H**ypertension
I	ICD-10	**I**nternational **C**lassification of **D**iseases-**10**
	ICMR	**I**ndian **C**ouncil for **M**edical **R**esearch
	IEC	**I**nformation **E**ducation **C**ommunication
	IDSP	**I**ntegrated **D**isease **S**urveillance **P**roject
	IHD	**I**schemic **H**eart **D**iseases
J	JNMC	**J**awaharlal **N**ehru **M**edical **C**ollege
	JSSMC	**J**agatguru **S**hri **S**hivarathreeswara **M**edical **C**ollege
K	KGIMS	**K**empe **G**owda **I**nstitute of **M**edical **S**ciences
M	MEd	**M**aster of **Ed**ucation
	MLA	**M**ember of **L**egislative **A**ssembly
	MO	**M**edical **O**fficer
	MSRMCH	**M S R**amaiah **M**edical **C**ollege **H**ospital

N	NCD	**N**on **C**ommunicable **D**iseases
	NGO	**N**on **G**overnmental **O**rganization
	NIMHANS	**N**ational **I**nstitute of **M**ental **H**ealth **a**nd **N**euro **S**ciences
O	OBG	**Ob**stetrics and **G**ynecology
P	PCOD	**P**oly **C**ystic **O**varian **D**isease
	PG	**P**ost**g**raduate
	PHC	**P**rimary **H**ealth **C**entre
S	SJMC	**S**t **J**ohn's **M**edical **C**ollege
	SJMCH	**S**t **J**ohn's **M**edical **C**ollege **H**ospital
	SJNAHS	**S**t. **J**ohn's **N**ational **A**cademy of **H**ealth **S**ciences
	SSU	**S**tate **S**urveillance **U**nit
	SIHFW	**S**tate **I**nstitute of **H**ealth and **F**amily **W**elfare
	SOP	**S**tandard **O**perative **P**rocedure
T	TMT	**T**read **M**ill **T**est
U	UHRTI	**U**rban **H**ealth **R**esearch and **T**raining **I**nstitute
	UG	**U**ndergraduate
W	WHO	**W**orld **H**ealth **O**rganization

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1. Non-Communicable Disease Status in India:

India is experiencing a rapid health transition, with large and rising burdens of chronic diseases, which are estimated to account for 53% of all deaths and 44% of disability-adjusted life-years (DALY's) lost in 2005. Many of these deaths occur at relatively early ages. Compared with other countries, India suffers the highest loss in potentially productive years of life, due to deaths from cardiovascular disease in people aged 35–64 years (9·2 million years lost in 2000). Cardiovascular diseases and diabetes are highly prevalent in urban areas. The estimated prevalence of coronary heart disease is around 3–4% in rural areas and 8–10% in urban areas among adults older than 20 years, representing a twofold rise in rural areas and a six-fold rise in urban areas over the past four decades. About 29·8 million people were estimated to have coronary heart disease in India in 2003, 14·1 million in urban areas and 15·7 million in rural areas. The prevalence of stroke is thought to be 203 per 100 000 population among people older than 20 years.

A national cancer control programme, initiated in 1975, has established 13 registries and increased the capacity for treatment. Data on cancer mortality are available from six centres across the country, which are part of the National Cancer Registry Programme of the Indian Council of Medical Research (ICMR). About 800 000 new cases of cancer are estimated to occur every year. The age-adjusted incidence rates in men vary from 44 per 100 000 in rural Maharashtra to 121 per 100 000 in Delhi. The major cancers in men are mostly tobacco-related (lung, oral cavity, larynx, oesophagus, and pharynx). Tobacco consumption, in diverse smoked and smokeless forms, is common, especially among the poor and rural population segments. In women, the leading cancer sites include those related to tobacco (oral cavity, oesophagus, and lung), and cervix, breast, and ovary cancer. India has the largest number of oral cancers in the world, due to the widespread habit of chewing tobacco.

India also has the largest number of people with diabetes in the world, with an estimated 19·3 million in 1995 and projected 57·2 million in 2025. The prevalence of type 2 diabetes in urban Indian adults has been reported to have increased from less than 3·0% in 1970 to about 12·0% in 2000. On the basis of recent surveys, the ICMR estimates the prevalence of diabetes in adults to be 3·8% in rural areas and 11·8% in urban areas. The prevalence of hypertension has been reported to range between 20–40% in urban adults and 12–17% among rural adults. The number of people with hypertension is expected to increase from 118·2 million in 2000 to 213·5 million in 2025, with nearly equal numbers of men and women.

2. Risk Factor levels of Non-Communicable Disease in India:

These advancing epidemics are propelled by demographic, economic, and social factors, of which urbanization, industrialization, and globalization, are the main determinants. Urbanization and industrialization are changing the patterns of living in ways that increase behavioral and biological risk factor levels in the population. Substantial variations exist between different regions, but risk levels are rising across the country, most notably in urban areas of demographically and economically more advanced states of India.

A high frequency of diabetes, central obesity, and other features of the metabolic syndrome (especially the characteristic dyslipidaemia of reduced HDL cholesterol and raised triglycerides) have been reported in migrant and urban Indian population groups.

Nationally representative distribution data are available for a few risk factors. Several community-based surveys, done in different parts of India at different times, have contributed to a patchwork profile of risk in segments of the population, but there have been very few multicentric studies with standardized methodology. In the Indian component of the Global Youth Tobacco Survey (2000–04), 25·1% of the students aged 13–15 years reported that they had ever used tobacco, whereas current use was reported by 17·5%. A national survey in 2002, reported that the overall prevalence of current tobacco use in men and boys aged 12–60 years was 55·8%, ranging from 21·6% in those aged 12–18 years to 71·5% in the 51–60 year age group.

Though the prevalence of obesity (BMI ≥30) is usually lower than that observed in the western population, the overweight category (BMI ≥25) includes almost a third to half the population in every survey.

The few available standardized studies of physical activity revealed low levels in urban areas (compared with rural) and in the upper-income and middle-income groups (compared with low-income). Low levels of physical activity have been reported in 61–66% of men and 51–75% of women, in urban surveys.

Levels of awareness, treatment, and adequate control are low for hypertension, diabetes, and dyslipidaemia, especially in rural areas. With advancing health transition, the poor are increasingly affected by chronic diseases and their risk factors. Low levels of education and income now predict not only higher levels of tobacco consumption, but also increased risk of coronary heart disease. Since India's daily consumption of fruits and vegetables is 130 g per person per day, poor people may also have deficiencies of protective phytonutrients. Urban slums in Delhi have high rates of diabetes and dyslipidaemia. Lack of awareness of risk factors and diseases, and inadequate access to health care, increase the risk of early death or severe disability in such disadvantaged groups.

3. Risk Factor levels and Non-Communicable Disease Status in Karnataka.

The report of the Karnataka Task Force on Health comments on the paucity of reliable data on non-communicable diseases. The crude prevalence rate of Diabetes Mellitus type II in Bangalore city was 13.2% between the ages of 20 – 80 years. The Karnataka rural diabetic survey conducted in four districts gave a crude prevalence of 7.77% and age adjusted rate of 6.42% for the age group 20 – 85 years. The prevalence for men and women was almost equal.

A study done by the Sri Jayadeva Institute of Cardiology on the class III and IV employees of Bangalore Mahanagar Pallike showed that of the 3976 screened 293 (7.4 %) were diabetic, 993 (25%) were hypertensive, 409 (10.3%) had IHD, 36 (0. 9%) had

RHD, 2350 (59%) were tobacco users, 146 (36.7%) used alcohol and 589 (14.8%) had a high total serum cholesterol. This shows that the prevalence of diabetes and hypertension are consistent with data from other parts of the country. The risk factors are often combined and that the urban poor are as prone to non-communicable disease as any other segment of the population.

4. Non-Communicable Disease Policy in Karnataka

Based on the report of the Task Force on Health, Karnataka in its Integrated State Health Policy included a chapter on the Prevention and Control of non–communicable diseases. In brief, the policy states that to prevent and control non-communicable diseases it will provide:

i. Greater support.
ii. Adopt a public health approach to reduce risk factors.
iii. Adopt health education methods to promote healthier life styles.
iv. Initiate policies to discourage the use of tobacco and alcohol.
v. The deleterious effects of tobacco and alcohol to be included in school and college curricula.
vi. Diagnosis and treatment to be made available at Primary health care level.
vii. Recording and reporting of NCD to be included in the diseases surveillance system.
viii. Cancer control programme to be strengthened.

5. Over- view of the deliberations of the 3-day workshop on NCD in Bangalore:

The 3 day workshop was attended by Senior Programme Officers of the Directorate of Health Services (DHS) and Senior Faculty Members of Departments of Community Medicine from Government Medical Colleges under the Directorate of Medical Education (DME), Government of Karnataka and Senior Faculty Members of Departments of Community Medicine from Private Medical Colleges and Consultants from few Non Governmental Organizations (NGO) working in the field of public health.

The Principal Secretary Health Govt. of Karnataka, Mr. Thangaraj, IAS, inaugurated the workshop and also offered support and encouragement for the workshop. Directors of Health and Medical Education too were supportive and readily deputed the doctors for the workshop. The response from the Private Medical Colleges and NGOs too was encouraging.

The Faculty for the workshop was carefully chosen for this important workshop. The faculty members were well known and recognized professionals in their respective chosen fields of specialty and subject. The institutions from which faculty were invited was from NIMHANS, MS Ramaiah Medical College and Memorial Hospital, Jayadeva Institute of Cardiology, Community Health Cell and from St John's Medical College and Hospital among others.

Over the three days the faculty and delegates deliberated the epidemiological, operational aspects of data collection, current situation of selected NCD and strategies to tackle them. Dr. D K Shukla, Deputy Director General (SG) ICMR, New Delhi set the tone by

emphasizing that Non-Communicable Diseases (NCD) is gaining increasing importance in India as a major cause of morbidity, mortality and loss of working hours and that there is a growing need for the state and Central Governments to initiate NCD control programmes. Thus the objective of this workshop was to address this issue and help formulate a state level draft plan for implementation of a NCD control program in the state.

Dr C Shivaram, Professor of Community Medicine and Principal of Vydehi Institute of Medical Sciences and Research emphasized the need for assessing the NCD Burden in the state where there is a paucity of this data. He also suggested few measures for addressing the problem of NCD.

Faculty from NIMHANS emphasized the need for increasing community awareness and the need to target the young and school children for IEC activities. They emphasized the need for Quality Life Skills Education in schools rather than a compartmentalized IEC activity. Other participants shared this view also. The deliberations were also focused on the limited role of legislative measures with respect to Tobacco Control and Prevention of Alcohol Abuse.

Dr Nanda Kumar from ICMR Cancer Registry dwelled on the role and contributions of the Population and Hospital Based Cancer Registries in assessing the Cancer Diseases Burden.

Dr R. Bingi from Jayadeva Institute of Cardiology gave his experiences with studying the urban poor of Bangalore Mahanagar Pallike. Dr Prasanna Kumar, Endocrinologist of MSRMC and Memorial Hospital shared with the delegates the findings of the study undertaken by his team with regards to Diabetes Mellitus in Rural Karnataka.

Dr Prem Pais, Dean of SJMC, Dr G Bantwal, Associate Professor of Endocrinology, Dr Elizabeth, Professor of OBG of St. John's Medical College and Hospital also shared their experiences with the delegates of the workshop. Dr. Thelma Narayan, Dr. S.S. Iyengar and Dr. Dominic Misquith moderated the discussions at the end of each session respectively. A C.D. containing all the presentations and some important articles pertaining to NCD was given to the participants at the end of the workshop.

These discussions helped in developing a common framework that was used in the group work to develop a draft action plan for the state on the third day. Dr Ravi Narayan of Community Health Cell, Dr L.M. Nath and Dr Shukla of ICMR facilitated the deliberations. The groups presented their discussions on final day. The three groups were:

Group 1- Alcohol, Tobacco and Neuro-Psychiatric Problems
Group 2- Cardio Vascular Diseases, Diabetes Mellitus
Group 3- Cancer Control
The Groups identified a core team of members who would refine the presentations made on final day and prepare a Draft Action Plan that would be submitted to ICMR-WHO, New Delhi and to the Principal Secretary-Health Govt. of Karnataka.

While the groups looked at different sets of non-communicable diseases and made recommendations for each set – the final recommendations presented here are integrated into strategies for NCD in general, in keeping with the overall thrust of the discussions which recommended integration and convergence. (See also Annexure 1 and 2.)

6. Key issues on developing a state NCD prevention & control strategy were:

6.i. Health education strategies required to reduce risk factors in NCD.
6.ii. The minimum diagnosis and treatment facilities / guidelines to be recommended for managing surveillance, early diagnosis and treatment
6.iii. Recording and Reporting of NCD in state disease surveillance system
6.iv. Other strategies /policies (in health and beyond) that have a bearing on reducing the NCD
6.v. Recommendations for investigation and convergence of NCD Prevention and Control strategies in the State.
6.vi. Role of Govt. health sector at district and state level and medical colleges in implementing NCD control with the existing resources/existing system, and what needs additional planning and resources.

6.i. Health Education Strategies to reduce risk factor in NCD

a) In Health System

- Develop IEC materials/tools like Booklets, Pamphlets, Posters, Banners and make this available to the various cadres of Health Care Providers at all the Levels of Health Care Delivery. The IEC materials should also to be provided to general public, officials like Secretaries, law makers, MLA's, ministers, judges, police officers, Deputy Commissioner, CEO's of Zilla Parishad etc
- Increase Public awareness with respect to NCD through Street Play, Role Model and Mass media.
- Anti risk advertisement or Pro benefit advertisement e.g. alcohol, tobacco, 10 ways to reduce stress, tips for healthy living.
- The IEC material developed should contain the common risk factor knowledge, signs / symptoms / warning signals of common NCD.
- Common risk factor knowledge and signs / symptoms /warning signals of common NCD to be imparted to Health workers, Anganwadi workers, and all paramedical workers enabling them to give health education session supported with audio-visual aids
- Equip the doctors to undertake adequate supervision of primary health care
- Review in the monthly meeting the difficulties and challenges and host a yearly Continuing Education Programme to update the information

b) In the Education System

- To include in school curriculum information regarding common risk factors signs / symptoms /warning signals of common NCD.

- Teachers should be encouraged to organize debates, essay writing among children.
- Observation of World NCD Day (after a day gets designated for this).
- Opportunities for improving awareness regarding NCD should also be attempted in non-formal education settings.
- The School Library should have a resource book on NCD and Risk factors. The Books should be for both children and teachers.
- The Module on Life Skill Education to 8th, 9th and 10th standard students and teachers which is already accepted by Government of Karnataka and being developed by NIMHANS for DSERT could be consulted / used for adoption.
- Such a book should be prepared by experts/doctors with feed back from children and teachers.
- Use both formal and informal methods of teaching (cartoons, films, games, etc.)
- Need for regular health education sessions in schools e.g. tobacco hazards like it is being done in USA. In USA School children have about 12 sessions dedicated to improve awareness regarding hazards of tobacco use
- Lessons to be learnt from successful experiences e.g. PARIVARTANA Project by MS Ramaiah Medical College regarding tobacco use. Health education sessions were conducted for School children (in about 35 schools) regarding hazards of tobacco use.

6.ii. The minimum diagnosis and treatment facilities / guidelines to be recommended for managing surveillance, early diagnosis and treatment.

It was unanimously recommended that training and skill enhancement of all health care providers in the early diagnosis and management / referral for persons with NCD should be conducted. The training and reorientation should be through Continued Medical Education (CME) of para medical personelle.

Infrastructure and Equipment at Primary Care Level

- Minimum facilities and basic equipment like Blood Pressure Monitoring Devices (Sphygmomanometers, Electronic machines etc), Weighing machines, Measuring tapes and Blood Glucometers.
- Along with Essential drugs as recommended by WHO for primary care level, certain essential drugs for treating NCD like thiazide diuretics, beta blockers, oral hypoglycemic agents, insulin, aspirin should be made available at all levels of health care delivery.
- A simple **20-point checklist**, which includes quantity and frequency of use data about Tobacco, alcohol, common mental disorders and early symptoms of these disorders (e.g. cough, pain abdomen, sleep, appetite disturbance etc) for all the different staff at the PHC.
- Early Detection/Brief intervention (and Referral if needed) of cases of alcohol, tobacco, Depression/ Anxiety / Psychosis.

- Common antidepressants, anxiolytics and anti-psychotics to be made available (IMN 25mg, FLXT 20mg, DZM 5mg, RSDN 2/4mg etc) at the PHC as per the existing drug list.
- Proper History taking regarding danger signs and risk factors for cancers.
- Undertake / supervise: Breast self examination, Visual inspection for Cancer cervix and Oral cancers

Secondary Care Level – District.

- That is at District Level Blood Glucometers for estimating Blood Sugar levels, Electro Cardio Gram machines, Tread Mill Test (TMT), Lipid profile, Radiography (X- ray); Ophthalmoscope etc should be made available for CVD.
- Well-equipped laboratory with pathologist who could do a Histo-pathological examination.
- Recognize the level as first referral level for NCD: e.g. provides pain relief, radio-therapy, chemotherapy for cancer, inpatient care, ECT/Drugs (all drugs to treat mental disorders), counseling facilities to be available
- Equip with a mobile NCD detection and management set up which could do fixed periodical visits to places at Taluka and sub taluka level.

Tertiary Care Level

- Referral services should be strengthened between the Primary, Secondary and Tertiary Care levels.
- That is at State/Referral/Regional facilities level, Cardiac Catheterization lab, and Laser facilities for Cataract surgeries especially patients with Diabetes Mellitus.
- Advanced care and management of persons with cancer to be available.
- Training, De-addiction centers, treat difficult cases, Policymaking, Education, IEC material, Research, Drug Trials for persons with mental disorders.

6.iii. Recording and Reporting of NCD in state disease surveillance system

- To integrate with Integrated Disease Surveillance system.
- For Recording and Reporting, the diseases should be coded as per International Classification of Diseases-10 (ICD-10) recommendations.
- Monthly reporting to higher level should specify the mortality and morbidity and any special cases of NCD and feed back should be given to the primary source.
- The attempt should be to form registries for all the common disorders in the NCD.
- District level registry for NCD.
- Develop sentinel centres for the Cancer / NCD for the district

6.iv. Other strategies /policies (in health and beyond) that have a bearing on reducing the NCD

- Involvement of Medical Professional Bodies like Indian Medical Association, Association of Cardiologist, Physicians etc.
- The involvement of these groups should be in conducting specialist camps, screening camps and health melas. These professional bodies should be utilized for advocacy and IEC campaigns.
- The Professional bodies can also be engaged in a dialogue with Health Insurance Companies to workout a mutually beneficial scheme(s) without compromising the interests of the patients.
- Policy and Legislative measures at Government level like:
  - Nutrition policies
  - Tobacco policy
  - Alcohol policy
- Occupational health infrastructure to be strengthened to reduce occupational hazards and improves safety.
- Surveillance systems for detecting emerging cancers and changing trends
- Private – Public Partnership should be encouraged.
- Involvement of NGOs and private sector in diagnosis, training, awareness, whenever possible.
- Involvement of civil societies e.g. Consortium of Tobacco Free Karnataka in creating an awareness, when possible.
- Individual and professional responsibility is a key aspect is towards the prevention of NCD e.g. use of tobacco.
- High taxation of any product related to increasing the risk of NCD. E.g. tobacco, fast food chains.
- Restrict advertising and sponsorship of any product related to increasing the risk of NCD. E.g. by tobacco companies, as done in countries like Australia, New Zealand etc.

6.v. Recommendations for investigation and convergence of NCD Prevention and Control strategies in the State.

- Establishment of NCD Cells at District level and State Level.
- Existing personnel to be utilized: Re-designate a district level programme officer as the NCD officer who is in-charge for the district.
- Improve staffing and other infrastructure (for HPE would also benefit other programmes)
- To start registries for HDs, Hypertension, Cancer, Stroke and Diabetes.
- Involving and integrating the other Indian Systems of Medicine, especially in treatment and recording and reporting of NCD.

6.vi. Role of Govt. health sector at district and state level and medical colleges in implementing NCD control with the existing resources/existing system, and what needs additional planning and resources.

- At District and State level training of Medical officers and other staff for proper diagnosis and recording and reporting of NCD and Risk factors.
- Medical Colleges could contribute in the form of conducting Continuing Medical Education for General Practioners, Government Medical officers and others.
- Medical colleges should coordinate with government with respect of information sharing, recording and reporting of NCD in prescribed formats.
- At Medical colleges the departments of Internal Medicine, Cardiology, Endocrinology, Community Medicine, should work as team and provide an integrated package of Health Promotive, Preventive, and Curative services.

Level	With existing resources	With additional resources
District	Formulation of a comprehensive District training plan, Unified reporting system SOP for integrated case finding (warning signs plus approach)	Establishment of Peripheral Cancer centre with mobile infrastructure
State	Integration of IEC materials and approach including training	Preparation and uninterrupted supply of IEC material
Medical College	Training of Students (UG and PG) and Paramedical staff	Upgrading diagnostic and treatment facility

Others:

a. Creation of a National Institute for Non-communicable diseases
b. Website may be started for questions, integrated manual for different levels, District specific plan.
c. Financial support for all this would be from state funds, central funds, and specific pilot projects
d. Institute systems for keeping an eye on emerging cancers related to life style and stress e.g. PCOD leading to Ovarian or uterine cancer.

7. Conclusion

The groups recognized the fact that Non Communicable Diseases (NCD) is gaining increasing importance in India as a major cause of morbidity, mortality and loss of working hours. The groups kept in mind the 'Challenges of NCD' when addressing this issue and formulating a state level draft plan for implementation of a NCD control in the state. Thus an integrated and convergent approach to the prevention and control of NCD is recommended rather than vertical and competing programmes as seen with programmes for communicable diseases. The focus is on lifestyle changes and the emphasis in the approach to NCD control is on prevention and health promotion rather diagnosis and treatment. The implementation of NCD control in the state is possible by a creative extension of existing resources, use of personnel and services rather than developing a separate cadre.

References:

Benegal V.: India Alcohol and Public Health 2005 Society for the Study of Addiction doi:10.1111/j.1360-0443.2005.01176.x Addiction

Govt. of India. National Cancer Control Programme-Guidelines. Ministry of Health and Family Welfare. May 2005.

Gururaj G., Girish N., Isaac M.K., Mental, Neurological and Substance Abuse Disorders: Strategies towards a System Approach. National Commission on Macroeconomics and Health-Back Ground Paper Burden of Disease in India September 2005 pages 226 – 250

ICMR - Development of An Atlas of Cancer in India First All India Report -2001 –2002 An Overview. National Council registry Programme (NRCP) 2004 (ICMR)

ICMR - Guidelines for Management of Type 2 diabetes. Outcome of ICMR – WHO Workshop 2nd – 4th May 2003 Chennai. ICMR 2005

ICMR - National Cancer Registry Programme 1981 – 2001 An Overview National Council registry Programme (NRCP) 2002 (ICMR)

K Srinath Reddy, Bela Shah, Cherian Varghese, Anbumani Ramadoss. Responding to the threat of chronic diseases in India Chronic Diseases 3 Published online October 5, 2005 DOI: 10.1016/S0140-6736 (05) 67343-6

Pekka Puska Successful prevention of non-communicable diseases: 25 year experiences with North Karelia Project in Finland.

Sudarshan H, Risbud G.A. et al; Final Report of the Task Force on Health and Family Welfare, Towards Equity, Quality and Integrity in Health. Govt. of Karnataka. 2001.

The Karnataka State Integrated Health Policy. Department of Health & Family Welfare (after discussion in the High Level Co-ordination Committee Meeting on 11.4.2003)

World Health Organization. Avoiding Heart Attacks WHO 2005

World Health Organization. Bangkok Charter on Health Promotion Conference Version Bangkok Thailand 7 – 11 August 2005

World Health Organization. Global Strategy on Diet, Physical Activity and Health WHO 2004

Primacy of PHC Medical Officers role - The National Health, Population and Rural Health Mission statement - but are PHC Medical officers overburdened ?

This issue was discussed after the first session in the context that the Prevention and Control of Non communicable diseases will depend on the Primary Health Center Medical Officer.

Response-

- Dr L M Nath and Dr C Shivaram opined that PHC MOs are not overburdened and they should only reorient their time and address NCD also.
- Budgeting time for Promotive, Preventive and Curative work is the key.
- Health work at Primary Health Centre and at Primary care level is a team effort and should not be doctor centric and curative oriented.
- Need for enhancing their skills that will meet the challenges of primary health care.
- Ways and means to improve infrastructure at PHC level also needs to be looked into
- The stress laid on the implementation of targeted programmes e.g. pulse polio etc. disrupts the routine functioning of the PHC.
- There is a need to develop an integrated public health approach to the management of communicable and non-communicable diseases where time and effort is spent depending on the public health problem of that particular disease. A monthly routine for the same should be developed.
- The government and local bodies should look at innovative means/facilities of attracting medical officers to work at Primary health centers.
- Training of medical undergraduates requires reorientation to emphasize the need of primary health care.
- Compulsory Rural Service for all Medical Undergraduate e.g. as in St John's Medical College, Bangalore, Karnataka and Christian Medical College, Vellore, Tamilnadu.

Issues/Concerns/solutions discussed by members during the three-day workshop.

1. Non-availability of data with respect to NCD in Karnataka.
2. Use of Bangkok Charter on Health Promotion activities.
3. Role of Social Determinants of Health also need to be addressed by future National Programme for Control of NCD. This especially in the light of recommendations of WHO Commission on Social Determinants of Disease.
4. Social measure has the potential to impact the conscious of an individual and the collective conscious of community. For example banning of smoking in public places. A person smoking in a public place if told to stop smoking would in all probability oblige.
5. Social sanctions e.g. tobacco by banning the depiction of Smoking Scenes in Motion Pictures and Television should be accepted and supported.
6. The impact of media and advertising and the existing problem of NCD and NCD Risk factor burden.
7. Alcohol consumption, tobacco use and junk food consumption are examples of "Communicated Diseases". This can be attributed to advertising by concerned manufacturers of these products.
8. Advocacy for NCD by prominent Public Personalities like Actors and Sportsmen, as is being done for Eye donation, Pulse polio, Tuberculosis etc.
9. All government funding to organizations should come with a rider that 1% of funds would be kept aside for Health Promotion activities.
10. Need for a comprehensive measures to tackle the problem of tobacco and not just legislations and prohibitions.
11. Role of Yoga, and its proven efficiency in reducing Blood Pressure/Blood Sugars and stress coping capacity should be explored to the maximum.
12. Early life and early fetal life interventions for prevention of NCD.
13. Need to cluster and compartmentalize Common Risk Factors for specified groups of NCD for example for Accidents and CVD, DM, HTN etc.
14. Need to integrate and include mental disorders in to NCD control strategies and importance to improve public awareness.
15. Efforts should be made to measure Blood Sugars in all settings both at Health Care settings level and even in Out Reach activities/Community Based activities.
16. The Interventions and strategies for addressing the problem of Type 1 and Type 2 DM are different and that should be borne in mind when planning interventions.
17. Moderate drinking which is currently debated might be true and of relevance to Western Population and not for developing countries as we are ethnically and genetically prone for CVD.
18. DM is definitely preventable and most complications of DM are definitely avoidable.
19. The need for Opportunistic Screening/Investigation of people should be explored. E.g. diabetes.

Annexure 3

ICMR – WHO Workshop on Prevention and control of NCD
Cardinal Gracias Hall, St. John's Medical College, Bangalore
17th, 18th, 19th October 2005
Time Schedule for the three-day workshop

Day 1: 17th October, Monday

Inauguration session	One and half hours	Time: 11:00 am to 1 pm
LUNCH 1:00 to 2:00 pm		

Session I

Topic	Speaker	Duration	Time
NCD Epidemiology, RF & status at national level	Dr. D K Shukla DDG (SG), ICMR , N. Delhi	45 min	2:00 to 2:45 pm
Current Status of NCD - State Level	Prof. Dr. Shivaram Principal – Vydehi Institute of Medical Sciences Bangalore	45 min	2:45 to 3:30 pm
Discussion	Dr. Thelma Narayan* Community Health Cell Bangalore	30 min	3:30 to 4:00 pm
TEA 4. p.m.			

Day 2: 18th October Tuesday

Session II

Topic	Speaker	Duration	Time
Tobacco Control & Experience of Cessation Clinic	Dr. Pratima Murthy NIMHANS, Bangalore	30min	9:30 to 10:00 am
Alcohol Dependence Problems & Control	Dr. Vivek Benegal NIMHANS, Bangalore	30 min	10:00 to 10:30 am
Neuro Psychiatric Disorders. Problems & Control	Dr. Girish N NIMHANS, Bangalore	30 min	10:30 to 11:00 am
Discussion	Dr Thelma Narayan* CHC, Bangalore	30 min	11:00 to 11:45 am
TEA 11:00 to 11:15 am			
Prevention strategies for CVD	Dr. Prem Pais, Dean, SJMC, Bangalore	30 min	11:45 to 12:15 am
Risk factor prevention – local experience	Dr R. Bingi Jayadeva Institute of Cardiology, Bangalore	30 min	12:15 to 12:45 pm
LUNCH 12:45 to 1:15 pm			
Epidemiology of Hypertension	Dr. Nagraj Desai M.S R.M.C, Bangalore	30 min	1:15 to 1:45 pm
CVD control Strategies for the state: Discussion	Dr SS Iyengar*, SJMC Bangalore	30 min	1:45 to 2:15pm

* Moderator

Session III

Topic	Speaker	Duration	Time
Epidemiology of Diabetes Mellitus in country and state	Dr. Prasanna Kumar, MS Ramaiah Medical College, Bangalore	30 min	2:15 to 2:45 pm
Prevention of complications of DM	Dr. G Bantwal St Johns Medical College, Bangalore	30 min	2:45 to 3:15 pm
Strategies for DM control and Discussion	Dr. Prasanna Kumar MS Ramaiah Medical College, Bangalore	45 min	3:45 to 4:15 pm
TEA 4.15 p.m.			
Fellowship Dinner 7:00pm – 10:00 pm			

Day 3: 19th October, Wednesday

Session IV

Topic	Speaker	Duration	Time
Cancer epidemiology in country & state	Dr. Nandakumar, Project Officer, National Cancer Registry, (ICMR) Bangalore.	30 min	9:30 to 10:00 am
Cancer Control in state – experience with cancer cervix	Dr. Elizabeth V. St. John's Medical College, Bangalore	30mins	10: 00 to 10:30 am
Cancer control Strategies for the state: Discussion	Dr. Dominic* St. John's Medical College, Bangalore.	30 min	10:30 to 11:00 am
Tea 20 min 11:00 to 11:20 am			
Developing a unified NCD Control Program	Dr L M Nath Prof. HOD Community Medicine, AIIMS, New Delhi	40 min	11:20 am to 12 Noon
Briefing on Group Task Work	Dr. Ravi Narayan. International coordinator PHM. Bangalore.	15 min	12 noon to 12.15
LUNCH 12:15 to 12:45 pm			

Session V

Topic	Speaker		Time
Strategy for NCD prevention at state level.	(Group task)	60 min	1p.m. to 2:30 pm
Plenary session	Dr Ravi Narayan* International coordinator PHM. Bangalore	60 min	2:30 to 3:30 pm
Valedictory Function		30 min	3:30 to 4:00 pm
TEA 4.00 pm			

* Moderator

Annexure 4

ICMR - WHO Workshop on Prevention and control of NCD
Cardinal Gracias Hall, St. John's Medical College, Bangalore
17th, 18th, 19th October 2005

List of Faculty

Sl. No.	Name	Designation and Place of Work
1.	Dr L M Nath	Professor of Community Medicine, Former Dean of All India Institute of Medical Sciences, New Delhi.
2.	Dr. D K Shukla	Deputy Director General (SG), Indian Council for Medical Research (ICMR), New Delhi.
3.	Dr. C Shivaram	Professor of Community Medicine, Principal, Vydehi Institute of Medical Sciences Bangalore
4.	Dr. Thelma Narayan,	Coordinator Community Health Cell, Kormangala, Bangalore- 560 034
5.	Dr. Vivek Benegal	Professor, Department of Psychiatry, National Institute of Mental Health and Neuro Sciences (NIMHANS), Hosur Road, Bangalore
6.	Dr. Pratima Murthy	Professor, Substance abuse, NIMHANS, Bangalore
7.	Dr Girish N	Asst. Professor, Epidemiology, NIMHANS, Bangalore
8.	Dr. Prem Pais,	Dean, St John's Medical College, Bangalore
9.	Dr R. Bingi	Professor of Cardiology, Jayadeva Institute of Cardiology, Bangalore
10.	Dr S.S. Iyengar,	Professor of Cardiology, St John's Medical College, Bangalore
11.	Dr. Prasanna Kumar	Professor of Endocrinology MS Ramaiah Medical College, Bangalore
12.	Dr. G Bantwal	Associate Professor of Endocrinology, St John's Medical College, Bangalore
13.	Dr. Nagraj Desai	M.S Ramaiah Medical College, Bangalore
14.	Dr. Nandakumar	Project Officer, National Cancer Registry, (ICMR) Bangalore
15.	Dr. Elizabeth V.,	Professor - Head of Gynae-oncology, St John's Medical College, Bangalore
16.	Dr. Dominic M.	Professor, Head – Community Medicine, St John's Medical College, Bangalore
17.	Dr Ravi Narayan	International Coordinator, Peoples Health Movement, Community Health Cell, Bangalore

ICMR – WHO Workshop on Prevention and control of NCD
Cardinal Gracias Hall St. John's Medical College, Bangalore
17th to 19th October 2005
List of Participants

Sl. No.	Name & Designation	Place of Work.
	Govt. of Karnataka-Directorate of Health and Family Welfare nominees:	
1.	Dr. Neela Biradar Deputy Director (Nutrition)	Directorate of Health & Family Welfare Services, Ananda Rao Circle, Bangalore.
2.	Dr. K S Murthy Deputy Director	State Institute of Health & Family Welfare, Magadi Road, Leprosy Hospital Compound, Bangalore.
3.	Dr. A. V. Srinivasa	State Institute of Health & Family Welfare, Magadi Road, Leprosy Hospital Compound, Bangalore.
4.	Dr. Karur B. V. Deputy Director,	State Institute of Health & Family Welfare, Magadi Road, Leprosy Hospital Compound, Bangalore.
5.	Dr. Amaresh Kolur District Surveillance Officer (DSO)	District Surveillance Unit, Gulbarga
6.	Dr. Rohini District Surveillance Officer (DSO)	District Surveillance Unit, Udupi.
7.	Dr. S.S. Halkurki District Surveillance Officer (DSO)	District Surveillance Unit, Haveri.
8.	Dr. N.N. Rajagopal District Surveillance Officer (DSO)	District Surveillance Unit, Hassan.
9.	Dr. Jayaraju District Surveillance Officer (DSO)	District Surveillance Unit, Shimoga
10.	Dr. S.S. Mathiwad District Surveillance Officer (DSO)	District Surveillance Unit, Belgaum
11.	Dr. R. Srinivasalu Consultant, Integrated District Surveillance Project (IDSP),	State Surveillance Unit (SSU), IDS Project Office Directorate of Health and Family Welfare Services, Bangalore.
	Govt. of Karnataka-Directorate of Medical Education nominees:	
12.	Dr. Ranganath Assistant Professor and Head	Department of Community Medicine, Bangalore Medical College, Fort, Bangalore
13.	Dr M P Sharada Professor and Head,	Department of Community Medicine, Mysore Medical College, Mysore
14.	Dr Mudassir Aziz Associate Professor	Department of Community Medicine, Mysore Medical College, Mysore

Sl. No.	Name & Designation	Place of Work.
	Bangalore Mahanagar Pallike nominee	
15	Dr. Savitha S.K, Director,	Urban Health Research and Training Institute, Vyalikaval, Bangalore
	National Institute of Mental Health nominees	
16	Dr. N. Girish, Assistant Professor	Department of Epidemiology, NIMHANS Bangalore 560 029.
17	Dr. Mathew Vargheese Professor	Department of Psychiatry, NIMHANS Bangalore 560 029
	Non-governmental Organisation	
18.	Dr. Sr. Aquinas Project Director	Holy Cross Hospital, Kamgere, Chamrajnagar district
	Private Medical College nominees	
19.	Dr Vijayasimha, Associate Professor,	Department Of Community Medicine, J.S.S. Medical College Mysore
20.	Dr A G Umakanth, Professor	Department Of Community Medicine, JJM Medical College, Post and Dist Davengere
21	Dr. Shobha Karikatti, Assistant Professor,	Department Of Community Medicine, Jawaharlal Nehru Medical College, Nehru N agar, Post & Dist: Belgaum, Pin code – 590 010.Belgaum
22.	Dr Ramesh Masthi N. R. Assistant Professor.	Department of Community Medicine, KIMS, K R Road, VV Puram Bangalore – 560 004
23	Dr. Dayanand M. Associate Professor,	Department Of Community Medicine, M S Ramaiah Medical College, MSR Nagar, MSRIT Post, Gokula, Mathikere, Bangalore- 560 054
	St. John's Medical College nominees	
24.	Dr. B. Ramakrishna Goud Assistant Professor	Department Of Community Medicine, St. John's Medical College, Bangalore.
25.	Dr. Mansoor Ahmed Lecturer	Department Of Community Medicine, St. John's Medical College, Bangalore.
26	Dr. Alben Sigamani Programme Officer Clinical trials	St. John's Institute of Population Health and Clinical Trials
27.	Dr. A.K. Roy. Professor,	Department of Neurology, St. John's Medical College, Bangalore
28.	Dr. Joseph Rajendran Assistant Professor	Department of Medicine St. John's Medical College, Bangalore

ICMR – WHO Workshop on Prevention and control of NCD
Cardinal Gracias Hall St. John's Medical College, Bangalore
17th to 19th October 2005

Group Task Framework for Formulating Draft Recommendations for strategies for Prevention and Control of Non-Communicable Diseases at state level.

Group A – CVD Heart Disease / Hypertension / diabetes
Group B – Tobacco / Alcohol/Mental Health
Group C – Cancer Control

1. What are the health education strategies to reduce risk factor in NCD?
   a. In the Health system
   b. In the education system

2. What are the minimum diagnosis and treatment facilities/guidelines recommended by you for managing surveillance, early diagnosis and treatment at?
   a. Primary Health Care level (PHC's & GP's)
   b. District Level
   c. State Hospital / Institution Level

3. What are your recommendations for recording and reporting of NCD in the state disease surveillance system?

4. What are the other strategies/policies that have a bearing on reducing the risk of NCD (in health and beyond health)?

5. What are your recommendations for investigation and convergence of NCD presentation and control strategies in the state?

6. Specify role of different section represented in workshop
   - District level
   - State level
   - Medical College level
   - Any other

   (In all the above specify what can be done
   a. With the existing resources / existing system.
   b. What needs additional planning and resources?

Annexure 7

ICMR – WHO Workshop on Prevention and control of NCD
Cardinal Gracias Hall St. John's Medical College, Bangalore
17th to 19th October 2005

Teams Members for Group Work for Formulating Draft Recommendations for strategies for Non Communicable Diseases

Group 1- Alcohol, Tobacco and Neuro Psychiatric Problems

Facilitators: Dr Mathew V. and Dr Vivek Benegal

1. Dr K S Murthy- (SIHFW, GoK, Bangalore)
2. Dr Amaresh Kolur-(DSO, Gulbarga, GoK)
3. Dr Jayaraju- (DSO, Shimoga, GoK)
4. Dr Ranganath-(DCM, BMC, Bangalore)
5. Dr Ramesh Masthi N R- (DCM, KIMS, Bangalore)
6. Dr Mudassir Aziz-(DCM, MMC, Mysore)
7. Dr T L Gayathri-(BMP)
8. Dr Karur B V-(SIHFW, GoK)
9. Dr A K Roy- (SJMCH)

Group 2- Cardio-vascular Diseases, Diabetes Mellitus

Facilitators: Dr S S Iyengar and Dr Thelma N.

1. Dr Ganapathi Bantwal-(Endocrinologist, SJMCH)
2. Dr Neela Biradar-(JD, DHS, GoK)
3. Dr A V Srinivas- (SIHFW, GoK)
4. Dr Rohini –(DSO, Udipi, GoK)
5. Dr S S Mathiwad-(DSO, Belgaum, GoK)
6. Dr Dayananda M-(DCM, MSRMC)
7. Dr Savitha S K- (UHRTI, BMP)
8. Dr Joseph Rajendran- (SJMCH)
9. Dr. Mansoor Ahmed –(SJMCH)

Group 3- Cancer Control

Facilitators: Dr Elizabeth V, Dr Dominic M. and Dr Girish N.

1. Dr R Srinivasulu- (IDSP, DHS, GoK)
2. Dr Sharada M. P. (Prof. HOD of Community Medicine)
3. Dr S S Halkurki- (DSO, Haveri, GoK)
4. Dr N N Rajagopal- (DSO, Hassan, GoK)
5. Dr A G Umakanth-(DCM, JJMC, Davengere)
6. Dr Shobha Karekatti-(DCM, JNMC, Belgaum)
7. Dr Vijayasimha-(DCM, JSSMC, Mysore)
8. Dr Alben Sigamani-(Clinical Trials Division, IPHCR)
9. Dr. B. Ramakrishna Goud- (SJMCH, Bangalore)

Expert Facilitators for over all supervision of group work.

1. Dr Shukla D.K.
2. Dr L M Nath
3. Dr Prem Pais
4. Ravi Narayan

Annexure 8

NEW INDIAN EXPRESS, 18th OCT 2005

Tuesday, October 18, 2005

NIE 18.10.05

Non-communicable diseases: 3-day expert consultation begins in City

EXPRESS NEWS SERVICE

Bangalore, Oct 17: The World Health Organisation (WHO), in association with the Indian Council of Medical Research (ICMR) on Monday began a three-day expert consultation at St Johns Medical College here to formulate a state-level draft plan to fight non-communicable diseases, including diabetes, heart diseases, stroke and cancer.

As many as 35 delegates, including senior programme officers and senior faculty members of departments of community medicine in both Government and select private medical colleges in Karnataka are participating in the workshop. The workshop assumes significance in the backdrop of recent disclosure of WHO that non-communicable diseases would kill about 60 million citizens of the country within a short period of ten years. The workshop, which focuses on preventive measures, would discuss in detail the role of tobacco, unhealthy diet, physical inactivity, hypertension, high blood concentration of glucose and cholesterol in increasing the population of patients of non-communicable diseases.

It would also formulate campaign methods to create awarness among the people on healthy life style. The draft proposals would also work as a prelude to formulating an integrated national level programme targeting major risk factors.

Inaugurating the workshop, Dr.Thankaraj, principal secretary of health, expressed the hope that final action plan would be ready by the end of December.

He also expressed happiness over the intervention of WHO and ICMR to formulate such a plan to prevent the non-communicable diseases, which cause not only morbidity and mortality but also loss of precious working hours.

Speaking on the occasion, Dr.D.K.Shukla from ICMR disclosed that a national level action plan would be formulated later on the basis of recommendations from the state-level workshops. "This is for the first time WHO is undertaking such a greater task to fight non-communicable diseases. So far, the stress was on communicable diseases. It's high time to address the challenges posed by non-communicable diseases as they pose severe threat to human existence," he said.

St.John's National Academy of Health Sciences director Fr.Thomas Kalam also spoke.

THE HINDU - TUESDAY - OCTOBER 18, 2005

Allowance likely for doctors in rural areas

Funds for the project to be obtained through a World Bank scheme

Staff Reporter

BANGALORE: Doctors working in rural areas will be given a hardship allowance by the State Government, Principal Health Secretary D. Thangaraj said here on Monday.

Although the proposal for the allowance is still in the preliminary stage, Mr. Thangaraj said the Government hopes to implement it soon. He said the funds for the project will be obtained through a proposed World Bank funds for upgrading facilities at Primary Health Centres (PHCs). The World Bank project for five years is expected to cost Rs. 680 crores.

- Proposal for allowance in preliminary stage
- Most of the 1,600 PHCs not equipped to deal with non-communicable diseases

Speaking at the inauguration of a seminar on Non-communicable diseases organised by the World Health Organisation and the Indian Council for Medical Research (ICMR), Mr. Thangaraj said most of the 1,600 PHCs in State are not equipped to deal with non-communicable diseases. He added that the poor are not aware of the problems of non-communicable diseases and did not seek treatment for them soon enough.

D.K. Shukla, Deputy Director of ICMR, New Delhi, said the seminar on non-communicable diseases, being held at St. Johns Medical College and Hospital, is one in a series of ongoing seminars across the State. He said ICMR is planning to draw up a nation-wide plan on tackling non-communicable diseases using inputs that they receive from different States.

Prem Pai, Dean of St. John's Medical College and Hospital, said non-communicable diseases is a growing problem in India. The hospital, he said, has undertaken a study on prospective urban-rural evaluation of non-communicable diseases.

Annexure 8

KARNATAKA STATE INTEGRATED HEALTH POLICY

6.5 Prevention and control of non-communicable diseases

Karnataka carries a double burden of communicable and non-communicable diseases. The latter include in particular cardiovascular diseases, including hypertension, cancers and diabetes. These have on the whole received less public sector and policy attention due to the magnitude of other problems and issues. However, keeping in view the future perspective especially considering rising life expectancies, growing urbanization and industrialization in the state, and rapidly changing life styles including diets the state will provide greater support to the prevention and control of non-communicable diseases.

- It will use a public health approach by adopting strategies to reduce the risk factor for these diseases and by using health education to promote healthier life styles.
- It will initiate polices to discourage the use of tobacco and alcohol, which is on on an increasing, curve due to intensive advertisement and aggressive marketing. Over 25 serious diseases are associated with the use of tobacco and several diseases and social problems are linked to alcohol. These are described as communicated diseases. They are both addictive substances.. Policies that would reduce consumptions of these include bans on sponsorship of sports and entertainment; bans on direct and indirect advertising; higher taxation; sales to be barred within certain distances from educational institutions; and public education, especially among children and youth as part of life skills education; education of health personnel.

In the case of tobacco, measures include banning smoking in public place to prevent passive smoking and working towards alternative crops and alternative employment for those engaged in its cultivation and production. Chewed tobacco in particular is a growing problem with widespread use among women (40-60% in different groups) and even among children as its addictive nature is not widely known. Comprehensive tobacco control includes smoked and chewed tobacco. The appropriate measures would be taken to the extent feasible to mitigate the use of tobacco.

In the case of alcohol there is a need for strategies to help women and children cope with men who drink heavily. De-addiction strategies using group therapy such as alcoholic anonymous groups will be supported, besides individual therapy and counseling.

Education regarding the deleterious effects of tobacco and alcohol will be included in school and college curricula.

- Diagnosis and treatment for non-communicable diseases will be made available at primary health care level. This will require preparation of treatment guidelines and supply of diagnostic equipment and drugs.
- Recording and reporting of non-communicable diseases as per the international classification of Diseases will be introduced into the diseases surveillance system

- The cancer control programme will also be strengthened by discouraging the use of tobacco, health education, early detection and provision of treatment. Facilities will be made available at regional level and later in a phased manner in some districts where medical colleges exist. Grants provided by the national programme will be fully utilized.

. NON-COMMUNICABLE DISEASES

An early definition of non-communicable chronic diseases was that they included an impairment of bod structure and /or function that required modifications in the patient's normal life and which persisted over extended period of time. They often cause residual disability and require a long period of supervisi observation and care.

Most of these diseases cannot be cured but have to be relieved and managed lifelong. There are no relia data available at present, regarding the prevalence of these diseases in the community in Karnataka. Ther inadequate planning either to prevent or manage these diseases. The basis of our strategy should be to devel preventive strategies regarding the risk factors and to treat patients at or near their homes with proper refer systems for complicated cases.

5.6.1 DIABETES MELLITUS

Situation analysis: Burden of the Disease

There are only few surveys in Karnataka indicating the burden of the disease. The crude prevalence rate Diabetes Mellitus Type II in Bangalore City is 13.2% between the ages of 20 to 80 years. (part of natio diabetes survey). The Karnataka Rural Diabetic Survey conducted by Diabetic Club, Bangalore at B.R Hi Sringeri, Hariharpura and Udupi, between the age groups 20-85 years gave a crude prevalence rate 7.77% and age adjusted rate of 6.42%. The prevalence in men and women (7.83% & 7.71%) is almost t same.

Table 5.13: Prevalence of Diabetes Mellitus

Place	N	Prevalence
B.R. Hills	1288	2.95%
Sringeri	1380	7.65%
Hariharpura	479	14.6 %
Udupi	500	11.8 %
Crude prevalence for women		7.83%
Crude prevalence for men		7.71%
Age adjusted prevalence		6.42%

This survey is an ongoing survey and subjects will be followed up for 3 years duration.

Apart from the large number of diabetics requiring treatment, it must be remembered that diabetes mellitus a high blood pressure are risk factors for coronary artery disease. Further, inadequate and improper treatme may result in complications like renal failure, cardiac failure, gangrene of the legs and retinopathy leading blindness. The state or individuals/ families have been spending large amount of money for managing the complications, and hence primary and secondary prevention assumes great importance.

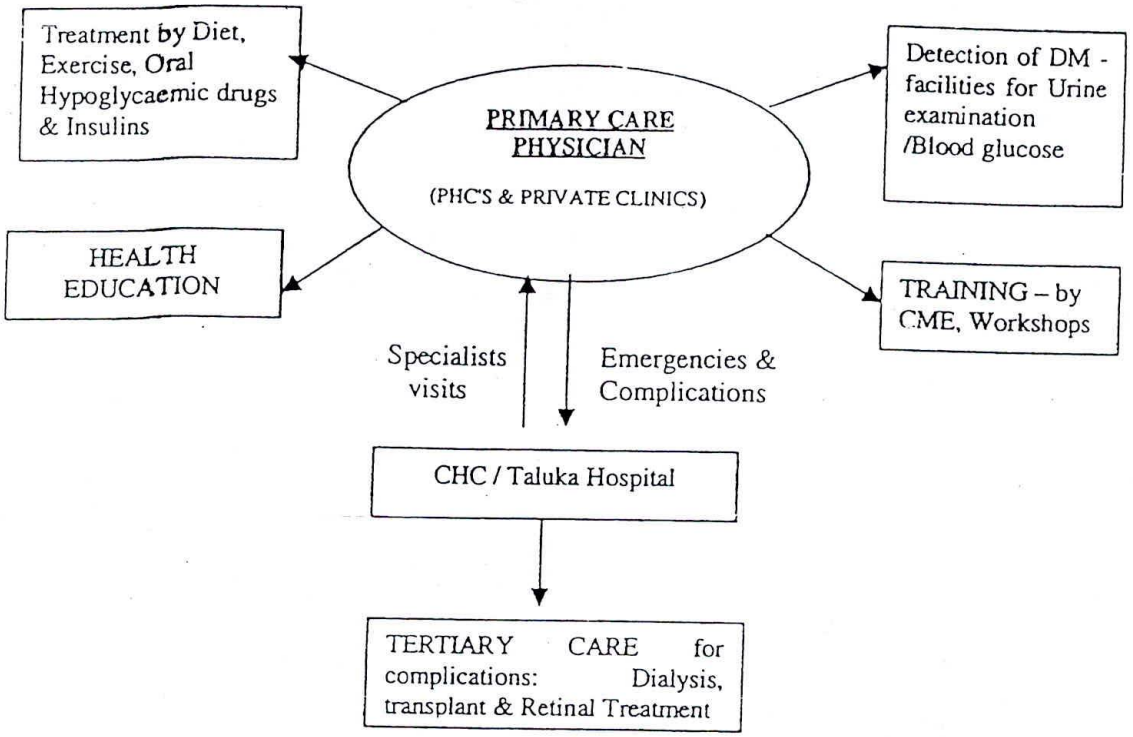
Prevention and care strategies: A population strategy aims to prevent the emergence of risk factors. Health education should particularly promote maintenance of normal body weight, through healthy nutritional habits and physical exercise. In the high-risk strategy, persons at risk would be advised to avoid alcohol that indirectly increases the risk further; avoid diabetogenic drugs like oral contraceptives; and reduce factors promoting atherosclerosis, like smoking. Secondary prevention measures recommended include good management of diabetes with patient education and self care.

Recommendations

- *Epidemiological surveys may be undertaken in rural, and urban areas to understand the "burden" of diabetes mellitus and for proper planning for control and prevention of diabetes mellitus. The survey may be confined to the 20-90 year age group, using fasting blood sugar levels above 126mg/dl as the criterion. Surveys of hypertension, coronary artery disease and stroke may be undertaken along with diabetic surveys.*
- *Laboratory facilities: It is essential to provide minimum facilities to diagnose diabetes mellitus even at PHC level. This includes a colorimeter, glucostrips or Benedict's solution. The colorimeter is not costly, and the expenditure for glucose estimation is not more than Rs.2/-. The instrument may also be used for estimating blood urea and creatinine.*
- *Constant supply of essential drugs like insulin and oral hypoglycemic compounds are necessary. The conventional insulin may be used instead of costly ones like purified / human insulin except in certain special circumstances.*
- *Continuing Medical Education (CME) and other training programmes: Diabetes being a common disease, it is necessary that doctors / nurses and technicians are exposed to CME programmes regarding the early detection, treatment and preventive measures. The course may be of 3-5 days duration.*
- *Referral System: It is practical that most patients are treated at PHC level. Occasionally patients need to be transferred to the CHC / Taluka hospital for specialist opinion and treatment. The cases with emergencies like diabetic coma and gangrene should be transferred to higher levels of care. Other cases with chronic complications may be referred or specialist's visits may be organised at PHC's on regular basis. Some guidelines may be formed for referral / treatment (See Appendix).*
- *Health Education: Health education regarding early symptoms, complications, foot care, diet, exercise and prevention of diseases and their complications is required. There is a need for orientation courses for health workers / IEC staff regarding various aspects of diabetes mellitus with special emphasis on the above.*
- *In view of the burden of the disease, it is necessary to develop* ***District Diabetic Control Programme****. To start with, one Medical Officer for all non communicable diseases at the district may be designated to supervise detection, drug supply and health education programmes.*

Appendix

DIABETIC CARE



5.6.2 CARDIOVASCULAR DISEASES (CVD)

Among all the non-communicable diseases, cardiovascular diseases taken together are the leading cause of morbidity and mortality. India and Karnataka are currently in the rising phase of an epidemic of cardiovascular diseases, propelled by a shift in the population distribution of risk factors. It would be prudent for the state to initiate measures to prevent cardiovascular diseases. The cost of diagnostics and therapeutics is high, with treatment being required on a long-term basis. This is unaffordable for most people. It would therefore be appropriate to spend resources on primordial and primary prevention, namely, avoiding or reducing and modifying risk factors associated with CVD. Attention should also be given to Rheumatic Heart Disease that is still widely prevalent in the country/state.

5.6.2.1 Coronary Artery Disease (CAD)

Situation analysis: Coronary heart disease is becoming a major health problem in India, reaching almost an epidemic proportion. However, there is no national programme on prevention in the offing. As per the current estimates at least 50 million patients are suffering from CAD. A population survey gave a prevalence rate of 10.9% in urban and 5.5% in rural males between the age group of 35-64 years. The corresponding figures for females are 10.2% and 6.4% for urban and rural populations respectively (Reddy K.S. Cardio-vascular diseases in India-World Health Statistics 1993).

Reliable measurements of prevalence may be difficult. There could be coronary artery disease without symptoms and ECG changes; ECG changes may be false positive for coronary artery disease. The hospital-based statistics especially from tertiary care hospitals may not represent the true picture.

ictors include diabetes mellitus, high blood pressure, smoking, positive family history, gender, body mass index, aist-hip ratio and life style. Lipid risk factors include total cholesterol level, triglycerides level, low HDLC and gh LDLC levels.

he management and treatment of coronary artery disease is costly and may end up with costly investigations management, like echocardiography, coronary angiography and coronary artery bypass surgery. Prevention coronary artery disease is the need of the day and there has been a consistent decline in coronary artery sease in USA using preventive measures.

Recommendations

Epidemiological sample surveys regarding the prevalence of risk factors in Karnataka need to be conducted especially for diabetes mellitus, high blood pressure, positive family history, smoking etc., which will help developing prevention strategies. However preventive measures may be initiated now itself based on available data.

Case detection and emergency management of ischaemic heart disease, to be done at PHC / general practitioner's level. The patient has to be transported to CHC / Taluka Level Hospital for confirmation of diagnosis and further management.

Essential drugs like Nitroglycerine Tab, Pethidine, Morphine, parenteral diuretics, oxygen etc must always be available. Well-equipped ambulance services to shift the patient to referral centres should be available.

Preventive measures: *To achieve the goal of preventing coronary artery disease it is important to avoid major risk factors which is the basis of "success stories", in USA and other western countries.*

(a) *Controlling intake of salt, saturated fats and calories. Smoking is one of the most important risk factors. Smoking is seen in 75% of those with coronary artery disease and 80% of smokers have CHD. Community surveys conducted with urban and rural populations suggest that 50-55% of adult males smoke. Smoking control measures include increase in government taxes on cigarettes & beedies, ban on smoking in work and public places, ban on advertising and sponsorship of sports and games and cultural events by tobacco companies, limitation of tobacco crop subsidies and support for crop conversion to other crops and community education programme. (See section 5.10 for details).*

(b) *Increasing leisure time physical activity & practice of yoga and regular exercise.*

(c) *Increasing consumption of "heart healthy" food such as fruits, vegetables, high fibre cereals, oils containing poly & mono-unsaturated fats, (eg. mustard-rapeseed oils, soya bean oil and avoiding hydrogenated oils)*

Proper control of diabetes, high blood pressure and lipid levels:

Use of lipid lowering agents are proved to be beneficial. However, the need for life long treatment, with high cost of drugs makes it difficult for government or the patients to afford them.

Health education/ health promotion programmes have to be strengthened with special training for health staff on DM, HBP and CAD. Co-ordination with NGOs and private sectors is essential.

5.6.2.2 Hypertension

Situation analysis: Hypertension is a major contributor to cardio-vascular morbidity and mortality in India. There is paucity of large, authentic epidemiological studies in India, involving the age group of 18-80 years from different parts of the country. The prevalence rate varies from 1.24 to 11.59% in urban and 0.52 to 7% in rural areas. These studies have lot of shortcomings, in terms of differing examination techniques and diagnostic criteria employed. The study conducted by Diabetic Association of Karnataka in rural areas, involving the age group of 20-85 years, gives a crude prevalence rate of 16.35% and 18.12% for women and men respectively.

The cardio-vascular & cerebro-vascular complications in untreated hypertension are significant and management of these complications is costly. Hence there is need for proper guidelines and policies regarding the detection and management of the disease. Health education regarding prevention of disease and its complications is an essential part of health management.

Recommendations

- *There is need for multiple sample surveys to be conducted, to have some idea of the "burden" of the disease, for proper planning of our strategy for management of hypertension. There is need to take support of NGO's and specialist organisations. Estimation and recording of blood pressure must be a part of routine examination by the doctor.*
- *There is need for uniform method of taking blood pressure, criteria for diagnosis, evaluation of the patient and guidelines for management. A protocol for diagnosis and management may be suggested for all doctors working at various levels. (Tables I –IV). As majority of hypertensives are mild, they should come under the purview of primary health care either in urban or rural areas.*
- *Facilities: There is a need for well maintained standard mercury sphygmomanometers and with standard cuff in all centres. There is no need to buy any other type of sphygmomanometers. Routine investigations of urine and blood should be done in all PHC's. For investigations like ECG and chest X-ray the patients may be referred.*
- *Constant supply of anti-hypertensive drugs must be maintained. Less expensive drugs with minimum frequency of dosage are preferred which increases the patient's compliance (Table 4).*
- *Health education programmes are very essential for both primary and secondary prevention. Special stress on control of smoking, restriction of salt, saturated fat intake and reduction of weight has to be laid.*
- *There is need for conducting frequent continuing medical education programmes for doctors and health education workers.*

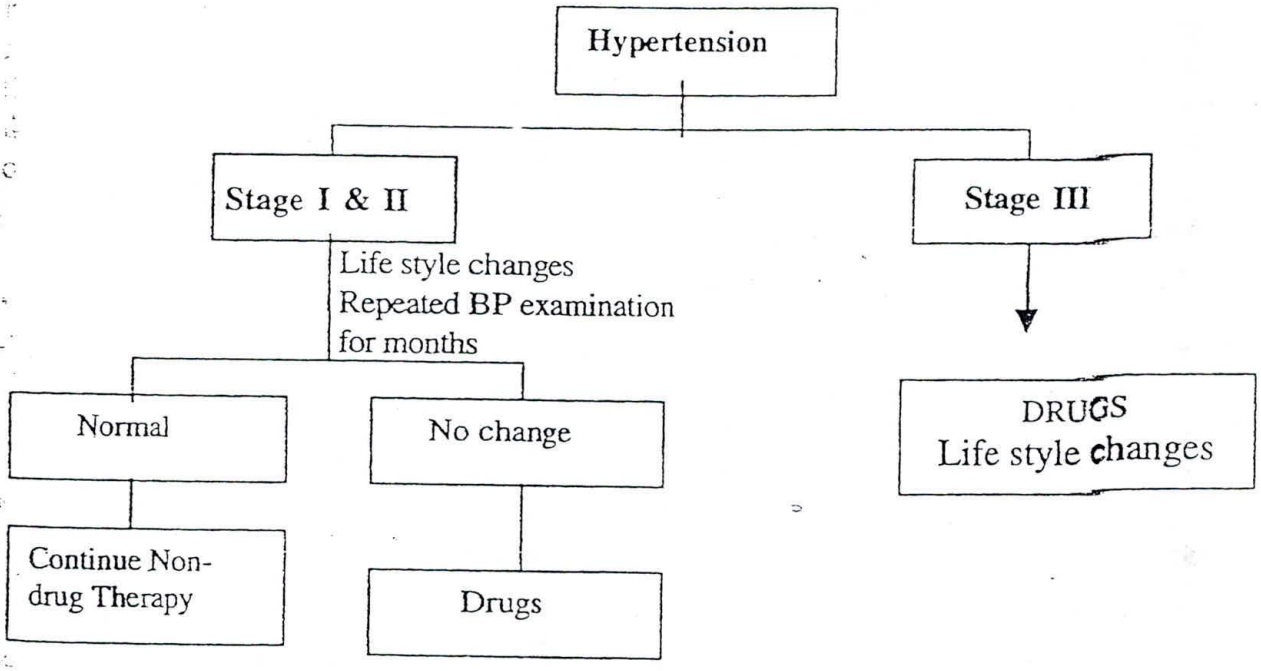
Table 5.14: Classification and criteria for hypertension

CATEGORY	SYSTOLIC (mm Hg)	DIASTOLIC (mm Hg)
Normal	<130	<85
High normal	130-139	85-89
Hypertension:		
Stage 1	140-159	90-99
Stage 2	160-179	100-109
Stage 3	> 180	> 110

(Based on: 2-3 blood pressure readings taken at least on two visits after initial screening.)

1.	Instrument Aneuroid Sphygmomanometer	Standard mercury Sphygmomanometer cuff: Bladder – 12 cm x 35 cm Bladder should cover 2/3rd of length of the arm. Accuracy to be checked against standard mercury sphygmomanometer.
2.	Measurement:	First appearance of the sound – systolic BP (Korotkoff) Disappearance of sound – Diastolic
3.	To refrain from smoking / drinking coffee 30 min before measurement.	
4.	Position:	Supine or Sitting To keep the arm at the level of the heart.
5.	Measure the B.P in both arms and take the higher reading.	

Table 5.16 : Management – Protocol



1. Life style changes include stoppage of smoking, alcohol intake, reduction of obesity, Low salt and fat diet, exercise and relaxation.
2. If there is target organ involved, drug therapy to be instituted.
3. Refer: when there is secondary hypertention, resistant cases and emergencies after initial treatment.

Table 5.17: Drugs

First line:

Thiazide diuretics
Beta-blockers
Calcium Channel blockers
} to be available at the Primary Health Centre.

Alpha blockers
ACE – inhibitors
} may be considered in referral centres

Other Drugs

Alphadopa
Hydralazine
Clonidine
Reserpine

5.6.2.3 Rheumatic fever / heart diseases

Prevalence: A reasonable estimate regarding the prevalence may be made by survey of Rheumatic Fever (R.F. and Rheumatic Heart Disease (R.H.D.) of hospital admissions and survey of school children. The All India Collaborative study of school children of 5-16 years of age in 1970 suggests a prevalence rate of 0.56%. A pilot study from Vellore showed a prevalence rate of 5.4 / 1000 and 6.0/1000 in rural and urban pupils respectively.

The antecedent Streptococcal pharyngitis causes rheumatic fever that may lead to rheumatic heart disease. Once the heart disease is established, patient has to be treated surgically or by other interventions and financial burden increases. Bacterial endocarditis may complicate the RHD with dental and other surgical procedures.

Repeated attacks of R.F. may lead to R.H.D. Primary prevention includes use of penicillin to prevent streptococcal infection and Benzathine Penicillin 12 lakhs once in 3 weeks is advised. Antibiotics prior to and after surgical or dental procedure are to be used as bacterial endocarditis propylaxis.

Recommendations

- *Rheumatic fever may be detected at PHC level and may be treated.*
- *Benzathine Pencillin should be supplied to PHC's for Rheumatic fever prophylaxis programme. (The duration of prophylaxis is controversial, but it is advisable to give penicillin upto 25yrs of age).*
- *Patients with R..H.D.s are referred to specialist / tertiary care hospitals for special investigations, surgery and other interventions.*

5.6.2.4 Thrombo angitis obliterans (Berger's disease)

The disease is characterised by occlusive disease of the small and medium size arteries occurring in males in the age group of 20-40 years. Lower limb is usually involved. The symptoms and signs of occlusive disease will be present and gangrene of legs/toes are common. The exact cause of the disease is not known, but use of tobacco seems to an important cause. Treatment entails giving up of smoking, which prevents the disease. Use of vasodilators and lumbar sympathectomy may give temporary relief of symptoms. Gangrene of toes and legs needs amputation.

Recommendations

- *Discourage use of tobacco as a definite measure to prevent jthe disease.*

Diseases of the respiratory system form one of the common causes for OPD treatment and inpatient admission. Chronic bronchitis and bronchial asthma form major contributors for morbidity. Reliable data regarding the prevalence are not available.

Bronchial Asthma

India alone has 20 million asthmatics; this is increasing every year. A survey conducted in Bangalore (1991) between ages of 15-65 years gives a prevalence rate of 2.99% (Omprakash and S.Rao) In majority of people, the disease starts at a young age. There are a number of precipitating factors that are responsible for the attack of asthma.

a) Inhalation of cold air – seasonal
b) Respiratory tract infections
c) Allergens: House dust, Pollens, Moulds etc.
d) Environmental pollution: Cigarette smoke, fumes of petrol, vapours and strong scents & perfumes.
e) Exercise
f) Drugs – NSAIDS especially Aspirin

Situation:

An acute attack of asthma is being treated mostly on an outpatient basis with administration of parenteral bronchodilators / steroids in most of the clinics with occasional admissions. The use of Ephedrine is very much reduced and metered dose inhalers (MDI) are not popular yet, especially in the rural areas. Nebulisers to treat the acute attack are not available in most of the rural centres. The patients are maintained on bronchodilator tablets. Preventive measures like avoiding allergens like pollen, chemicals, dust and food allergy and drugs are often discussed on individual levels.

Recommendations

Every health centre / practitioner must have the drugs and facilities always available to treat asthmatics. Drug supply should include injections of Deriphylline, Aminophylline, Adrenaline, Steroids and tablets of Salbutomol, terbutaline.

It is desirable to supply pressurised aerosol nebuliser in every health centre, so that an acute attack may be relieved, even at subcentre levels.

Preventive measures and health education may be addressed individually. Lowering environmental / industrial pollution should be taken up as a part of wider health issues.

Chronic bronchitis:

Chronic bronchitis is the commonest lung disorder after tuberculosis and equally prevalent in rural and urban areas. The various factors causing this condition are:

Smoking: It is the most common single factor leading to chronic bronchitis. Hooka and beedi smoking is as harmful as cigarette smoking.

Occupational exposures: to organic and inorganic dusts or noxious gases.

Air pollution: Industrial effluents, smoke from wood fires

The condition is usually recognised even at the peripheral centres and clinics. Chest X-ray is occasionally prescribed to rule out associated pulmonary tuberculosis.

Recommendations

- *Every primary care doctor / medical centre must be able to handle cases of chronic bronchitis and its acute exacerbations. There must be a constant supply of drugs like bronchodilatiors (injections & tablets), Nebulising solutions / nebulisers, antibiotics and oxygen.*
- *Preventive measures, health education regarding smoking and control of air pollution are important from individual / community's point of view.*

5.6.4 CANCER

Situation Analysis

With the increase in life expectancy and increasing exposure to certain chemicals, cancer has become a public health problem. Cancer is a major cause of death in India. Nearly 45,000 new cases of cancer are detected in Karnataka every year. It is estimated that the prevalence is about 1.5 to 2 lakh cases.

The common cancers in women are cancer of the cervix and breast cancer. With increasing tobacco use in the form of smoking and use of gutka, especially by men, oral, oesophageal and lung cancers are more commonly encountered.

There is need for looking at the problem of cancer in Karnataka in a broader perspective encompassing prevention, early detection, access to treatment and utilisation. Presentation of cancers often occurs in advanced stages due to a combination of lack of awareness, poor economic condition, fear of disease and inadequate diagnostic facilities.

Presently only one third of cancer patients receive treatment in specialised centres. There is need to establish more cancer treatment centers with low cost, high quality care. Involvement of the non-governmental agencies is very crucial.

Plan of Action

- The Director, Kidwai Memorial Institute of Oncology has prepared comprehensive recommendations for Karnataka State cancer control programme, which is quite self-explanatory and practical and should be acted upon (Annexure – 1).
- However, this booklet covers only government departments catering to oncological care. A general view must be taken to encourage non-profit oncological institutions. Private-for-profit institutions must also be taken into confidence as they also cater to sizable part of the population.
- Government should consider exemption from taxation on anti-cancer drugs and certain sophisticated oncology equipments such as Telecobalt units.
- The government of India under the cancer control programme gives some grants to establish radiotherapy centers and cancer detection centers in government hospitals, medical college hospitals and non-profit

extent, as it will help to have detection and treatment centers in all district head qua... control programmes should be developed

- Oncology care should be comprehensive. Patients in their terminal stages need close nursing attention and an empathic treatment. The concept of hospices must be encouraged in all divisional centers with the help of voluntary organisations. The Government should help them in granting the required land and also financially assist these centers.
- As half of all new cancers diagnosed are tobacco related. The government should discourage tobacco production, manufacture of tobacco products and sales, through education and legislation. (see 5.10).
- It is advisable to encourage the use of well-established non-allopathic methods such as ayurveda, homeopathy, siddha, yoga and naturopathy, at least in the centers of excellence established for oncology care. This can be done scientifically with a research approach and documented. However, the exploitation of gullible people by quacks for these chronic diseases must be disallowed.
- With this multi faceted approach, and through imparting oncological concepts at primary & secondary health care levels, along with establishing few zonal centers of excellence, one can work towards satisfactory cancer control and care.
- The cancer registry is doing good work and must be further developed.
- The programme should have a strong component regarding prevention of exposure to risk factors and to early detection.

Cancer control among women

Special attention is needed, as women tend to seek treatment late and come in advanced stages of the disease. Health education, early detection and management of the more prevalent cancers such as cancer cervix, breast and oral cancers by trained health personnel should be taken up as an integrated programme. In addition, women can be taught to conduct self-examination of the breast.

1. Health education programmes regarding commonly occurring cancers, and their aetiological and risk factors, such as tobacco and alcohol use; poor reproductive hygiene; techniques for prevention and importance of early detection should be undertaken. Health promotion should facilitate safe hygiene practice, safe sex practice and also encourage women to demand visual inspection of the cervix from the trained health workers.
2. Screening and early detection programmes for cervical cancer as recommended by KMIO should be effected by ensuring the following:
   - promote early detection and down-staging through appropriate screening methods.
   - target women 35-64 years of age groups.
   - maintain a cancer registry
   - referral and follow up services.
3. Women health personnel (both health workers and lady medical officers) should be responsible for and trained to perform visual inspection of the cervix and triaging of its appearance into normal, abnormal and suspicious of malignancy; and make appropriate referrals.

marking pencil and fixative solution.

- The screening can be performed at the PHC, Primary Health Unit, and the village school or at the homes of the women.

4. For further investigations samples required (Cervical smear / Fine Needle Aspiration Cytology) can be drawn at the PHC and sent to district laboratories for investigations. Surgeries and chemotherapy can be performed at FRUs. Only cases requiring radiation need referral to specialized centers.
5. Prior to the launching of public health efforts to prevent and downstage cervical cancer, it is critical to ensure the availability and accessibility of therapeutic services- early detection, treatment, referral networks, and palliative care. It is no use empowering women, if diagnosis, referral and treatment are not guaranteed.
6. Treatment of early stage cancer is not less expensive, or less technology intensive, than late stage disease; however, it is more effective because of higher rates of survival and cure. Bleeding and foul-smelling discharges which occur in late stages can be avoided.
7. Palliative care can ensure that unacceptable, unnecessary suffering can be avoided. Nearly 80-90 per cent of pain can be managed using drugs, which cost less than aspirin. Early stage disease can be successfully treated by either surgery or radiation therapy, but in the advanced stages, only radiation therapy and palliation are useful.
8. Public-private partnerships in all these areas are essential. Eg. Specialists to augment services of government doctors; radiation therapy totally free or at minimal costs by using the facilities of private institutions at nighttime or during other lean periods / holidays.

Recommendations

- *Primary prevention*
  - *Health promotion programmes in schools and colleges and for the public to reduce use of tobacco, and education regarding proper food, personal hygiene and early warning signals.*
  - *Intensive anti-tobacco campaigns by doctors, nurses, paramedicals, teachers, social worker and anganwadi workers and voluntary organsiations*
  - *Orientation programmes in the problems of tobacco use for all people's representatives and other decision makers.*
  - *Legislation to reduce tobacco use and other measures. (See Chapter 5.10)*
- *Secondary prevention*
  - *Have cancer detection camps with the help of voluntary organisations to create awareness and detect cancers at early stage.*
  - *Have cancer detection units in hospitals*
- *Tertiary prevention*
  - *Have multidisciplinary treatment facilities at Kidwai and other identified centers: surgical, medical, radiation oncology and supportive systems*
- *Palliative care for terminally ill cancer patients.*
- *Have a District Cancer Control Programme, consisting of a field unit and a clinical team, with staff trained at Kidwai Memorial Institute of Oncology and located at the District Hospital.*
- *Cancer Registry to be expanded and link later to the epidemiological disease surveillance system.*

KARNATAKA STATE CANCER CONTROL PROGRAMME PROPOSED COMPREHENSIVE INTEGRATED MODEL

I. Preamble

The need for early detection of carcinoma cervix in India in order to decrease mortality is well known. No significant progress has been made until now, probably due to lack of a suitable model for India. Inspite of extensive work done in several parts of the country, conventional models have failed to produce the desired results. Hence there is a need for innovative methods to suit our socio-economic conditions.

The Conventional Models

- **Opportunistic Screening:** This type of screening is unlikely to succeed in the Indian scenario as most of our rural population are illiterate and have no access to such screening facilities.
- **Organised Population Based Screening:** WHO recommends this project for developing countries – atleast once in a lifetime screening for women between 35 & 60 years and covering atleast 80% of the population.
- **Visual Inspection Method:** This method was studied in KMIO in a ICMR – WHO project using the existing health infrastructure. There were many problems encountered.
  a. The existing health infrastructure is already over burdened with National and State health projects. Hence the personnel were very reluctant to accept any more additional programs. The cancer control projects need commitment in terms of time and dedication.
  b. To improve efficiency, NGO's were involved to educate the people and motivate them to "demand service" from the existing health infrastructure. Unless the NGO's involved are totally dedicated and committed, it would not be practical to apply the programme all over Karnataka. NGO's are ready to involve themselves in a time bound programme only.
  c. Many women were very reluctant to undergo visual inspection. The compliance rate was very low.

II. The Problems With Existing Models

1. Efficiency

COST	PAP TEST
No. of tests (each taluk)	40,000 women
Cost per PAP smear at	Rs.20 (minimum cost)
Total cost for one taluk	Rs.8.0 lakhs
Total cost for one district of 6 TQ	Rs.48 lakhs
Detection rate @ 40/100,000	16 patients / taluk

Effective cost per patient for single pap test only: Rs.50,000.

Other expenses: Staff salary + additional TA & DA, transport etc

Impression of ICMR studies: This method is unacceptable on cost effective basis.

2. Logistic Problems

(For the detection of 16 patients of carcinoma cervix in a year)

Total number of population to be examined in a taluk	40,000
@ 50% compliance rate for examination	20,000
Effective working days	220
No. of patients to be examined per day	91
No. of doctors needed on duty (@ 4 pts per hr.	3

Other requirements:

Nurses, survey team, education team, attenders, drivers,
Cyto-technicians
Transport?
Stay?
Organisation of camp site?
Salary burden of entire team?
Repeat visit team?
Putting together dedicated team of KMIO, PHC's and NGO's etc

3. Ethical problems

With organised screening programme less than 3% are expected to have dysplasias, where immediate treatment may not be necessary, but they need to be followed very scrupulously. For a population of 40,000 eligible female population, 1200 persons are expected to have dysplasias. This burden increases every year. After 5 years this would become an unmanageable load. This would lead to an ethical problem because we have created a "fear" that some thing is not normal and cannot provide the adequate treatment facility at the same time. We would have created a population with "worry", who otherwise would be living happily.

Summary: All trials based on Existing Models have been unsuccessful in India!!

It has lead to only intense and prolonged scientific discussion with almost no benefit to the community.

III. PROPOSED COMPREHENSIVE-EDUCATION, EARLY DETECTION AND TREATMENT-INTEGRATED MODEL FOR KCCP.

This model is comprehensive because it encompasses the concepts of education for cancer awareness and prevention of disease; specified, regular, fixed timeplace cancer detection clinics for **early detection**; and provision of **cost-effective treatment** as near to patient's home as possible.

It is integrated because it involves participation of existing Government health infrastructure, Panchayathi Raj system, NGO's and KMIO.

It is in a way incorporation of practical features of various models, that are described earlier, to suit our set up.

A. THE BASIS OF CONCEPT

"The answer for all our national problems-the answer for all the problems of the world-comes from a single word. The word is education."

-Lyndon B. Johnson.

"You can only cure few, but you can prevent

Main theme is "Population based systematic health education with early detection clinics". This is significant paradigm shift from "ACTIVE INTERVENTION" TO "ACTIVE MOTIVATION and SELF EMPOWERMENT". With this model primary thrust is motivation in order to make people take measures to prevent cancers (and other diseases by "bystander effect") and come soon for examination resulting in early detection. The message that will be conveyed to the person in the remote village – **"you are responsible for your health"**.

Power of Panchayati Raj System:

- Karnataka Panchayati Raj Act of 1993 has a provision which says that gram panchayats may also carry measures which are likely to promote health, safety, education or social and economic well-being of its inhabitants.
- Subsequent notification of July 1994, listed schemes for Zilla and Taluk panchayats with transfer of funds to specific areas. Forty two schemes have been identified under the Zilla Panchayats, one of which is cancer control.
- July 1994 notification also brought PHC's under the control of Zilla Panchayats.

B. Components:

I. FIELD UNIT AT DISTRICT CENTRE + DISTRICT HOSPITAL (ZILLA PANCHAYAT LEVEL)

a. **Education Team:** The team would be located at the district hospital and would be minimum of two in number. But the operational level of the unit would be at the taluk panchayat level, which is 6-8 in number, under each district. The team will visit each taluk under the district, 2 days every month. Each taluk panchayat will have 40-50 Gram panchayats. From each gram panchayat 1 person per day, will attend the educational session. The person would be a health worker / Anganwadi worker / school teacher / Agricultural extension worker / NGO's / social worker / elected member as decided by the particular gram panchayat. Those who attend the education camp would be given simple pictorial pamphlets to be given to the village person. The next batch will give the feed back about the action taken by the previous batches. This will set in place an effective feed back system to assess the effect of cancer control programme.

The mode of education would be group type. The time of education can be coincided with existing taluk level programs for the gram panchayat members. In addition bus exhibition, one to one interviews, flip charts, pamphlets, encouragement of "word of mouth", media (news paper, radio, TV etc.) would be employed.

One education team will have 1 person from KMIO to co-ordinate the whole operation and 3 persons from Zilla panchayat.

b. **Clinical Team :** This team will be formed from the existing staff of district hospital, who would be given training at KMIO if necessary. The other facilities to be organised from the existing infrastructure of District Hospital are:

- Facilities for detailed clinical examination of oral cavity, breast and cervix and Pap smear.
- Other investigations (based on symptoms).

- Treatment facility for diagnosed cases.
  1. Radiotherapy at PCC's
  2. Surgery by district hospital surgeons trained at KMIO.
  3. Chemotherapy by trained staff.
  4. Active Pain relief measures by trained staff.
  5. Referral to KMIO if absolutely necessary.
- Dysplasia and leukoplakia clinic to keep the patients on follow-up.
- Computer network to co-ordinate the programme instantly.

II. **EARLY CANCER DETECTION CLINIC (ECDC):** The team made of district and taluk hospital personnel will attend cancer detection camps at taluk level in order to "Reach the Unreached". The duration of camp could be 1-2 days every month depending on the response at each taluk under the district. The concept is – provision of clinical facility for the persons who re motivated by the education, who otherwise do not know where to go or what to do. Once the education process is initiated, it is obligatory to provide such a facility. No attempt should be made to have organised screening procedure that has ethical implications and opportunistic screening which is not cost effective.

The purpose of the ECDC team

a) Provide early detection facility for the village individual at a reasonable distance;

b) Act as reinforcements and catalysts to activities of PHC's and taluk hospitals. The ECDC camp can be coincided with the visit of education team camp.

III. **RANDOM SURVEY TEAM:** This is done at selected places in random fashion, covering the Gram Panchayaths, villages and PHC's / Taluk hospitals, to monitor the effect of control programme. Already existing Management Information Evaluation System (MES) of Govt. of Karnataka can also collect the feedback information.

IV. **ADVISORY COMMITTEE AND WORKING COMMITTEE:** These committees will help in providing finances, organisation of education and ECDC camps.

V. **GRAM PANCHAYATS:** The individuals from the Gram panchayats who have been trained will educate the other personnel of gram panchayats. They in turn will educate the village individuals. The personnel who can undergo the educational training are:

a) health workers
b) anganwadi workers
c) school teachers
d) agricultural extension workers,
e) elected members
f) NGO's decided by the gram panchayats.

VI. **PHC's AND TALUK HOSPITALS:** Taluk hospital will be a nodal point for education and ECDC camps. Both PHC's and Taluk hospitals will provide the visual inspection and PAP smear facility to the individuals who seek clinical examination. The PAP smears will be then sent to the cytology lab at district hospital. ECDC's will act as reinforcements and catalysts to the activities of PHC's and taluk hospitals.

VII. **BASE UNIT AT KMIO:** The Base Unit at KMIO will initiate, monitor, analyse and coordinate the programme and train the personnel. Network of computers will facilitate the acquisition of data.

II. DIRECTOR KMIO: The Director of KMIO will be in charge of the entire programme and report the progress to the Government of Karnataka.

HEALTH SECRETARY TO GOVT. OF KARNATAKA: Secretary, Health and Family Welfare, Government of Karnataka will help to co-ordinate Government Health infrastructure with KCCP. He will also coordinate between the feedback information received from KMIO and MES.

METHODS:

ıree-pronged strategy will be adopted.

Education to use proper food items and personal hygiene: Fresh vegetables and fruits decrease the incidence of cancer very significantly. Effective slogans will be coined to convey the message.

Anti-tobacco education programmme: Enough experience has accumulated by KMIO regarding this. Existing Anti-Tobacco Cell at KMIO will be used to organise this. Anti tobacco education in Kolar District spanning over 3 years, has shown significant decrease in the use of tobacco.

WHO warning signals: Symptomatic persons, especially having Persistent and Progressive Symptoms need to attend the PHC / Taluk hospital / field unit at district centre for examination. Awareness encourages people to come in the beginning of symptoms resulting in Early Detection.

ADVANTAGES

Cost would be phenomenally minimal versus other methods.

Logistically easy to maintain a team in one permanent place.

The field units of District centres can be established immediately with minimum personnel and cost, at all the districts of Karnataka to cover the entire 5 million population.

Cumulative salary burden and overheads would be low.

Can be started simultaneously in strategically different places with very large population coverage.

No ethical problems since people come on their own and are advised follow-up.

Can be easily duplicated in any other place and disease.

Will reduce the patient load at KMIO.

By **"bystander effect"** there will be influence on incidence of:

- Cardiovascular disease due to anti-tobacco and diet education,
- AIDS due to sexual hygiene education
- Nutritional and infectious diseases due to diet education.

Once this model is established all over Karnataka, it will form a template for engraftment of any other control programme to be implemented in Karnataka.

IMPLEMENTATION

The model is suitable to be implemented over entire Karnataka. But it is desirable to take this as a pilot project t 3 or 4 places such as Mandya, Gulbarga, Kanakapura, Chikkamagalur. Since these places have treatment enters and population based programs, it is easy to implement at these centers. After 6 months to 1 year, it an be extended to entire Karnataka in a phased manner.

5.6.5 OTHER NON-COMMUNICABLE DISEASES

5.6.5.1 ENDEMIC FLUOROSIS

Endemic fluorosis is chronic fluoride intoxication caused mostly by ingestion of water containing high concentration of fluorides. It is a well-defined clinical entity characterised by dental and skeletal changes.

The safe level fluoride of potable water in India is between 0.5-0.8ppm; 1 ppm is the maximum permissible limit. When fluoride content is high the fluoride gets deposited in the teeth and skeleton.

Epidemiology

The disease is prevalent in 17 out of 25 states in India, 200 million people are afflicted and more than 400 million are exposed to the risk of developing endemic fluorosis. In Karnataka, it is mostly found in north Karnataka districts, Kolar and some parts of Tumkur district. In a house to house survey conducted at Mundargi Taluka of Dharwar District (presently Gadag district) above the age of one year the crude prevalence rate was as high as 75% for dental fluorosis and 45% for skeletal fluorosis. (Maiya M., Hande H.S. et al JAPI 1977). The three villages surveyed are hyperendemic and fluoride concentration of well water varied from 5.4-8.74 ppm.

The disease is common in hot and dry climate and higher prevalence is noted with higher concentration of fluoride in water, longer duration of exposure in males and hard manual workers. The hardness of water protects the population from the disease.

Dental fluorosis

Popularly known as "mottled enamel" is the earliest and easily distinguishable sign of fluorosis, especially in children. It is taken as an index of endemicity. The teeth show chalky white deposit, brownish discoloration, pitting of enamel with chipping of edges and teeth may fall prematurely.

Skeletal fluorosis

It may be asymptomatic or may present with vague symptoms like joint pains, pain in the neck and back. It may be mistaken for rheumatoid arthritis. The well-established cases show postural defects, limitation of movement of the spine and exostosis easily appreciated in the tibia and spine. Recently, genu-valgum deformity and secondary hyperparathyroidism are described. Fluorosis of spine may compress the spinal cord and various neurological deficits like, radiculopathy, paraplegia or quadriplegia may disable the patient.

Radiological changes are diagnostic and seen in the vertebral column, pelvis and forearm as osteosclerosis, osteophyte formation and calcification of ligaments

Management

There is no specific treatment; preventive aspect of endemic fluorosis is of paramount importance. The effective measure is to provide the rural population with water not containing more than 1 ppm of fluoride (preferably 0.5-0.8 ppm)

There is a fundamental requirement for surveying and mapping areas with a high content of fluoride in water in the dug wells or bore wells throughout the state, so that appropriate preventive measures may be undertaken. Many such surveys are conducted by Geological survey of India in various parts of the country.

Surface water supply

Usually surface water contains less fluoride than ground water. The water may be supplied to the village from

rivers, dams or canals. This scheme was executed near Nagarjuna Sagar Dam in Andhra Pradesh. In Mundargi the water from nearby Tungabhadra river is utilized (fluoride concentration 1 ppm.)

Deep bore drinking water technology

By increasing the depth of the well, the fluoride content of water will be maintained at 1 ppm. The technology of deeper tube well is the most practical, cost effective and acceptable to the people (Teotia, Indian J. Med. Research 1987).

Defluoridation of drinking water, using various chemicals is not cost effective.

Calcium is the strongest antagonist of fluoride toxicity. The individual who is exposed to high fluoride water should receive a minimum of one gram of calcium per day; this may be increased to 2 grams to lactating mother.

Recommendations

- *Survey and map the dug wells and bore wells in suspected areas for the fluoride content.*
- *Make available drinking water with less than 1 ppm of fluoride to the people living in areas where the fluoride content is more than 1 ppm. Surface water (rivers, dams and canals) has less content of fluoride.*

  Deep bore water also has less of fluoride content.
- *Individuals exposed to high fluoride content of drinking water may be given one gram of calcium per day (2 grams to lactating mother).*

5.6.5.2. HANDIGODU DISEASE

Handigodu Disease is a peculiar disease of the osteoarticular system, which is geographically restricted to Shimoga and Chikkamagalur districts in Karnataka. Besides the geographic localisation, the disease predominantly affects the Chanangi and Chalwadi sections of the Harijan community.

The disease was first identified at Handigudu village in Sagar Taluk of Shimoga district in January 1975. 362 persons have been affected in Shimoga district (until 1997) and 349 persons in Chikkamagalur district until Sept. 2000, since the first appearance of the disease.

Handigodu disease is a genetic disorder inherited mostly in an autosomal dominant pattern affecting the skeletal system with basic defect of dysplasia of epiphyses at the spine, hips, knees and other sites on the long bones. Affected heterozygotes are usually present in arthritic and dysplastic forms and segregate in the same family. Besides the genetic aetiology, there is a strong nutritional, metabolic, endocrine and bone histomorphometric evidence that, deficient dietary intakes and associated secondary hyperparathyroidism had aggravated the disease. A study carried out indicated a marked deficiency in the intake of dietary calcium in the population surveyed.

Clinically and radiologically the earliest onset is 5-10 years of age. At this stage the disease is largely asymptomatic but on specific examination, difficulty in sitting cross-legged and squatting is observed. Majority of the patients present in young age. The disease has a gradual onset and a progressive course. In late stages secondary osteoarthritic changes in hips and knees lead to incapacitation and patients develop flexion deformities of the hip and spine.

The Sagar General Hospital has a 10-bedded ward for treating Handigudu Syndrome patients. Rehabilitation measure has been undertaken in Shimoga district but the same is not available for those affected in Chikkamagalur district.

Treatment and Prevention

Cases having mild to moderate disability are treated with analgesics, steroids and rest. Those with severe disabilities need surgical correction. The quality of life after operative procedures is poor. Physiotherapy should be provided to the affected individuals.

Genetic counseling regarding marriage, child bearing, risk estimates on the basis of pedigree analysis should be provided. The affected should be advised about dietary supplementation with calcium.

Recommendations

- *Early detection, physiotherapy and surgical correction facilities are to be provided to all the affected people.*
- *Genetic counseling regarding marriage, child bearing, risk estimates on the basis of pedigree analysis should be provided*
- *Vacancies in the Handigodu Disease Unit at Sagar Hospital to be filled up and made fully functional along with the mobile unit. Disease surveillance system should be introduced.*
- *Patients with Handigodu Disease should be provided with supplementary calcium in dietary and tablet forms.*
- *Socio Economic rehabilitation of the people disabled due to Handigodu Disease.*

5.7 ORAL HEALTH

Oral health constitutes a major component of the health care system. However, with inadequate recognition i still receives relatively low priority in health planning and financing, in the country and state. This is mainly du to the following reasons:

- Lack of awareness among the public and health policy makers about the high prevalence, severity o consequences of oral diseases.
- Oral diseases are not life threatening or severely debilitating initially. They are not regarded as seriou health problems by the government and community.

There is no State level survey of oral diseases but, based on scanty reports, the following diseases are commonl seen:

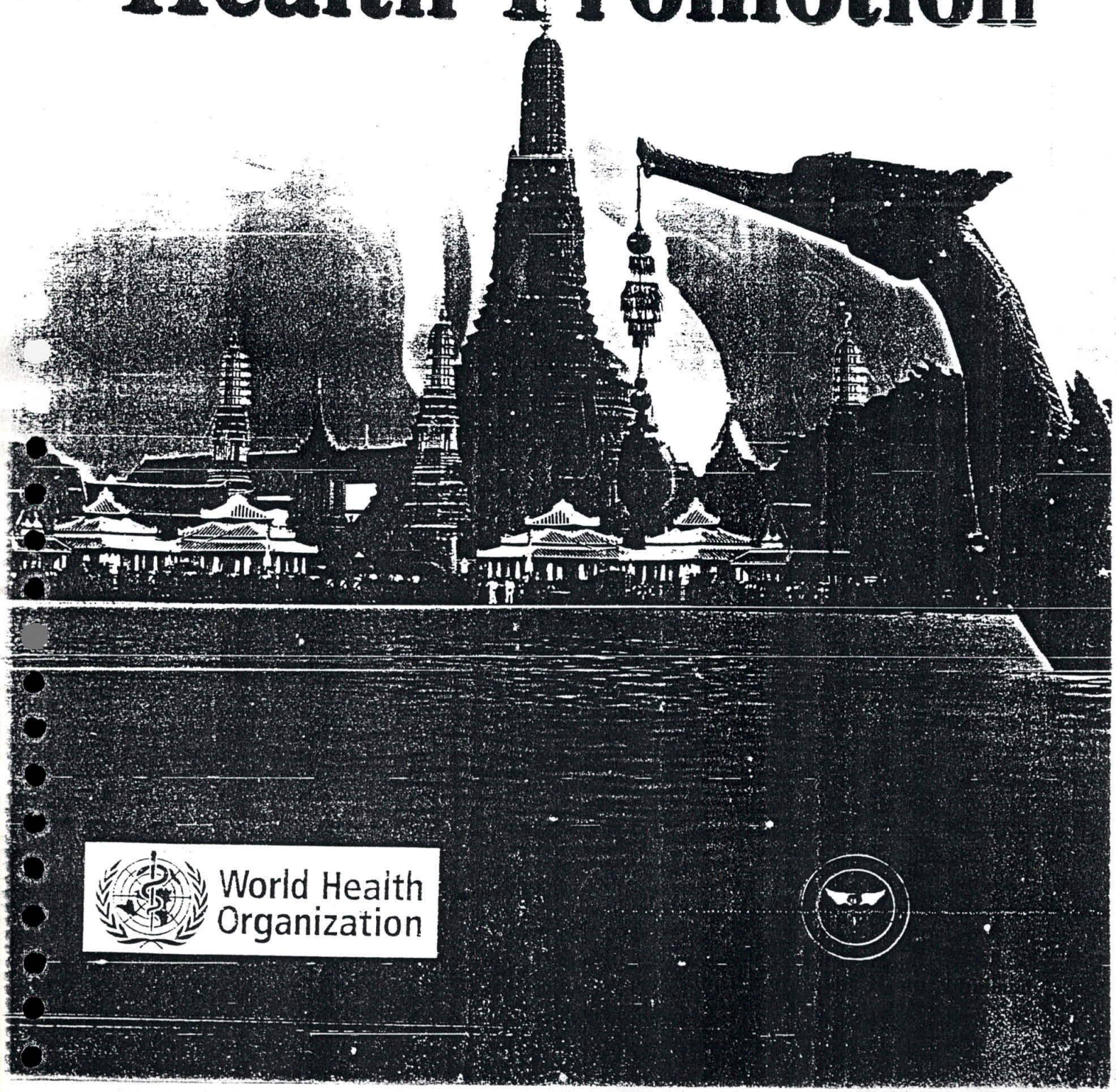
- **Periodontal disease:** found in 90% of the population resulting in early loss of teeth.
- **Dental caries:** seen in 70% children upto 12 years.
- **Oral cancers:** prevalent in 18-20 per 1.00,000 population (dealt with separately).
- **Fluorosis:** seen mostly in north Karnataka districts, Kolar and Pavagada.

Facilities available and situation analysis

Oral health services are offered by the government, private and organised sectors, like industry and militar establishments.

Annexure 11

Bangkok Charter for Health Promotion



World Health Organization

Annexure 11

The Bangkok Charter for Health Promotion in a globalized world

Introduction

The Bangkok Charter identifies the strategies and commitments that are required to address the determinants of health in a globalized world through health promotion. It affirms that policies and partnerships to empower communities, and to improve health and health equality should be at the centre of global and national development.

The Bangkok Charter complements and builds upon the values, principles and action strategies of health promotion established by the *Ottawa Charter for Health Promotion* and the recommendations of the subsequent global health promotion conferences. These are shared by activists and practitioners around the world and have been confirmed by Member States through the World Health Assembly.

The Bangkok Charter reaches out to people, groups and organizations that are critical to the achievement of health. This includes governments and politicians at all levels, civil society, the private sector and international organisations.

Health promotion

The United Nations recognize that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without discrimination. Health promotion is based on this critical human right. It offers a positive and inclusive concept of health as a determinant of the quality of life, and encompasses mental and spiritual well being. Health promotion is the process of enabling people to increase control over their health and its determinants, and thereby improve their health. Health promotion is a core function of public health and contributes to tackling communicable and noncommunicable diseases and other threats to health. It is an effective investment in improving health and human development. It contributes to reducing both health and gender inequities.

Addressing the determinants of health

The context for health promotion has changed markedly since the development of the *Ottawa Charter*. Increasing inequalities within and between countries, new patterns of consumption and communication, commercialisation, environmental degradation, and urbanization are some of the critical factors that influence health. Rapid and often adverse social change affects working conditions, learning environments, family patterns and the culture and social fabric of communities. Evolving patterns of health and demographic transitions have also contributed to change. Women and men are affected differently by these developments; the vulnerability of children and exclusion of marginalised, disabled and indigenous peoples have increased.

Globalization can open up new opportunities for cooperation to improve health, for example through improved mechanisms for global governance and enhanced information technology and communication, and sharing of experiences. Health promotion strategies can address avoidable transnational health risks by enabling policies and partnerships which ensure that benefits for health from globalization are maximised and equitable, and the negative effects are minimised and mitigated.

To manage the challenges of globalisation, policy must be coherent across all levels of governments, United Nations bodies and other organizations, including the private sector. This will strengthen compliance, transparency and accountability with international agreements and treaties that affect health. The global commitment to reduce poverty by addressing all of the Millennium Development Goals is a critical entry point for health promotion action. The active participation of civil society is crucial in this process. Progress has been made in placing health at the centre of development, but much more remains to be achieved.

Strategies for health promotion in a globalized world

Progress towards a healthier world requires strong political action, broad participation and sustained advocacy. Health promotion has an established repertoire of proven effective strategies which need to be fully utilised. To make further advances all sectors and settings must act to:

Advocate for health based on human rights and solidarity;
Invest in sustainable policies, actions and infrastructure to address the determinants of health;
Build capacity for policy development, leadership, health promotion practice, knowledge transfer and research, and health literacy;
Regulate and legislate to ensure a high level of protection from harm and enable equal opportunity for health and well being for all people;
Partner and build alliances with public, private, nongovernmental organizations and civil society to create sustainable actions.

Commitments to health for all

Make the promotion of health central to the global development agenda
Government and international bodies must act to close the gap in health between rich and poor. Strong intergovernmental agreements that increase health and collective health security need to be in place. Effective mechanisms for global governance for health are needed to address all harmful effects of trade, products, services and marketing strategies. Health promotion must become an integral part of domestic and foreign policy and international relations, including in situations of war and conflict. This requires actions to promote dialogue and cooperation among nation states, civil society, and the private sector. These efforts can build on the example of existing treaties such as the World Health Organization Framework Convention for Tobacco Control.

Make the promotion of health a core responsibility for all of government
Health determines socio-economic and political development. Therefore governments at all levels must tackle poor health and inequalities as a matter of urgency. The health sector has a key role to provide leadership in building policies and partnerships for health promotion. Responsibility to address the determinants of health rests with the whole of government, and depends upon actions by many sectors as well as the health sector. An integrated policy approach within government, and a commitment to working with civil society and the private sector and across settings, is essential to make progress in addressing these determinants. Local, regional and national governments must give priority to investments in health, within and outside the health sector, and provide sustainable financing for health promotion. To ensure this, all levels of government should make the health consequences of policies and legislation explicit, using tools such as equity focussed health impact assessment, and intersectoral national or local health plans.

Make the promotion of health a key focus of communities and civil society
Communities and civil society often lead in initiating, shaping and undertaking health promotion. They need to have rights, resources and opportunities so that that their contributions are amplified and sustained. Support for capacity building is particularly important in less developed communities. Well organized and empowered communities are highly effective in determining their own health, and are capable of making governments and the private sector accountable for the health consequences of their policies and practices. Civil society needs to exercise its power in the marketplace by giving preference to the goods, services and shares of companies that exemplify corporate social responsibility. Grass roots community projects, civil society groups, and women's organizations have demonstrated their effectiveness in health promotion, and provide models of practice for others to follow. Health professional associations have a special contribution to make.

Make the promotion of health a requirement for good corporate practices
The private sector has a direct impact on the health of people and on the determinants of health through their influence on local settings and national cultures, environments and wealth distribution. The private sector, like other employers and the informal sector, has a responsibility to ensure health and safety in the workplace, and promote the health and well being of their employees, their families and communities. They also contribute to wider global health impacts, such as those associated with global environmental change. The private sector must ensure that its actions comply with local, national and international regulations and agreements that promote and protect health. Ethical and responsible business practices and fair trade exemplify the type of business practice that should be supported by consumers and civil society, and by government incentives and regulations.

A global pledge to make it happen

Meeting these commitments requires better application of existing, proven strategies, as well as the use of new entry points and innovative responses. Partnerships, alliances, networks and collaborations provide exciting and rewarding ways of bringing people and organizations together around common goals and joint actions to improve the health of populations. Each sector - government, civil society and private - has a unique role and responsibility. Progress in addressing the underlying determinants of health in many cases will only occur by working together so that resources can be used more effectively and efficiently to achieve lasting results.

Since the adoption of the *Ottawa Charter*, a significant number of resolutions at national and global level have been signed in support of health promotion, but this has not always been followed by action. The participants of this Bangkok Conference forcefully call on Member States and the World Health Organization to close this implementation gap and move to policies and partnerships for action. This will require political leadership.

Conference participants expect the World Health Organization, in collaboration with others, to work with Member States to allocate resources, initiate a plan of action, monitor performance through appropriate indicators and targets, and report on progress at regular intervals. To support this process United Nations organisations are asked to explore the benefits of developing and implementing a Global Treaty for Health.

This Bangkok Charter urges everyone to join in a worldwide partnership to promote health, with both global and local engagement and action.

We, the participants of the 6th Global Conference on Health Promotion in Bangkok, Thailand, pledge to advance these commitments to improve health and to advocate for the required resources, policies and practices.

11 August 2005