

## RESEARCH ARTICLE

# Health System Preparedness for Tobacco Control: Situational Analysis of Existing Health Programs in Andhra Pradesh, India

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### Abstract

**Introduction:** Andhra Pradesh (AP) is one of the largest tobacco producing states in India. About 29% of adults in AP currently use tobacco in some form. Almost 24% of males and 4% of females are smokers. The prevalence of tobacco use in the state is higher than the national average of 15% for male and 2% for female smokers. However, few attempts have been made to understand the current situation of tobacco control resources, activities and strategies in the context of such a high tobacco prevalence state. The present study aimed to identify the gaps in existing tobacco control program and areas where tobacco control efforts can be integrated. **Methods:** Data were collected using both quantitative and qualitative methods. Semi-structured interviews were undertaken with a total of 95 key officials of state health departments, program managers, and project directors in six districts to understand ongoing tobacco control efforts. To facilitate the interviews, semi-structured guides were developed. Simple descriptive statistical analysis was conducted on the quantitative data using SPSS version 17. **Results:** The results of the situational analysis suggest that a sufficient health workforce and infrastructure with the potential to integrate tobacco control activities is available in the surveyed districts. However, lack of integration of the tobacco control program into the tuberculosis control program and the National Rural Health Mission was observed. Information, education and communication activities were lacking at block level health facilities. **Conclusions:** Our findings indicate that lack of trained health professionals, paucity of dedicated funds, lack of information, education and communication materials and low priority given to tobacco control activities are some of the factors which impede integration of tobacco control into existing health and developmental programmes in the districts of Andhra Pradesh, India.

**Keywords:** Situational analysis - tobacco control programme - Andhra Pradesh - India

*Asian Pacific J Cancer Prev*, 13 (12), 5969-5973

### Introduction

India is the second largest consumer of tobacco in the world after China (GATS, 2010). According to recent estimates, 10% of smokers of the world are in India. In India, tobacco is used in myriad varieties with some of the smoking forms such as bidi being more harmful than conventional cigarettes (Rahman, 2010). Along with the smoking forms, tobacco consumption in India is unique due to usage of various smokeless tobacco products easily available throughout the country many of which have not been evaluated for their nicotine content and other harmful ingredients. It is predicted that India would experience fastest rate of rise in deaths attributable to tobacco due to increased tobacco usage among men, women and youths. The World Health Organization (WHO) predicts that tobacco deaths in India may exceed 1.5 million annually by 2020. The consequences of tobacco use in India are dramatic and are likely to worsen in the near future.

Tobacco use increases the risk of cancers at various

sites which includes lung cancer, oral cancer, cancer of cervix, and urinary bladder (IARC, 2004). In India, the number of newly diagnosed tobacco-related cancers has been estimated at approximately 250,000 out of a total of 700,000-900,000 new cancers diagnosed each year (National Cancer Registry Programme, 2001). According to a study in India, about two-thirds of all patients with lung cancer were smokers, using cigarettes and/or bidis and hand-rolled tobacco (Jindal et al., 1982). Usage of myriad varieties of smokeless tobacco products makes the situation more complex. Smokeless tobacco is the predominant risk factor for oral cancer. India suffers from one of the world's highest rates of oral cancer. Annual oral cancer incidence in the Indian subcontinent has been estimated to be as high as 10 per 100,000 among males. Oral cancer rates are steadily increasing among young tobacco users (Bhonsle, 1996).

If the tobacco epidemic is left unabated and if effective tobacco control interventions are not integrated into existing health system, tobacco-related cancer will

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impose large health burden (WHO, 2010). Apart from cancer, tobacco consumption is also associated with incident tuberculosis (TB) which is one of the most deadly infectious diseases and a major cause of mortality in India, affecting majority of the poor and underprivileged people. Almost 40% of tuberculosis deaths in the country are associated with smoking (Gajalakshmi et al., 2003).

Andhra Pradesh (AP) is the fourth largest state in India in area and fifth largest in terms of population. It is one of the largest tobacco producing state in India contributing to 34% of the total national tobacco production (Reddy, 2005). In AP, 29% of adults currently use tobacco in some form and 31% of adults are exposed to second-hand (GATS, 2010). According to the Global Adult Tobacco Survey 2009-10, almost 24% of males and 4% of females are smokers. The prevalence of tobacco use in the state is higher than the national average of 15% males and 2% female smokers. Government of India launched the National Tobacco Control Program (NTCP) under the 11th five year plan to facilitate the implementation of the tobacco control laws, and raise awareness about health effects of tobacco. Initially, NTCP was launched in 18 districts spread across 9 States in India with the aim of building capacity of the states to effectively implement the tobacco control activities. It is now extended to 21 states in India, with 2 districts in each state. Tobacco control cells were set up in selected states in India to provide technical support to plan, coordinate, and monitor tobacco-related activities at the state level (Ministry of Health India, 2007). AP is among one of the most recent states where NTCP was launched with the appointment of a nodal officer to facilitate implementation of various activities. Understanding the current situation of tobacco control program in the state is needed to explore the opportunities where the designed program can fit into the existing system rather than creating a new system. It is a cost effective way and an easy method to use the existing systems for implementation of the designed program activities. However, little attempts have been made to understand the barriers and existing opportunities within these state health programs which impede the integration of tobacco control messages into them. There is inadequate information which analyzes the current situation of tobacco control resources, activities and strategies in context of high tobacco prevalence states in India.

The present study is a subset of project Strengthening of Tobacco control Efforts through innovative Partnerships and Strategies (STEPS) undertaken by Public Health Foundation of India. It aims to analyze the ongoing tobacco control efforts in six districts of AP so as to identify the gaps and opportunities for integration of tobacco control programs in existing health and development programs. Our study aims to analyze and assess the present situation of NTCP in the selected districts and assess the involvement of various stakeholders in implementation of the designed tobacco control program activities. The study aims to identify the programs where tobacco control interventions can be effectively integrated. We did a profiling of the health system resources which includes human and financial resources and existing infrastructure to gain insights on opportunities and barriers towards

integration of tobacco control in existing state run health programs such as cancer control program and National Rural Health Mission (NRHM) in the state of Andhra Pradesh.

## Materials and Methods

Data was collected using both quantitative and qualitative methods during the period of October to December 2010. Convenience purposive sampling design was adopted for the study. Semi-structured interviews were undertaken among 95 key health officials including program managers, and policy makers in six districts of AP. To facilitate the interview, semi-structured guides were developed through a collaborative process with the help of stakeholders such as medical officers and heads of various health programs of the health system. The guide explored status of tobacco control efforts in the districts and blocks, status of health facilities in the intervention districts, human resources available for health programs, training status of health functionaries, and processes and practices of various vertical health programs like cancer control, tuberculosis program, HIV-AIDS prevention and control and other development programs.

Four ongoing programs which were the primary focus of the study were National Cancer Control Program, Integrated Child Development Services (ICDS), Revised National Tuberculosis Control Program (RNTCP), and National Rural Health Mission. The rationale for selection of these programs was that these programs have access to various sections of the community and offer a range of services to a wide array of population. Programs were mapped to understand situational factors affecting reach, manpower, finances and feasibility of integration of tobacco control program.

Simple checklist was used to understand the readiness of health system for integration of tobacco control. Wherever possible, Information Education and Communication (IEC) material was collected to corroborate answers given by respondents to capture health system preparedness for tobacco control initiatives.

Secondary data and other relevant records from state sources such as Global Adult Tobacco Survey and Global Youth Tobacco Survey was collated and analyzed (GATS and GYTS, 2009; 2010). Simple descriptive statistical analysis was conducted on the quantitative data using SPSS version 17.

## Results

In India, public health care delivery system exists at national, state, district and block levels. We undertook thorough review of existing tobacco control activities in six districts of AP namely Mahboobnagar, Karimnagar, Kurnool, Prakasam, East Godavari, and Vishakhapatnam.

### *Profile of health facilities*

A total of 5,556 health facilities at various hierarchical levels of public health system which included sub-centers, primary and community health centers, and district hospitals were surveyed. Table 1 illustrates the profile of

officials interviewed in the study.

#### Health workforce profile in the surveyed districts

Table 2 depicts the profile of health workforce working at various levels in the surveyed districts. There is a good health workforce available for providing preventive and curative health services in the surveyed area.

#### Status of the tobacco control program in the intervention districts

District level tobacco control committees were formed in each of the surveyed districts, however block level tobacco control committees are yet to be formed. The officials mentioned that no tobacco control activities have been conducted by these committees. Among competing priorities within various health programs like malaria, HIV/AIDS, tuberculosis, cancer control etc., tobacco control gets least priority. Only a few scattered activities (awareness campaigns or rallies) are conducted on the world no tobacco day and other days of national importance.

#### Status of integration of tobacco control among other existing health programs

Although various large scale programs like NRHM, school health program, cancer control program, tuberculosis control program and integrated child and development services schemes are running in the districts which have the potential to integrate tobacco control messages in a relevant manner in their activities, none of the programs are currently doing so. There is no budgetary allocation for these activities as well. Due to lack of adequate funding various non government organizations in the district do not take initiative towards tobacco control.

**Table 1. Profile of Stakeholders Interviewed in the Study**

Designation of Stakeholder	Numbers
District Medical and Health Officer	6
District Mass Media and Extension Officer	6
School Health in-charge	6
Mental Health In-charge	6
District Tuberculosis Control Officer	6
AIDS Nodal Officer/ District Project Manager	6
NRHM District Program Officer	6
Project Director, ICDS	6
Municipal Commissioner/ Town Planning Officer	29
Chief Planning Officer	6
District Public Relations Officer	6
Project Officer, District Training	6
<b>Total</b>	<b>95</b>

**Table 2. Profile of Health Workforce in Surveyed Districts**

Designation	Numbers
Medical officer	238
Lady health visitor	176
Health worker (male)	358
Auxiliary nurse midwife	2468
ASHA	5734
IEC Officer	20

#### Capacity development for health work force for strengthening tobacco control efforts

We explored tobacco control capacity building initiatives undertaken in the concerned districts. Our findings indicate that no training programs have been conducted to build capacity of health work force in tobacco control. District officers involved in various IEC activities and the district training team has not been trained in tobacco-related issues and topics such as tobacco control legislation, harmful effects of tobacco and inter-personal counseling for tobacco cessation. Similar situation exist for personnel working in cancer control and tuberculosis control program and ICDS staff, wherein there is tremendous potential of integrating tobacco control messages among patient suffering from tuberculosis, tobacco-related cancers and antenatal and postnatal care women.

#### Information Education and Communication (IEC) strategies for strengthening tobacco control efforts

About half of health facilities displayed "No Smoking" signage in the surveyed districts. These signage were predominantly absent in other government departments including district administrative head offices. The IEC material available to the districts was inadequate and consisted of a single page pamphlet on NTCP. Only a few health facilities have received the manuals for tobacco cessation developed by the state government. None of the IEC team in the surveyed districts developed regionally tailored IEC material. We observed that, although IEC material was available at the district office, it was not distributed to various health facilities available at block level. IEC material at lower level was inconspicuous and absent. The few available IEC material was mainly focused on tobacco control legislation and harmful health effects of tobacco with a focus only on smoking forms of tobacco.

#### Counseling for tobacco cessation

Counseling is regarded as one of the best practices in tobacco control (CDC, 2007). However, in the surveyed districts no support is provided to tobacco users willing to quit tobacco use. Counseling services on tobacco cessation was not provided even to patients at tuberculosis treatment centers and during antenatal visits of health workers.

#### Research and evaluation initiatives for tobacco control

District level officials were not aware of any research and evaluation initiatives in tobacco control that had been carried out in their respective districts.

## Discussion

The results of the situational analysis suggested that even though adequate health workforce and infrastructure it is not being utilized properly for tobacco control activities in concerned districts. Our findings indicate that although district level committees have been formed yet tobacco control activities were largely episodic and irregular.

India is going through a transition from communicable to non-communicable diseases. Cancer is an emerging epidemic with 7-9 lakh cases occurring every year. About four lakh deaths are estimated to occur every year due to cancer. 40% of the cancers in the country are attributed to tobacco use (Ministry of Health and Family Welfare, India). There have been notable examples of collaboration between cancer prevention and tobacco control organizations in the United States and Canada (WHO, 2008). Tobacco control is the highest priority prevention component in National Cancer control programme (Ministry of Health, India) however, evidence on the integration of tobacco control and cancer control program in the study area was lacking. Cancer control program could adapt some of the strategies tobacco control program has successfully used like smoke-free air policies and adoption of cessation practices in health care settings. Similarly, tobacco control programs that could be rejected for political and policy reasons may be more acceptable to national governments if housed within a comprehensive cancer prevention program (Butterfoss, 1996). Working toward a shared vision in tobacco control and cancer control program will help to utilize health resources effectively (Lasker and Weiss, 2003). It will help to prioritize tobacco use screening, palliative care and primary prevention (tobacco control) in addition to treatment oriented interventions in cancer control program (World Health Organization, 2002). The WHO tobacco free initiative and the WHO stop TB programme, successfully integrated tobacco control into a tuberculosis control programme. Piloted in Nepal, this programme was shown to improve detection and management of TB cases with respiratory symptoms along with recording of their smoking status and provision of cessation counseling (WHO, 2009). However, such practices were unnoticed in the surveyed districts.

Tobacco use is associated with delays in conception and infertility, complicated pregnancy and adverse outcomes including sudden death, pre-eclampsia, preterm delivery and low birth weight (CDC, 2011). Hence, tobacco control activities should be incorporated in maternal and child health services. However, our findings indicate that integration of tobacco control and cessation services in routine maternal and child health services was lacking in the surveyed districts.

Over the past few decades, effective communication has been found to be most effective at preventing tobacco use initiation and promoting cessation (CDC, 2007). Communication methods are a cost-effective way compared to other health interventions in educating large population groups about the full extent of the risks of tobacco use (Ratcliffe, 1997). We assessed the existing IEC material and activities in the district. Our results indicate that the awareness material was not disseminated and had not percolated to facilities existing at lower level of health care system. The education material was limited to tobacco control legislation and harmful health effects of tobacco and does not envisages socio-economic and gender related devastating effects of tobacco use.

Health care provider play an important role in tobacco control as their advices are largely followed (Fiore, 2008).

According to Global Adult Tobacco Survey, 70% of adult smokers who visited health facility in AP were advised to quit tobacco. However, our findings indicate that inter-personal counseling practices were not undertaken in the surveyed districts. This can be attributed to lack of skills, busy schedules and lack of availability of resources in the districts.

Despite the existence of NTCP at state and district level, it is only the central health ministry that is actively engaged in tobacco control efforts. Inter-department convergence between tobacco control and other departments in the surveyed district was lacking.

In conclusion, our study assessed the present situation of the tobacco control program in the six high tobacco prevalence districts of Andhra Pradesh. Our findings indicate that lack of trained health professionals, paucity of dedicated funds, lack of information, education and communication materials and low priority given to tobacco control activities are some of the factors which impede integration of tobacco control programme into existing health and developmental programs in the districts. Integration of tobacco control activities in the health programs like cancer control, tuberculosis, HIV -AIDS and reproductive and child health is likely to be highly effective because these programs are well established and have robust, functioning mechanisms already in place.

## References

- Bhonsle RB, Mutri PR, Gupta PC (1992). Tobacco habits in India. In: Gupta PC, Hamner JE III, Murti PR, eds (1992). Control of Tobacco-Related Cancers and Other Diseases. NY: Oxford University Press Inc, 25-46
- Butterfoss FD, Goodman RM, Wandersman A (1996). Community coalitions for prevention and health promotion: factors predicting satisfaction, participation, and planning. *Health Education Q*, **23**, 65-79.
- Centre for Disease Control and Prevention (2007). Best Practices for Comprehensive Tobacco Control Programs Atlanta: U.S. Department of Health and Human Services, Centres for Disease Control and Prevention, National Centre for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Available from: [http://www.cdc.gov/tobacco/tobacco\\_control\\_programs/stateandcommunity/best\\_practices/](http://www.cdc.gov/tobacco/tobacco_control_programs/stateandcommunity/best_practices/)
- Centers for Disease Control and Prevention (2011). Tobacco Use and Pregnancy: Home. What do we Know about Tobacco Use and Pregnancy. Available from: <http://www.cdc.gov/reproductivehealth/tobaccousepregnancy/>
- Fiore MC, Jaen CR, Baker TB, et al (2008). Treating tobacco use and dependence: 2008 update. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service.
- Gajalakshmi V, Peto R, Kanaka TS, Jha P (2003). Smoking and mortality from tuberculosis and other diseases in India: Retrospective study of 43000 adult male deaths and 35000 controls. *Lancet*, **362**, 507-15.
- Government of India (2007). National Tobacco Control Programme, 2007-08. Ministry of Health and Family Welfare, India. Available from: <http://www.mohfw.nic.in>
- International Agency for Research on Cancer (2004). IARC Monographs on the Evaluation of the carcinogenic risk of chemicals to humans. Tobacco smoke and involuntary

- smoking. **83**. Lyon: IARC Press.
- Lasker RD, Weiss ES (2003). Broadening participation in community problem solving: a multidisciplinary model to support collaborative practice and research. *J Urban Hlth*, **80**, 14-47.
- Madan Kumar PD, Poorni S, Ramachandran S (2006). Tobacco use among school children in Chennai city. *Indian J Cancer*, **43**, 127-13.
- Ministry of Health and Family Welfare (2009). Global Youth Tobacco Survey (GYTS), 2009. Available from: <http://www.who.int/tobacco/surveillance/gyts/en>
- Ministry of Health and Family Welfare: Global Adult Tobacco Survey (GATS) India report 2009-10. India: Ministry of Health and Family Welfare, 2009-10. Available from: [http://whoindia.org/LinkFiles/Tobacco\\_Free\\_Initiative\\_GATS2010\\_Chapter-08.pdf](http://whoindia.org/LinkFiles/Tobacco_Free_Initiative_GATS2010_Chapter-08.pdf)
- Ministry of Health and Family Welfare. National Cancer Control Programme. Available from: <http://mohfw.nic.in/showfile.php?lid=324>
- Murray CJ, Lopez AD (1996). The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020. Cambridge, Massachusetts: Harvard School of Public Health.
- Rahman M, Fukui T (2005). Bidi smoking and health. *Public Hlth*, **114**, 123-7.
- Ratcliffe J, Cairns J, Platt S (1997). Cost effectiveness of a mass media-led anti-smoking campaign in Scotland. *Tob Control*, **6**, 104-10.
- Reddy KS, Gupta PC (2005). Report on Tobacco Control in India. Ministry of Health and Family Welfare, New Delhi, India.
- SK Jindal, SK Malik, R Dhand, et al (1982). Bronchogenic carcinoma in Northern India. *Thorax*, **37**, 343-7.
- WHO Regional Office for South East Asia (2009). Effective Implementation of the WHO Framework Convention on Tobacco Control through the MPOWER Policy Package. Geneva: World Health Organization. Available from: [http://www.searo.who.int/LinkFiles/Tobacco\\_Free\\_Initiative\\_NL\\_vol\\_2\\_no\\_2.pdf](http://www.searo.who.int/LinkFiles/Tobacco_Free_Initiative_NL_vol_2_no_2.pdf)
- World Health Organization (2008). 2008-2013 Action plan for the global strategy for the prevention and control of noncommunicable diseases.
- World Health Organization (2002). Executive summary: national cancer control programmes: policies and managerial guidelines. Geneva: WHO; 2002. Available from: <http://www.who.int/cancer>.
- World Health Organization (2010). Global Status Report on Non Communicable Diseases. Geneva.