

## **Sleep Medicine Education in India: Policy Initiatives of National Academy of Medical Sciences (India)**

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Regional Symposium on Sleep Medicine held at All-India Institute of Medical Sciences, Jodhpur during NAMSCON 2013 provided the opportunity to review the prevalence of sleep disorders in India which is comparable to that reported from rest of the world. But sleep medicine does not find a place in the curriculum of most of the medical colleges in India.

Sleep Medicine is not just a compendium of clinical conditions dealing with etiology, pathogenesis, diagnosis and management. Although sleep clinics were established in the United States and in some countries in Europe in the 1970s, most of these were confined to the diagnosis and management of Obstructive Sleep Apnea. No regulatory requirements of a training or certification were required and till the turn of the 20<sup>th</sup> century, any physician could open a Sleep Clinic and/or a Sleep

Laboratory to provide specialized care for sleep disorders.

The situation was no different, perhaps worse in India. It was in September, 1992 that the International Conference on 'Sleep-Wakefulness' was held at the All-India Institute of Medical Sciences, New Delhi and provided an impetus to the Indian biomedical and clinical scientists who responded collectively to the unmet national needs in the specialty. It was at this conference that the '**Indian Society for Sleep Research**' was born and a classic Monograph "**SLEEP-WAKEFULNESS**" was published on behalf of the organizers of the conference with dynamic leadership of the past President of the National Academy of Medical Sciences, Dr. B. Ramamurthi as President and Dr. V. Mohan Kumar, a distinguished Fellow of the Academy as General Secretary of the newly constituted 'Indian Society for

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Sleep Research'. Long-term plans for the organizational structure and operational framework were nurtured. The second remarkable effort at this conference was the birth of a second organization “**The Asian Sleep Research Society**” with Professor T. Okuma from Japan as President and Dr. V. Mohan Kumar as Vice-President.

With the establishment of Indian Society for Sleep Research and the Asian Sleep Research Society, a mechanism of networking with other International Sleep Research Societies was established. This has now emerged as the World Federation of Sleep Research & Sleep Medicine Societies (WFSRSMS) with a large number of national associations affiliated to this organization. In some countries, there are more than one associations dealing with Sleep Medicine : separate organizations for dealing with biomedical research viz-a-viz associations involved in public health and education for sleep health care. For example, in the US, American Academy of Sleep Medicine (AASM) and National Sleep Foundation (NSF) deal with professional advancement and public interest, respectively.

The Academic Council of NAMS has identified sleep medicine as one of the critical areas where it needs to initiate urgent steps to endorse the proposed national policy and to plan strategies aimed at enhancing educational activities at all levels: community, general practitioners, medical students and allied

health professionals.

Taking cognizance of the rapid advances in the emerging specialty of Sleep Medicine, the National Academy of Medical Sciences planned and organized a Regional Symposium on the subject as a part of the Annual Conference of the Academy at the All-India Institute of Medical Sciences, Jodhpur. The Regional Symposium was aimed :

*'to enhance knowledge of sleep physiology and raise awareness of the spectrum of sleep disorders that physicians may see in their patients and to enhance participants' understanding of the association of increasing prevalence of sleep disorders with the obesity epidemic in children and adults; consequences of sleep disorders; specific disease states associated with such disorders and the treatments available'.*

The symposium not only received highly positive response from the participants, but also showed the need for the positive steps to be taken in this direction (2). Moreover, the academic activity encouraged the Academy to initiate medical education research on various possible aspects of Continuing Medical Education with Sleep Medicine and its disorders as the base. The medical education research articles published in this issue of *Annals* not only demonstrated that a module on Sleep Medicine requires a multidisciplinary approach and integration but also that it can be used to explore multiple way the

educationists may design their Continuing Professional Development programs which are more effective.

#### **Policy Initiative by Academy:**

The sound basis of health policy planning and implementation requires a system approach which includes determinants such as epidemiology, demography, human resources and appropriate technology. While studies of epidemiology and demography as cited above provide significant information for the population in the US, similar studies are lacking in India and in most of the developing countries. The obvious reason is the enormous disease burden due to communicable and non-communicable diseases, leaving little resources for additional undertaking. Nevertheless, there is an urgent need to focus on these emerging issues which are likely to be of concern in the near future. For example, a study by Panda *et al* (2012) reported prevalence of insomnia in 18.3% of the cohort they studied in a south Indian population (3). A higher prevalence of sleep disorders related to initiation and maintenance of sleep (28%) was reported in an urban population from north India. In a large study by Stranges *et al* from the University of Warwick, the researchers examined the sleep quality of 50-year-olds from rural populations in Bangladesh, Ghana, India, Indonesia, Tanzania, South Africa, and Vietnam, as well as from an urban area in Kenya (4). They investigated potential links between sleep problems and social demographics, quality of life, physical health and

psychiatric conditions in 24434 women and 19501 men included in the study. They found that a strong link existed between sleep-related problems and psychiatric conditions like depression and anxiety, similar to that reported from the developed world. The sleep research in India is still evolving. Attempts have been made by scientists to compile the studies reported so far from India (5), how the evolution of sleep medicine has taken place over last few years (6) and experience of large tertiary neuro-medicine center with regards to referral pattern from community have been reported (7).

How do we respond to such problems in a realistic manner and prepare for the emerging issues in the future? A serious concern is lack of human resources which must play a key role in planning, designing and implementing sleep health care programs in contrast to the felt but unmet needs of critical health manpower. The striking fact is that health and medical educators have neither paid any attention to the issues of sleep behavior nor to the morbidity associated with sleep disorders. The lack of trained and skilled human resources for sleep health care is not confined to India alone. A survey in 1990-91 of 37 American medical schools showed that sleep and sleep disorders were 'covered' in less than two hours of total teaching time, on average. A 2002 survey of more than 500 primary care physicians in the US who self-reported their knowledge of sleep disorders as follows : Excellent – 0%; Good – 10%; Fair – 60%; and Poor – 30%.

The link between lack of appropriate educational modules during undergraduate curriculum and the knowledge of practicing physicians is obvious. In a recent study by Mindell *et al*, surveys were sent to 409 medical schools across 12 countries (Australia, India, Indonesia, Japan, Malaysia, New Zealand, Singapore, South Korea, Thailand, United States, Canada and Viet Nam) to find out sleep education in different countries. The response rate was 25.9%, ranging from 0% in some countries (India) to 100% in other countries (New Zealand and Singapore). Overall, the average amount of time spent on sleep education is just under 2.5 h, with 27% responding that their medical school provides no sleep education. Three countries (Indonesia, Malaysia, and Viet Nam) provide no education, and only Australia and the United States/Canada provide more than 3 h of education. Paediatric topics were covered for a mere 17 min compared to over 2 h on adult-related topics (8). Lack of awareness about specific sleep disorders like OSA as a modifiable risk factor for stroke and hypertension among health professionals and medical students based on study conducted as part of pre-test survey for CMEs reveals the reality(9).

In order to ascertain the situation in India, a well designed proforma with critical parameters was sent to 100 Government Medical Colleges in different states of the country. Response rate was 41%. To the question : '*Does your Institute conduct any structured course or module in any form, on Sleep*

*Medicine in any of the departments/ specialty'*, 96% medical institutions have responded "NO" while only one institution has responded in the affirmative (p 30).

Notwithstanding obvious constraints, there is need to initiate urgent action. An outline of a sleep health care programme stated below must keep in view these concerns :-

#### **Goal :**

The goal of a well-designed sleep health care programme must be aimed :

- i) to generate the knowledge and technology required for the prevention and treatment of sleep disorders and associated co-morbidities;
- ii) to devise, through service and psychosocial research, improved strategies for integrating sleep health care into primary health care, in a manner most appropriate to local needs, and taking into consideration socio-economic and other related factors;
- iii) to promote local and national self-reliance in sleep health care by seeking support both from the governmental and non-governmental organizations, assessing the needs and incorporating training programmes for skilled human resources, and such physical, technical and technological facilities that will enable development of infrastructure and implementation of intervention strategies.

*Enabling objectives :*

The enabling objectives for such a sleep health care programme may generally include the following :

- a) to generate awareness and provide technical inputs and manpower resources for integrating sleep health care in the primary health care system.
- b) to provide upgraded facilities at the community health centres and sub-district (Taluka) hospitals.
- c) to initiate and develop prototype of tertiary care facilities at district hospitals and medical colleges for diagnosis and management of sleep disorders and associated co-morbidities.
- d) to innovate cost effective appropriate technologies and ensure a system of quality control.
- e) to collate and disseminate new and relevant information on individual and family sleep behavior as well as sleep disorders especially in children, women, and aged.
- f) to coordinate nationwide education and training program for public, patients as well as of all categories of primary health care providers including community health workers, allied health care professionals and physicians.
- g) to assess current and future needs with regard to the need and supply of skilled human resources, drugs & devices, and procedures for the care and cure of sleep disorders and co-

morbidities.

To summarize the strategic approach, it may be stated that :

***“Health systems planning for, and research into, sleep health care must be adaptable to the wide variations in social, economic, and medical conditions and structures. Community-based primary health care schemes should be linked to specialized levels to optimize the quality of care, depending upon the requirements of the patient and the availability of resources. A group of experts should review alternative strategies including practice of Yoga and make specific proposals for health systems planning, and for the integration of sleep health care into national health services.”***

**\*The views expressed are entirely of Prof. Bajaj and are yet to be discussed and decided at the appropriate Fora of the National Academy of Medical Sciences.**

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**References:**

1. Bajaj JS, Kumar VM (2014). Panel Discussion Abstracts. *Sleep and Biological Rhythms*. **12** : 258.
2. Singh K, Sharma B, Misra S, Bajaj J S

- (2013). Determination of Satisfaction Index as a tool in evaluation of CME Program. *Ann Natl Acad Med Sci (India)*. **49** (3&4): 185-193.
3. Panda S, Taly AB, Sinha S, Gururaj G, Girish N, Nagaraja D (2012). Sleep-related disorders among a healthy population in South India. *Neurol India*. **60**:68-74
  4. Stranges S1, Tigbe W, Gómez-Olivé FX, Thorogood M, Kandala NB (2012). Sleep problems: an emerging global epidemic? Findings from the INDEPTH WHO-SAGE study among more than 40,000 older adults from 8 countries across Africa and Asia. *Sleep*. **35**(8):1173-1181.
  5. Shah N, Bang A, Bhagat A (2010). Indian Research on Sleep. *Indian J Psychiatry*. **52**(Suppl1): S255–S259.
  6. Kumar S (2013). Sleep Medicine: Evolution in India. *Ann Indian Acad Neurol*. **16**(2): 144–145.
  7. Sharma PK, Shukla G, Gupta A, Goyal V, Srivastava A, Behari M (2013). Primary sleep disorders seen at a Neurology service-based sleep clinic in India: Patterns over an 8-year period. *Ann Indian Acad Neurol*. **16**:146-150
  8. Mindell JA, Bartle A, Wahab NA, *et al* (2011). Sleep education in medical school curriculum: A glimpse across countries. *Sleep Medicine*. **12**(9):928–931.
  9. Sharma S, Srijithesh P R (2013). Sleeping over a sleep disorder - Awareness of obstructive sleep apnoea as a modifiable risk factor for hypertension and stroke: A survey among health care professionals and medical students. *Ann Indian Acad Neurol*. **16**:151-153
  10. Bajaj JS (2013). Sleep medicine: Perspective, Potential and Prospects. *Ann Natl Acad Med Sci (India)*. **49** (3 &4): 75-80