



ORIGINAL ARTICLE

Intercountry Interactions to Reduce the Endemic Burden of Oral Cancer: An Exploratory Observership Model in India

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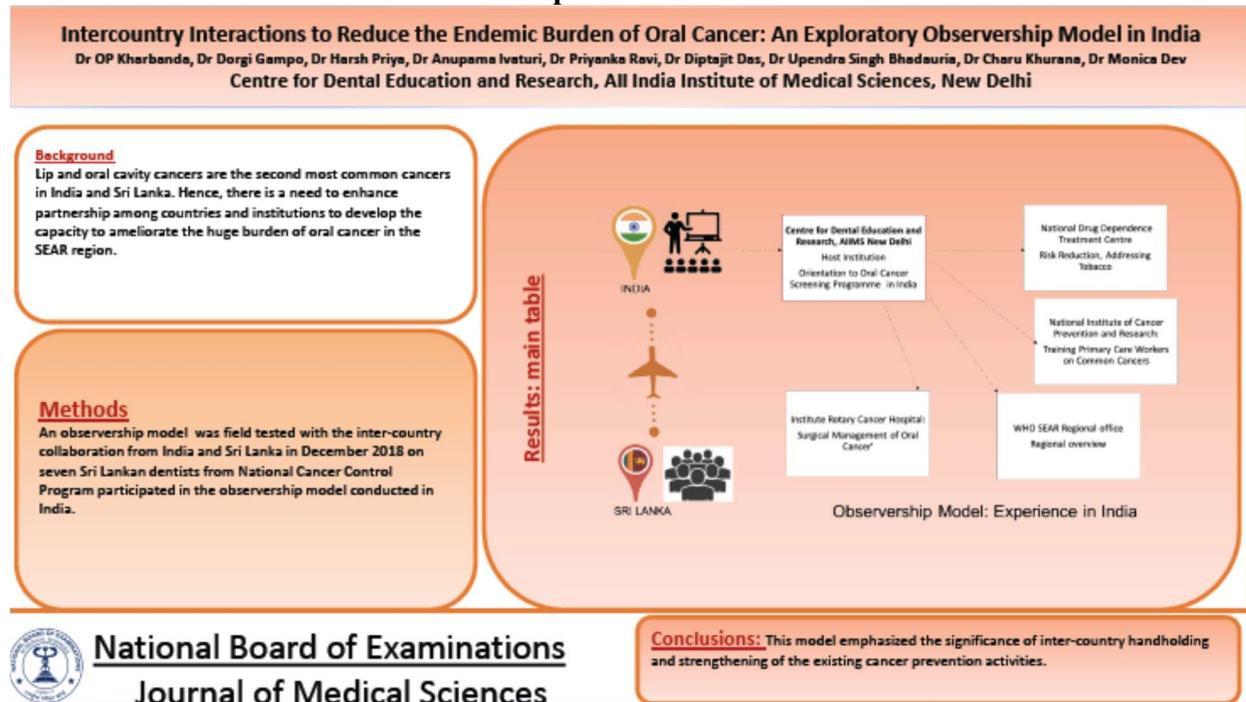
Abstract

Background: Lip and oral cavity cancers are the second most common cancers in India and Sri Lanka. Hence, there is a need to enhance partnership among countries and institutions to develop the capacity to ameliorate the huge burden of oral cancer in the SEAR region. **Methods:** An observership model was field tested with the inter-country collaboration from India and Sri Lanka in December 2018 on seven Sri Lankan dentists from National Cancer Control Program participated in the observership model conducted in India. **Results:** This model covered all the components of oral cancer prevention including awareness on oral cancer and oral potentially malignant disorder management training. **Conclusions:** This model emphasized the significance of inter-country handholding and strengthening of the existing cancer prevention activities.

Key words: Oral cancer, Cancer Prevention, Cancer Screening, Observership model, South-East Asia, Capacity Building, Health Promotion, Medical Education

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Graphical Abstract



Introduction

The Global Cancer Observatory (2018) [1] reports that the cancers of the lip and oral cavity are the second most common cancers in India (10.4%) and Sri Lanka (9.1%), high prevalence is seen among males in both India (16.1%) and Sri Lanka (14.8%). The prognosis represented as five year survival rate for early stage oral cancer is 60.2% and advanced stage is only 3.3% [2].

Most of the times the oral cancers are preceded by array of disorders that can be easily detected in the mouth because of an easy access of the site hence oral examination is possible; early identification and detection of these oral potentially malignant disorders is also possible during routine general health check-up or screening by physicians, dental professionals, healthcare workers and even by self-examination of one's oral cavity [3]. There is a dire need for improved and enhanced primary prevention measures,

better quality diagnostic and treatment facilities and increased skilled workforce and their capacity building in the regions with high oral cancer burden [4].

The skillset of the primary health care team, pertaining to oral cancer early detection, in most of the South-East Asian Region (SEAR) Countries is fragmentary and there is a need to build capacities through concerted efforts. A leap forward was the development of the Training Module on early detection and prevention of oral cancer which is integrated into PEN (Package of Essential Non-Communicable Diseases).

International health organizations are committed to prevention of oral cancer through primary care and encourage national and international government associated health authorities, research institutions and agencies, non-governmental organizations and self-help groups and civil society groups and residential welfare associations to

strengthen their efforts for the effective and efficient control and prevention of oral cancer [5]. The inter country collaboration in this regard can serve as an ideal method for prevention of oral cancer and can serve as an integral measure in promoting oral cancer awareness across different countries where the countries can learn and adopt best practices on oral cancer screening and prevention. An exploratory observership model was thus conceptualized to train public health professionals in oral cancer screening and prevention.

Material and Methods

The structure of the proposed observership model was exploratory and takes into cognizance the burden of oral cancer, the risks endemic to this region, the similarities of the governance structures and the growing trend of a health policy change in this region. The cycle of events in the algorithm was need based. The crux of the model was the advocacy by the public health fraternity to the relevant governing bodies in the member states (Figure 1).

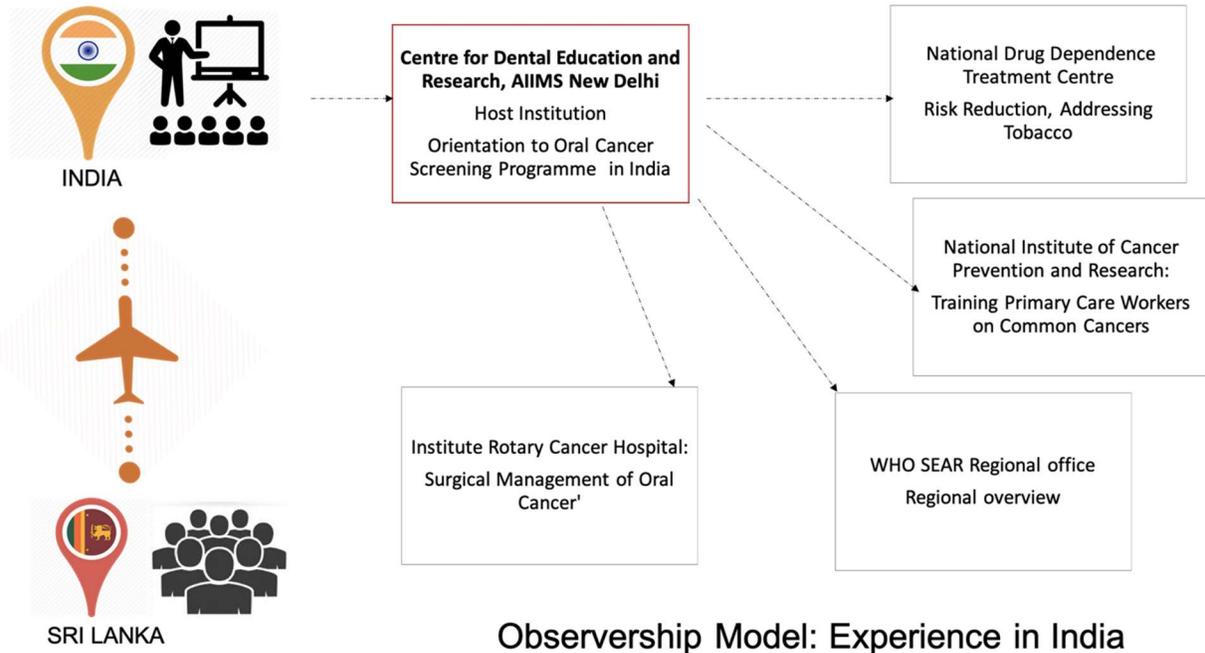


Figure 1. Observership Model

Approvals of the Ministries of Health, Home Affairs and External Affairs are important to ensure the entire capacity building plan for smooth run through validated channels. The needs and expectations of the trainees may then be gathered before formulation of an agenda.

The observership may involve participation of multiple institutions of a country along with field level activities. Handholding of nations with low capacities may be subsequently planned on the lines of the current model.

A blending of the didactics and field visits may be planned for achieving objectives which may spread across the following domains (Figure 1)

- Risk reduction
- Preventive Strategy
- Empowerment and Engagement
- Training
- Surveillance and Research
- Referral Pathways and Management Protocols.

Risk Reduction

Tobacco use along with excessive alcohol intake have been estimated to account for about 90% of the cancers in the oral cavity; the risk escalates when tobacco is used in combination with alcohol or areca nut [6]. The International Agency for Research on Cancer has provided evidence that smokeless tobacco causes oral cancer [7].

In the recent times federal and private agencies have been actively working in the concerted actions towards promoting oral cancer prevention, risk reduction, research and strategies in view of rising cost to treat

oral cancer and its subsequent burden on the economy. Prevention on a large scale would be the optimal way to ultimately lower the physical, social, emotional, and financial burden as well as improve the overall quality of life of oral cancer survivors by reducing the risk of recurrence and provision of palliative care.

The common risk factor approach needs to be adopted by the oro-dental health programmes globally and integrate with broader health promotion rather than standalone oral health promotion [8]. It is clearly visible that the use of tobacco is a common risk factor between the majority of non-communicable diseases (NCDs) and oral disease burden. This forms a logical explanation regarding the integrative approach especially for tobacco control initiatives.

The aim of the WHO Oral Health Programme is to ascertain that oral health fraternity and oral health systems are directly, appropriately, continuously and consistently involved in influencing and benefitting patients and the masses to increase their awareness of the risks of tobacco use, and to decrease and be abstinent of use of all forms of tobacco. Management of tobacco dependence is a key feature of the tobacco control strategy indicated in the Article 14 of the WHO Framework Convention on Tobacco Control and MPOWER, where it is emphasized about “Offer help to quit tobacco use” [9]. Cessation support which can be either behavioural motivation to quit with or without cessation medications can increase the likelihood that a tobacco user will quit successfully.

Longitudinal studies with decade of follow-up have shown that educational and awareness creation interventions reduce tobacco use and dwindle incidence of oral potentially malignant disorders [10]. The main obstacles to provide tobacco cessation methods are lack of awareness, knowledge, skills and professional leadership. Hence, there is a need to integrate initiatives that are targeting tobacco cessation with programmes including oral health and train the professionals on the same. An inter country collaboration can aid in promoting targeted interventions which can significantly help in increasing awareness and skills ultimately leading to risk reduction.

Limiting the intake of alcohol, chronic irritation due to sharp tooth or denture and malnutrition are other modifiable risk factors, which can be prevented through capacity building (reference). Educating the public about the risk factors for cancer, prevention through risk-factor modification also play important roles in minimizing the impact of oral cancers.

Preventive Strategy

The survival rates of oral cancer are good, provided if they are detected and treated at the early stages. WHO [11] has developed a cost-effective Package of Essential Non-communicable (PEN) disease and health conscious lifestyle interventions for the SEAR. It contains a battery of validated, evidence-based easy to follow clinical blueprints and guidelines for clinical diagnosis and treatment of cardio vascular diseases, management of chronic respiratory diseases, suspected oral, breast and cervical cancers (the three most common cancers),

recommendations on minimum requirements for essential medicines and inexpensive technologies, and standards and indicators to measure improvements. It also consists of agreement tools for behavioural interventions to talk about the main modifiable risk factors: cessation of tobacco habit, dietary modification, avoiding harmful use of alcohol and augmenting physical activity, which can be delivered by medical or non medical health-care workers.

Population based screening programmes also serve the purpose of increasing awareness in the community about cancers, risk factors and the need for periodic screening. It also enables an understanding of better health and avoidance of risk factors in the general community. Effective and accessible cancer screening program ensure early detection and increase in cancer survival rates. One of the best practices is the mobile screening and awareness building operation which was being carried out throughout Sri Lanka, where the common cancers of the country including oral cancer were screened. Training of health professionals is a cost-effective, evidence-based strategy for controlling tobacco use dependence. This will also help oral health care providers to perform their role as health communicators in the dental clinic setting [12].

Ministry of Health and Family Welfare, Government of India [13], provided the guidelines for common cancer screening which included a spectrum of health care professionals from doctors to primary health care workers including Accredited Social Health Activist (ASHA) and Auxiliary Nurse Midwife (ANM) to be trained in oral cancer

screening. The training included an algorithm for oral cancer screening for the health care workers and the referral system. Training the health care professionals on a similar model will help in channeling the cancer screening at the national level. It is important to train the dentist, doctors and other health care professionals in oral cancer screening. Oral visual examination of the mouth is an well-established method of screening to detect the oral potentially malignant disorders or very early stages of oral cancer with systematic visual inspection of the buccal and labial mucosa; gingivae; bucco-alveolar sulci; ventral, dorsal and lateral borders of the tongue; palate; and floor of mouth, by trained and calibrated caregivers under adequate sun or torch light with disposable instruments like wooden spatulas.

Empowerment and Engagement

Efforts to promote a mutual exchange of information, ideas and resources between the masses and the advocates of oral health are pertinent for prevention of oral cancer, ensuring appropriate dissemination of information, as well as adequate utilization of resources. A key component of empowerment and engagement model for oral cancer prevention included development of Information, Education and Communication (IEC) and Behavior Change Communication (BCC) materials Module for Multi-Purpose Workers (MPW) [14] - Female/Male on Prevention, Screening and Control of Common Non Communicable Diseases.

These materials aim to increase awareness, alter attitudes and bring about a change in specific behaviors like tobacco consumption, delay in reporting, use of home remedies for early signs of oral cancer, stigmatizing oral cancer and early onset of engaging in risk behaviors like chewing tobacco, smoking, alcohol consumption, among others. Sharing updated information and novel ideas in a way that is culturally sensitive and locally acceptable to the community, using appropriate social media platforms and channels would go a long way in prevention since it works at the societal level.

A campaign mode that involves relevant civil society groups, for instance, religious leaders invoking a ban on areca nut usage in Sri Lanka, was more relatable to the locals and yielded a better response to health communication that followed, addressing the socio-cultural barriers. This offered a pragmatic approach for advocacy in the political corridors too. Empowerment at both individual and community levels through thoroughly tested engagement activities that involved all the responsible societal groups created a supportive environment and strengthened community action. The proposed observership model thus accommodated a specific domain on empowerment and engagement paving way for enhanced outcomes of efforts to prevent oral cancer in this region.

Training

Building capacities of health and non-health professionals through training on early detection and referral of oral cancer is a significant step towards prevention in the SEAR. The diverse workforce in the eleven countries have similar responsibilities at the primary health care level thus making it possible to train this workforce on similar lines. This may involve didactics and demonstrations on Oral Visual Examination (OVE) and Mouth Self Examination in premiere teaching institutions at the individual and institutional level. Training may involve certain on-site field visits to provide a hands-on experience on working in low resource settings. Capacity building may also go the digital way. Multiple telemedicine and online avenues exist which may be exploited to reach out to a wide audience. The Extension for Community Health Outcomes (ECHO) is one such platform in vogue for educating medical professionals, dentists, nurses and primary workers dealing in health care on common cancer screening, early identification and detection, tobacco cessation and management of common cancers [15]. Observership is also one such method that may be tested for sustainability.

The professionals may be trained on a Training of Trainers model to build capacities which may encompass the resources needed, budgeting, logistics and contingencies. An exemplary training programme may serve as a lead for adaptation in the regional countries based on the language, population and current service delivery mechanism perspectives.

Surveillance and Research

Surveillance and research are integral for effective and efficient cancer control programmes and monitoring and evaluating their stepwise and overall performance. A comprehensive surveillance and research system provides data on the magnitude of the oral cancer burden, trends in risk factors, and the effect of prevention, early detection, treatment and palliative care. These have been innovatively utilized in artificial intelligence solutions and precision modelling frameworks. Cancer registries are part of the surveillance system and there is a need for a registry on Oral Potentially Malignant Disorders. Research contributes to determining causes of cancer, evaluation of strategies for prevention, treatment and control.

Referral and Management

Cancer screening programmes require assured linkages at every level, with mechanisms in place for clinical handover and follow up, including high quality documentation processes that are accessible at any level of care at which the patient presents. There is a need to have a country wide uniform linkage referral system for effective and timely management of diagnosed oral cancer or oral potentially malignant cases up to the tertiary level. The oral cancer management should also be included as part of this model to ensure the health care professionals are familiar with the different treatment modalities/ protocol followed in other regions. Surgery, radiotherapy and chemotherapy methods should be sensitized to the health care professionals.

Results

National Cancer Control Program (NCCP), Sri Lanka expressed interest in oral cancer prevention activities in India and requested for an observership program. An observership model was developed by the Centre for Dental Education and Research (CDER), AIIMS, India. Seven dentists from the NCCP, Sri Lanka participated in the observership program, prior to the start of the program ethical and legal considerations were taken by gathering approval from the Ministries of Health, Home Affairs and External Affairs before the programme. Following this, the profile of the trainees was verified by the governing councils of the medical/dental education. The needs and expectations of the trainees (questionnaire google form) were gathered before formulating the agenda.

The exchange programme/ training involved participation of multiple institutions of the country, especially those at the premiere level of programme execution along with field level activities. The flow of events is depicted in Figure 2.

The primordial and primary prevention including tobacco and alcohol cessation counseling methods were discussed at the National Drug Dependence Treatment Centre. The National Institute of Cancer Prevention and Research was visited for the training on the national level oral cancer prevention research and tobacco control activities adopted in the India. As a part of the secondary prevention the oral potentially malignant disorder management training was given at CDER, AIIMS. The tertiary care prevention activities were briefed at the Dr. B.R.A Institute-Rotary Cancer Hospital – AIIMS where the oral cancer surgery and rehabilitative techniques were discussed. The program ended on a note to continue similar exchange programs in the future. A similar program based on the same module may be planned for other countries in the SEAR region. A visit to the WHO office strengthened the intercountry relation towards health care and an urgent need to involve other SEAR countries into similar initiatives.

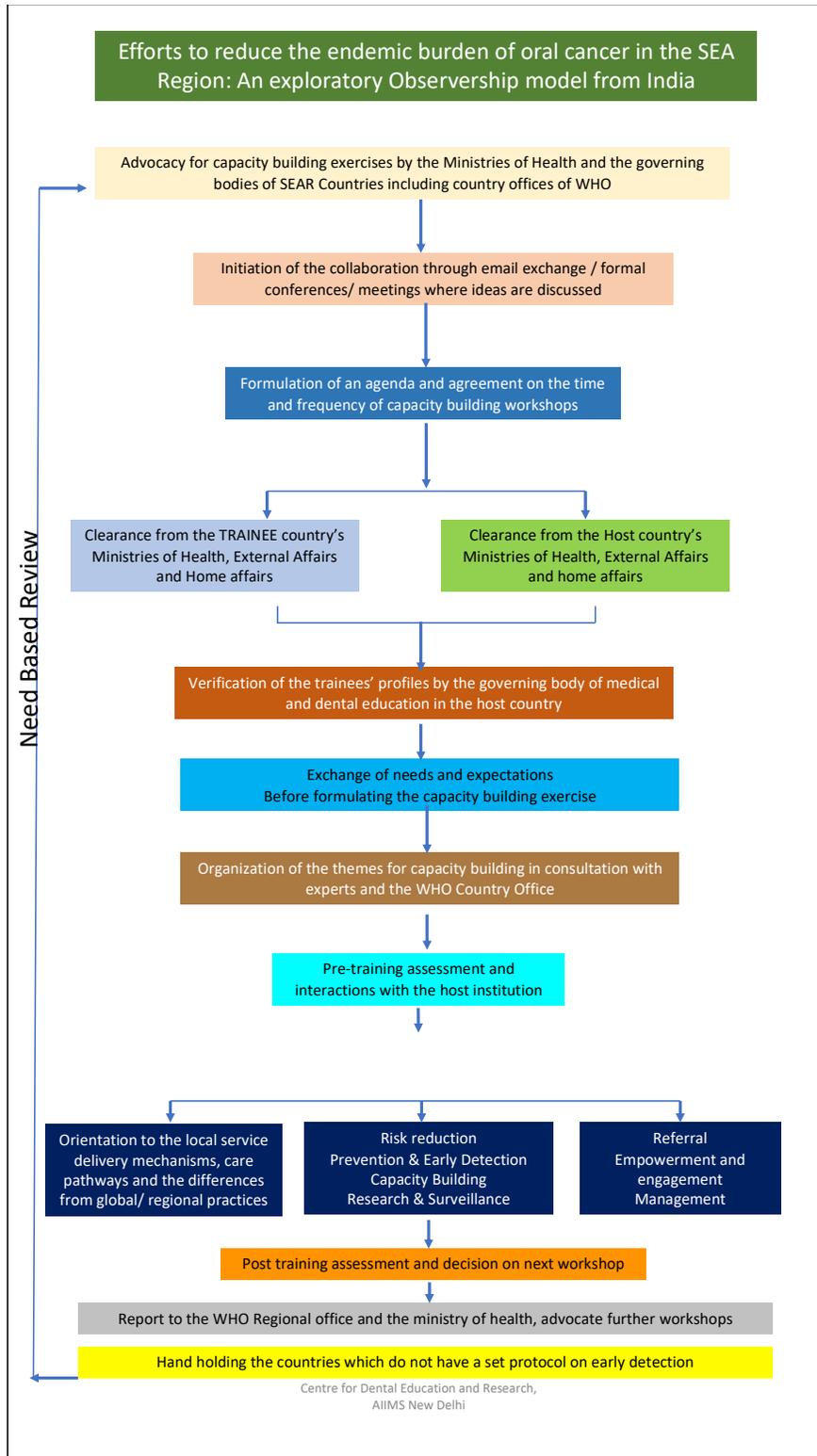


Figure 2. Efforts to reduce the endemic burden of oral cancer in the SEA region – A flow of events

Discussion

The observership of Sri Lankan delegates in India explored the possibility of inter country interactions in achieving cancer prevention. The method was holistic and involved visit of the delegation to tertiary level institutions. The delegates got an overview of institutional and national perspectives of oral cancer management from screening to surgery, budgeting cancer control programs to training primary health care workers. The team also visited the WHO regional office for a regional overview. The programme is itself a strength of the model and provides immense opportunities to interact, learn and adopt relevant practices, suited to the needs of their country. A healthy exchange of ideas leads to a pragmatic approach where countries come together and commit to reduce the endemic burden of oral cancer.

A National Cancer Screening Program under which the common cancers - oral, breast and cervical cancer are screened for, was operationalized by the Ministry of Health and Family Welfare, Government of India in 2017 [13]. A well designed framework which highlights the Dentist, medical officers and primary health care workers' duties in oral cancer screening and tobacco cessation are outlined.

National Cancer Control Programme, Sri Lanka [16] has adopted a risk factor model (RFM) for oral cancer screening, under their National Cancer Control Program. According to the RFM scores are calculated according to the individuals age, socioeconomic status, habit history such as tobacco smoking, betel quid chewing and alcohol consumption. Those individuals with

a cut off score of 12 or more are referred for oral examination to a dental professional.

Ministry of Health, Timor-Leste [17] has included oral cancer screening at least once in lifetime under the National Strategy for prevention and control of NCD, Injury, Disabilities and care for elderly and NCD action plan 2014-2018. Currently, the oral cancer screening program is fragmented in other SEAR regions. Hence there is a need to appropriately channelize the screening system.

Conclusion

This model provides a road map for the observership program for oral cancer screening and prevention in the high oral cancer burden countries. This model may also include retraining assessments and exchange programme at young learner level. A similar model can be adopted for reduction of other common cancers such as breast and cervical cancer in the SEAR region. Future research should focus on evaluation of this model at various regions.

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Statements and Declarations

Conflicts of interest

The authors declares that they do not have conflict of interest.

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